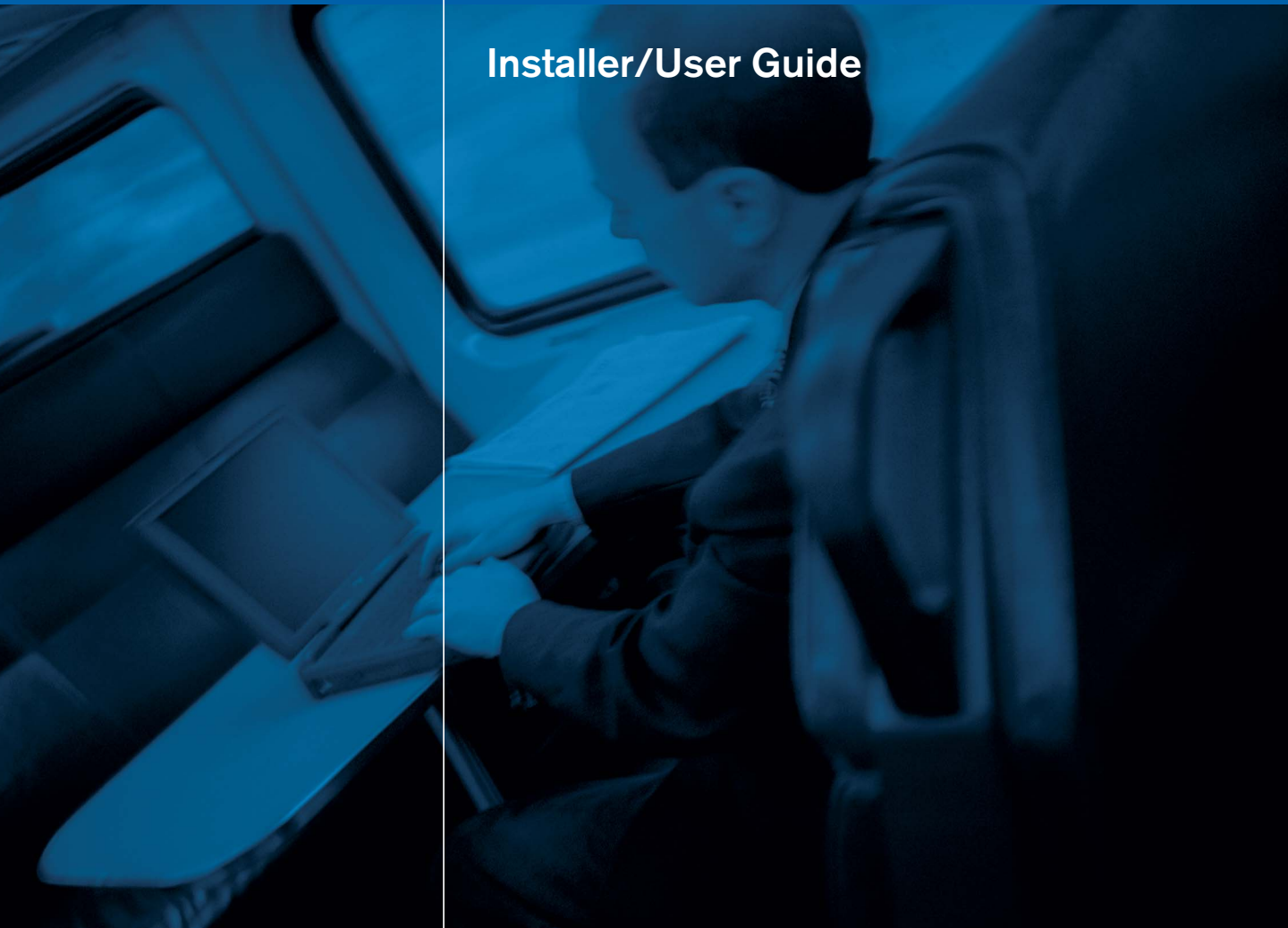




Avocent.

DSView®

Installer/User Guide





INSTRUCTIONS

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



DANGEROUS VOLTAGE

This symbol is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



POWER ON

This symbol indicates the principal on/off switch is in the on position.



POWER OFF

This symbol indicates the principal on/off switch is in the off position.



PROTECTIVE GROUNDING TERMINAL

This symbol indicates a terminal which must be connected to earth ground prior to making any other connections to the equipment.



DSView[®]

Management Software Installer/User Guide

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Product Overview

About the DSView Management Software

The DSView® 3.0 software is a secure, web browser-based, centralized enterprise management solution that allows DSView software users to remotely access, manage, monitor and control target devices through the following types of Avocent managed appliances:

- DS1800 digital switch
- DSI5100 intelligent platform management interface (IPMI) proxy appliances
- DSR® switches
- CPS serial over IP network appliances

Other managed appliances (EVR1500 environmental monitor and control appliances and generic appliances), cascade switches and SPC power control devices may also be included, viewed and controlled in the DSView management software. A session may be launched to a target device with a single point of access.

A DSView software administrator may specify DSView software users and their access levels for commands within the system, as well as group them in various ways.

Features and Benefits

Network rebooting and troubleshooting

The DSView management software uses industry standard IP connections so that you can easily troubleshoot, or even reboot a server, from the Network Operations Center (NOC), from your desk or from any location in the world. With the DSView management software, you can access all of your data center devices from a single screen - making complex network access and control remarkably easy.

Web-based access and control

The DSView management software provides secure “point-and-click” web browser-based access to control virtually any data center device using DS1800 digital switches, DSI5100 and CPS appliances and DSR switches from DSView software clients that may be located anywhere in the world.

The DSView management software supports Microsoft® Internet Explorer version 6.0 SP1 and later.

NOTE: It is recommended that Microsoft Internet Explorer is kept up to date with the latest updates from Microsoft.

A Video Viewer window allows you to control the keyboard, monitor and mouse functions of individual target devices connected to a DS1800 digital switch or DSR switch in real time. You may also use predefined global macros to perform actions within the Video Viewer window, or create new macros within the window for the device. The Video Viewer window may be launched by clicking *KVM Session* in a DSView 3.0.2 Explorer Unit Views window for any target device, or clicking *KVM Session* or *Exclusive KVM Session* (none-shared) in the Unit Overview window for the target device.

Devices connected to a CPS appliance may be accessed using a Telnet/SSH applet window. Devices connected to a DSIS100 appliance may be accessed using an IPMI Viewer window.

Secure authentication and communication

Secure Socket Layer (SSL) encryption may be used to encrypt data traveling within the DSView software system. DSView software users may be authenticated using the DSView software server internal database, or using a Lightweight Directory Access Protocol (LDAP), Active Directory® or Windows NT® domain external authentication server.

Creating and managing user permissions

The DSView management software provides centralized network access, control and security for managed appliances. A DSView software administrator may add, remove, delete and modify managed appliances and target devices, including assigning permissions and per-device contact information, which are stored on the DSView software server. A DSView software administrator may also assign unique permissions which allow individual DSView software users or a group of DSView software users access to units.

DSView software users may be authenticated using the local DSView software internal database or by an external server.

Proxy server access

The DSView management software also contains a proxy server feature that allows keyboard, video and switch (KVM) and Serial Sessions to be proxied through the DSView software server. When a session is initiated with a target device, the Video Viewer communicates using the Avocent Proxy Protocol (APP) and the DSView software server makes a direct connection to the appliance. See *DSView Software Hub Server Properties* on page 72 for information on specifying a proxy server.

DSView Software System Components

The following components comprise a DSView software system.

DSView management software

The DSView management software resides on the DSView software server (host computer) and provides a web gateway and services for managing units (managed appliances and target devices) using a web browser. The gateway allows for IP-based video, serial management, Telnet/SSH applet or web browser sessions.

DSView software users may connect to the DSView software server from DSView software clients and use the DSView 3.0.2 Explorer window to communicate with the system.

DSView software server

A DSView software server is the computer on which the DSView management software is installed. The DSView software server provides a central repository for the following information:

- Centralized authentication
- Access control
- Auditing
- Monitoring
- License management
- DSView software client /appliance updates

DSView software users may specify a spoke (backup) server in addition to the hub server as shown in Figure 1.1.

DSView software client

A DSView software client is a computer with an Internet Explorer version 6.0 SP1 or later web browser that may access the DSView management software installed on the DSView software server. A DSView software user may access and administer the DSView software server, units and cascade devices using the DSView software client .

Managed appliances

Managed appliances are DS1800 digital switches, DSI5100 and CPS appliances and DSR switches that provide KVM, Serial Over IP or IPMI connectivity to a wide range of target devices, DSI5100 appliances that provide IPMI information, EVR1500 environmental monitors and generic appliances.

Target devices

Target devices encompass a wide range of data center components such as servers and routers that a DSView software administrator may manage virtually through the DSView management software system. A target device may be attached to the following: a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch. A target device is added automatically to your DSView software system when the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch is added. A target device can also be added individually when not attached to a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.

Cascade devices

A cascade device is connected between a DS1800 digital switch, a CPS appliance or a DSR switch and a target device. A cascade device may also be connected directly to a DS1800 digital switch, a CPS appliance or a DSR switch. Examples of cascade devices are AutoView® switches, OutLook® switches and SPC devices.

External authentication server

The external authentication server is a third party product that may be configured for use within your DSView software system. The external authentication server provides an authentication service that enables the DSView software server to broker authentication requests from DSView software users for access to the DSView management software system.

SNMP manager

The SNMP (Simple Network Management Protocol) manager is a third party product that may be configured for use within your DSView software system. The SNMP manager monitors DS1800 digital switches, DSI5100 and CPS appliances and DSR switches, and receives SNMP traps from the DSView software on the server. An example of an SNMP manager is the HP OpenView product.

Appliances Supported by the DSView Management Software

The following appliances may be controlled and managed using the DSView management software.

Managed appliances

A managed appliance may provide KVM, Serial over IP or IPMI connectivity to target devices. The DSView management software supports the following types of managed appliances that support this connectivity:

- CPS appliances
- DS1800 digital switches
- DSI5100 appliances
- DSR switches
- EVR1500 environmental monitors
- Generic appliances

CPS appliances

CPS appliances allow DSView software users to access serially attached devices over a standard TCP/IP connection using a Telnet/SSH applet. The DSView software server discovers CPS appliances on the DSView software system. The DSView management software supports the CPS810 and CPS1610 appliances.

DSView software clients communicate with target device serial ports using a Telnet/SSH connection between the client and the CPS appliance. The CPS appliance converts the Telnet data to a serial stream, which is then sent to the target device.

For management functions, the DSView software client sends an HTTPS (Hypertext Transfer Protocol with SSL encryption) with a request to the DSView software server, which then sends a command to the CPS appliance. The CPS appliance then performs the requested management function.

CPS appliances also support the connectivity between an SPC device and serial ports or power control target devices.

DS1800 digital switches and DSR switches

A DS1800 digital switch or DSR switch is a managed appliance that allows KVM signals to be transmitted over a standard TCP/IP network connection. Some DSR switches may alternately be connected using a modem, which provides benefits for branch offices such as low cost and dial-up performance. The DSView software server discovers DS1800 digital switches and DSR switches on the DSView software system.

The DSView management software supports DS1800 digital switches and the following DSR switches:

- DSR800 switch
- DSR1010 switch
- DSR1021^(*) switch
- DSR1022^(*) switch
- DSR1024^(*) switch
- DSR1020^(*) switch
- DSR1161 switch
- DSR2010 switch
- DSR2020^(*) switch
- DSR2161 switch
- DSR4010 switch
- DSR4020^(*) switch
- DSR4160 switch
- DSR8020^(*) switch

(*) = Contains a modem port for use with the DSR Remote Operations Software. See *DSR Remote Operations Software (Supported DSR Switches Only)* on page 514 for more information.

A target device is first attached to DSRIQ module, which is then attached to a DS1800 digital switch or DSR switch. A DSRIQ module converts KVM signals to Application Data Protocol (ADP) packets that are sent between the DSRIQ and the DS1800 digital switch or DSR switch.

DSView software clients communicate with target devices ports using a Video Viewer connection between the client and the DS1800 digital switch or DSR switch. The DS1800 digital or DSR switch converts packets received from the Video Viewer into packets that are sent and may be read by a DSRIQ module. The DSRIQ module then converts the data to KVM signals that are sent to target devices.

For management functions, the DSView software client sends an HTTPS request to the DSView software server, which sends a command to the DS1800 digital switch or DSR switch. The DS1800 digital switch or DSR switch then performs the requested management function.

DS1800 digital switches and DSR switches also support the ability to cascade AutoView® and OutLook® legacy analog KVM switches and connect an SPC devices to power control target devices.

DSI5100 appliances

The DSI5100 appliance is an IPMI proxy network product that securely interfaces with IPMI-capable target devices to access, aggregate and report IPMI information in the DSView management software. DSView software clients interface with IPMI 1.5 target devices connected to the DSView software system.

The DSI5100 appliance collects baseboard management controller (BMC) data from internal IPMI 1.5 target device sensors and allows you to view a variety of IPMI information.

NOTE: A DSI5100 appliance may be attached to only one DSView software system at a time.

EVR1500 environmental monitors

The EVR1500 environmental monitor is a managed appliance that may be added to your DSView software system. DSView software clients communicate with the EVR1500 environmental monitor using a standard web browser connection between the client and a DS1800 digital switch or DSR switch.

Generic appliances

Generic appliances are used to manage data center devices, such as routers. These devices may be managed within a DSView software system by launching a standard web browser to the device URL, or by opening a Telnet session.

Cascade switches

DS1800 digital switches and DSR switches allow the cascading of legacy analog KVM switches from DS1800 digital switch or DSR switch ports, which may be managed in a DSView software system.

The following legacy KVM switches are supported by the DSView management software:

- AutoView 200-4, 200-8, 400-4, 400-8, 416, 424 and 2000-AM switches

NOTE: AutoView switches must be FLASH upgraded to be added to a DSView software system.

- OutLook 140ES, 180ES, 280ES, 1160ES, 2160ES and 4160ES switches

NOTE: PEM cascade devices are not supported in the DSView management software.

SPC devices

An SPC device is a power control strip of outlets that may be cascaded off of a CPS appliance serial port or connected to the SPC port of a DS1800 digital switch or DSR switch.

One or more CPS appliance serial ports may be attached to the SPC power control device. When a DSView software client sends a power control request to a target device, an HTTPS request is sent to the DSView software server, which then sends a command to the CPS appliance. The command is converted and serially sent to the SPC device. The SPC device then turns the appropriate power outlet on or off.

The following figure illustrates an example system configuration using the DSView management software. For more information on how the DSView management software works within a system, see *TCP Ports* on page 506.

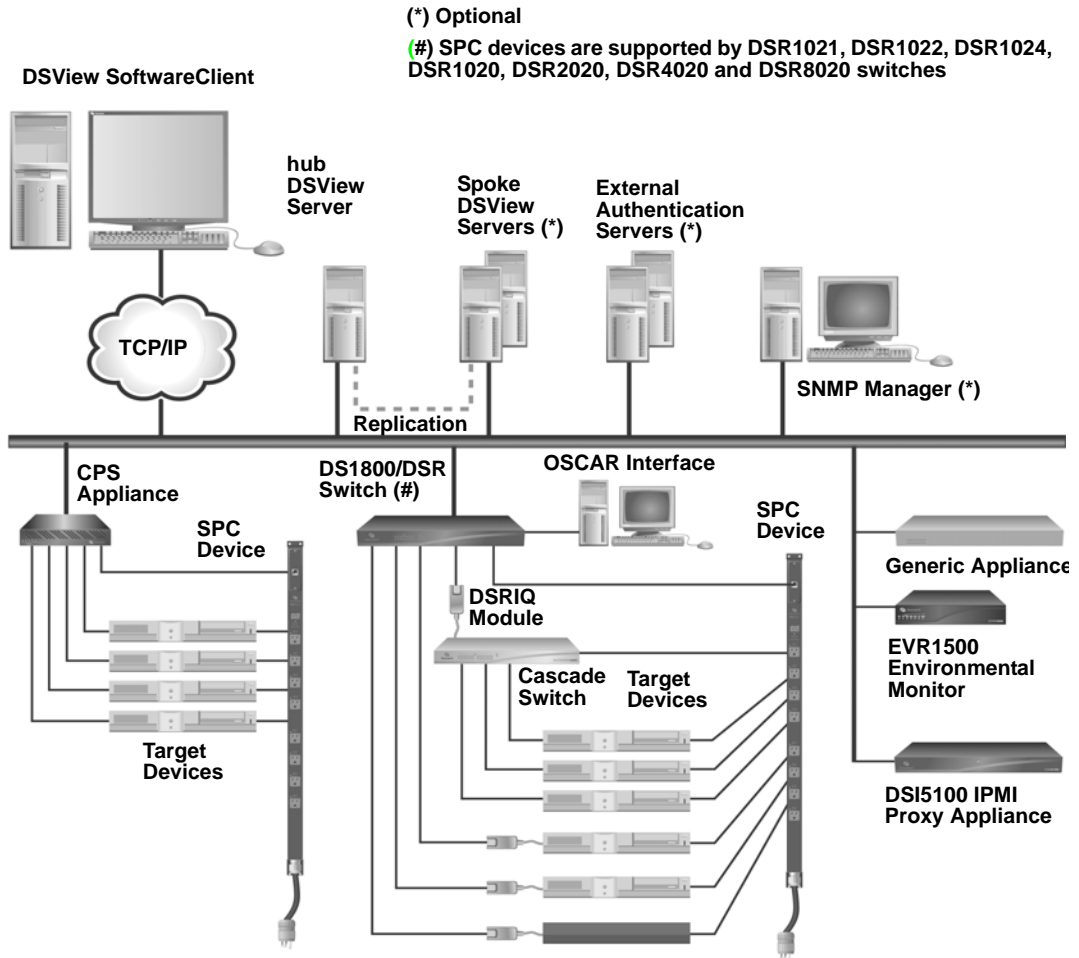


Figure 1.1: Example System Configuration Using the DSView management software

Configuring Internet Explorer for Use With the DSView Management Software

The DSView management software is a web browser-based product, which requires specific Internet Explorer settings to operate correctly. Among the Internet Explorer items which may be configured are the following:

- SSL (Secure Sockets Layer) certificates - Used for secure authentication between the DSView software client and DSView software hub server.
- ActiveX controls - Used to display Telnet application, serial and KVM sessions.

- Security Zones - Used to control the actions that may be performed within Internet Explorer. For example, the operation of JavaScript, which is used by the DSView management software, is dependent on security zone settings.
- Advanced Internet options - Used for miscellaneous settings that enhance the use of the DSView management software.

Correcting certificate security alerts

Client and hub server security alerts

The DSView management software uses SSL to securely communicate between the DSView software hub server and DSView software clients. SSL provides secure authentication using certificates, which is data that identifies the PC with which communication will occur. A certificate is typically verified by another certificate from a trusted certificate authority. See *Using Certificates with the DSView Management Software* on page 38 for an overview of how certificates work within the DSView management software.

When the DSView management software is initially installed, it generates a self-signed certificate for use with DSView software clients. An administrator may replace the generated certificate with a certificate signed by a trusted third party. If the generated certificate is not replaced, the web browser will prompt a DSView software user whether to trust the generated certificate when a DSView software client session is started.

Three tests are performed on a certificate each time a DSView software client connects to the DSView software hub server:

- Does the client web browser trust the certificate issuer?
- Has the certificate expired?
- Does the name on the DSView software server certificate match the name the DSView software client used to access the DSView software server?

A Security Alert dialog box will appear if the answer to any of the three questions is “no.” To prevent the Security Alert message box from appearing when you connect to a the DSView software hub server, all three questions must be answered “yes.”

To correct certificate security alerts for client and hub server connections:

1. From the DSView software client server, connect to the DSView software hub server using Internet Explorer. The Security Alert dialog box will appear.



Figure 1.2: Security Alert Dialog Box

NOTE: If the *No* button is clicked, a connection will not be made with the DSView software hub server and the DSView management software User Login window will appear. If you click *Yes*, a connection will be made with the DSView software hub server and the DSView management software Login Screen will appear, but the Security Alert dialog box will continue to appear each time you connect to the DSView software hub server.

2. From the Security Alert dialog box, click *View Certificate*. The Certificate dialog box will appear.

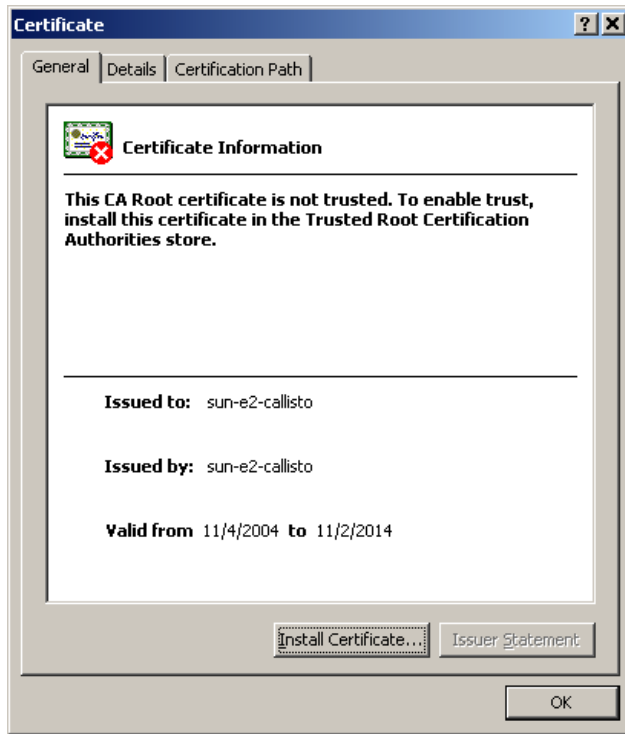


Figure 1.3: Certificate Dialog Box

3. Click *Install Certificate* to install a new certificate. See your Internet Explorer documentation for more information.
4. Once the certificate is installed, ensure that the time setting on the DSView software client PC is within the Valid from...to... dates and that the Issued to and Issued by fields exactly match.

NOTE: Invalid to...from dates typically occur when the DSView management software is installed on a DSView software server that is set to an invalid time. When a DSView software client set to a valid time connects to the DSView software server set to an invalid time, a "The security certificate date is invalid" warning will appear in the Security Alert dialog box.

Serial session security alerts

The Serial Session Viewer, which is used during a serial session, is a Java-based applet. Three certificate test are performed by Java when the DSView management software connects to a serial device:

- Does the serial device trust the certificate issuer?
- Has the certificate expired?

- Does the name on the serial device certificate match the name of the DSView software hub server certificate?

A Warning - Security dialog box will appear if the answer to all three questions is “no.” If the answers to the first two questions are “yes” and the last question is “no,” a Warning - HTTPS dialog box will appear. To prevent the Warning - Security and Warning - HTTPS dialog boxes from appearing when you connect to a serial device, all three questions must be answered “yes.”

To correct certificate security alerts when connecting to a serial session:

1. From a Unit Views window Action column for a CPS appliance, click *Serial Session*.

-or-

From a Unit Views window, click on the name of a CPS appliance. *Overview* will automatically be selected, the name of the CPS appliance will appear at the top of the side navigation bar and the Overview window will appear. Click the *Serial Session* icon or text.

A Warning - Security dialog box will appear.



Figure 1.4: Warning - Security Dialog Box

Continue to step 2.

-or-

If the certificate is trusted and has not expired, but there is a mismatch of the name on the DSView software client certificate and the name on the DSView software hub server certificate, a Warning - HTTPS dialog box will appear.

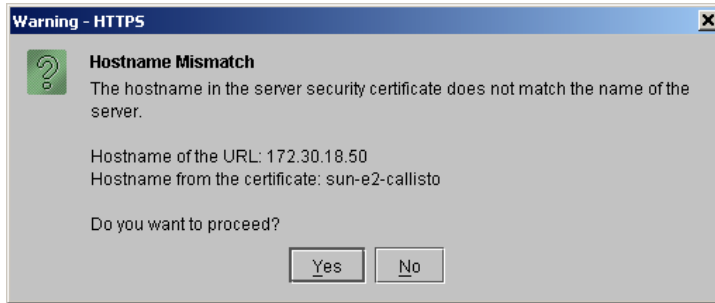


Figure 1.5: Warning - HTTPS Dialog Box

Contact the issuer of your certificate if a host mismatch occurs.

NOTE: If the *No* button is clicked, a connection will not be made with the CPS appliance. If you click *Yes*, a connection will be made with the CPS appliance, the Telnet/SSH applet window will appear and the Warning - HTTPS dialog box will continue to appear each time you connect to the CPS appliance.

2. Click *Always* to add the certificate to the Java certificate store.

NOTE: If the *No* button is clicked, a connection will not be made with the CPS appliance. If you click *Yes*, a connection will be made with the CPS appliance and the Serial Session Viewer will appear, but the Warning - Security dialog box will continue to appear each time you connect to the CPS appliance.

Managing ActiveX® Controls

The DSView management software uses the two following ActiveX controls to provide interactive content:

- Java 1.4.2_04 - Used to display a Telnet/SSH applet window during a Telnet application or serial session.
- Avocent Video Viewer - Used to display a Video Viewer window during a KVM session.

The functionality of the ActiveX controls is determined by the security settings for the security zone being used by the DSView management software. See *Specifying security zones for the DSView management software* on page 16 for more information.

To download an ActiveX control on a DSView software hub server using Windows (All operating systems except Windows XP using Service Pack 2)

1. From a Unit Views window Action column for a CPS appliance, click *Serial Session*.

-or-

From a Unit Views window, click on the name of a CPS appliance. *Overview* will automatically be selected, the name of the CPS appliance will appear at the top of the side navigation bar and the Overview window will appear. Click the *Serial Session* icon or text.

-or-

From a Unit Views window Action column for a DS1800 digital switch or DSR switch, click *KVM Session*.

-or-

From a Unit Views window, click on the name of a DS1800 digital switch or DSR switch. *Overview* will automatically be selected, the name of the DS1800 digital switch or DSR switch will appear at the top of the side navigation bar and the Overview window will appear. Click the *KVM Session* icon or text.

If this is the first time the ActiveX control has been requested by the DSView management software, an Avocent Session Viewer message box will appear, followed by a Security Warning dialog box.



Figure 1.6: Security Warning Dialog Box (All Windows Operating Systems Except Windows XP)

2. Select *Always trust content from Avocent Huntsville Corporation*.
3. Click *Yes* to download the ActiveX control. When the control has been downloaded, a KVM session will start in a Video Viewer window or a Serial session will start in a Telnet/SSH applet window, depending on whether you tried to start a KVM or a Serial session.

If the required ActiveX control could not be loaded, a red X will appear in the Avocent Session Viewer message box. The ActiveX control may fail to load for one of the following reasons:

- The DSView software user did not select *Always trust content from Avocent Huntsville Corporation*.
- The DSView software client security zone settings are not correct
- The ActiveX control failed to properly install.

To download an ActiveX control on a DSView software hub server using Windows Service Pack 2 (Windows XP only)

1. From a Unit Views window Action column for a CPS appliance, click *Serial Session*.

-or-

From a Unit Views window, click on the name of a CPS appliance. *Overview* will automatically be selected, the name of the CPS appliance will appear at the top of the side navigation bar and the Overview window will appear. Click the *Serial Session* icon or text.

-or-

From a Unit Views window Action column for a DS1800 digital switch or DSR switch, click *KVM Session*.

-or-

From a Unit Views window, click on the name of a DS1800 digital switch or DSR switch. *Overview* will automatically be selected, the name of the DS1800 digital switch or DSR switch will appear at the top of the side navigation bar and the Overview window will appear. Click the *KVM Session* icon or text.

If this is the first time the ActiveX control has been requested by the DSView management software, an Avocent Session Viewer message box will appear.

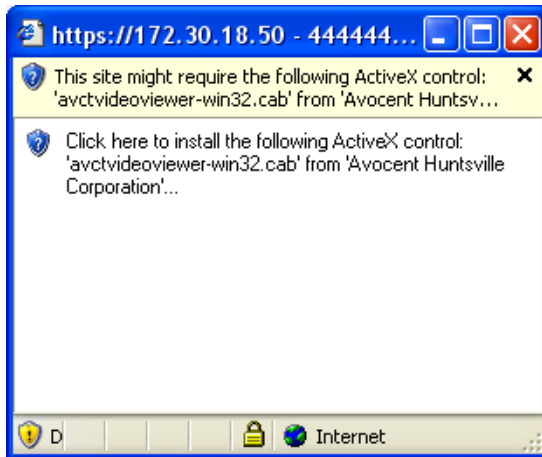


Figure 1.7: Avocent Session Viewer Message Box (Windows XP Operating System Only)

2. Click in the top yellow bar. A pop-up menu will appear. *Select Install*. A Security Warning dialog box will appear.

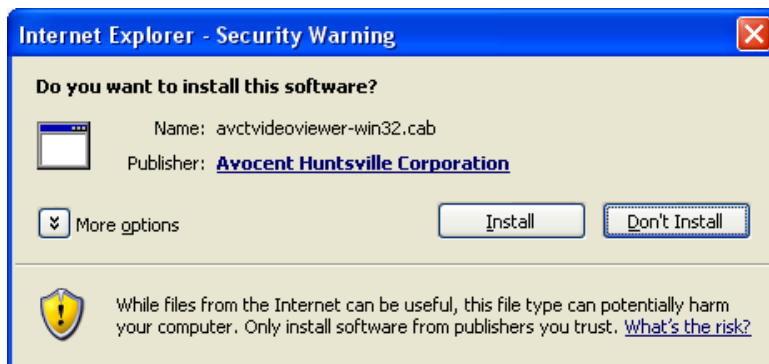


Figure 1.8: Security Warning Dialog Box (Windows XP Operating System Only)

3. Click *Install* to install the ActiveX control.

Specifying security zones for the DSVIEW management software

Internet Explorer restricts actions performed by the web browser-based on the security zone membership of the web site being accessed. Each security zone typically has its own security restrictions. The following four security zones are available in Internet Explorer:

- Trusted Sites - Web sites contained in the list of trusted sites.
- Restricted Sites - Web sites contained in the list of restricted sites.
- Local Intranet - Web sites accessed using a host name. (for example, <https://sun-e2-callisto>)
- Internet - All other web sites, including those accessed using standard dot notation. (for example, <https://10.0.0.1>)

By default, the DSVIEW management software operates correctly in the Internet, Local Intranet and Trust Sites security zones when accessing a DSVIEW software hub server.

NOTE: A DSVIEW software hub server installed on a PC running the Windows 2003 Server will not operate correctly in the Internet security zone.

When you access the DSVIEW management software, the current security zone appears in the bottom right-hand corner of the DSVIEW 3.0.2 Explorer window.

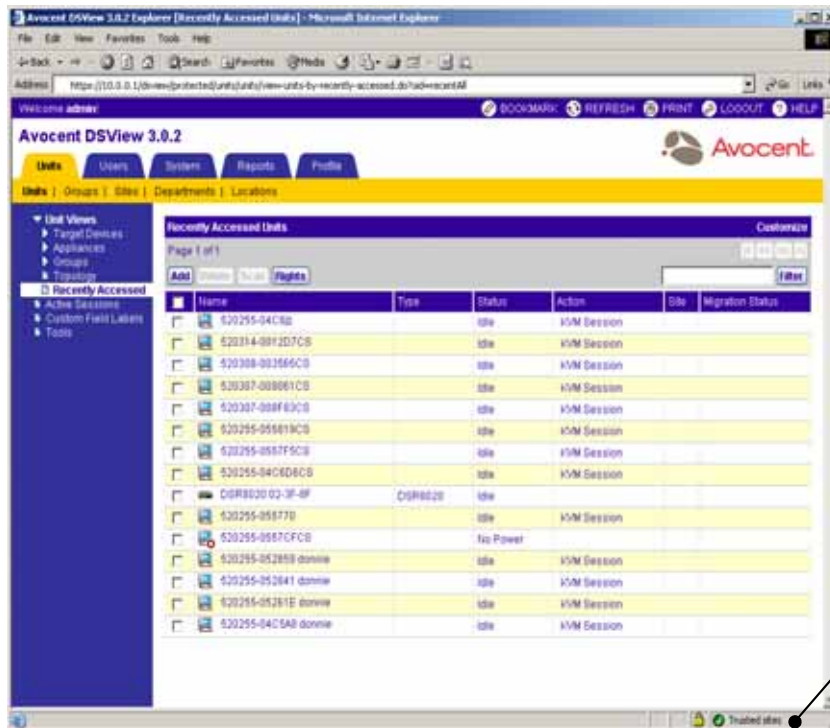


Figure 1.9: Security Zone in a DSView 3.0.2 Explorer Window

To ensure that the DSView management software works correctly when accessing a DSView software hub server from a DSView software client, you may do one of the following:

- Specify settings for the Local Intranet and Internet security zones. When a DSView software client accesses a DSView software hub server using a host name (for example, <https://dsview>), the Local Intranet security zone will be used. When a DSView software client accesses a DSView software hub server using a web address with periods (for example, <https://www.dsview.com>), the Internet security zone will be used.
- Add the DSView software hub server to the Trust Sites list. The DSView software client will always connect to the DSView software hub server using the Trusted Sites security zone. The Trusted Sites zone contains very low security settings and ensures successful communication between a DSView software client and DSView software hub server.

To view and/or change the restrictions of a security zone:

1. From Internet Explorer, select *Tools - Internet Options*. The Internet Options dialog box will appear.
2. Click the *Security* tab.
3. Select the security zone you wish to view.

4. Click the *Custom Level* button. The Security Settings dialog box will appear.
5. Ensure that the following security settings are set to Enabled or Prompt. The Active Scripting setting should be set to Enabled.
 - Download Signed ActiveX Controls
 - Run ActiveX Controls and Plug-Ins
 - Launching Programs and Files in an IFRAME
 - Active Scripting
6. Click *OK* to save the settings and dismiss the Security Settings dialog box.
7. Click *OK* to dismiss the Internet Options dialog box.

To add a DSView software hub server to the Trusted Sites list:

NOTE: If Trusted Sites security zone settings have been modified from their defaults, ensure that the correct settings required for the DSView management software are specified. See *To view and/or change the restrictions of a security zone* above for more information.

1. From Internet Explorer, select *Tools - Internet Options*. The Internet Options dialog box will appear.
2. Click the *Security* tab.
3. Select *Trusted Sites*.
4. Click the *Sites* button. The Trusted Sites dialog box will appear.
5. Type the web site address, in standard dot notation (xx.xx.xx.xx), for the DSView software hub server (for example, https://10.0.0.1).
6. Click *Add*. The web site address will appear in the web sites list box.
7. Ensure that *Require server verification (https:) for all sites in this zone* is selected.
8. Click *OK* to save the settings and dismiss the Trusted Sites dialog box.
9. Click *OK* to dismiss the Internet Options dialog box.

Specifying advanced Internet options for the DSView management software

Internet Explorer contains advanced settings that may be specified to enhance your usage of the DSView management software. Modifying these settings is not required to use the DSView management software, but they are recommended for optimum results.

To specify advanced Internet options for the DSView management software:

1. From Internet Explorer, select *Tools - Internet Options*. The Internet Options dialog box will appear.
2. Click the *Advanced* tab.
3. Select the following settings:
 - Always send URLs as UTF-8
 - Disabled script debugging

- Play animations in web pages
 - Show pictures
 - Print background colors and images
 - Use SSL 2.0
 - Use SSL 3.0
4. Select the following setting if the DSView management software is using Integrated Windows Authentication:
 - Enable Integrated Windows Authentication

See *Using Integrated Windows® Authentication with the DSView Management Software* on page 39 for more information on Integrated Windows Authentication.
 5. Uncheck the following setting:
 - Always expand ALT text for images
 - Display a notification about every script error
 6. Click *OK* to save the settings and dismiss the dialog box.

Overview: Working with the DSVIEW Management Software

About the DSVIEW 3.0.2 Explorer

The DSVIEW management software resides on a host computer. A DSVIEW software client, which is a PC with Internet Explorer version 6.0 SP1 or later installed, may access the software by entering the web address of the DSVIEW management software host.

When the DSVIEW software user has been logged in and authenticated, the Avocent DSVIEW 3.0.2 Explorer window appears. The DSVIEW 3.0.2 Explorer window displays the interface used by DSVIEW software users to view, access, manage and create custom groupings for all of the supported managed appliances in the data center. The window may also be used to specify system settings, view report information and modify profile settings.

Window features

Figure 1.10 shows the DSVIEW 3.0.2 Explorer window areas, and descriptions follow in Table 1.1.

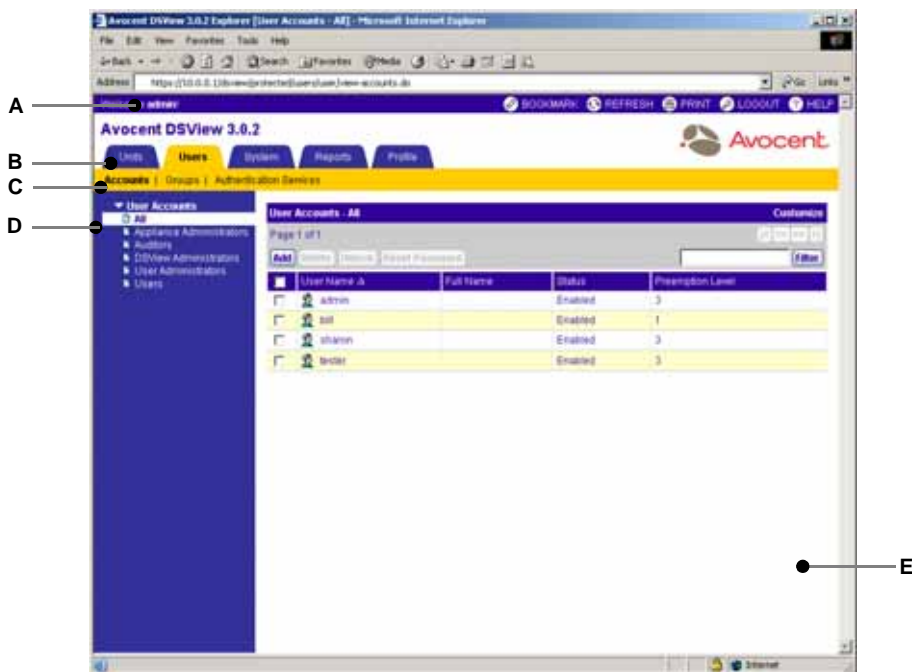


Figure 1.10: Avocent DSVIEW 3.0.2 Explorer Window

Table 1.1: DSView 3.0.2 Explorer Window Area Descriptions

Letter	Description
A	Top Option Bar - Use the Top Option Bar to bookmark a DSView management software window, refresh the display of a DSView management software window, print a web page, log out of a software session or access online help. The name of the logged in user appears on the left side of the top option bar.
B	Tab Bar - Use the Tab Bar to view and manage units, users, reports, system settings and user profiles.
C	Top Navigation Bar - The selections in the Top Navigation Bar vary, depending on the active tab in the Tab Bar. These options display in the Side Navigation Bar.
D	Side Navigation Bar - Use the Side Navigation Bar to display the system information you wish to view or edit, which displays in the Content Area. The side navigation bar also contains icons in the top left corner which, when clicked, expand or collapse all nodes.
E	Content Area - Use the Content Area to view or make changes to your DSView software system.

Accessing target devices

Accessing target devices with a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch is accomplished through the DSView management software. All host PCs and serial devices that may be accessed system-wide are displayed in a Unit Views window within the DSView 3.0.2 Explorer window.

The six link types listed in Table 1.2 are used in the DSView management software to display a target device connected to a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch, or to display a generic appliance or EVR1500 environmental monitor.

Table 1.2: DSView 3.0.2 Explorer Window Links

Clicking this link...	That is associated with...	Displays...
Browser Session	EVR1500 environmental monitors, generic appliances, standalone target devices and target devices attached to DS1800 digital switch, CPS appliance or DSR switch channels or ports	Web browser
IPMI Session	IPMI 1.5 target devices	IPMI Viewer window
Telnet Session	EVR1500 environmental monitors, generic appliances, standalone target devices and target devices attached to DS1800 digital switch, CPS appliance or DSR switch channels or ports	Telnet/SSH applet window
Serial Session	Target devices attached to a CPS appliance serial port	Telnet/SSH applet window

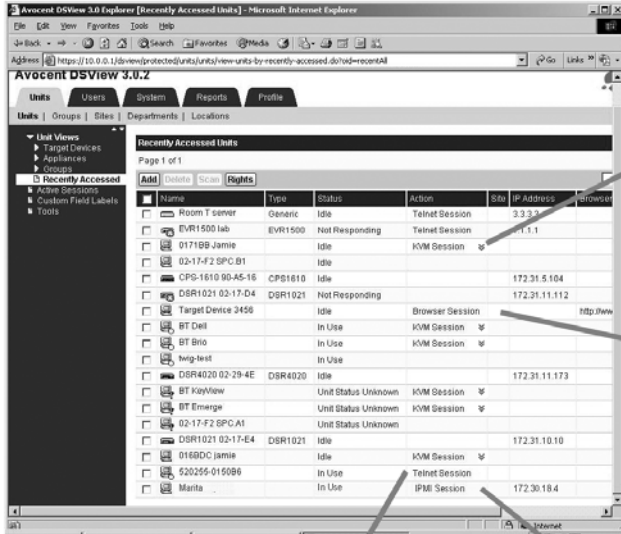
Table 1.2: DSView 3.0.2 Explorer Window Links (Continued)

KVM Session	Target devices attached to a DS1800 digital switch or DSR switch channels or ports	Video Viewer window
Exclusive KVM Session	Target devices attached to a DS1800 digital switch or DSR switch channels or ports	Video Viewer window

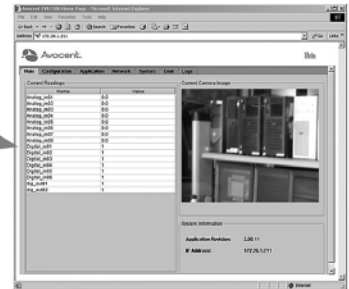
The Action column of Unit Views windows contains a link which may be used to access a target device. If multiple connection methods are available, an alternate actions arrow will appear to the right of the action. Clicking the alternate action arrow will display a list of other actions, in descending order of priority, which may selected to launch the corresponding window type.

NOTE: The message Exclusive KVM Session appears only when the alternate actions arrow is selected in the Action column.

DSView 3.0.2 Explorer Window



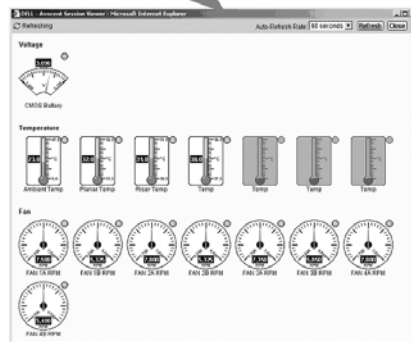
Access the Video Viewer window by clicking **KVM Session** in a Unit Views window.



Access a web browser by clicking **Browser Session** in a Unit Views window.



Access a Telnet/SSH applet window by clicking **Telnet Session** or **Serial Session** in a Unit Views window.



Access an IPMI Viewer window by clicking **IPMI Session** in a Unit Views window.

Figure 1.11: Launching DSView Management Software Sessions

You may also connect to a target device attached to a DS1800 digital switch or DSR switch in either a normal (shared) or exclusive (private) KVM DSView software session using the Unit Overviews window. See *Modifying unit overview information* on page 164 for more information.

Configuring devices

Devices may be configured in the DSView 3.0.2 Explorer window by clicking *Units* in the Tab Bar and then clicking on a unit name in the Unit Views window. When you click on a unit name, the following occurs:

- The Unit Overview window will appear.
- The name of the unit will appear at the top of the side navigation bar.
- Links will appear in the side navigation bar that enable you to configure your unit.

See *Managing Units* on page 164 for more information.





Device icons

By default, DSView software administrators and appliance administrators may edit unit settings, including which icon is associated with a target device.

The icon associated with the target device will appear to the left of the name in a target devices window. See *Modifying unit overview information* on page 164 for more information.

The icons associated with managed appliances are predefined and may not be modified. These icons are listed in Table 1.3.

Table 1.3: Managed Appliance Icons

Icon	Description
	CPS appliance
	DS1800 digital switch, DSI5100 appliance or DSR switch
	EVR1500 environmental monitor
	Generic appliance

Using the Side Navigation Bar

The side navigation bar appears in the left side of the DSView 3.0.2 Explorer window and may be used to display windows to specify settings or perform operations in the DSView management software. The contents of the side navigation bar may vary, depending on the Tab Bar, top navigation bar selected or the window that is displayed.

Click the **Expand All Nodes** icon in the upper right corner of the side navigation bar to expand all nodes. Click the **Collapse All Nodes** icon to collapse all nodes.

Click the **Collapse Node** arrow to collapse a link.

Click the **Expand Node** arrow to expand a link.

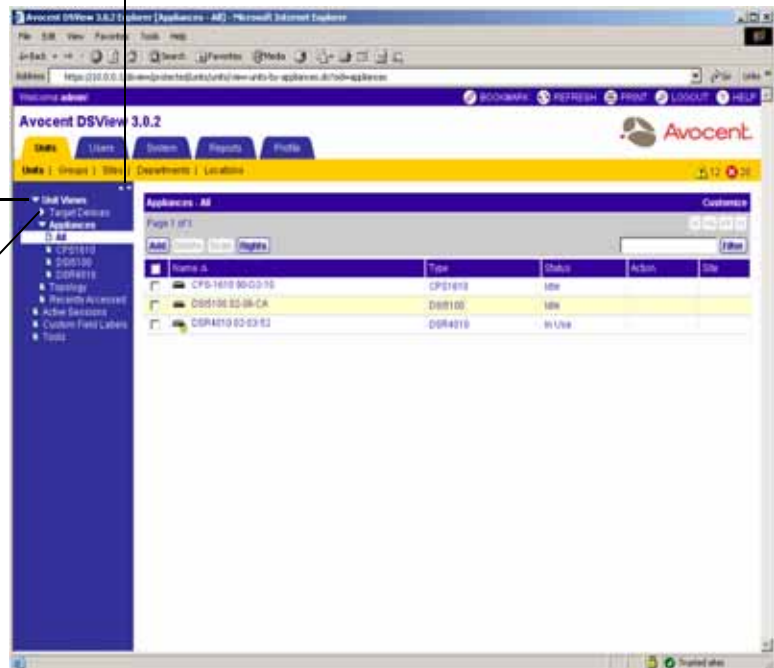


Figure 1.12: Side Navigation Bar

Table 1.4 describes the icons that may appear in the side navigation bar.

Table 1.4: Side Navigation Bar Icons


Icon	Description
	Expand All Nodes - Click this button in the upper right corner of the side navigation bar to expand all nodes and display additional links.

Table 1.4: Side Navigation Bar Icons (Continued)

	Collapse All Nodes - Click this button in the upper right corner of the side navigation bar to collapse all nodes and their links.
	Collapse Node - Click this button to collapse an opened tree branch in the side navigation bar and its links.
	Expand Node - Click this button to expand a closed tree branch in the side navigation bar and display its links.

NOTE: You may choose whether an expanded node will collapse when another *Expand Node* arrow is selected by using the Options window. See *Customizing User Options* on page 67 for more information.

Clicking on a link that does not contain an arrow will display its corresponding window. Some windows contain additional links, which may display another window and a different side navigation bar.

Sorting Information in a DSView Management Software Window

The order of rows in a list displayed in a DSView software 3.0.2 Explorer window may be changed by clicking the heading of one of the displayed columns. When you click a column heading, the order of the list rows will change to alphabetically ascending, based on the column. If you click the column heading a second time, the order will change to an alphabetically descending order. In Figure 1.13, the items are sorted by the Name column in ascending order.

An Up Arrow indicates ascending order.
 A Down Arrow indicates descending order.

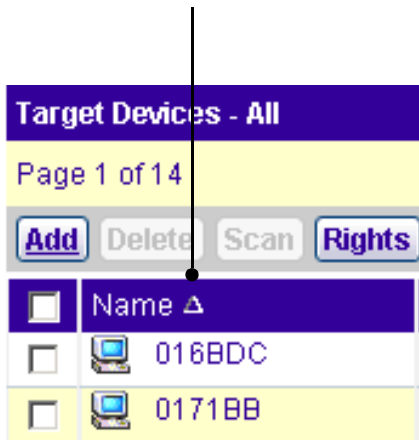
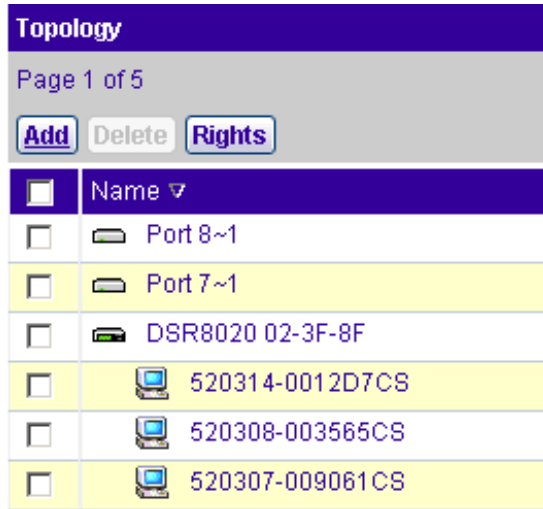


Figure 1.13: List Sort Example

If you are using the Topology view, sorting is first performed on parents (managed appliances) and then on the children (target devices) beneath DS1800 digital switches, DS15100 and CPS appliances and DSR switches.









Topology	
Page 1 of 5	
<input type="button" value="Add"/> <input type="button" value="Delete"/> <input type="button" value="Rights"/>	
<input type="checkbox"/>	Name ▾
<input type="checkbox"/>	 Port 8~1
<input type="checkbox"/>	 Port 7~1
<input type="checkbox"/>	 DSR8020 02-3F-8F
<input type="checkbox"/>	 520314-0012D7CS
<input type="checkbox"/>	 520308-003565CS
<input type="checkbox"/>	 520307-009061CS

Figure 1.14: List Sort Example (Topology Window)

Filtering Information in a DSView Management Software Window

Some DSView management software windows allow you to filter list information by providing a text string that will be used to retrieve matching items. Filtering is especially useful if you have a lengthy list of target devices or other items that extend over many pages. Windows that allow filtering contain a text field and Filter button in the upper right portion of the window, as shown in Figure 1.15.

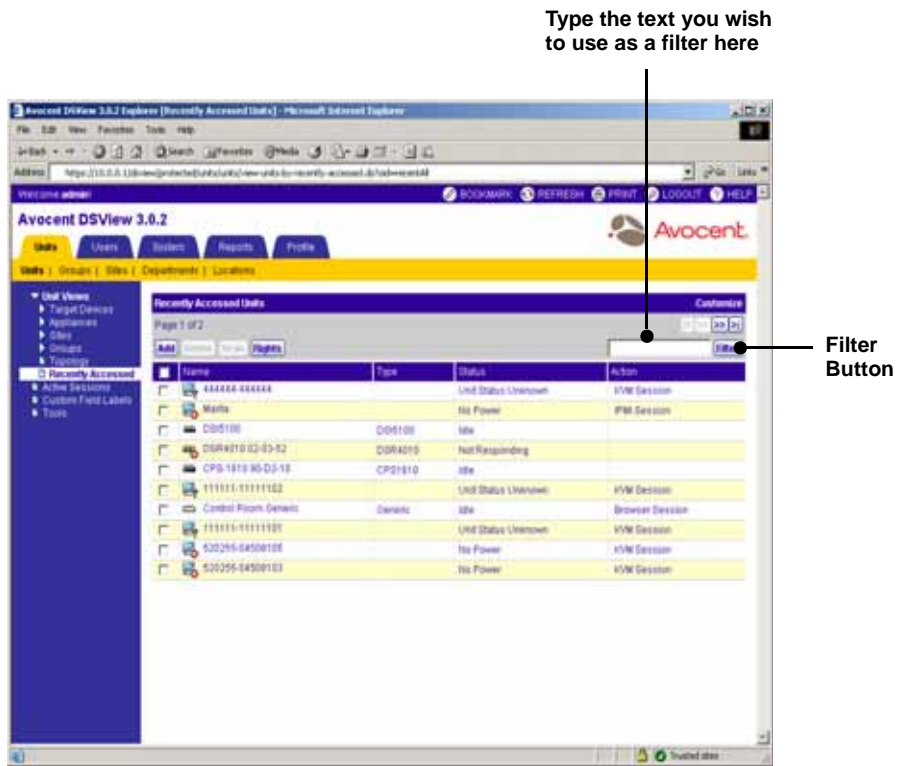


Figure 1.15: Filtering Information in a Window

Filtering is performed over the entire list of items, not just those displayed in the current window, and provides a shorter, more exact list of items. When filtering is performed, the text in every row and column in the window is searched for the specified text string. For example, you may wish to perform filtering to list only DSR1021 switches in the Name column, target devices with KVM connections in the Action column, CPS appliances that are idle in the Status column and so on.

If the Topology window is filtered, both parent and child units will display in the filtered view. For example, if you filter for a child named target device 1 that is attached to a DSR1021 switch, target device 1 will appear below the DSR1021 switch in the filtered view.

While filtering, you may use an asterisk (*) before and/or after text strings as a wildcard. For example, typing **emailserver*** and clicking *Filter* will display items with emailserver at the beginning (emailserver, emailserverbackup and so on). Typing ***emailserver** and clicking *Filter* will display items ending with emailserver (obsolete_emailserver, betaemailserver and so on). Typing ***emailserver*** and clicking *Filter* will display items containing emailserver in any part of the name (emailserver, emailserverstore, tdeemailserver, tdeemailserver1, newemailserver and so on.)

Table 1.5 lists the various methods that may be used to filter information, where <String>, <String1> and <String2> is a string of text.

NOTE: Searches are non-case sensitive.

Table 1.5: Filter Field Text Strings

Typed in the Filter Field	Results
<String>	Displays a filtered list of items that contain the word specified. For example, typing email would list any items that contain the word "email."
"<String>"	Displays a filtered list of items containing the exact phrase, including spacing and punctuation, surrounded by quotation marks. For example, typing email server will display items that contain the phrase, "email server." The DSView management software will provide a closing quotation mark if it is omitted.
(<String>)	Overrides the default (that is, left to right) order of precedence during evaluation of a filter string using parenthesis (). For example, searching for email or Email and server or service would be the equivalent of ((email or Email) and server) or service), which may not be the intended search. The DSView software user may choose to instead group the search terms with parenthesis, such as using (email or Email) and (server or service).
<String1> AND <String2>	Displays the items that contain both of the strings of text. For example, typing email AND server will display items named email-server-3, email-server-2, server email and so on.
<String1> OR <String2>	Displays all items that contain at least one of the strings of text. For example, typing email OR server will find any items that contain the string email or the exact string server.
NOT <String>	Displays all items that do not contain the string of text. For example, typing NOT email will display all items except those containing email (email, email server, email-server-1 and so on will not display).

To filter the list in the current window:

1. From a window containing a Filter field, type a text string in the field.
2. Click *Filter*. A filtered list of the information in the window will appear.
3. Click *Clear* to return to a non-filtered list.

Saving Information in a DSView Management Software Window

When you modify information in a DSView software 3.0.2 Explorer window, you must click *Save* in order to apply the changes. By default, a message box will appear if you click *Close* or try to exit the window by clicking a link in the top bar, top navigation bar or side navigation bar without first clicking *Save*.

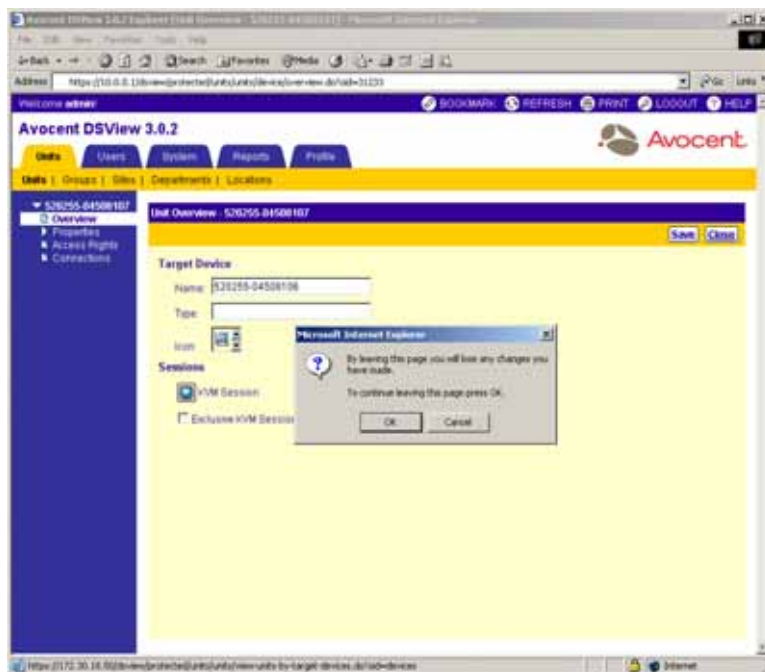


Figure 1.16: Unsaved Window Example

Clicking *OK* in the message box will exit the current window without saving the changes. If you wish to save the changes you have made, click *Cancel* in the message box and then click *Save* in the window.

You may use the Options window to choose whether or not to be reminded to save changes made to windows before exiting them. See *Customizing User Options* on page 67 for more information.

Using the Customize Link in DSView Management Software Windows

DSView software 3.0.2 Explorer windows that contain a Customize link allow you to customize the following information:

- Which columns of information are displayed or not displayed
- The number of items displayed per page of the window you are customizing
- Showing units that have been hidden (Unit Views windows only)

To customize a window containing a Customize link, click *Customize* in the upper right corner of the window to display a View Customization window that you may modify. The items available for customizing and methods for modifying them will vary, depending on the window you choose to customize.

Although the types of items that appear in View Customization windows may vary, the items that do appear are modified identically regardless of the window from which you clicked the *Customize* link.

To customize a window using the Customize link:

1. In a window containing a Customize link in the upper right corner, click the link. A View Customization window will appear. For example, Figure 1.17 contains the items that will appear when you select *Units* in the tab bar, *Units* in the top navigation bar, *Unit Views Recently Accessed* in the side navigation bar and *Customize* in the Units - Recently Accessed window.

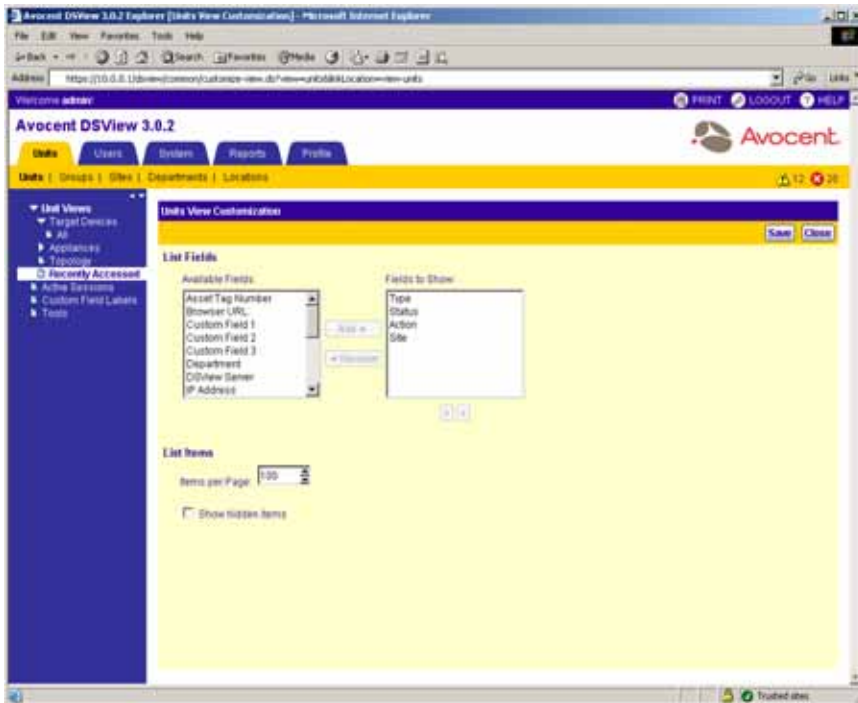


Figure 1.17: Customize Window Example (Units - Recently Accessed)

2. Customize the window so that it will appear as you wish.

NOTE: The items you may modify will vary, depending on the window you have chosen to customize.

To add a field to the display of a window:

- a. Select the field in the Available Fields list. Multiple fields may be selected by pressing **Ctrl** or **Shift** while clicking on the field names.
- b. Click *Add*. The column(s) will be moved to the Fields to Show list.

To change the order that fields display from left to right in the window:

- a. Select a field in the Fields to Show list.
- b. Use the up or down arrow to change its order in the list. Multiple fields may be selected by pressing **Ctrl** or **Shift** while clicking on the field names.

To remove a field from the display of the window:

- a. Select the field you wish to remove from the Fields to Show list. Multiple fields may be selected by pressing **Ctrl** or **Shift** while clicking on the field names.
- b. Click *Remove*. The field(s) will be moved to the Available Fields list.

To specify the number of items that appear in a window:

Use the arrow keys to specify a number.

-or-

Type a number in the Items per Page field.





To show hidden items in a window:

- a. Click *Show hidden items*.
 - b. Select the *Visibility* column from the Available Fields list and click *Add* to move Visibility to the Fields to Show list.
3. Click *Save* when you are finished.
 4. Click *Finish*. The window being customized will reappear with the modifications.

Viewing Pages

Many of the windows in the DSView software 3.0.2 Explorer contain navigation buttons which may be used to quickly access other pages of data. Table 1.6 describes the navigation buttons.

Table 1.6: DSView software 3.0.2 Explorer Navigation Buttons

Button	Description
	First Page - Navigates to the beginning of a list displayed in a window.
	Previous Page - Navigates to the previous page of a list displayed in a window.
	Next Page - Navigates to the next page of a list displayed in a window.
	Last Page - Navigates to the end of a list displayed in a window.

The number of items that display in a window is specified by clicking the *Customize* link and typing or choosing a number in the Items per Page field. For example, if you have 1000 target

devices and the Items per Page customization has been set to 10, you will have 100 pages containing 10 target devices each. If you are on the first page of the list and wish to go to a target device on the third page, you would click the *Next Page* button twice. The current page and total number of pages will appear in the top left corner of the window.

When you are on the first page of units, the First Page and Previous Page buttons will be disabled. When you are on the last page of units, these buttons will be disabled. In Figure 1.18, the First Page and Previous Page buttons are disabled because the first page of units is displayed.

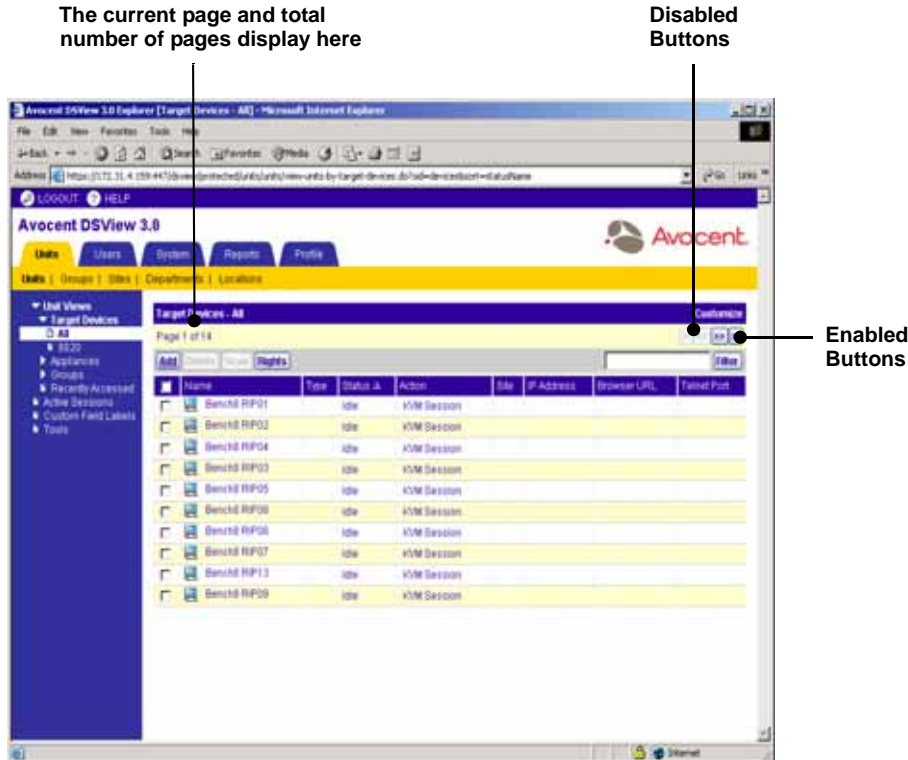


Figure 1.18: Viewing Pages in a Window

The navigation buttons are enabled only if there are enough pages available to make them necessary. For example, if you have eight target devices and the Items per Page customization is set to 10 items per page, no navigation buttons will be enabled. If you change the Items per page setting to 4, the First Page and Last Page buttons will be enabled (four target devices on the first and last pages). Finally, if you change the Items per Page setting to 2, all navigation buttons will be enabled (two target devices listed per page).

Bookmarking a DSView Management Software Window

Many DSView management software windows contain a bookmark icon and text in the top Option Bar. Bookmarking a DSView management software window will add a link to the window in the Favorites drop-down menu. You may select the link at any time to quickly access the bookmarked DSView management software window.

NOTE: If you bookmark a DSView management software window and information related to the window changes, this new information will appear in the window when you next view the bookmarked window. For example, if you bookmark the Recently Accessed window and then access other units, the bookmarked page will contain these other units when you next view the bookmarked page.

To bookmark a DSView management software window:

1. In the top option bar, click *BOOKMARK* or the bookmark icon. The Add Favorite dialog box will appear.
2. If you wish, type a name for the DSView management software window. You may also click the *Create in* button to create or specify a folder in which to place the software window.
3. Click *OK* to dismiss the Add Favorite dialog box.

NOTE: If *BOOKMARK* or the bookmark icon is clicked after the DSView software server session has timed out, the User Login window will appear and the DSView software user must re log in. The DSView software user will be redirected to the bookmarked page after the DSView software user successfully logs in.

Printing a DSView Management Software Window

All DSView management software windows contain a print icon and text in the top Option Bar. Clicking the text or icon will display the Print dialog box.

To print a DSView management software window:

1. In the top option bar, click *PRINT* or the print icon. The Print dialog box will appear.
2. Specify the options you wish to use for printing the DSView management software window.
3. Click *Print* to print the DSView management software window and dismiss the Print dialog box.

Refreshing a DSView Management Software Window

A DSView 3.0.2 Explorer window may be refreshed at any time by clicking *REFRESH* or the refresh icon in the top option bar.

NOTE: By default, status information automatically refreshes every 30 seconds, whether *REFRESH* or the refresh icon is clicked. The automatic refresh interval may be changed or disabled using the Options window. See *Customizing User Options* on page 67 for more information.

User Groups

The user group to which a DSView software user belongs determines the actions the user may perform during a DSView management software session. A user may be assigned to any of the following five built-in user groups when they are added to the DSView management software system:

- DSView software administrators
- Appliance administrators
- Auditors
- User administrators
- Users

NOTE: Users may also be added to user-defined user groups.

Table 1.7 lists the operations that may or may not be performed by DSView software users that are members of a particular user group.

Table 1.7: DSView Management Software Built-in User Groups and Allowed Operations

Operations	Built-in User Groups				
	Software Administrators	User Administrators	Appliance Administrators	Auditors	Users
Configure DSView software system-level settings	Yes	No	No	No	No
Backup and restore the DSView software database	Yes	No	No	No	No
Register the DSView software spoke server	Yes	No	No	No	No
Define, view and modify user account custom field labels	Yes	Yes	No	No	No
View, add, modify and delete external authentication servers	Yes	Yes	No	No	No
Configure audit log retention time	Yes	No	No	Yes	No
Configure events that are logged to the audit log	Yes	No	No	Yes	No
View and delete events in and audit log	Yes	No	No	Yes	No

Table 1.7: DSView Management Software Built-in User Groups and Allowed Operations (Continued)

Operations	Built-in User Groups				
	Software Administrators	User Administrators	Appliance Administrators	Auditors	Users
Access non-recoverable, critical and non-critical audit log events from the DSView 3.0.2 Explorer window top navigation bar.	Yes	No	No	Yes	No
View, add, modify, import and delete DSView software user accounts	Yes	Yes	No	No	No
View DSView software user account custom field labels and properties	Yes	Yes	No	No	No
View, add, modify and delete user-defined user groups	Yes	Yes	No	No	No
Reset account passwords	Yes	Yes	No	No	No
Configure the preemption level for an added user group	Yes	Yes	No	No	No
Modify the preemption level for DSView software users and user groups	Yes	Yes	No	No	No
View and select external authentication server names	Yes	Yes	No	No	No
View, add, modify and delete unit entries	Yes	No	Yes	No	No
View, add, modify and delete unit groups	Yes	Yes	Yes	No	No
Configure units access control settings	Yes	Yes	No	No	No
Add, modify and delete sites, departments and locations	Yes	No	Yes	No	No
View and select DSView software user account names and user group names	Yes	Yes	No	No	No
Change your own password	Yes	Yes	Yes	Yes	Yes

Table 1.7: DSView Management Software Built-in User Groups and Allowed Operations (Continued)

View managed appliances that have one or more access rights including appliance status	Yes	Yes	Yes	No	Yes
View target devices that have one or more access rights including status	Yes	Yes	Yes	No	Yes

User Preemption Levels

The preemption level of DSView software users determine whether or not they can interrupt or disconnect another user's serial or video (KVM) session with a target device.

DSView software administrators and user administrators may specify the preemption level for user accounts or user-defined user groups when an account or group is created. The preemption level for users may be changed later by using the User Preemption Level window or, for user-defined groups, by using the User Group Properties window. See *Changing the preemption level* on page 259 or *Viewing and modifying user group members* on page 393 for more information.

By default, the preemption level used by the DSView management software (the effective user preemption level) is the highest level of all of the user groups to which the user belongs. Preemption levels range from 1-4, with 4 having the highest preemption level. For example, a user or a user group with a preemption level of 4 may preempt other level 4 users or user groups, as well as those with a level 1, 2 or 3 setting.

Table 1.8: DSView Software User and User Group Preemption Levels

Preemption Level	Description
4	The default preemption level assigned for a new local user of a DS1800 digital switch, CPS appliance or DSR switch.
3	The default preemption level assigned to the DSView software administrator and appliance administrator user groups by the DSView management software.
2	The default preemption level assigned for the user administrator user group.
1	The default preemption level for the user group.

There are three preemption levels:

- User preemption level - The preemption level that may be assigned to a user by a DSView software administrator or user administrator. If this value is larger than the highest preemption level of the user group to which the DSView software user belongs, the value will be used as the effective user preemption level.

- Group preemption level - The preemption level that is assigned to user groups to which the user belongs. If the user is assigned to multiple user groups with different preemption levels, this will be the preemption level of the user group with the highest level. For example, if a user belongs to the administrators (level 3) and auditors (level 1) user groups, this value will be defined as 3. If this value is larger than the highest preemption level of the user, the value will be used as the effective user preemption level.

The default preemption levels for built-in user groups within the DSView management software are listed in Table 1.9.

Table 1.9: Built-In User Group Preemption Levels

User Group	Preemption Level
DSView software administrators	3
Appliance Administrators	3
User Administrators	2
Auditors	1
Users	1

A user-defined user group may be assigned a preemption level of 1-4.

- Effective user preemption level - The largest value between the user and group preemption level. This is the actual preemption level that will be recognized by the DSView management software when the user attempts to preempt another user's session. For example, if user belongs to the Auditors group (level 1) but is assigned a user preemption level of 4, the user will have an effective user preemption level of 4. Although a member of the Auditors group, the user would also be able to preempt the session of a user belonging to the administrators or appliance administrators user groups.

An administrator or user administrator may also specify an OSCAR graphical user interface preemption level that is applied to users accessing target devices through the OSCAR interface. See *Modifying DS1800 digital switch, CPS appliance or DSR switch port settings* on page 197 for more information.

Using Certificates with the DSView Management Software

The DSView software system uses certificates to provide secure transactions between components and to uniquely identify components in the system.

NOTE: A Security Alert, Warning - Security or Warning - HTTPS dialog box may appear if there are issues with a certificate. See *Correcting certificate security alerts* on page 9 for more information.

Server certificate

A DSView software server certificate is used to do the following:

- Uniquely identify the DSView software server to DSView software clients connecting to the server using web browsers
- Uniquely identify the DSView software server to other DSView software servers in the system
- Provide for secure transactions between DSView software clients and the DSView software server
- Provide for secure transactions between DSView software servers

By default, a self-signed certificate that uniquely identifies the server is created when the server is installed. The server certificate may be replaced with a certificate from a Certificate Authority (CA) using the Update DSView Server Certificate Wizard.

Client certificates

DSView software client certificates are used for authentication of client users during log in. This is an optional feature that may be enabled in the DSView software. To use DSView software client certificates for authentication, a DSView software administrator must first enable certificate authentication. See *Specifying client session information* on page 82 for information on enabling certificate authentication. Once this option is enabled, the DSView software server will prompt the client web browser to send its user certificates.

NOTE: The DSView software client certificate must first be loaded into the client web browser and be associated with a DSView software user account. See *Modifying the certificates associated with users* on page 257 for more information.

Managed appliance certificates

Certificates are also used for authenticating and authorizing managed appliance sessions when a managed appliance is added in Secure mode. See *Adding Units* on page 147 for more information.

Using Integrated Windows® Authentication with the DSView Management Software

The DSView management software allows DSView software clients to authenticate against Microsoft Windows NT domain external authentication servers using Integrated Windows Authentication. This feature allows Single Sign-On (SSO) and is disabled by default.

NOTE: Integrated Windows Authentication cannot be used if the DSView software server name contains periods (.).

In order to use Integrated Windows Authentication for authentication, a DSView software administrator must first enable *Integrated Windows Authentication*. See *To specify client session information* on page 82 for details on enabling Integrated Windows Authentication.

Using the DSVIEW Management Software with a Firewall

In a typical network configuration, the DSVIEW software client is located outside of the firewall and the DSVIEW software server and managed appliances reside inside the firewall. In this case, the firewall must be configured to allow two TCP/IP ports inside the firewall.

The first TCP port (Default=443) is used for the HTTPS web browser connection between the DSVIEW software client and the DSVIEW software server. The second TCP port (Default=1078) is used for the Avocent Proxy Protocol (Tunnels Video and Telnet traffic). Both ports are configurable.

If you are using the DSVIEW management software through a firewall, we recommend the following:

- Place the DSVIEW software server and all managed appliances within the same firewall Demilitarized Zone (DMZ). If the managed appliances are not in the same DMZ with the DSVIEW software server, you must configure the firewall so all data may pass between the zones using TCP/IP ports 22 (SSH), 3211, 2068, 8192 and 3871. You must also configure the User Datagram Protocol (UDP) port 3211 so it may pass through the firewall for initial network discovery of appliances that do not have an IP address.

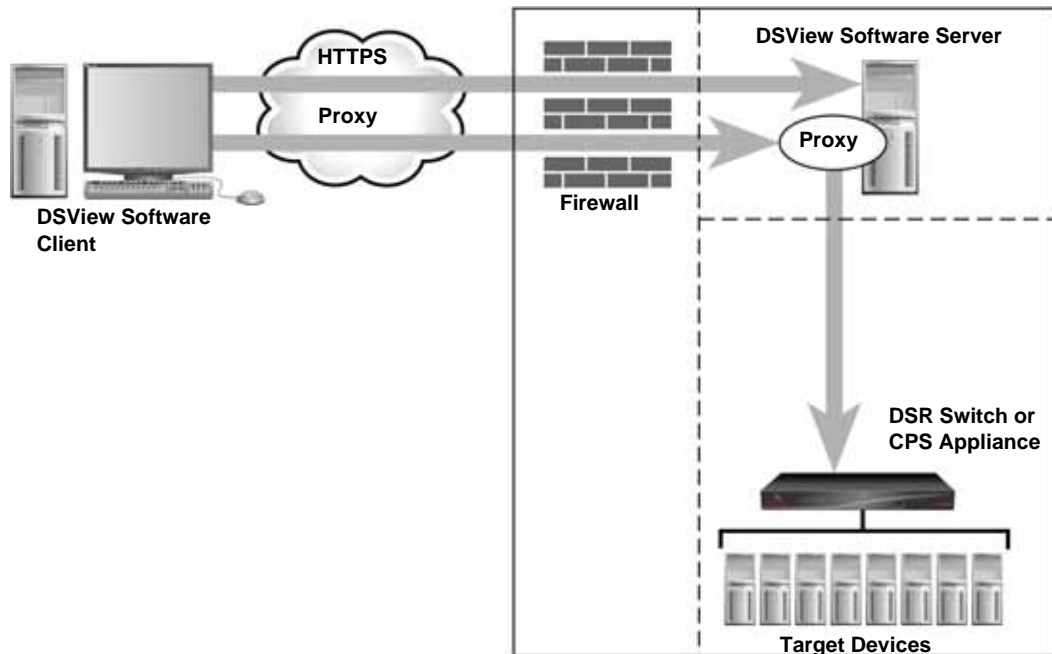


Figure 1.19: Typical DSVIEW Software System Firewall Configuration

Using a Virtual Private Network

A Virtual Private Network (VPN) is a secure private network that uses public infrastructure and typically includes several Wide Area Network (WAN) components which may impact performance of the VPN.

In a typical VPN setup, two sites are connected in a VPN network using WANs and a router. This setup provides a secure network between the two sites, but processing is slow.

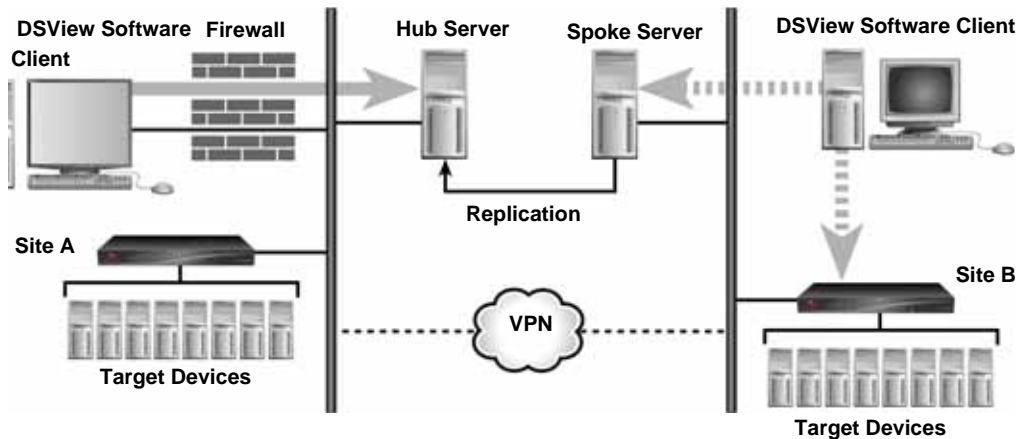


Figure 1.20: DSView Software System on a VPN

Several factors related to the network setup, including the DSView software database replication schedule and methods of device access, can affect the speed of a multi-site VPN network. The tradeoff must be made based on the network setup.

Frequent replication of the DSView software database will increase WAN/VPN traffic but provide steady data reception at the local sites. Infrequent database replication made at the various sites decreases the WAN/VPN traffic but delays the reception of changes at the local site.

In addition, the methods used to access devices affects network speed. VPN access of a managed appliance is always slower than local access.

The DSView management software supports VPNs that provide full transparency for IP addresses, as well as ports between sites and many VPNs that perform Network Address Translation (NAT) between sites. For example, the VPN in Figure 1.20 could use NAT if Site A and Site B are separate companies that merged but have not resolved their IP addresses. See the following section for more information on NAT.

Using an NAT Device

NAT devices enable a company to use more internal IP addresses than they have assigned to managed appliances. The IP addresses are not exposed outside of the NAT device.

NAT devices are typically used with a DSL broadband router. A DSView software client is connected to the NAT device, as shown in Figure 1.21, which then connects to the corporate network using a VPN.

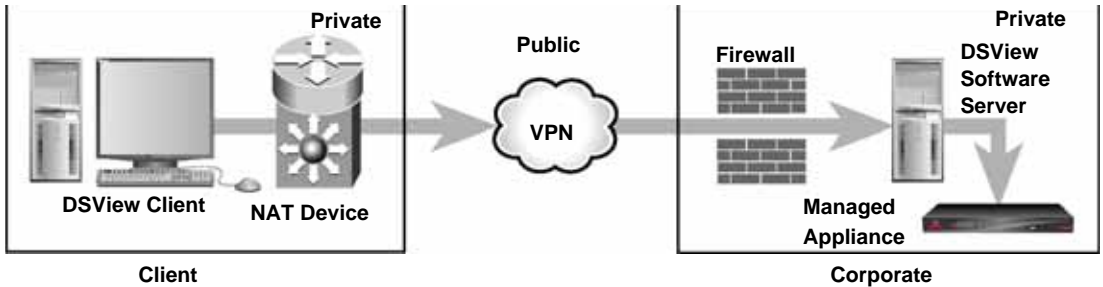


Figure 1.21: Single NAT Configuration (Client Only)

Another scenario, shown in Figure 1.22, is when the corporate site also uses a NAT device to save IP addresses (double-NAT). Since the DSView software client is trying to access a private resource inside the corporate site, the TCP/IP ports used for HTTPS and the proxy server must be configured to be exposed on the corporate NAT device.

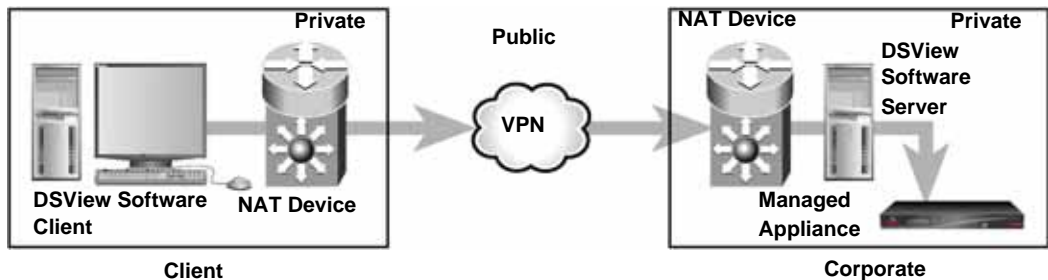


Figure 1.22: Double-NAT Configuration (Client and Corporate)

NOTE: NAT devices may not be connected between the DSView software server and any managed appliances.

Installing the DSView Management Software

The DSView management software is installed on a computer that will serve as the host and is fully integrated with the Avocent patented OSCAR® graphical user interface, allowing you to manage your DS1800 digital switches, DSR switches and other data center devices both over LAN connections and from the local analog station. When the software is installed, the DSView software database and a DSView software hub server are also installed on the dedicated server.

The DSView management software may be installed on a computer containing an existing DSView 2.x software authentication server without causing any interference with the operation of the DSView 2.x software system. The DSView 2.x software authentication server and the DSView management software may run on the same dedicated server at the same time.

Rebooting the dedicated server is not required prior to using the DSView management software.

Once the DSView management software is installed and you have configured the DSView software hub server, DSView software users may log in at another computer as a DSView software client using an Internet Explorer 6.0 SP1 or later web browser.

NOTE: The master license key for your DSView management software allows one client. Additional licenses must be purchased to allow more DSView software clients on your system.

You may also install the DSView management software on additional computers and configure them as spoke servers. A spoke server replicates the data contained on the hub server. See *Specifying and Managing Spoke Authentication Servers* on page 118 for information on adding DSView software spoke servers and *Running the DSView Management Software* on page 63 for information on using the DSView management software.

NOTE: The master license key for your DSView management software contains one DSView software hub server and one DSView software spoke server license. Additional licenses must be purchased to install additional hub servers or spoke servers.

Before installing the DSVIEW management software

You must perform the following before installing the DSVIEW management software:

- Install the hardware - Install the managed appliance (DS1800 digital switch and DSI5100 appliance, DSR switch, CPS serial over IP network appliance, EVR1500 environmental monitor and control appliance and generic appliance) hardware.
- Set up each server - Access mouse settings on each server connected to the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch and set mouse acceleration to Slow or None.

Minimum requirements for the DSVIEW management software

The following are the minimum requirements for installing the DSVIEW management software on a dedicated server or a computer that will function as a DSVIEW software spoke server:

- 1GHz Pentium 3 (2GHz Pentium 4 recommended)
- 512 MB of RAM (1GByte recommended)
- 100BaseT NIC (1GByte LAN recommended)
- One of the following operating systems:
 - Microsoft Windows NT® Server
 - or -
 - Microsoft Windows 2000 Server or Windows 2000 Advanced Server with the latest service package
 - or -
 - Microsoft Windows Server 2003 Standard, Enterprise and Web Edition
- 1GB of free disk space

The DSVIEW management software may be installed using the DSVIEW management software CD or by downloading the software in a self-extracting .zip file from the Avocent web site.

To install the DSVIEW management software:

1. Log on to the dedicated server as Administrator.
2. To install from a CD:
 - a. Insert the DSVIEW software 3.0 CD. An autorun file will bring up a menu of installation options.
A menu of installation options will appear.



Figure 2.1: DSView Software Screen

- b. Click *Install DSView Software*.
-or-
If autorun is not enabled, type `<drive:>\DSView\win32\setup.exe`, where `<drive:>` is the letter of your CD-ROM drive.
- c. A dialog box displays to report that the installation program will verify that the server meets the minimum requirements for installing the DSView management software.
-or-
To install from a downloaded file:
 - a. Using your web browser, download the DSView management software from the Avocent web site. (Go to www.avocent.com and click the *Support* link. On the Technical Support page, click the *Product Upgrades* link.), then select *DS Software Upgrades*.
 - b. Double-click on the installation package (setup.exe) downloaded from Avocent.
 - c. A dialog box displays to report that the installation program will verify that the server meets the minimum requirements for installing the DSView management software.
3. If the current or an earlier version of the DSView management software is already installed, the Installed Product Found: Same Version message box will appear.

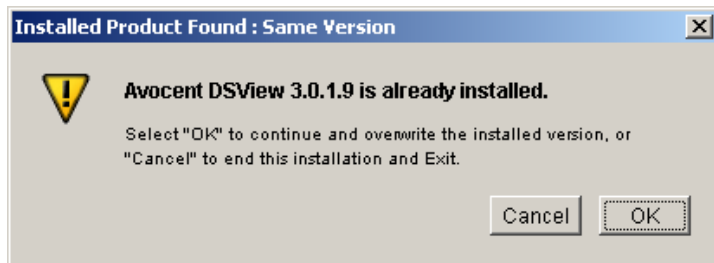


Figure 2.2: Installed Product Found: Same Version

Click *OK* to reinstall the DSVIEW management software.

-or-

Click *Cancel* to exit setup.

4. The Check for an UPDATED version window will appear.

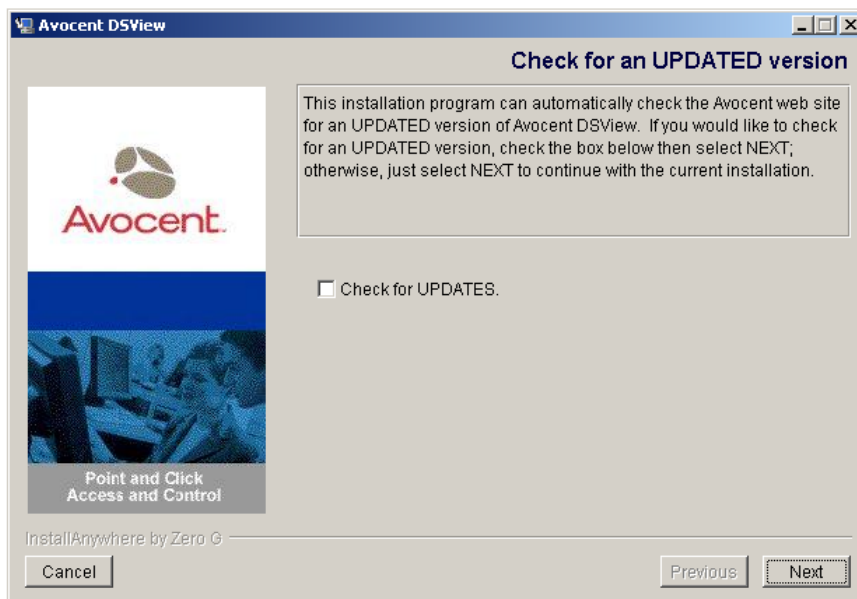


Figure 2.3: Check for an UPDATED Version Window

NOTE: If the DSVIEW management software is already installed on the dedicated server, a message box will display. Click *OK* to dismiss the message box. Click *Next* in the Check for UPDATED Version window to reinstall the software, or click *Cancel* to stop the reinstallation.

Click *Check for UPDATES* and then click *Next* to check the Avocent web site for the most recent DSVIEW management software installation package. Continue to step 5.

-or-

Click *Next* to install the version of DSView management software that was downloaded or is on your CD. Go to step 6.

5. If a newer version of the DSView management software is found, an Update Available message box will appear.
 - a. Click *OK* to download the latest DSView management software installation package. The installation will be cancelled and the dedicated server's default web browser is launched and opens in the Product Upgrades and Options page of the Avocent web site.
6. The Introduction window will appear. Click *Next*.
7. The License Agreement window will appear.
 - a. Click *I accept the terms of the License Agreement* and then click *Next*. Continue to step 8.

-or-

Click *Cancel* to resume installation of the older version of the DSView management software. Go to step 6.

- b. Type your email address and password and click *Submit* to log in to the web site.
 - c. Download the DSView 3.0.2 software installation package, log out and close the web browser. Return to step 2.

-or-

Click *I do NOT accept the terms of the License Agreement*. A License Agreement Warning message box will appear. If you click *Quit*, the installation will exit without installing the DSView management software. If you click *Resume*, you will be returned to the License Agreement window.

NOTE: The DSView management software license agreement may also be viewed from the DSView 3.0.2 Explorer User Login window by clicking the *Avocent DSView End User License Agreement* link. The agreement will appear in a separate web browser window.

8. If the default TCP port used by the dedicated server hosting the DSView management software (TCP Port 443) is not available, the Define Web Application Server TCP port window will appear.

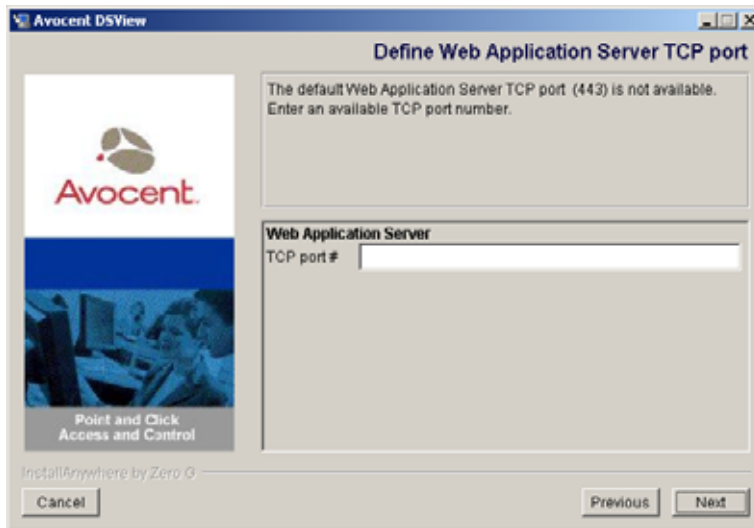


Figure 2.4: Define Web Application Server TCP Port Window

- a. Type the port you want to use in the TCP port # field.
- b. Click *Next*.

NOTE: Clicking *Cancel* exits the Checking for an Updated version installation program.

9. If the default TCP port used by the Video Viewer proxy (TCP Port 1078) is not available, the Define TD (target device) Session Viewer Proxy TCP port window will appear.

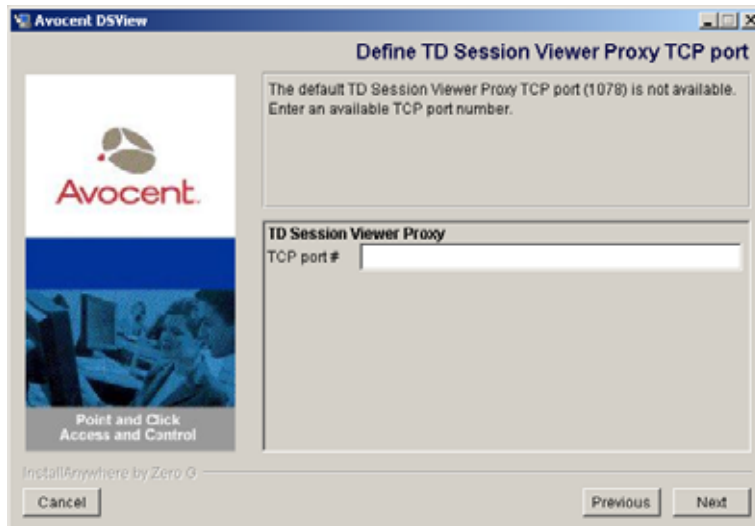


Figure 2.5: Define TD Session Viewer Proxy TCP Port Window

- a. Type the port you want to use in the TCP port # field.
- b. Click *Next*.

10. The Choose Destination Location window will appear.

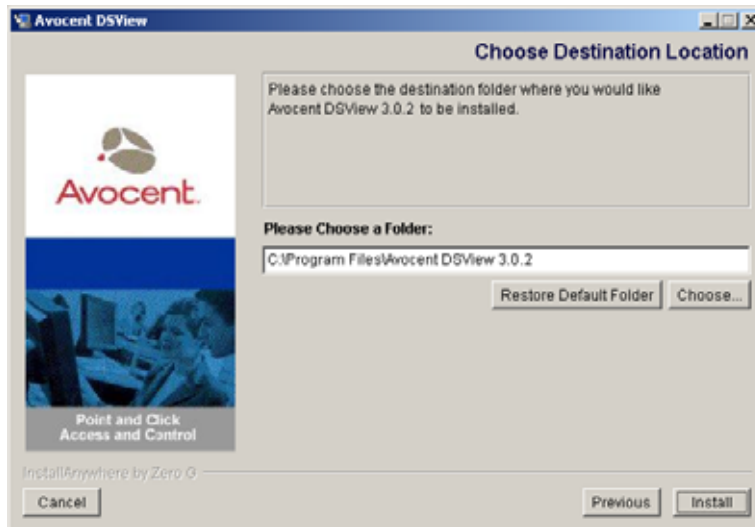


Figure 2.6: Choose Destination Location Window

- a. Click *Choose* and use the Browse for Folder dialog box to select a directory in which to install the DSView management software.

-or-

If you wish, click *Restore Default Folder* to restore the installation directory to the default (C:\Program Files\Avocent DSView 3.0).

- b. Click *Install* when you are finished.

The Installing... window will appear and displays the progress of the installation. The software will be installed in the specified folder, a Start - *Programs* - *DSView 3.0* shortcut menu will be generated and the DSView management software service startup will be verified. You may cancel the installation by clicking *Cancel*.

NOTE: If a previous version of the DSView management software already exists on the dedicated server, message boxes may appear prompting you want to overwrite existing files. Click *Yes to All*.

11. When the software has finished installing, the Successful Service Startup message box will appear.

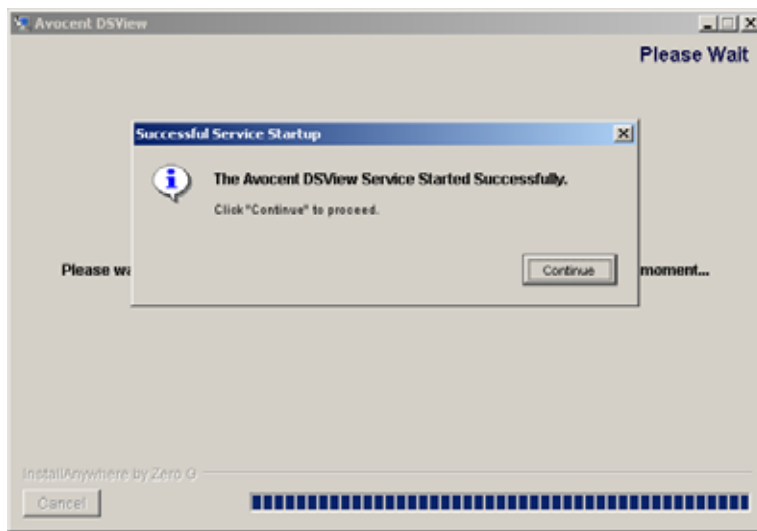


Figure 2.7: Successful Service Startup Message Box

Click *Continue*.

12. The Installation Complete window will appear.

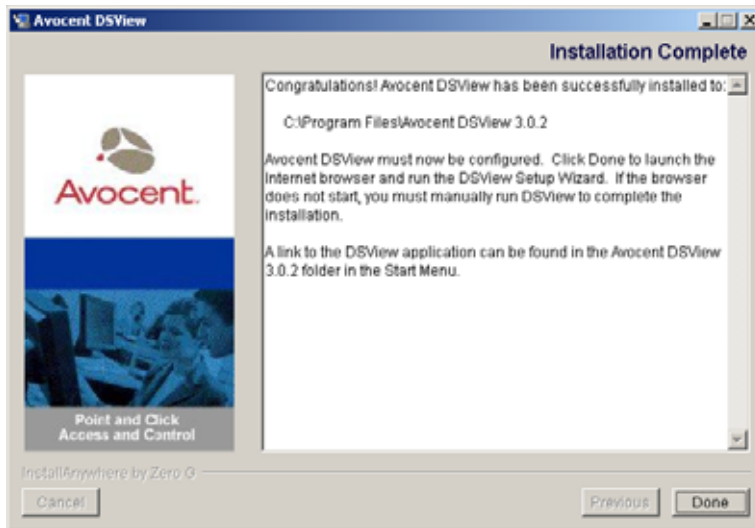


Figure 2.8: Installation Complete Window

Click *Done* to begin configuration of the DSView management software.

NOTE: A Security Alert dialog box will appear containing certificate information and a warning that the generator of the certificate is not trusted. This occurs because the DSView software server certificate created when the server is installed is a self-signed certificate. You may either import the certificate into the DSView software client web browser (choosing to trust the certificate) or obtain a server certificate from a Certificate Authority (CA) trusted by the web browser.

-or-

Click the X (Cancel) button in the top right corner of the window to configure the DSView management software at a later time and launching the software from the *Start* menu.

Configuring the DSView Management Software

Once the DSView management software has been installed, it must be configured using a web browser. During the installation process, you are given the choice of launching the web browser or quitting the installation and configuring the software at a later time. The DSView management software includes the DSView Server Configuration Wizard for easy, step-by-step configuration.

When you initially configure the DSView management software installation, a Security Alert dialog box will appear and prompt you to verify that the certificate on the dedicated system is valid before you may proceed. During configuration, you specify whether the computer will be a DSView software hub server or a DSView software spoke server.

NOTE: If this is your first DSView software server installation, *hub* should be selected in the Select DSView Server Role window. The hub server should be installed first before any spoke servers are added to your system.

If the computer is to act as a hub server, you will enter the license key obtained from Avocent and provide a username and password that will be used to initially log in to the DSView management software to add and manage users and units (target devices, DS1800 digital switches, DS15100 and CPS appliances, DSR switches, EVR1500 environmental monitors and generic appliances).

If you specify that the computer will act as a spoke server, you will specify the following:

- The hub server for which the computer acts as a spoke server.
- The name and password of an existing DSView software administrator for the hub server.

NOTE: DSView software spoke servers replicate the data on the DSView software hub server. The hub server contains the DSView management software data that DSView software clients access. See *Specifying and Managing Spoke Authentication Servers* on page 118 for more information on spoke servers.

To configure the DSView management software:

1. If you are configuring the DSView management software during the installation process, click *Done* in the Launch Default Browser window.

-or-

If you quit the DSView management software installation process before configuring the software, select *Start - Programs - Avocent DSView Software - DSView 3.0*.

NOTE: A security alert box will appear containing certificate information. See *Using Certificates with the DSView Management Software* on page 38 for more information on certificates.

The DSView 3.0.2 Explorer will appear containing the Welcome page of the DSView Server Configuration Wizard.

Click *Next*.

2. The Select DSView Server Role window displays.

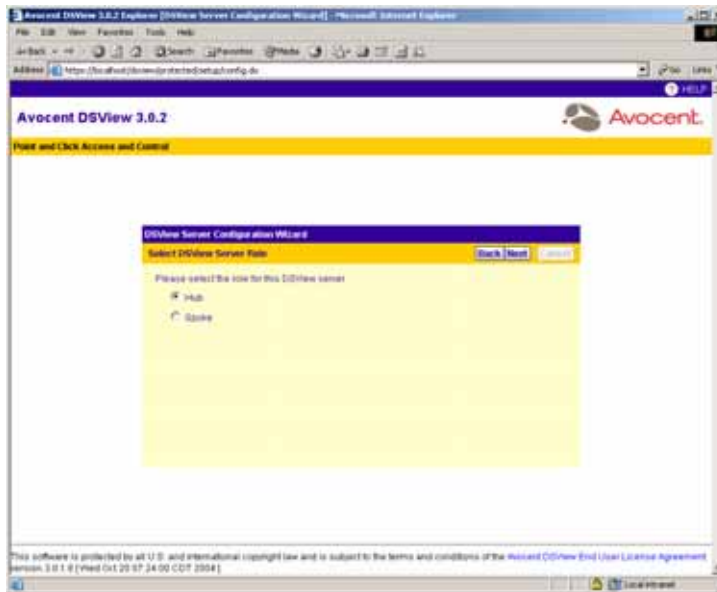


Figure 2.9: DSView Server Configuration Wizard - Select DSView Server Role Window

- a. Click *hub* to assign the dedicated server as the DSView software hub server. Continue to step 3.
-or-
Click *Spoke* to assign the dedicated server as a DSView software spoke server. Go to step 9.
- b. Click *Next*.

NOTE: See *Specifying and Managing Spoke Authentication Servers* on page 118 for detailed information on spoke servers.

3. The Type in Master License Key window displays.

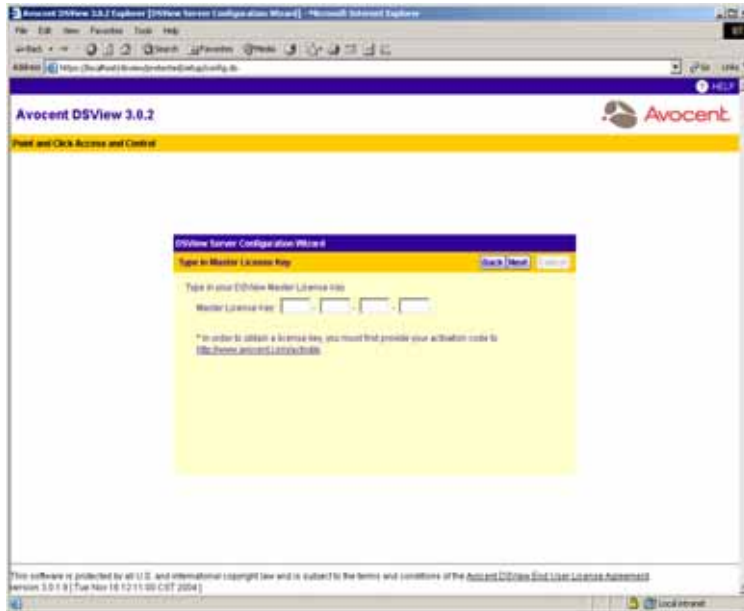


Figure 2.10: DSView Server Configuration Wizard - Type in Master License Key Window

- a. Type the Avocent-provided license key for the DSView software hub server.

NOTE: If you did not receive a license key, click the <http://www.avocent.com/activation> link in the Type in Master License Key window to obtain a license key.

NOTE: If the entered license is already in use on another dedicated server, you will receive a license violation when you log in and must configure the server as a spoke server.

NOTE: DSView management software license keys prior to version 3.0 are not valid.

- b. Click *Next*.
4. The Type in Initial Administrator Account window displays.

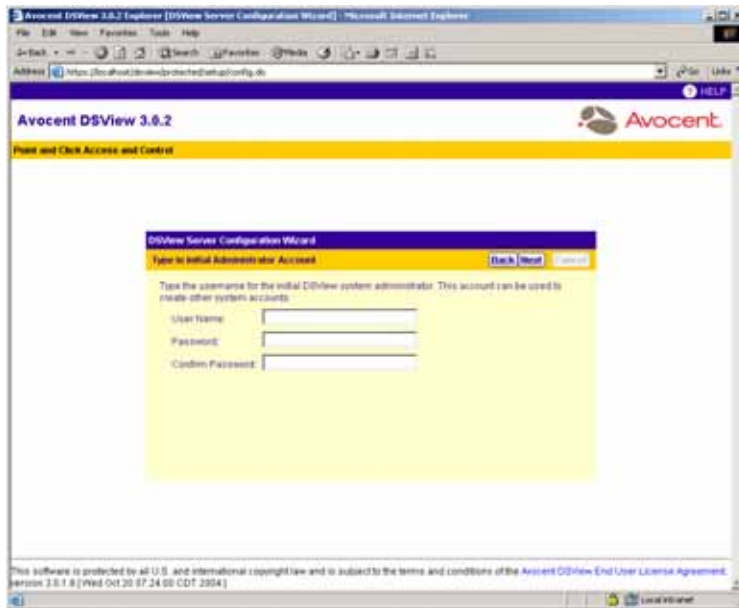


Figure 2.11: DSView Server Configuration Wizard - Type in Initial Administrator Information Window

5. Type a username, a password and confirm the password of the DSView software user to whom you wish to give administrator privileges.

NOTE: Usernames are case sensitive and may be up to 64 characters long. The at (@) symbol may not be used. Passwords may be 3-64 characters long.

Click *Next*.

6. The Updating hub Configuration window will appear with the message *Request In Progress Please Wait*. The license key will be installed and a DSView software administrator account will be created for the DSView software system. The following six user groups are also created:
 - Everyone
 - Appliance administrators
 - Auditors
 - DSView software administrators
 - User administrators
 - Users

A user may be assigned to any of the user groups when they are added to the DSView management software, or added or removed from user groups at a later time. See *Adding Users* on page 253 and *Managing DSView Software Users Using User Groups* on page 383 for more information.

7. The Completed Successful window will appear when configuration is completed. Click *Finish*.
8. The User Login window will appear within the DSView 3.0.2 Explorer.

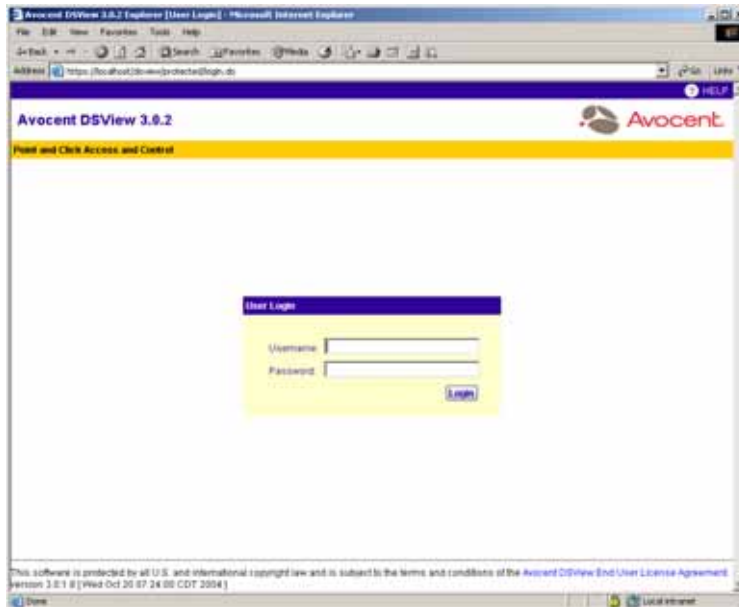


Figure 2.12: User Login Window

You have successfully configured the DSView management software and may now log in using the username and password specified during configuration.

If you chose to assign the server as a spoke server in the Select DSView Server Role window or entered a duplicate software license key in the Type in Master License Key window, complete steps 9-13.

NOTE: The DSView management software versions of the spoke server and the hub server must match in order to register the spoke server. For example, you may not register a spoke server running DSView management software version 3.0 with a hub server running DSView management software 3.0.2.

9. The Type in Hub Server Address and Port window will appear.

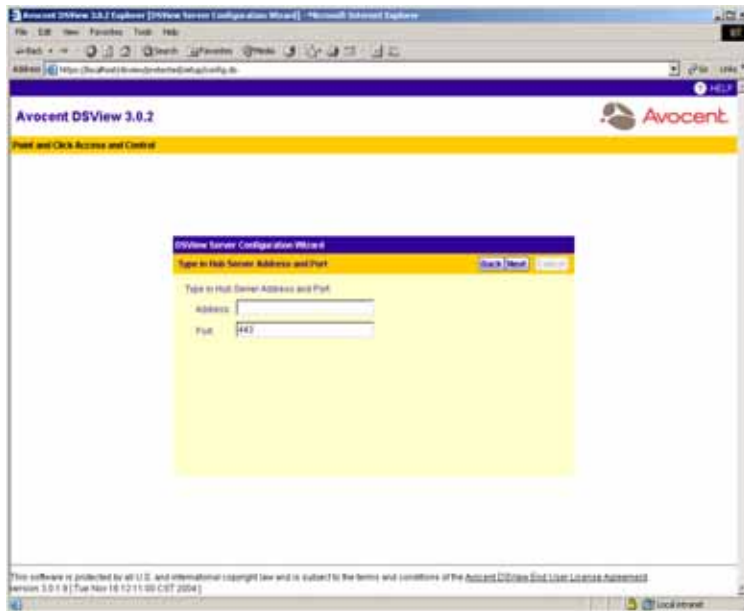


Figure 2.13: DSView Server Configuration Wizard - Type in hub Server Address and Port Window

- a. Type the address of the DSView software hub server using standard dot notation (xx.xx.xx.xx) or type the DNS name in the Address field. Click *Next*.
10. The Accept DSView Server Certificate window will appear.



Figure 2.14: DSView Server Configuration Wizard - Accept DSView Server Certificate Window

- a. Click *Next* to accept the certificate.

11. The Type in Hub Administrator Credentials window will appear.



Figure 2.15: DSView Server Configuration Wizard - Type in hub Administrator Credentials Window

- a. Type a valid username and password for a DSView software user with DSView software administrator privileges on the DSView software hub server. Click *Next*.
12. The Registering Spoke Server window will appear with the message *Request In Progress Please Wait*. The configuration of the spoke server will be saved to the database of the hub server and the spoke server's certificates will be installed on the hub server.
13. The Completed Successful window will appear when the spoke server has been added. Click *Finish*.

Upgrading the DSView management software

When upgrading to a newer version of the DSView management software, it is recommended that all DSView software servers are upgraded at the same time. The DSView software hub server should be upgraded first, followed by each spoke server.

A backup of the hub server should be created prior to and after upgrading the hub server. See *Manually Backing up and Restoring Hub Servers* on page 85 for more information.

Installing the DSR Remote Operations Software (Optional)

If DSR1021, DSR1022, DSR1024, DSR1020, DSR2020, DSR4020 and DSR8020 switches are installed on your DSView software system, you may use the DSR Remote Operations software for switch access using a dial-up point to point protocol (PPP) modem connection when an Ethernet connection is unavailable.

The following components will be installed:

- The DSR Remote Operations software
- JRE (Java Runtime Environment)
- DSR Remote Operations software online help

See *DSR Remote Operations Software (Supported DSR Switches Only)* on page 514 for detailed information on using the DSR Remote Operations software.

Minimum requirements for the DSR Remote Operations software

The following are the minimum requirements for installing the DSR Remote Operations software as a DSView software client :

- 650 MHz Pentium or equivalent processor
- 128 MB RAM minimum (256 MB recommended)
- XGA video with graphics accelerator
- Desktop size setting of at least 800 x 600
- Color palette of at least 256 colors
- One of the following operating systems:
 - Windows NT 4.0 Workstation or Server with Service Pack 6a or later

- Windows 2000 Workstation or Server with Service Pack 2 or later
- Windows XP Home Edition or Professional

The DSR Remote Operations software is installed from the DSView 3.0.2 Management Software CD.

To install the DSR Remote Operations software:

1. Log on to the host system as Administrator.
2. Insert the DSView 3.0.2 Management software CD. An autorun file will bring up a menu of installation options.

A menu of installation options will appear as shown in Figure 2.1.

3. Click *Install DSR Remote Operations*.

-or-

If autorun is not enabled, type `<drive:>\DSR Remote Operations\win32\setup.exe`, where `<drive:>` is the letter of your CD-ROM drive.

4. An installation preparation dialog box displays and the installation program will verify that the Client computer meets the minimum requirements for installing the DSR Remote Operations Software.
5. The Introduction window will appear. Click *Next*.

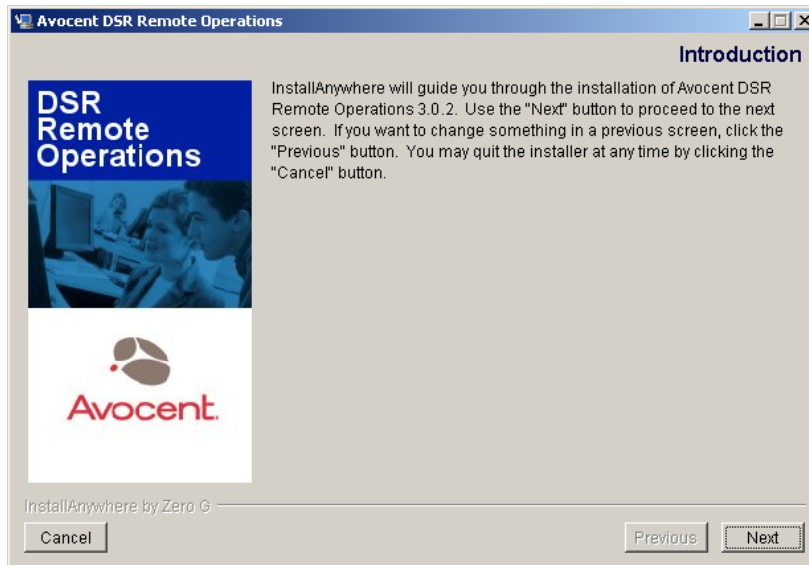


Figure 2.16: DSR Remote Operations - Introduction Window

6. The License Agreement window will appear.

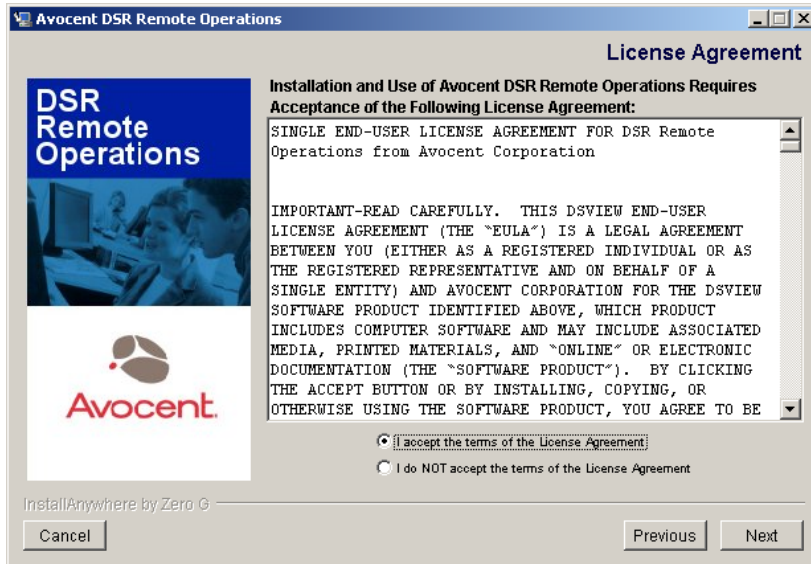


Figure 2.17: DSR Remote Operations - License Agreement Window

- a. Click *I accept the terms of the License Agreement* and then click *Next*. Continue to step 7.

-or-

Click *I do NOT accept the terms of the License Agreement*. A License Agreement Warning message box will appear. If you click *Quit*, the installation will exit without installing the DSR Remote Operations software. If you click *Resume*, you will be returned to the License Agreement window.

7. The Choose Destination Location window will appear.

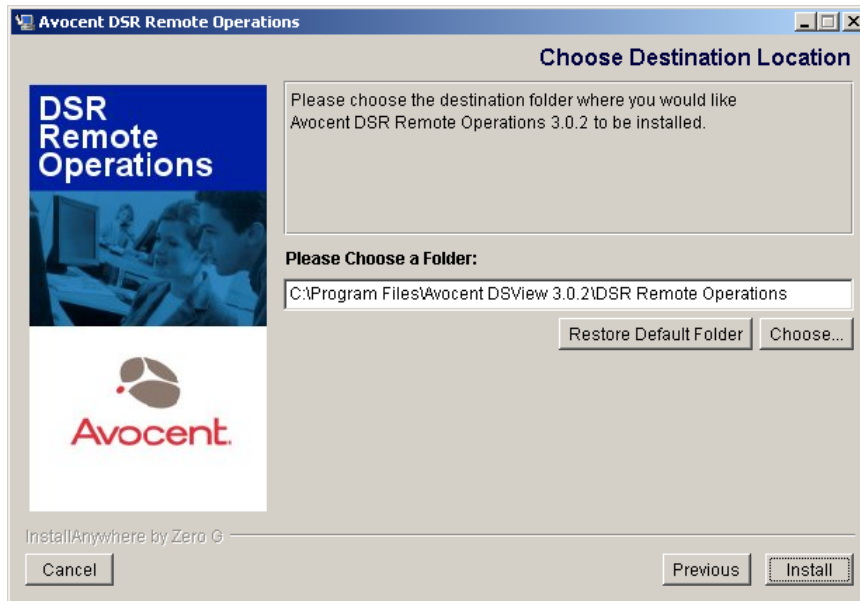


Figure 2.18: DSR Remote Operations Software - Choose Destination Location Window

- a. Click *Choose* and use the Browse for Folder dialog box to select a directory in which to install the DSR Remote Operations software.
-or-
If you wish, click *Restore Default Folder* to restore the installation directory to the default (C:\Program Files\Avocent DSView 3.0\DSR Remote Operations).
 - b. Click *Next* when you are finished.
8. The Installing... window will appear and displays the progress of the installation. The software will be installed in the specified folder and a Start - Programs - Avocent DSView 3.0 - DSR Remote Operations shortcut menu will be created. You may cancel the installation by clicking *Cancel*.

NOTE: If a previous version of the DSR Remote Operations software already exists on the Client computer, message boxes may appear asking if you want to overwrite existing files. Click *Yes to All*.

9. When the software has finished installing, the DSR Remote Operations Installation window will appear.

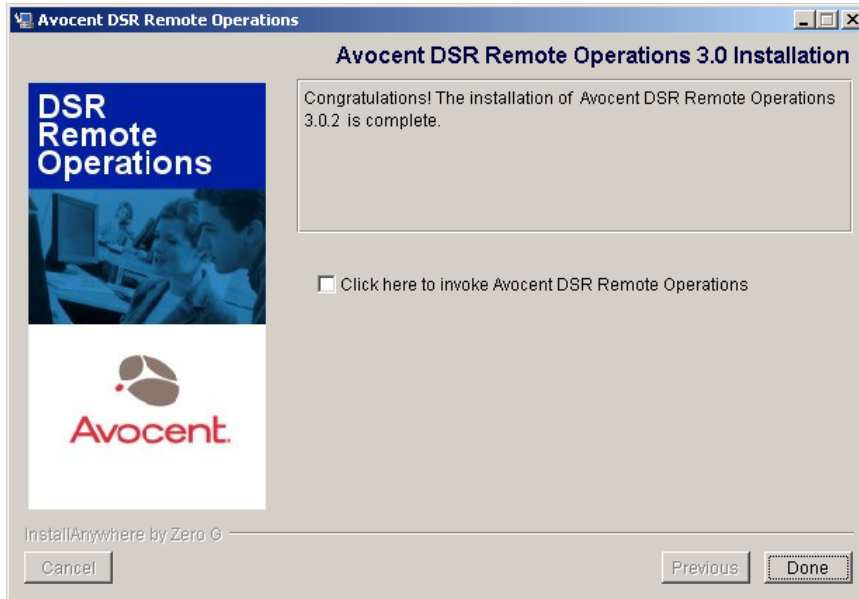


Figure 2.19: DSR Remote Operations - DSR Remote Operations Installation Window

- a. If you wish to start the DSR Remote Operations, select *Click here to invoke the DSR Remote Operations application*.
- b. Click *Done* when you are finished.

Running the DSView Management Software

DSView software clients access the DSView management software host using a web browser. Any software required by the client, such as applets and the Java Runtime Environment (JRE), will be automatically installed by the DSView software server host.

The DSView management software uses Secure Sockets Layers (SSL) encryption to send data between the DSView management software host and the web browser on the client to ensure data integrity and privacy. When a DSView software user attempts to log in to a DSView software client session, the authentication service configured in the DSView management software by the DSView software administrator verifies the credentials of the DSView software user. Security alerts related to the certificates on the DSView management software host may appear. The DSView management software may also use certificates from a third party Certificate Authority (CA), your own internal CA or Public Key Infrastructure (PKI). See *Using Certificates with the DSView Management Software* on page 38 for more information.

The following are the minimum requirements for a DSView software client :

- 650 MHz Pentium or equivalent processor
- 128 MB of RAM

- 10 or 100BaseT NIC (100 recommended)
- XGA video with graphics accelerator
- Desktop size setting of at least 800 x 600
- Color palette of at least 256 colors
- One of the following operating systems:
 - Windows NT 4.0 Workstation, Server or Terminal Server with Service Pack 6a or later
 - Windows 2000 Workstation, Server or Terminal Server with Service Pack 2 or later
 - Windows XP Home Edition or Professional
 - Windows 2003 Server Standard, Enterprise or Web Edition
- Internet Explorer 6.0 SP1 or later web browser (Windows operating systems only)

NOTE: It is recommended that Microsoft Internet Explorer is kept up to date with the latest updates from Microsoft.

Before accessing the DSView management software from a client:

- Enable cookies and JavaScript on your client's web browser.
- Configure your Internet Explorer web browser. See *Configuring Internet Explorer for Use With the DSView Management Software* on page 8 for more information.

To open a client session:

NOTE: If DSView Software Client Certificate Authentication or DSView Software Client Integrated Windows Authentication is being used, the DSView software user will not be required to log in. See *Using Certificates with the DSView Management Software* on page 38 for more information.

1. From the DSView software client web browser, enter the URL of the server host in the address bar in the format:

https://<servername>/dsview

In this case, <servername> is the IP address of the host system, in standard dot notation (xx.xx.xx.xx) or the DNS name.

-or-

If you are opening the session on the DSView software server, you may also select *Start - Program Files - Avocent DSView 3.0 - DSView Software*.

2. Accept all security alerts that may appear as the client computer connects to the DSView software server. The DSView 3.0.2 Explorer User Login window will appear.
3. Type a valid username and password in the fields provided.

NOTE: Depending on the settings specified by the administrator, you may be required to change your password before being allowed to complete the login process. See *Adding Users* on page 253 for more information.

4. Click *Login*.

NOTE: The window that appears may vary, depending on the rights assigned to the DSView user that is logging in.

Changing the Color Scheme of the DSView 3.0.2 Explorer

The display properties of the DSView 3.0.2 Explorer may be modified. Use the Profile tab to select another color scheme.

NOTE: When the color scheme is changed, it is changed for the logged in DSView software user only. Each DSView software user may specify their own color scheme.

To change the color scheme of the DSView 3.0.2 Explorer:

1. From the DSView 3.0.2 Explorer, click the *Profile* tab.
2. From the top navigation bar, click *Preferences*.
3. From the side navigation bar, click *Color Scheme*. The Color Scheme window will appear.

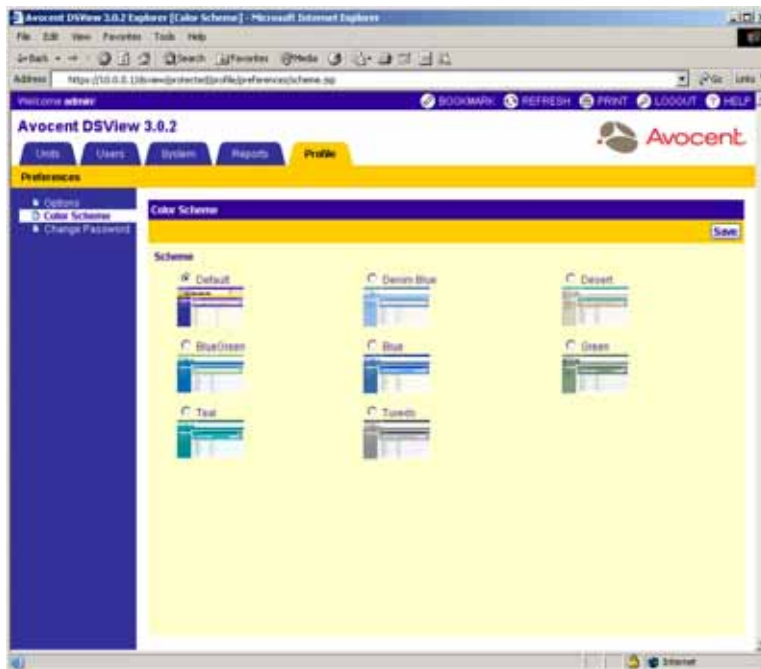


Figure 2.20: Color Scheme Window

4. Click a color scheme to use.
5. Click *Save*. The color scheme will be applied to the DSView 3.0.2 Explorer window.

Changing Your Password

NOTE: A DSVIEW software user may not change their password if the Administrator has not set permissions to allow the DSVIEW software user to do so. See *Adding Users* on page 253 for more information.

If you are logged into a DSVIEW management software session, you may change your password at any time. You will need to use the new password when you log into your next DSVIEW management software session.

To change your password:

1. From the DSVIEW 3.0.2 Explorer, click the *Profile* tab.
2. From the top navigation bar, click *Preferences*.
3. From the side navigation bar, click *Change Password*. The Change Password window will appear.

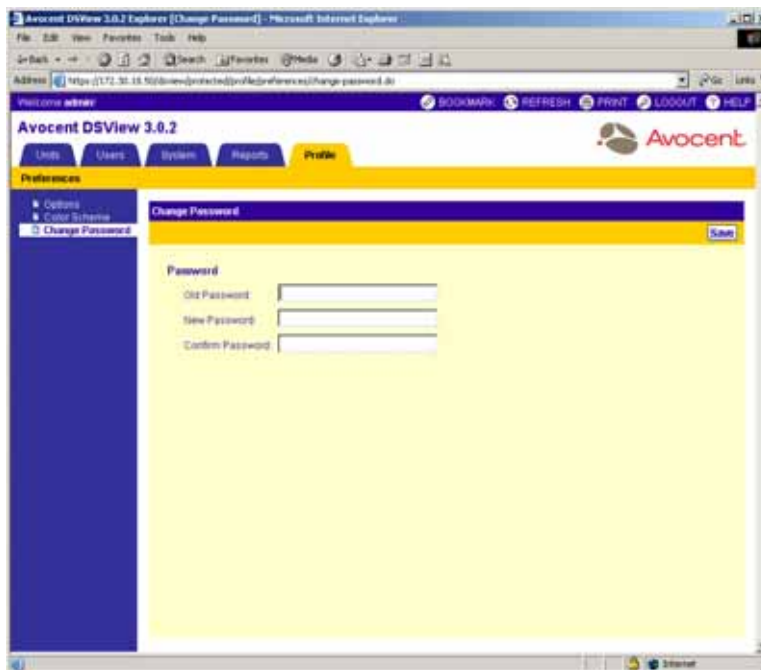


Figure 2.21: Change Password Window

4. Type your current password.
5. Type and confirm the new password.
6. Click *Save*.

NOTE: By default, passwords must contain at least three characters and will never expire. A DSView software administrator may specify a different minimum character length and an expiration date, if necessary. See *Modifying authentication services* on page 102 for more information.

Customizing User Options

The Options window allows you to modify the following user-specific options:

- Whether navigation tree nodes are collapsed - By default, the DSView management software does not collapse expanded tree nodes in the side navigation bar. You may use the Options window to specify that the current tree node automatically collapses when you select another link in the side navigation bar.
- Whether a prompt will be displayed when leaving a window with unsaved changes - By default, a message box will appear when changes are made within a window and you attempt to leave the window without saving the changes. See *Saving Information in a DSView Management Software Window* on page 29 for more information.
- How often windows auto-refresh - By default, windows automatically refresh to include up-to-date information every 30 seconds. Information that may update includes the status and icons of units, SPC devices and outlets, IQ modules and tasks. You may specify that windows refresh as often as every five seconds to as long as every five minutes, or that windows never automatically refresh. When auto-refresh is enabled, a refresh icon will appear in the top navigation bar when a refresh occurs.



Figure 2.22: Refresh Icon

- Whether the welcome page will appear when a wizard is started - Many DSView management software commands use a wizard to guide you through the use of the command. Each wizard has a welcome page containing an overview of the task the wizard performs. By default, welcome pages display when you use a command that is wizard driven. You may disable welcome pages or re-enable disabled welcome pages.

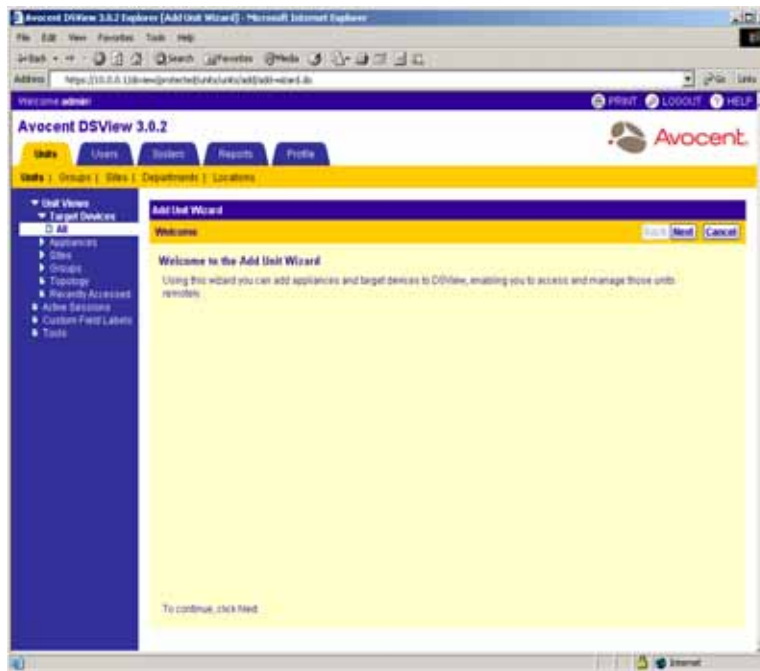


Figure 2.23: Example Wizard Welcome Page

To customize user options:

1. From the DSView 3.0.2 Explorer, click the *Profile* tab. Preferences is automatically selected in the top option bar. Options is automatically selected in the side navigation bar and the Options window will appear.

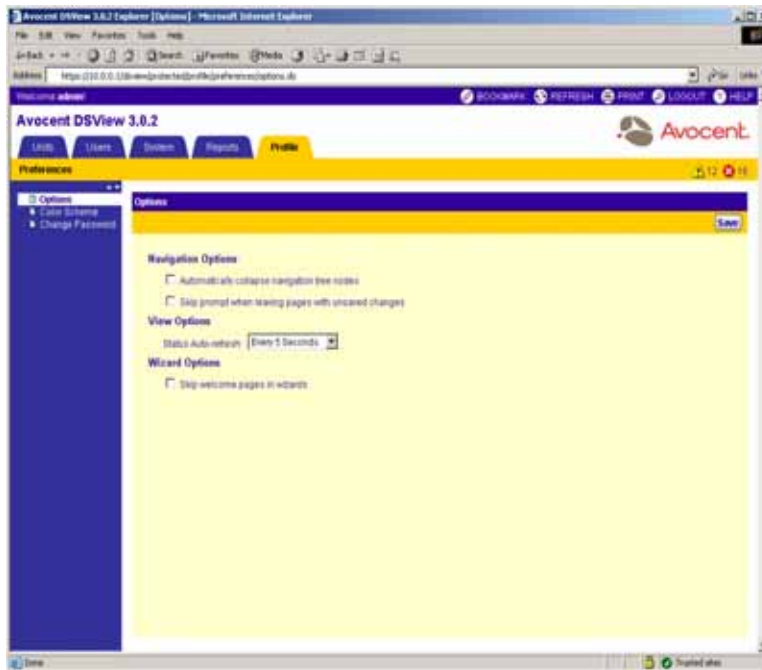


Figure 2.24: Options Window

2. Select *Automatically collapse navigation tree nodes* for the currently-expanded tree node in the side navigation bar to be collapsed when another tree node is selected.
-or-
Uncheck *Automatically collapse navigation tree nodes* for any expanded tree nodes in the side navigation to remain expanded.
3. Select *Skip prompt when leaving pages with unsaved changes*, if you do not wish for a message box to appear reminding you to save modified information when you leave a window.
-or-
Uncheck *Skip prompt when leaving pages with unsaved changes* if you wish for a message box to appear reminding you to save modified information when you leave a window.
4. If you wish, select an auto-refresh rate. If you select *Never*, windows will only be refreshed when you click the *REFRESH* icon or text in the top Option bar.
5. Select *Skip Welcome Pages in Wizards* to disable the welcome page of all wizards.
-or-
Uncheck *Skip Welcome Pages in Wizards* if you wish for the welcome page to appear in all wizards.
6. Click *Save*.

Uninstalling the DSVIEW Management Software

To uninstall the DSVIEW management software:

1. Select *Start - Settings - Control Panel*. The Control Panel will appear.
2. From the Control Panel, click *Add/Remove Programs*. The Add/Remove Programs dialog box will appear.
3. Select *Avocent DSVIEW 3.0* and then click *Change/Remove*. The Uninstall Avocent DSVIEW window will appear.

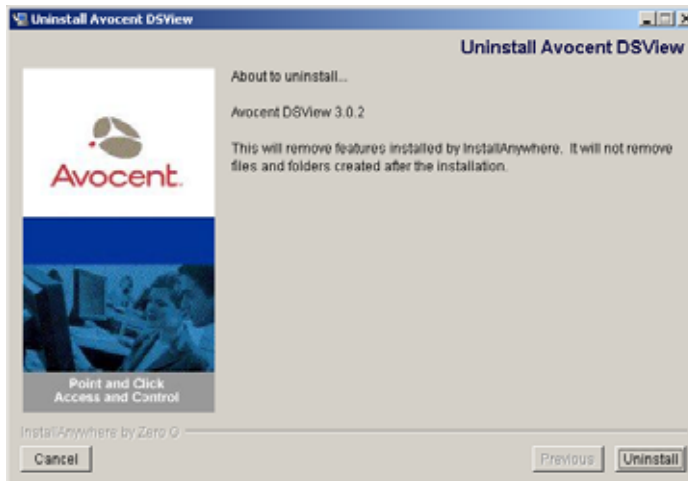


Figure 2.25: Uninstall Avocent DSVIEW Window

4. Click *Uninstall*.

Ending a DSVIEW Management Software Session

To end a DSVIEW management software session:

From the DSVIEW 3.0.2 Explorer, Click *LOGOUT* or the logout icon.

NOTE: Files are copied to DSVIEW software clients when you log in to the DSVIEW management software. Temporary files may be removed by selecting the *Delete Temporary Internet Files* command and active web components may be uninstalled by selecting the *Remove Objects* command. See Internet Explorer documentation for more information.

DSView Software Server

About the DSView Software Server

The DSView software server contains the DSView management software that enables DSView software users to securely access, manage, monitor and control remote target devices through DS1800 digital switches, DSR switches and CPS serial over IP network appliances. The DSView software server provides a centralized database repository for storing configuration and DSView software user, unit and system information. The software server also provides services for authentication, access control, auditing, monitoring and license management.

A DSView software hub server is responsible for maintaining the master copy of the database in a DSView software system. Only one DSView software server in a DSView software system may be configured as the hub server. The hub server is assigned to your DSView software system during system configuration.

DSView software spoke servers perform database replication with the hub server. The hub server acts as the traffic cop for database replication between itself and all of the other spoke servers in a DSView software system. A hub server and a spoke server both offer the same DSView management software functionality to a DSView software user. The distinction of "hub" or "spoke" only has to do with the database replication role that the server plays and not with the functionality that the server offers to the user. Adding one or more spoke servers to a DSView software system provides redundancy and the ability to distribute DSView software functionality across multiple sites.

NOTE: The DSView management software versions of the spoke server and hub server must match in order to register the spoke server. For example, you may not register a spoke server running DSView management software version 3.0 with a hub server running DSView management software 3.0.2.

Once the hub server and optional spoke server(s) are configured, you may create and configure the type of access levels you wish to provide for users within your network environment. Access levels may be assigned to users when they are created, or at a later time by clicking on a user's name. See *Adding Users* on page 253 for information on creating DSView software users and *Viewing the Access Rights of Users* on page 261 for information on modifying user access levels.

You may also set up audit logs to record full details of user access and individual KVM switching activity. See *Working with Audit Logs* on page 477 for more information.

Setting up a DSView software server

The DSView software server may be installed and configured on multiple computers to provide redundancy, enabling DSView software functionality to be distributed across multiple sites. For maximum security, a backup computer may be added as a spoke server.

When the DSView management software is installed on a computer, the administrator determines the role of the server. Once the software has been installed, the Register Spoke Server and Promote to Hub Server commands may be used to reconfigure the server's role. See *Specifying and Managing Spoke Authentication Servers* on page 118 for more information.

Upgrading DSView software servers

When upgrading to a newer version of the DSView management software, it is recommended that all DSView software servers are upgraded at the same time. The hub server should be upgraded first, followed by each spoke server.

A backup of the hub server should be created prior to and after upgrading the hub server. See *Manually Backing up and Restoring Hub Servers* on page 85 for more information.

DSView Software Hub Server Properties

From the DSView 3.0.2 Explorer, click the *System* tab. The *DSView software server* is automatically selected in the top navigation bar and the name of the DSView software hub server will appear in the side navigation bar.

The following DSView software hub server properties may be displayed and/or modified by clicking on a side navigation link under Properties:

- Selecting *Identity* displays the DSView Server Identification Properties window. This window contains the name of the DSView software server and the server's role.
- Selecting *Network* displays the DSView Server Network Properties window. This window contains the IP address and port used by clients to access the server using the HTTPS (SSL) protocol. You may modify the port number used for the HTTPS connection.
- Selecting *Certificate* displays the DSView Server Certificate Properties window. This window contains the DSView server certificate presented to DSView software client web browsers.

NOTE: When a DSView software client connects to the server host containing the DSView management software, a Security Alert dialog box will appear. If the client user clicks *Yes*, the web browser will accept the certificate for the current session and future sessions to the DSView software server will display the Security Alert dialog box. If the client user chooses *Install Certificate*, the self-signed certificate will be installed and trusted on the client and future sessions to the server will not display the Security Alert dialog box.

You may create a Certificate Signing Request (CSR) that can be submitted to a Certificate Authority (CA) in order to obtain a signed server certificate. Click the *Get CSR* button to create the CSR request, or click *Update* to update the DSView server's certificate.

- Selecting *Proxy Server* - Displays the DSView Server Proxy Properties window, which enables you to change the configuration of the proxy server for KVM and serial sessions. When the Avocent proxy server is used, DSView software client KVM and serial session requests are sent through the DSView software server rather than directly to the DS1800 digital switch, CPS appliance or DSR switch, which prevents the exposure of the internal address of DS1800 digital switches, CPS appliances or DSR switches.

NOTE: EVR1500 environmental monitor, DSI5100 IPMI and generic appliance sessions are not sent through the DSView software server, even when the proxy is enabled.

- Selecting *Trap Destinations* displays the DSView Server Trap Destinations window. This window enables you to specify up to four trap destinations. The DSView software server polls DS1800 digital switches, DSI5100 and CPS appliances and DSR switches to determine if they are responding. If a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch does not respond, the DSView software server sends an SNMP Loss Of Communication (LCM) trap or alert to the external SNMP manager. When the DSView software server detects that the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch is once again communicating, a Regained Communication (RCM) trap is sent from the DSView software server.

When a response change occurs during communication between the DSView software server and a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch, the DSView management software writes the event to the audit log and sends an SNMP trap to the trap destinations you specify.

NOTE: Trap destinations may also be specified by clicking on a DS1800 digital switch, CPS appliance or DSR switch and modifying the SNMP appliance settings. See *Modifying DS1800 digital switch, CPS appliance or DSR switch SNMP settings* on page 190 for more information.

- Selecting *DSView Client Sessions* displays the DSView Server Client Session Properties window, which enables you to specify client session settings for inactivity time-out, Single Sign-On (SSO) for the software session or restrictions to use specific IP addresses to start the software sessions.
- Selecting *Email* displays the DSView Server Email Server Properties window. This window enables you to change the IP address of the SMTP (Simple Mail Transfer Protocol) server that is used by the DSView management software to send email notifications.
- Selecting *Unit Status Polling* displays the DSView Server Unit Status Polling Properties window. This window enables you to turn on or off unit status polling for the DSView software server and specify the delay between polling cycles and the number of DS1800 digital switches, CPS appliances and DSR switches that will be concurrently polled.
- Selecting *Spoke Servers* displays the Spoke Servers window. This window enables you to manage the DSView software spoke servers configured for your system.

To display server properties:

Click the *System* tab. *DSView Server* is automatically selected in the top navigation bar, *Identity* will be automatically selected in the side navigation bar and the DSView Server Identity Properties window will appear. The top of the side navigation bar will include the name of the DSView software server.

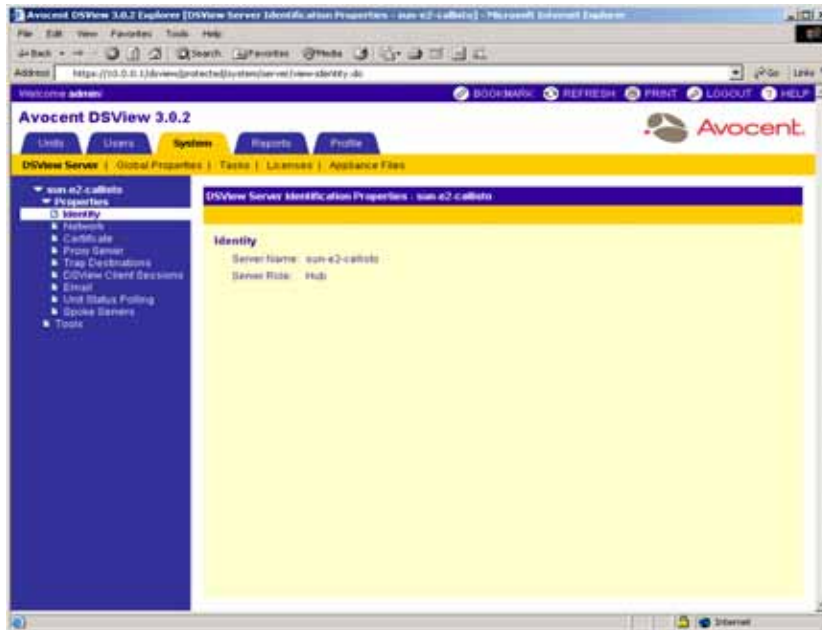


Figure 3.1: DSView Server Identification Properties Window

To modify server network properties:

NOTE: When modifying the HTTPS port, ensure that the port selected is available on the DSView software server computer.

NOTE: If DSView software clients are located on an external connection, the HTTPS port must be open on your firewall.

1. From the side navigation bar, click *Network*. The DSView Server Network Properties window will appear.

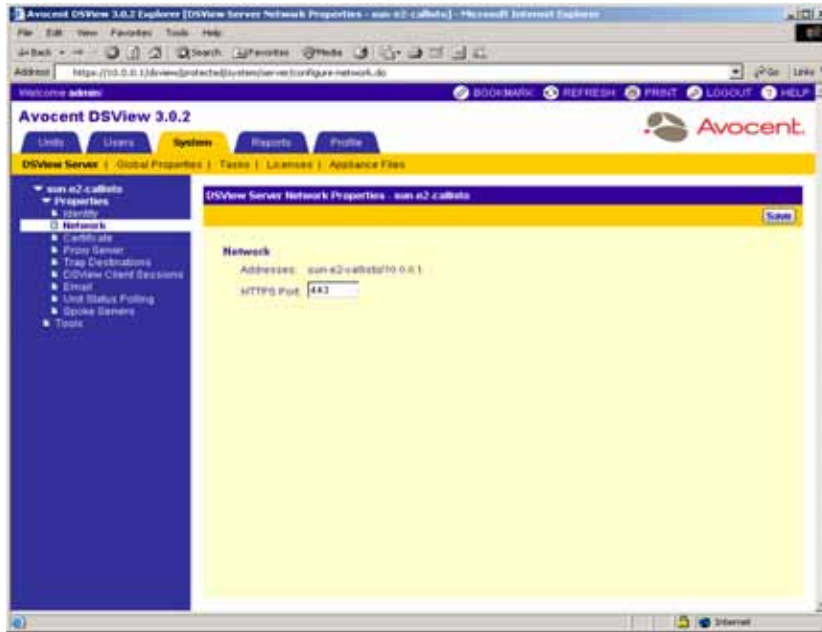


Figure 3.2: DSView Server Network Properties Window

2. Type a new DSView software server port number in the HTTPS Port field.

NOTE: If the default value (443) is modified, the port number in the URL must be specified when accessing the DSView management software. For example, if the IP address of the hub server is 10.0.0.1 and the port number is changed to 444, **https://10.0.0.1:444/dsview** must be typed in the Address field of the web browser to access the DSView management 3.0 software:

3. Click *Save*. A confirmation dialog box will appear.

NOTE: A web browser error message will appear when *Save* is clicked due to the changing of the DSView software server port number. This error message is a normal occurrence. To reestablish connection to the DSView management software, you must reconnect to the hub server by typing the URL and including the new port number in the URL. For example, if you changed the port number to 334 for a hub server with an IP address of 10.0.0.1, type **https://10.0.0.1:334/dsview** to access the DSView management software:

4. Click *Yes* to change the HTTPS port number.

-or-

Click *No* to cancel the action.

To create a CSR:

NOTE: Certificates may only be viewed by DSView software administrators. See *Using Certificates with the DSView Management Software* on page 38 for information on certificates.

1. From the side navigation bar, click *Certificate*. The DSView Server Certificate Properties window will appear.

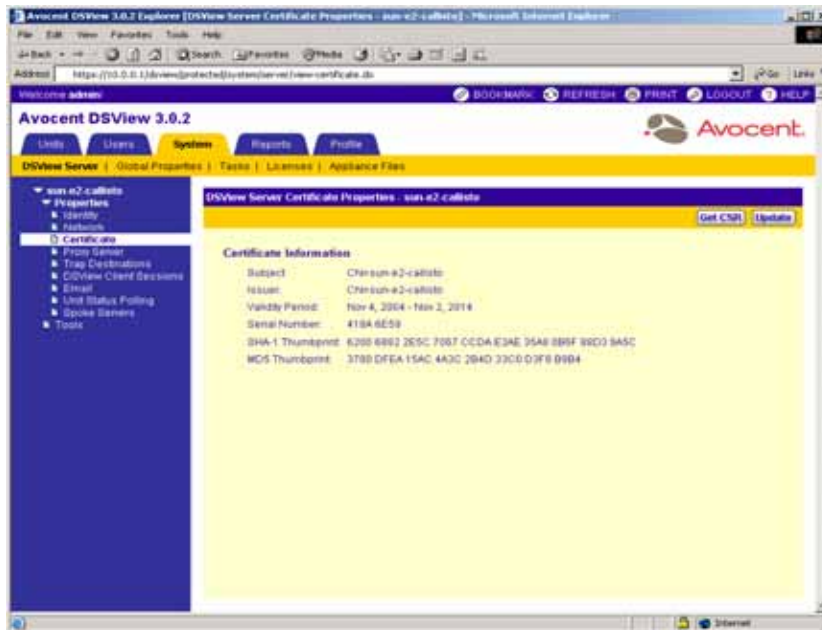


Figure 3.3: DSView Server Certificate Properties Window

2. Click *Get CSR*. A File Download dialog box will appear.
3. Click *Open*. The CSR is downloaded and displays in the configured text editor.
 - or-
 - Click *Save*. The Save As dialog box will appear. Select a directory and filename and click *Save* to save the CSR.
 - or-
 - Click *Cancel* to cancel the action.
4. Submit the CSR generated request to a Certificate Authority (CA) to obtain a signed server certificate.
5. Update the DSView software server to use the certificate created by the CA. See *To update a certificate on the DSView software server*: on page 76 for more information.

To update a certificate on the DSView software server:

NOTE: Certificates may only be viewed by DSView software administrators.

1. From the side navigation bar, click *Certificate*. The DSView Server Certificate Properties window will appear.
2. Click *Update*. The Welcome page of the Update DSView Server Certificate Wizard will appear. Click *Next*.
3. The Select Operation to Perform window will appear.

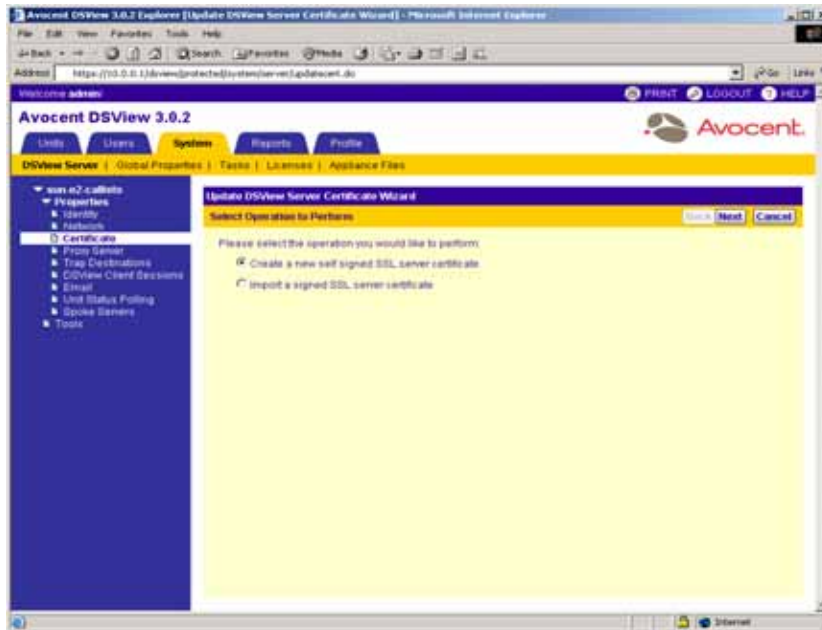


Figure 3.4: Update DSView Server Certificate Wizard - Select Operation to Perform Window

4. Select *Create a new self-signed SSL server certificate* to create a minimal security SSL certificate with none of the costs and overhead involved with a Certificate Authority (CA). Continue to step 5.

-or-

Select *Import a signed SSL server certificate* to import a more secure SSL certificate that someone, perhaps a CA, has approved. The public key of the imported certificate must match the public key in the certificate that the DSView software server is currently using. This requires that both certificates be made on the same DSView software server. Go to step 6.

Click *Next*.

5. The Type in Certificate Information window will appear.

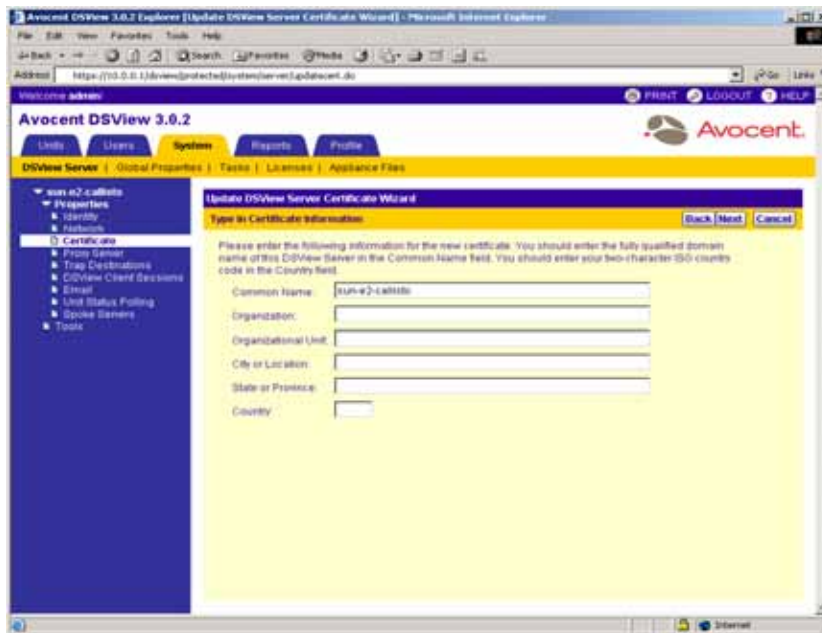


Figure 3.5: Update DSView Server Certificate Wizard - Type in Certificate Information Window

- a. Type the name of the computer that will serve as the DSView software server on your intranet in the Common Name field.

-or-

If the DSView software server is outside the intranet, type the server's full domain name in dot notation format (xx.xx.xx.xx).

- b. Type the name of the organization (or country).
- c. Type the name of the organizational division or name under which the organization is doing business.
- d. Type the complete city or location name.

NOTE: The City or Location field is required for organizations registered only at the local level.

- e. Type the complete name of the state or province where the organization is located.
 - f. Type the two-character ISO country code for the country where the organization is located.
 - g. Click *Next*. Go to step 7.
6. The Select Certificate to Import window will appear.

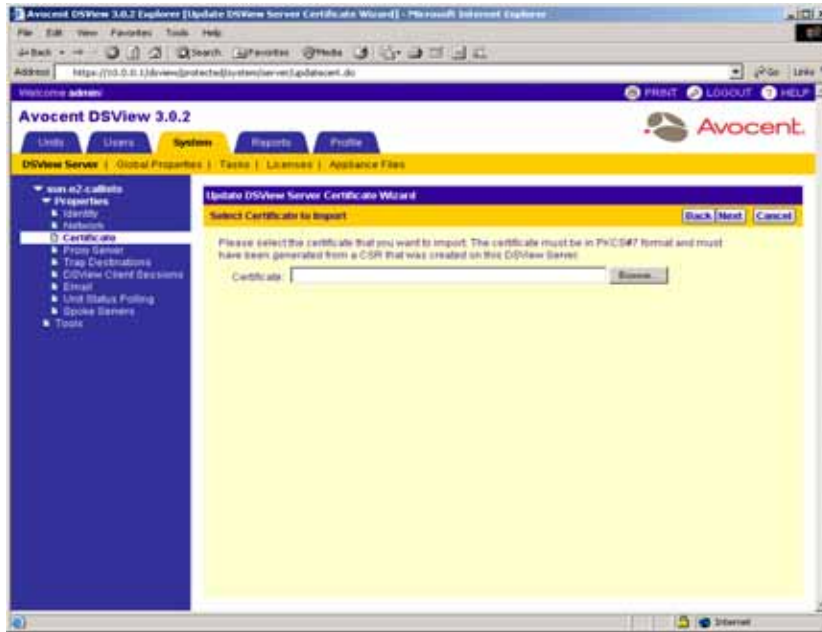


Figure 3.6: Update DSView Server Certificate Wizard - Select Certificate to Import Window

- a. Type the full directory and filename for the SSL certificate file you wish to import to the DSView software server.

-or-

Click the *Browse* button and specify the SSL certificate file.

NOTE: The name of the SSL certificate file must be entered in case-sensitive text if your operating system supports case-sensitive filenames.

NOTE: Imported certificates must have been generated from a CSR created on the same DSView software Server to which you are importing the certificate.

- b. Click *Next*.
7. The Completed Successful window will appear.
8. Click *Finish*. The DSView Server Certificate Properties window will appear containing updated certificate information.

To specify a proxy server:

1. From the side navigation bar, click *Proxy Server*. The DSView Server Proxy Properties window will appear.

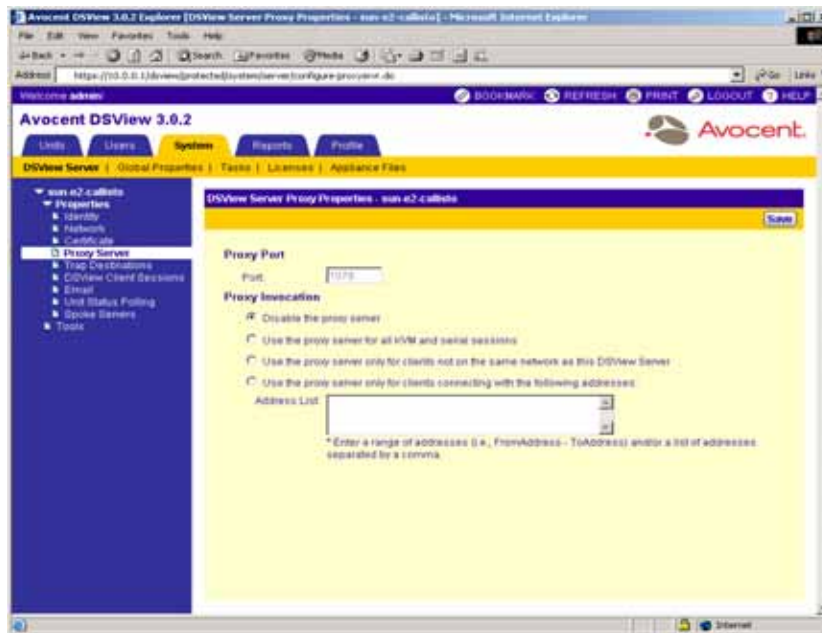


Figure 3.7: DSView Server Proxy Properties Window

- a. Type a new port number to use for DSView software client communication with the Avocent proxy to the logged in DSView software server.

NOTE: If DSView software clients are located on an external connection, the specified TCP/IP proxy port must be opened on your firewall.

- b. Select the type of Proxy Invocation you wish to perform:
 - Click *Disable the proxy server* to allow all internal and external DSView software clients to communicate directly with DS1800 digital switches, CPS appliances and DSR switches (default).
 - Click *Use the proxy server for all KVM and serial sessions* to enable all DSView Clients to communicate with DS1800 digital switches, CPS appliances or DSR switches using the DSView software proxy server.
 - Click *Use the proxy server only for clients not on the same network as this DSView Server* to enable all external and internal clients on a different network than the current DSView software server to communicate with DS1800 digital switches, CPS appliances or DSR switches using the DSView proxy server. All other external and internal clients will communicate directly with DS1800 digital switches, CPS appliances or DSR switches.
 - Click *Use the proxy server only for clients connecting with the following addresses* to enable only DSView software clients with IP addresses entered in the Address List to

communicate with DS1800 digital switches, CPS appliances and DSR switches using the DSView proxy server. All other clients communicate directly with DS1800 digital switches, CPS appliances and DSR switches.

2. Click *Save*. A confirmation dialog box will appear.

NOTE: Changing the Proxy Port or Proxy Invocation setting will disconnect active DSView software client sessions.

3. Click *OK* to save your changes.

-or-

Click *Cancel* to cancel the action.

To specify trap destinations:

1. From the side navigation bar, click *Trap Destinations*. The DSView Server Trap Destinations window will appear.

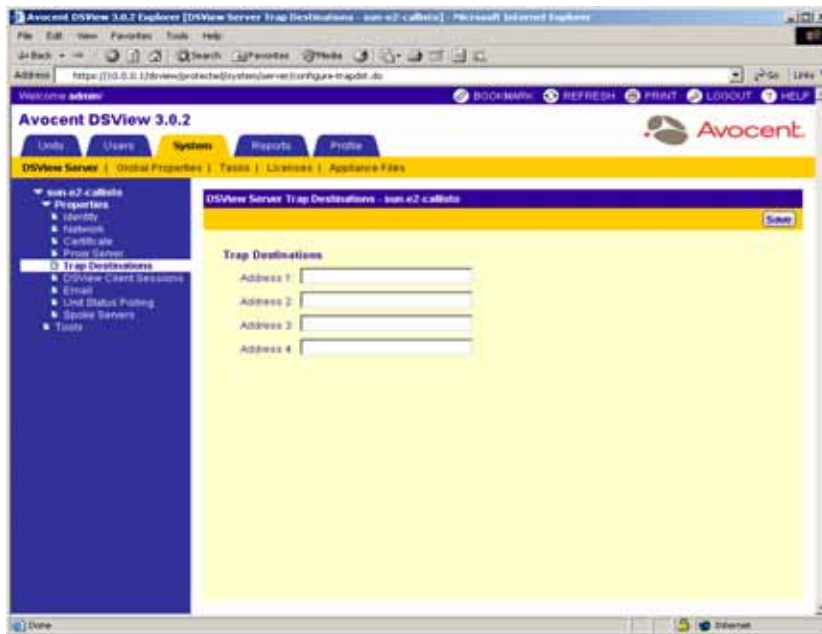


Figure 3.8: DSView Server Trap Destinations Window

2. In each address field, type the IP addresses in standard dot notation (xx.xx.xx.xx) or the domain name for the computer that handle traps. Up to four computers may be specified.
3. Click *Save* to store the trap information in the DSView software database on the host.

To specify client session information:

1. From the side navigation bar, click *DSView Client Sessions*. The DSView Server Client Session Properties window will appear.

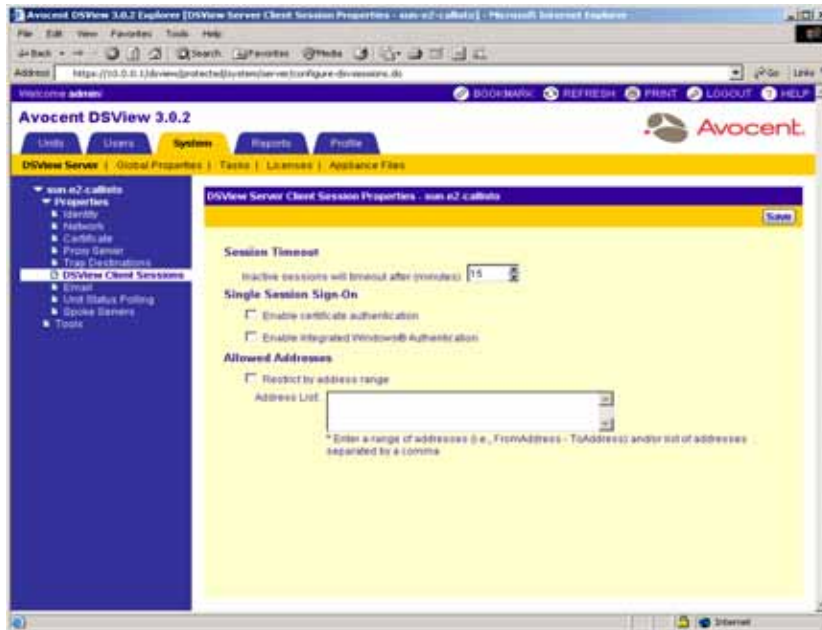


Figure 3.9: DSView Server Client Session Properties Window

- a. Use the arrows to specify a time-out value (from 5-60 minutes) for inactivity of a DSView user client session. The default is 15 minutes. When the time-out value has been exceeded, the session will end and the DSView software user must log in again.
- b. Select *Enable certificate authentication* to allow the DSView management software to automatically log in internal users if the user certificate (X.509 digital ID) installed in the DSView software client web browser matches the certificate configured for the DSView software user. Certificates for DSView software users may be modified using the User Certificate window. See *Modifying the certificates associated with users* on page 257 for more information.

NOTE: Web browser settings may need to be modified to allow DSView software users to automatically log in using certificates. See your web browser documentation for more information.

-or-

Select *Enable Integrated Windows Authentication* to automatically log a user into the DSView management software using the user's NT domain credentials and Integrated Windows Authentication.

NOTE: Web browser settings may need to be modified to allow DSView software users to automatically log in using Integrated Windows Authentication. See your web browser documentation for more information.

- c. Select *Restrict by address range* to enable only DSView software clients with IP addresses entered in the Address List to communicate with DS1800 digital switches, CPS appliances and DSR switches.

-or-

Do not select *Restrict by address range* to disable address restrictions for logging into the DSView management software.

2. Click *Save* to store client session information in the DSView software database on the host.

To specify email properties:

1. From the side navigation bar, click *Email*. The DSView Server Email Server Properties window will appear.

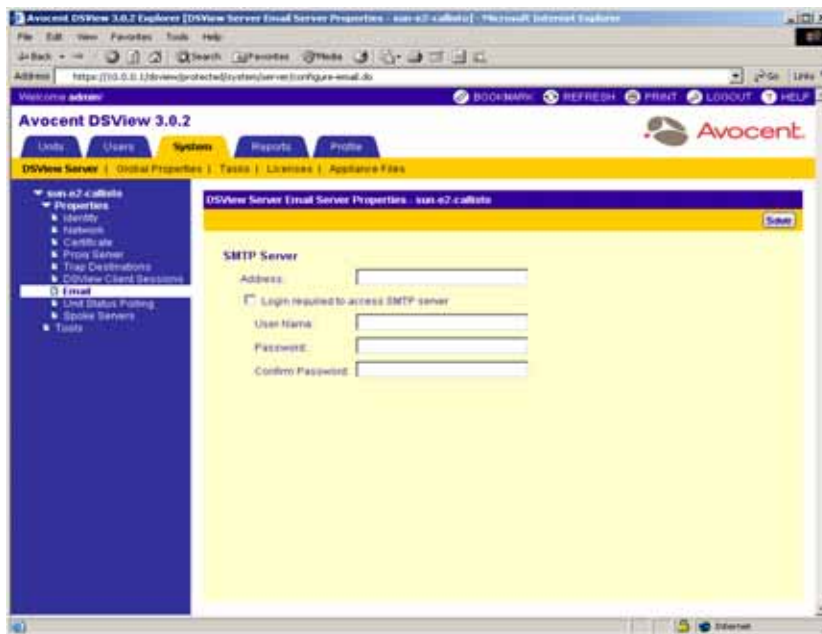


Figure 3.10: DSView Server Email Server Properties Window

2. Type a new address for the SMTP server that sends email notifications as a domain name or an IP address in standard dot notation (xx.xx.xx.xx).
3. If your SMTP server requires login credentials, select *Login required to access SMTP server* and type a user name and password, then confirm the password.

4. Click *Save* to store DSView management software email property information in the DSView software database on the host.

To use unit status polling:

1. From the side navigation bar, click *Unit Status Polling*. The DSView Server Unit Status Polling Properties window will appear.

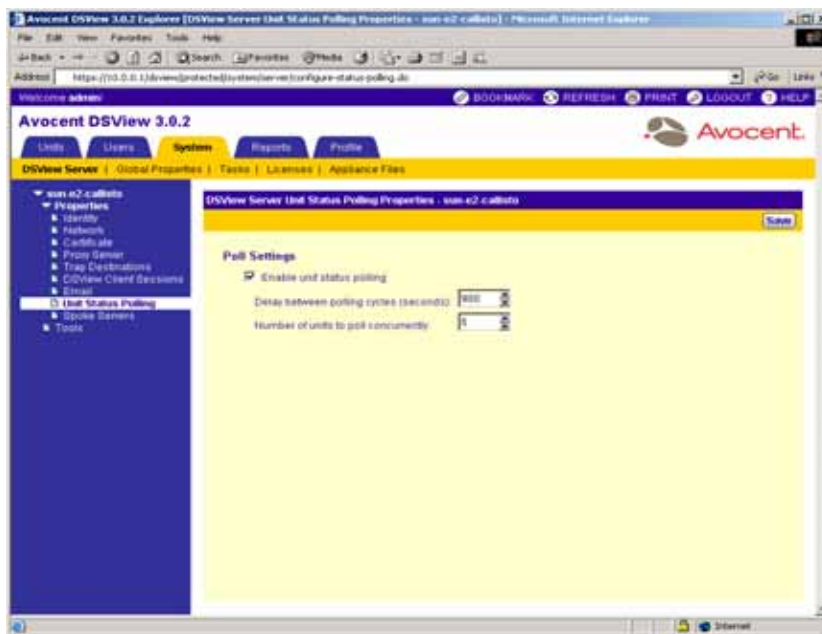


Figure 3.11: DSView Server Unit Status Polling Properties Window

2. Select *Enable unit status polling*.
3. Type the number of seconds to wait between polling cycles (from 30-999 seconds). The default is 900 seconds (15 minutes).

NOTE: Change this number to a smaller value for greater accuracy.

4. Type the number of managed appliances that may simultaneously be polled to obtain status information (from 1-25 units). The default is 5.

NOTE: Use a larger number for a faster speed.

5. Click *Save* to store unit status property information in the DSView software database on the host.

Manually Backing up and Restoring Hub Servers

NOTE: You may only restore a DSView software hub server with a backup archive made using an identical DSView management software version. For example, you may not restore a hub server running DSView management software version 3.0.2 using a backup archive made with DSView management software 3.0.

If your DSView management software is installed on a Windows based operating system, you may manually create a backup of your hub server. You may create the backup using one of the following methods:

- From a command line in an MS-DOS window.
- Using the Backup and Restore Utility delivered with the DSView management software. The backup is saved as a .zip file containing the files needed to restore the DSView management software.

NOTE: Hub server backups may also be automatically created as a task within the DSView management software. See *Managing Tasks* on page 433 for more information.

NOTE: Client sessions will be temporarily disconnected during a manual backup. The sessions will be automatically reconnected when the backup is completed. Client sessions will not be temporarily disconnected if the backups are created using the *Backup DSView database and system files* task. See *Managing Tasks* on page 433 for more information.

NOTE: You must have DSView software administrator privileges to back up the DSView software hub server.

To manually back up or restore a hub server using a command line:

1. Select *Start - Programs - Accessories - Command Prompt*. A command prompt window will open.
2. Change directories to the directory in which the DSView management software is installed (typically C:\Program Files\Avocent DSView 3.0\bin).
3. Enter **DSViewBackupRestore** to display the DSView 3.0 Backup/Restore Utility dialog box. Follow the directions in *To manually back up a DSView software hub server using the Backup and Restore Utility dialog box* to back up the DSView software hub server using the dialog box or *To manually restore a DSView software hub server using the Backup and Restore Utility dialog box* to restore the DSView software hub server using the dialog box.

-or-

Enter **DSViewBackupRestore -backup -archive "<archive name>" -passwd** to back up the DSView software hub server.

-or-

Enter **DSViewBackupRestore -restore -archive "<archive name>" -passwd** to restore the DSView software hub server. Where:

“<archive name>” - The name of the archive, which must be enclosed by quotation marks (for example, “myarchive”). The -archive option and an archive name are required to create or restore a DSView software hub server backup.

-passwd - A password which encrypts the archive. The password is optional when creating a backup. The password is required when restoring a backup that was created using a password.

NOTE: Type **DSViewBackupRestore -h** or **DSViewBackupRestore -help** to display Help information.

Examples

Entering the following in a command prompt window will create a backup named db.zip with “test” as a password:

DSViewBackupRestore.exe -backup -archive "db.zip" -password test

Entering the following in a command prompt window will restore a backup named db.zip with “test” as a password:

DSViewBackupRestore.exe -restore -archive "db.zip" -password test

To manually back up a DSView software hub server using the Backup and Restore Utility dialog box:

1. Select *Start - Programs - Avocent DSView 3.0 - Backup and Restore Utility*. The DSView 3.0 Backup/Restore Utility dialog box will appear.

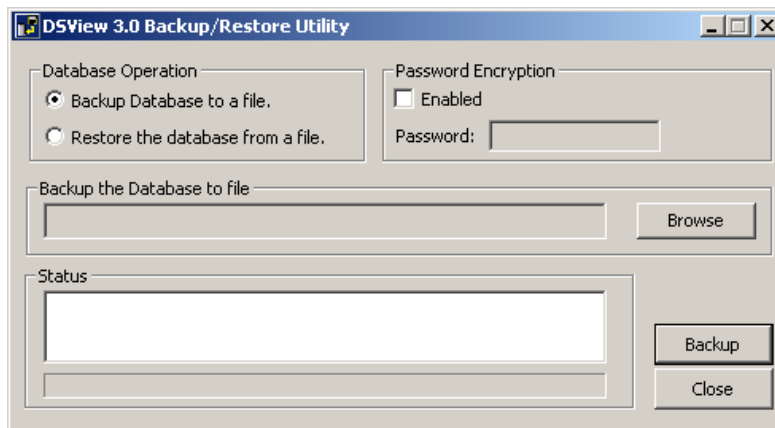


Figure 3.12: DSView 3.0 Backup/Restore Utility Dialog Box

2. From the DSView 3.0 Backup/Restore Utility dialog box, click *Backup Database to a file*.
3. If you wish to password-protect the backup file, click *Enabled* and type a password in the Password field.
4. Click *Browse* and use the Save As dialog box to specify a directory and name for the backup file. Click *Save* when you are finished.

5. Click *Backup*. The DSView software system backup files are saved.
6. Click *Close* to dismiss the DSView 3.0 Backup/Restore Utility dialog box.

To manually restore a hub server using the Backup and Restore Utility:

1. Select *Start - Programs - Avocent DSView 3.0 - Backup and Restore Utility*. The DSView 3.0 Backup/Restore Utility dialog box will appear.
2. From the DSView 3.0 Backup/Restore Utility dialog box, click *Restore the database from a file*.
3. If the backup file is password-protected, click *Enabled* and type its password in the Password field.
4. Click *Browse* and use the Save As dialog box to find the backup file.
5. Click *Restore*. The DSView software system is restored from the backup files.
6. Click *Close* to dismiss the DSView 3.0 Backup/Restore Utility dialog box.

Managing Authentication Services

DSView software users must be authenticated before they may access or perform any tasks within the DSView software system.

When users log in, they will be prompted for a username and password. The DSView management software will look up the login, determine the authentication service to use and forward the login credentials to the appropriate authentication service for verification. All authentication is performed over an HTTPS (SSL) encrypted link.

NOTE: Some web browsers may store password information. See your web browser documentation for more information.

The DSView management software is delivered with the DSView Internal authentication service, which verifies a log in and password against user account information stored in the DSView software database on the DSView software server. The DSView Internal authentication service may store over 2000 DSView user accounts.

The DSView management software also supports the following external authentication services:

- Microsoft Active Directory® *
- IBM® SecureWay® Directory Server *
- Novell® LDAP Services *
- Sun® Solaris™ R9 LDAP Directory Server *
- Sun ONE™ LDAP Directory Server *
- Microsoft Windows NT domain

*Uses LDAP V3

If the DSView software server is configured for external authentication, login requests are re-directed to the configured external authentication server.

Up to 50 external authentication servers may be added to the DSView management software. When a DSView user logs in to the DSView management software, the DSView user is validated using the applicable authentication server.

The User Authentication Services window lists all of the authentication services that are configured for the DSView user. The User Authentication Services window may be customized to also show the properties specified within the authentication services by clicking the *Customize* button. See *Using the Customize Link in DSView Management Software Windows* on page 30 for more information on customizing windows.

The DSView management software allows you to schedule a task that will automatically verify LDAP and Active Directory external authentication servers to ensure that accounts are still valid. See *Managing Tasks* on page 433 for more information.

To view authentication services in the DSView management software:

1. From the DSView 3.0.2 Explorer, click the *Users* tab.
2. From the top navigation bar, click *Authentication Services*. The User Authentication Services window will appear.

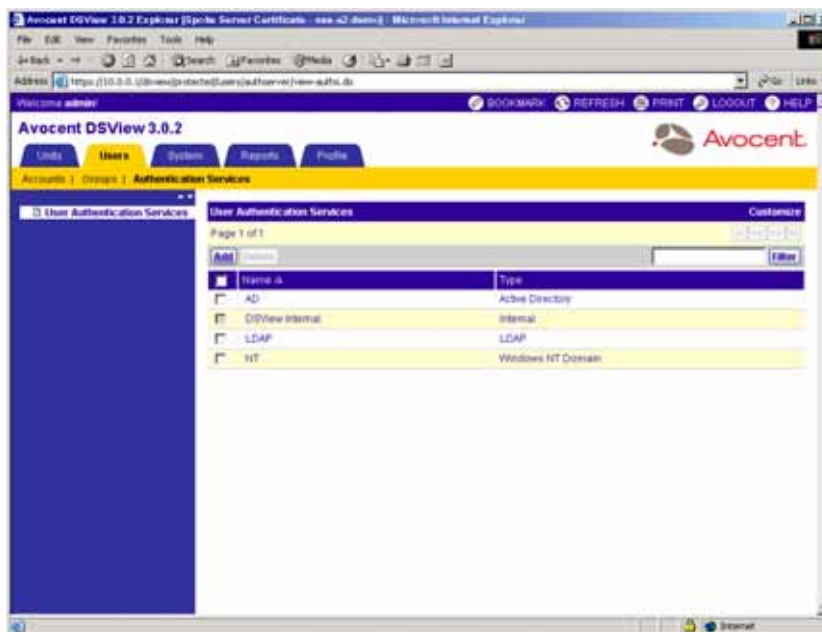


Figure 3.13: User Authentication Services Window

Adding an external authentication service

NOTE: Only User Administrators and DSView software administrators may add authentication services.

You may add one or more of the following external authentication services using the DSView management software:

- Active Directory (AD)
- LDAP
- Windows NT

To add an Active Directory external authentication service:

1. From the User Authentication Services window, click *Add*. The welcome window of the Add Authentication Service Wizard will appear. Click *Next*.
2. The Provide Authentication Service Name and Type window will appear.

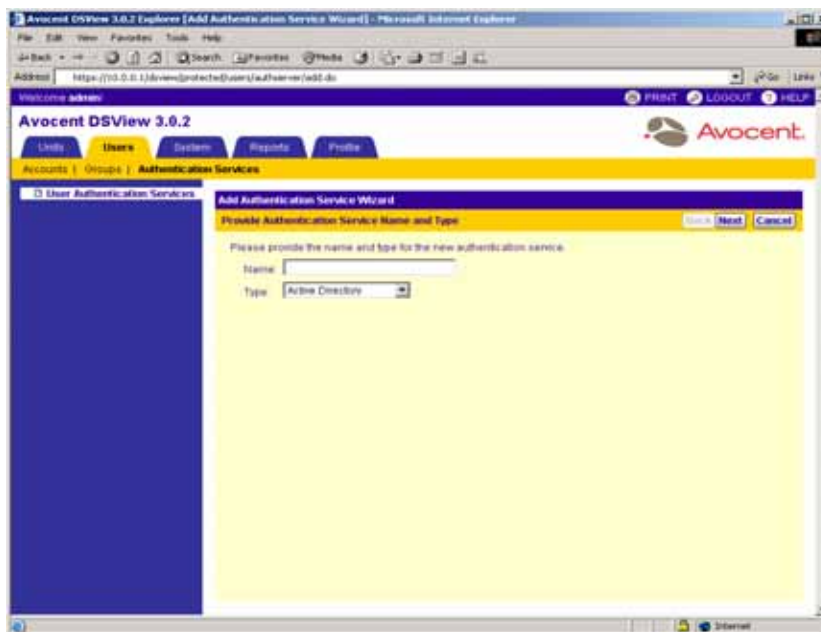


Figure 3.14: Add Authentication Service Wizard - Provide Authentication Service Name and Type Window

- a. Type a name for the external authentication service.
- b. Select *Active Directory* from the drop-down menu.
- c. Click *Next*.
3. The Specify Active Directory Connection Settings window will appear.

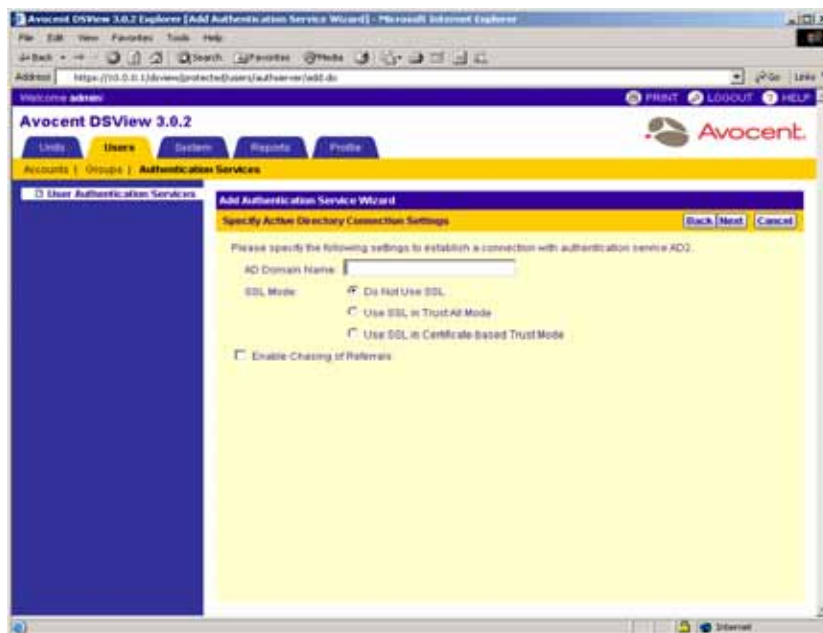


Figure 3.15: Add Authentication Service Wizard - Specify Active Directory Connection Settings Window

- a. Type the Active Directory domain name for the domain you wish to add in the AD Domain Name field.
- b. Specify a Secure Socket Layer (SSL) encryption mode:
 - Click *Do Not Use SSL* if you wish for authentication to be performed using unencrypted clear text instead of SSL encryption. This method is the least secure.
 - Click *Use SSL in Trust All Mode* to use SSL encryption for data transmission. All server certificates will be trusted and automatically accepted by the DSView management software for transmitting data. This SSL method provides medium security.

NOTE: Use SSL in Trust All Mode is not recommended for wide area networks (WANs).

- Click *Use SSL in Certificate-based Trust Mode* to use SSL encryption for data transmission. The DSView management software will approve the server and then the certificate before transmitting data. This SSL method provides maximum security.
- c. Click *Enable Chasing of Referrals* if you wish to allow the Active Directory server to refer DSView software clients to additional directory servers.
 - d. Click *Next*.

- If you selected *Use SSL in Certificate-based Trust Mode*, continue to step 4.
If you selected *Do Not Use SSL* or *Use SSL in Trust All Mode*, go to step 6.
4. The Accept Certificate window will appear and list all servers that belong to the domain.

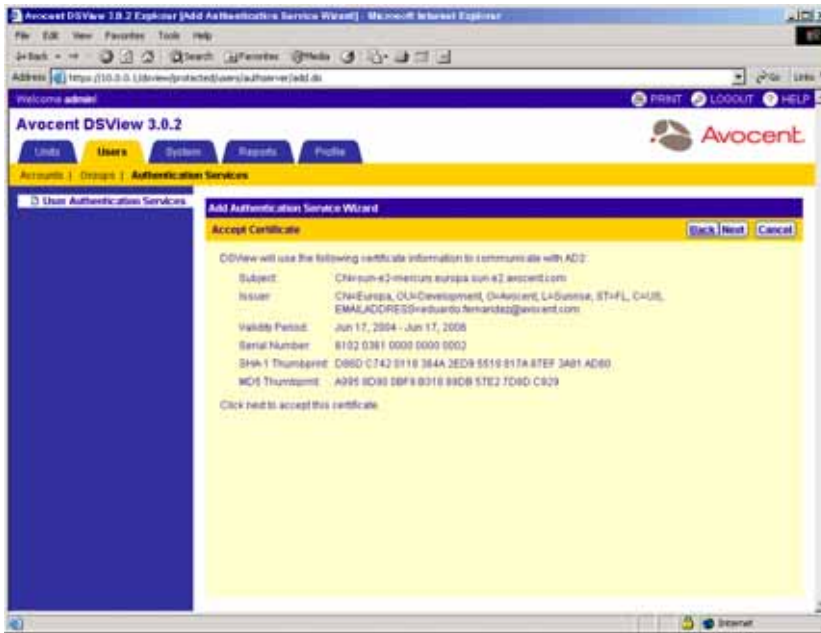


Figure 3.16: Add Authentication Service Wizard - Accept Certificate Window

5. Click *Next* to accept the certificate.
6. The Select Browsing Method window will appear.

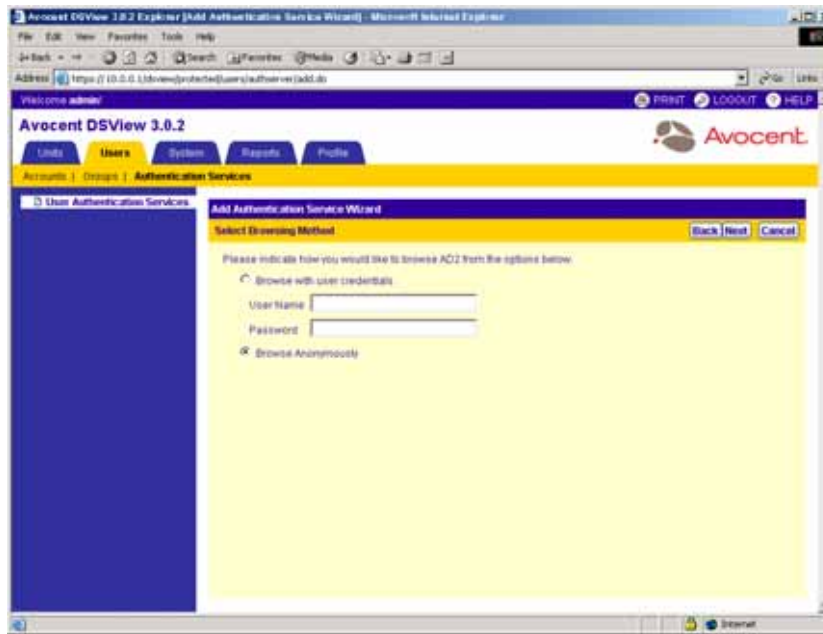


Figure 3.17: Add Authentication Service Wizard - Select Browsing Method Window

Click *Browse Anonymously* to browse users on the external Active Directory authentication server.

-or-

Click *Browse with user credentials* to browse users on the external Active Directory authentication based on credentials configured on the server. If this option is selected, do the following:

- a. Type the username for an Active Directory account that has browse rights in the User Name field.

NOTE: The log in ID must be entered in case-sensitive text if the Active Directory server is set up to support case-sensitive filenames.

- b. Type the password for an Active Directory account that has browse rights in the Password field.
 - c. Click *Next*.
7. The Establish Connection with Authentication Service window will briefly appear. If the external authentication service is added successfully, the Completed Successful window will appear.
 8. Click *Finish*. The User Authentication Services window will appear with the new service listed.

To add a Windows NT external authentication service:

1. From the User Authentication Services window, click *Add*. The Welcome page of the Add Authentication Service Wizard will appear. Click *Next*.
2. The Provide Authentication Service Name and Type window will appear.

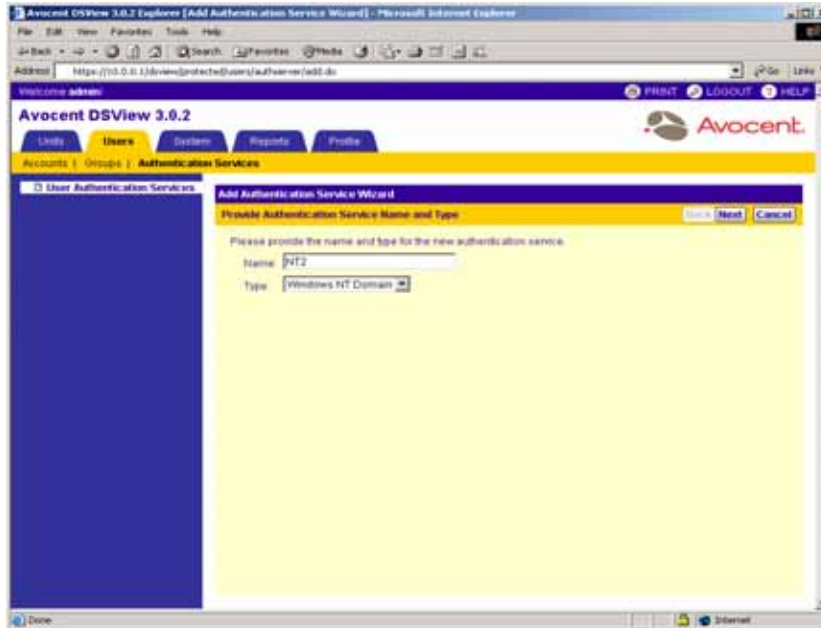


Figure 3.18: Add Authentication Service Wizard - Provide Authentication Service Name and Type Window

- a. Type a name for the external authentication service.
 - b. Select *Windows NT Domain* from the drop-down menu.
 - c. Click *Next*.
3. The Specify Windows NT Connection Settings window will appear.

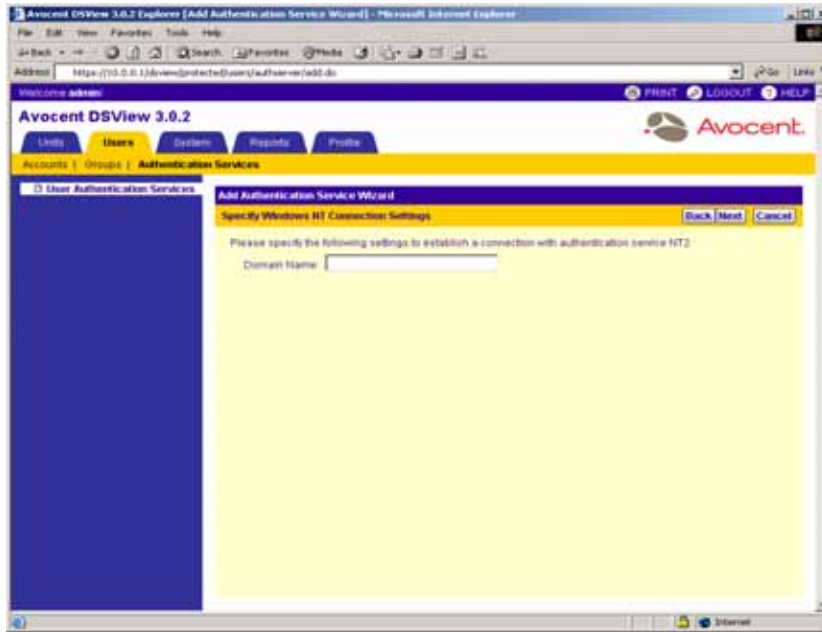


Figure 3.19: Add Authentication Service Wizard - Specify Windows NT Connection Settings Window

- a. Type the Windows NT domain name you wish to add in the Domain Name field.
 - b. Click *Next*.
4. The Select Browsing Method window will appear.

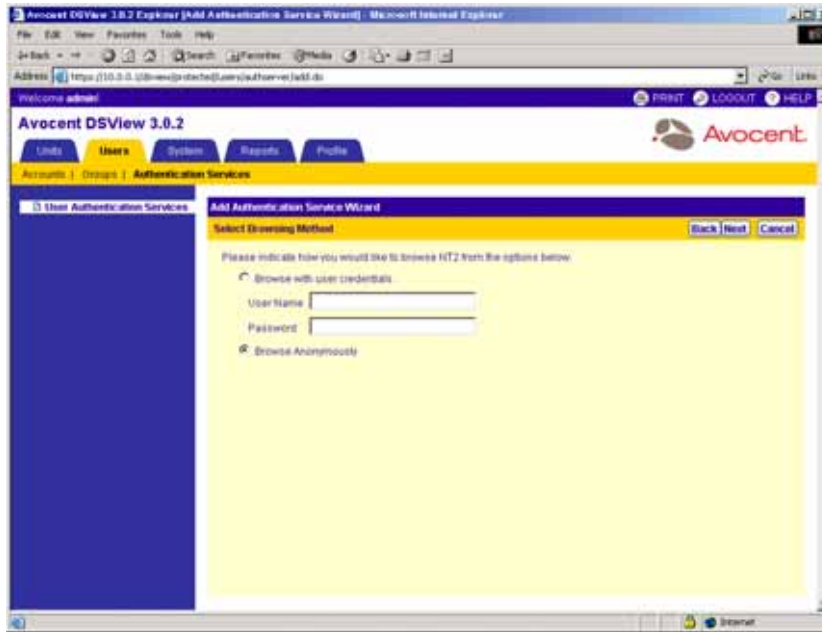


Figure 3.20: Add Authentication Service Wizard - Select Browsing Method Window

Click *Browse Anonymously* to browse users on the external Windows NT authentication server.

-or-

Click *Browse with user credentials* to browse users on the external Windows NT authentication based on credentials configured on the server. If this option is selected, do the following:

- a. Type the username for a Windows NT account that has browse rights in the User Name field.

NOTE: The log in ID must be entered in case-sensitive text if the Windows NT server is set up to support case-sensitive filenames.

- b. Type the password for a Windows NT account that has browse rights in the Password field.
 - c. Click *Next*.
5. The Establish Connection with Authentication Service window will briefly appear. If the external authentication service is added successfully, the Completed Successful window will appear.
6. Click *Finish*. The User Authentication Services window will appear with the new service listed.

To add an LDAP external authentication service:

1. From the User Authentication Services window, click *Add*. The Welcome page of the Add Authentication Service Wizard will appear. Click *Next*.
2. The Provide Authentication Service Name and Type window will appear.

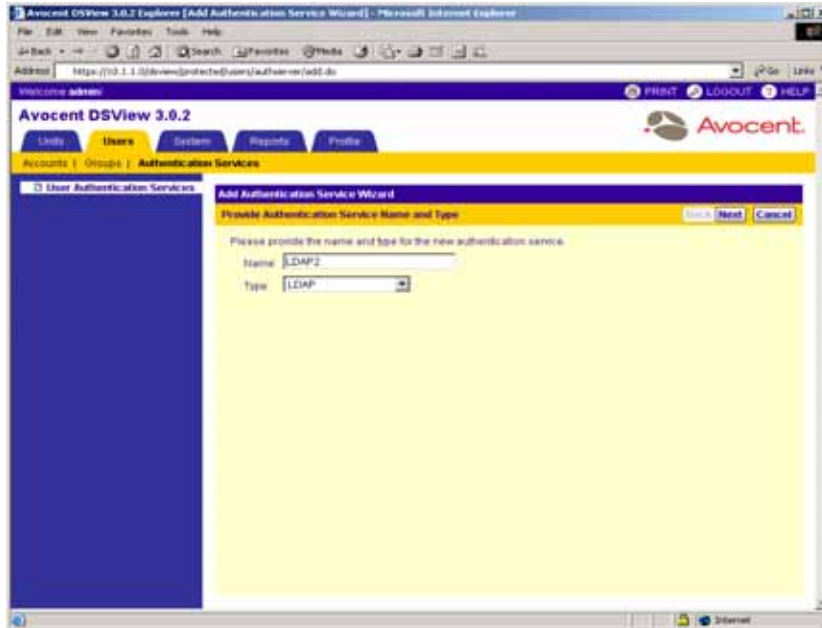


Figure 3.21: Add Authentication Service Wizard - Provide Authentication Service Name and Type Window

- a. Type a name for the external authentication service.
 - b. Select *LDAP* from the Type drop-down menu.
 - c. Click *Next*.
3. The Specify LDAP Connection Settings window will appear.

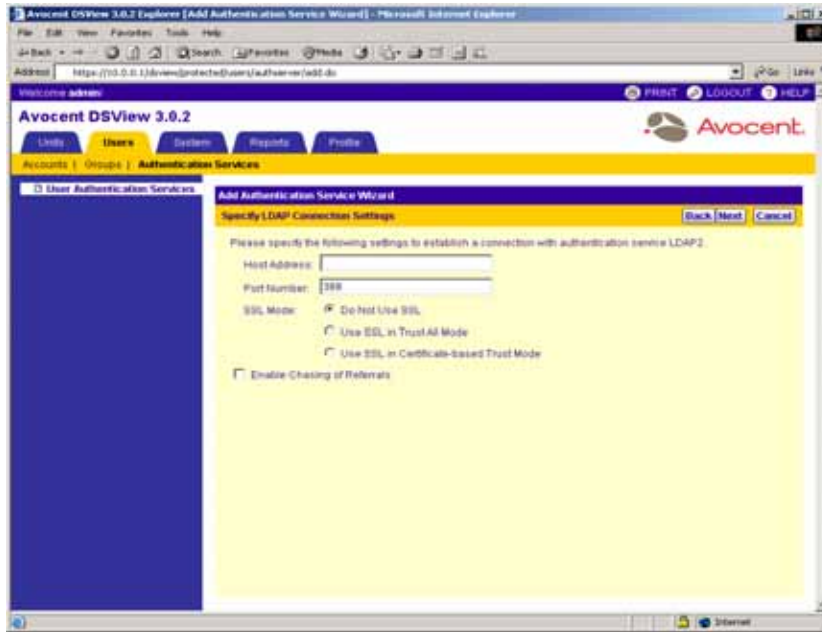


Figure 3.22: Add Authentication Service Wizard - Specify LDAP Connection Settings Window

- a. Type the address of the LDAP host in dot notation format (xx.xx.xx.xx) or type the DNS host name in the Host Address field.
- b. Type the number of the port you wish to use for connecting to the LDAP host in the Port Number field.
- c. Specify an SSL encryption mode:
 - Click *Do Not Use SSL* if you wish for authentication to be performed using unencrypted clear text instead of SSL encryption. This method is the least secure and automatically sets the Port Number field to a default port number of 389.
 - Click *Use SSL in Trust All Mode* to use SSL encryption for data transmission. All server certificates will be trusted and automatically accepted by the DSView management software for transmitting data. This SSL method provides medium security and automatically sets the Port Number field to a default port number of 636.

NOTE: Use SSL in Trust All Mode is not recommended for wide area networks (WANs).

- Click *Use SSL in Certificate-based Trust Mode* to use SSL encryption for data transmission. The DSView management software will approve the server and then the certificate before transmitting data. This SSL method provides maximum security and automatically sets the Port Number field to a default port number of 636.

- d. Click *Enable Chasing of Referrals* if you wish to allow the LDAP server to refer DSView software clients to additional directory servers.
- e. Click *Next*.

If you selected *Use SSL in Certificate-based Trust Mode*, continue to step 4.

If you selected *Do Not Use SSL* or *Use SSL in Trust All Mode*, go to step 8.

4. The Accept Certificate window will appear and list all servers that belong to the domain.

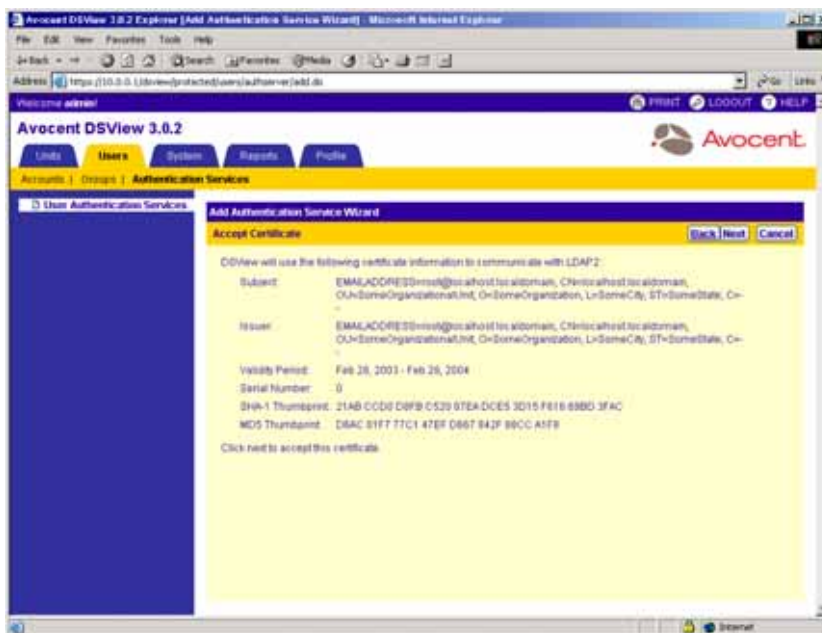


Figure 3.23: Add Authentication Service Wizard - Accept Certificate Window

5. Click *Next* to accept the certificate.
6. The Specify LDAP User Schema window will appear.

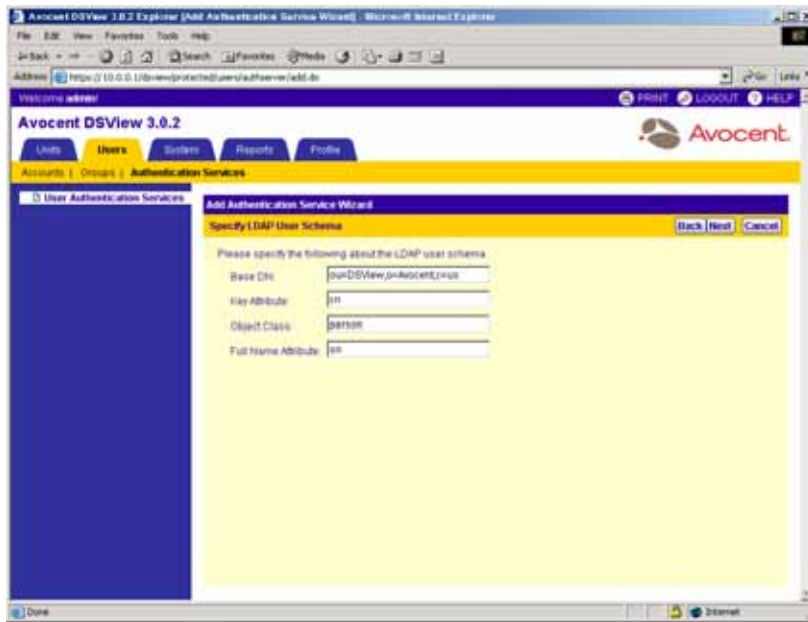


Figure 3.24: Add Authentication Service Wizard - Specify LDAP User Schema Window

- a. Type the Base distinguished name (DN) from which to begin searches. This is a required field unless the Directory Service has been configured to allow anonymous search.

NOTE: Each Search DN value must be separated by a comma.

- b. Type the key attribute. The default value is common name (cn).
 - c. Type the object class. The default value is person.
 - d. Type the full name attribute. The default value is surname (sn).
 - e. Click *Next*.
7. The Specify LDAP Group Schema window will appear.

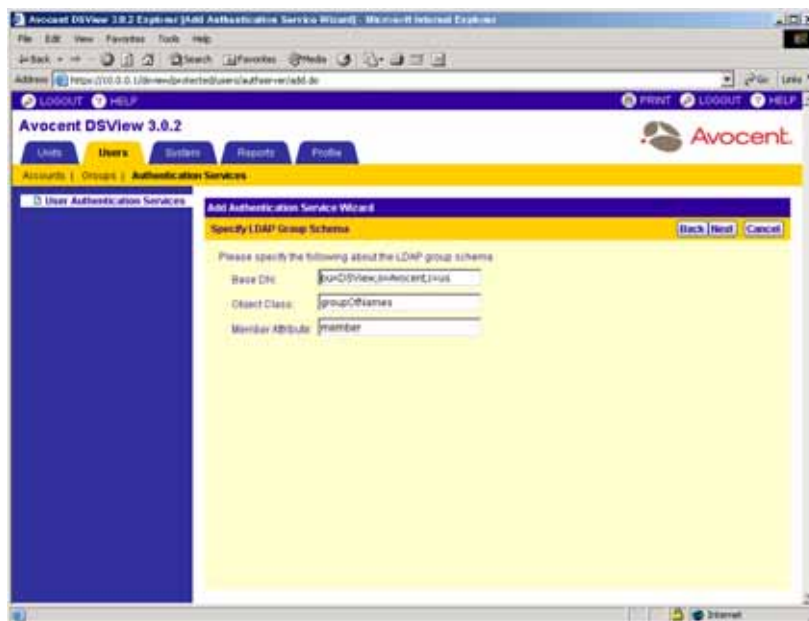


Figure 3.25: Add Authentication Service Wizard - Specify LDAP Group Schema Window

- a. Type the Base distinguished name (DN) from which to begin searches. This is a required field unless the Directory Service has been configured to allow anonymous search.

NOTE: Each Search DN value must be separated by a comma.

- b. Type the object class. The default value is group.
 - c. Type the member attribute. The default value is member.
 - d. Click *Next*.
8. The Select Browsing Method window will appear.

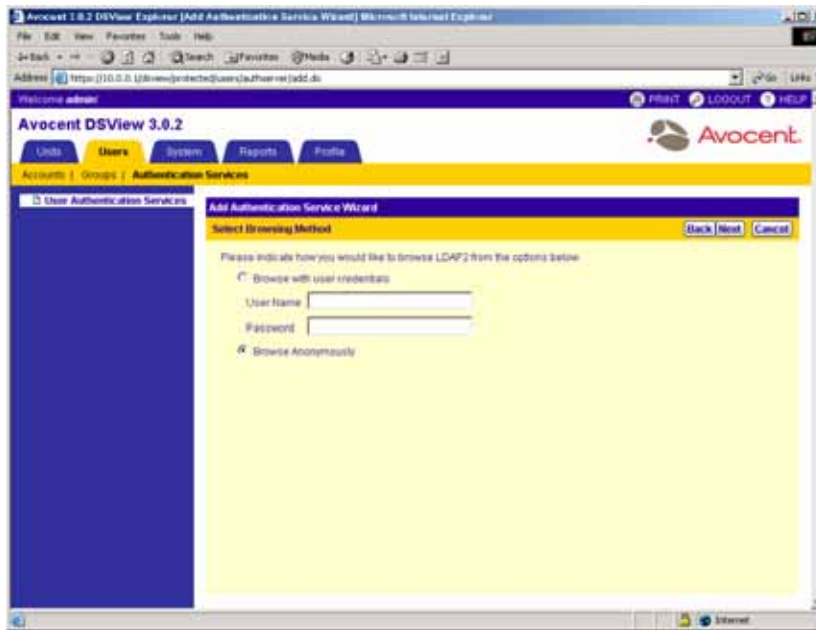


Figure 3.26: Add Authentication Service Wizard - Select Browsing Method Window

Click *Browse Anonymously* to browse users on the external LDAP authentication server.

-or-

Click *Browse with user credentials* to browse users on the external LDAP authentication based on credentials configured on the server. If this option is selected, do the following:

- a. Type a log in ID in the User Name field in the format <name>=<value> with each name and value pair separated by a comma (.). The default log in is `cn=Manager,o=Avocent,c=US`. The most specific log in IDs should be entered first.

NOTE: The log in ID must be entered in case-sensitive text if the LDAP server is set up to support case-sensitive filenames.

- b. Type the password for the LDAP user account in the Password field.
 - c. Click *Next*.
9. The Establish Connection with Authentication Service window will briefly appear. If the external authentication service is added successfully, the Completed Successful window will appear.
10. Click *Finish*. The User Authentication Services window will appear with the new service listed.

Modifying authentication services

NOTE: Only user administrators and DSView software administrators may modify authentication services.

Modifying the DSView Internal authentication service

The following options may be modified for the DSView Internal authentication service:

- Account Policies - Specifies password criteria and lockout policies
- Custom Field Labels - Assigns up to six custom field labels for DSView software user accounts that use Internal Authentication

To modify internal authentication service:

1. From the User Authentication Services window, click *DSView Internal*. The side navigation bar will change to include DSView Internal at the top and, below the name, the information you may define.
2. Click *Account Policies*. The Authentication Service User Account Policies - DSView Internal window will appear.

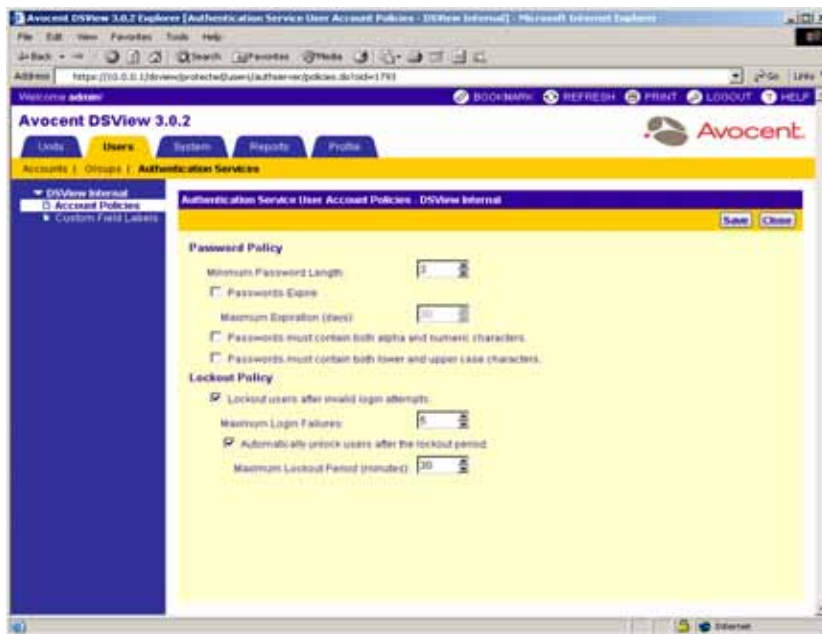


Figure 3.27: Authentication Service User Account Policies - DSView Internal Window

3. Specify the password policies for the authentication service:
 - a. Type a number (from 1-64) in the Minimum Password Length field, or click the arrows to select a number.

- b. Check the *Passwords Expire* checkbox if you wish to require a user to change their password after a certain amount of time. Specify the time by typing a number (from 1-365) in the Maximum Expiration (days) field, or click the arrows to select a number.
 - c. Select *Passwords must contain both alpha and numeric characters* if new passwords must contain at least one letter and one number.
 - d. Select *Passwords must contain both lower and upper case characters* if new passwords must contain at least one uppercase and one lowercase letter.
4. Specify the lockout policy for the authentication service:
- a. Select *Lockout users after invalid login attempts* to assign a specific number of user login attempts. Continue to step b.
-or-
Leave the checkbox unselected to specify unlimited user login attempts. Go to step 6.
 - b. Type the number of allowable user login failures (from 1-25) in the Maximum Login Failures field, or select it using the drop-down menu.
 - c. Select *Automatically unlock users after the lockout period* to permit user logins after a certain amount of time. Specify the lockout period (in minutes) by typing a number (from 1-1,440) in the Maximum Lockout Period (minutes) field, or select it using the drop-down menu.

NOTE: Specifying 1,440 minutes is equivalent to 24 hours.

-or-

Leave the checkbox unselected if you do not wish to specify a lockout period. If you do not specify a lockout period, a user administrator or administrator must manually unlock locked DSView software user accounts. See *Unlocking User Accounts* on page 255 for more information.

5. Click *Save* to save your changes.
6. Click *Close*. The User Authentication Services window will appear.

Modifying custom field labels for internal user accounts

Up to six custom field labels may be defined for DSView software user accounts that use Internal Authentication. The labels may be displayed for use in the User Accounts - All window in any way you wish.

By default, the custom field labels do not display in the User Accounts - All window. To display the labels, select the *Customize* button to add the labels to the window display. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on customizing windows.

To modify custom field labels for internal user accounts:

1. From the User Authentication Service window, click *DSView Internal*. The side navigation bar will change to include DSView Internal at the top and, below the name, information you may define.
2. From the side navigation bar, click *Custom Field Labels*. The Authentication Service User Account Custom Field Labels - DSView Internal window will appear.

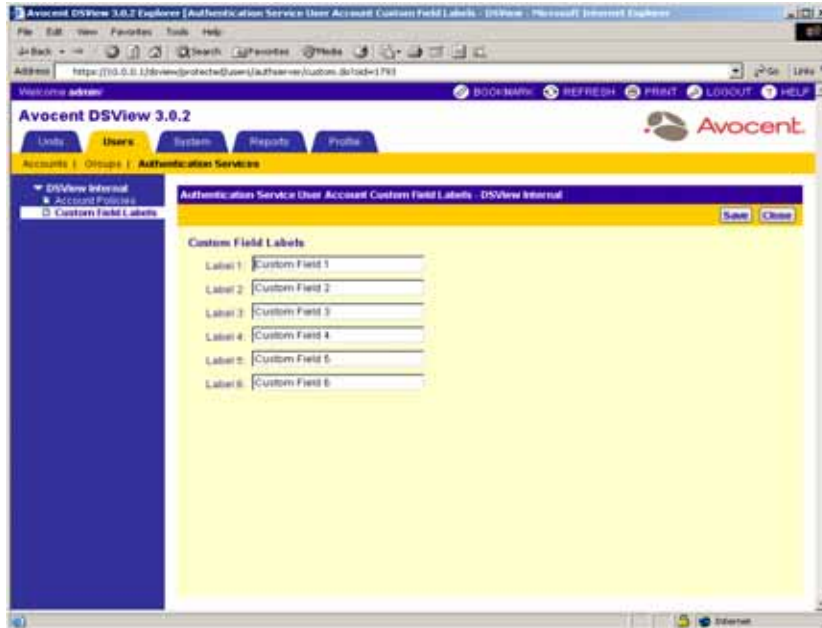


Figure 3.28: Authentication Service User Account Custom Field Labels - DSView Internal Window

3. Type the text that you wish to appear in each of the custom field labels.
4. Click *Save* to save your changes.
5. Click *Close*. The User Authentication Services window will appear.

Modifying Windows NT external authentication services

The following options may be modified for each Windows NT external authentication service that has been added to the DSView management software:

- Connection - Specifies the Windows domain that you wish to use for authentication
- User Browsing - Specifies how browsing will be performed for DSView software users on the authentication service

To modify connections for Windows NT external authentication services:

1. From the User Authentication Services window, click the name of the Windows NT service. The side navigation bar will change to include the name of the service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *Connection*. The Authentication Service Connection Settings - NT window will appear.

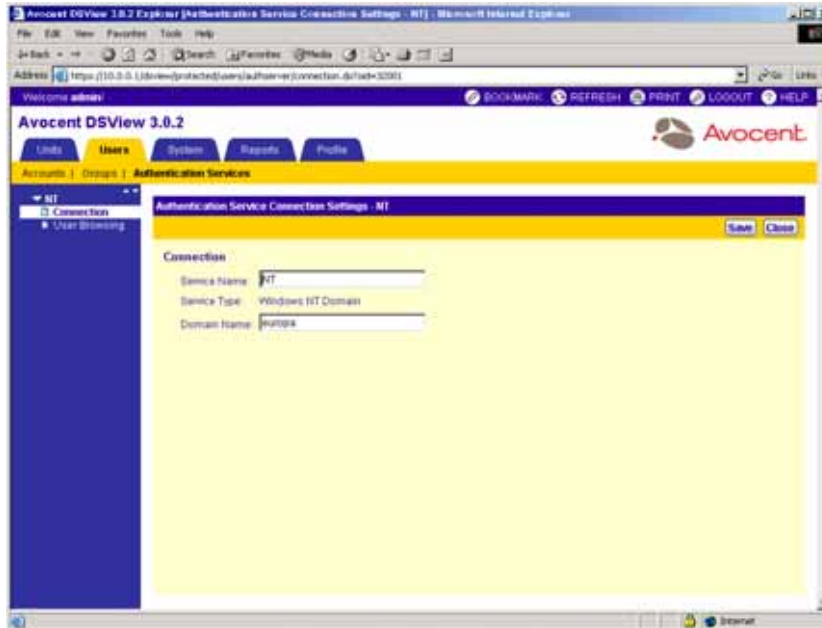


Figure 3.29: Authentication Service Connection Settings - NT Window

3. Type a name in the Service Name field to change the name of the service that appears in the Name column of the User Authentication Services window.
4. Type the name of the Windows NT domain in the Domain Name field.
5. Click *Save* to save your changes.
6. Click *Close*. The User Authentication Services window will appear.

To modify user browsing settings for Windows NT external authentication services:

1. From the User Authentication Services window, click the name of the Windows NT service. The side navigation bar will change to include the name of the Windows NT service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *User Browsing*. The Authentication Service User Browsing - NT window will appear.

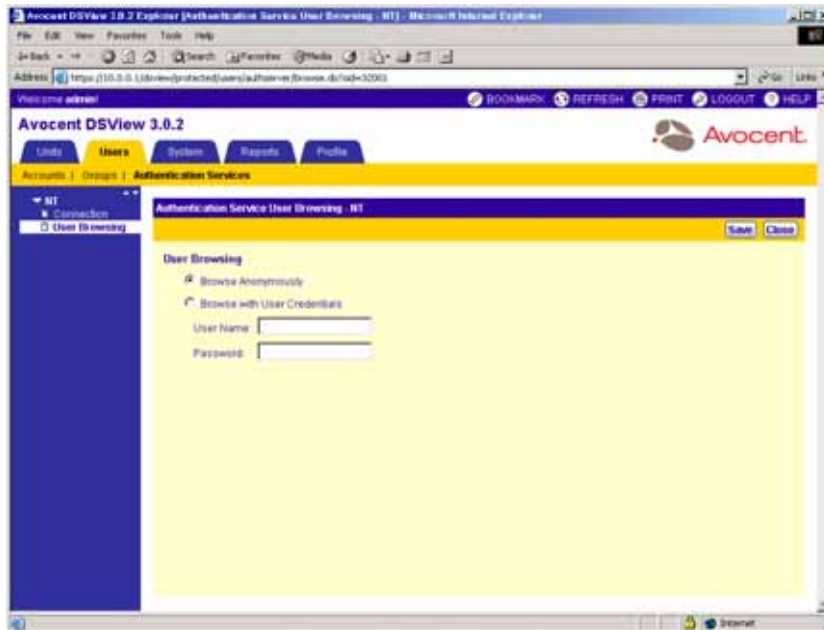


Figure 3.30: Authentication Service User Browsing - NT Window

3. Click *Browse Anonymously* to anonymously browse users on the external Windows NT authentication server.
-or-
Click *Browse with User Credentials* to browse users on the external Windows NT authentication based on credentials configured. If this option is selected, do the following:
 - a. Type the username for an NT domain account that has browse rights in the User Name field.
 - b. Type the password for an NT domain account that has browse rights in the Password field.
4. Click *Save* to save your changes.
5. Click *Close*. The User Authentication Services dialog box will appear.

Modifying Active Directory external authentication services

The following options may be modified for each Active Directory external authentication service that has been added to the DSView management software:

- Connection - Specifies the Active Directory domain and encryption method that you wish to use for authentication. You may also choose to use certificates during authentication.
- User Browsing - Specifies how browsing will be performed for DSView software users on the authentication service.

To modify connections for Active Directory external authentication services:

1. From the User Authentication Services window, click the name of the Active Directory (AD) service. The side navigation bar will change to include the name of the AD service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *Connection*. The Authentication Service Connection Settings - AD window will appear.

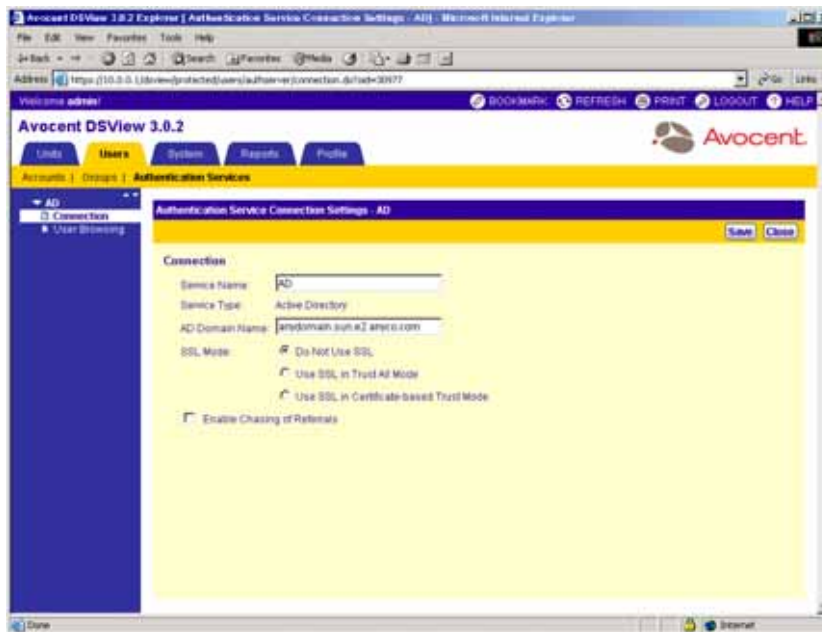


Figure 3.31: Authentication Service Connection Settings - AD Window

3. Type a name in the Service Name field to change the name of the service that appears in the Name column of the User Authentication Services window.
4. Type the domain name of the Active Directory service in the AD Domain Name field.
5. Specify a Secure Socket Layer (SSL) Encryption mode:

- Click *Do Not Use SSL* if you wish for authentication to be performed using unencrypted clear text instead of SSL encryption. This method is the least secure.
- Click *Use SSL in Trust All Mode* to use SSL encryption for data transmission. All server certificates will be trusted and automatically accepted by the DSView management software for transmitting data. This SSL method provides medium security.

NOTE: Use SSL in Trust All Mode is not recommended for wide area networks (WANs).

- Click *Use SSL in Certificate-based Trust Mode* to use SSL encryption for data transmission. The DSView management software will approve the server and then the certificate before transmitting data. This SSL method provides maximum security.
6. Click *Save* to save your changes.

If you selected *Use SSL in Certificate-based Trust Mode*, the Certificates heading will appear in the side navigation bar. Continue to step 7.

-or-

If you selected *Do Not Use SSL* or *Use SSL in Trust All Mode*, go to step 14.

7. Click *Certificates*. The Authentication Service Certificate Management - AD window will appear and list all servers that in the domain.

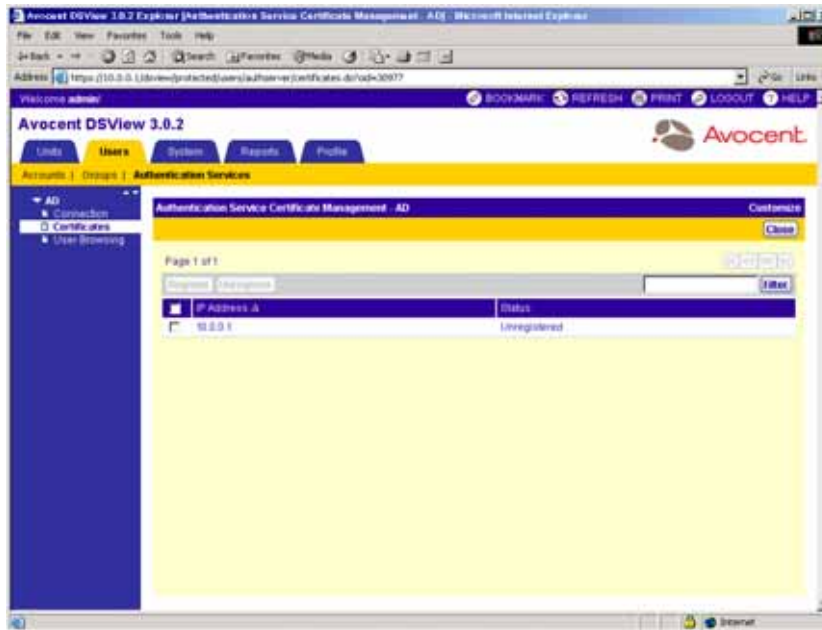


Figure 3.32: Authentication Service Certificate Management - AD Window

8. Click the checkbox to the left of the server IP addresses for which you want to register certificates.
-or-
Click the checkbox to the left of the IP Address heading to select all server IP addresses listed in the window that you wish to register.
9. Click the *Register* button above the IP Address list to register the certificates. The Accept SSL Certificate window will appear.

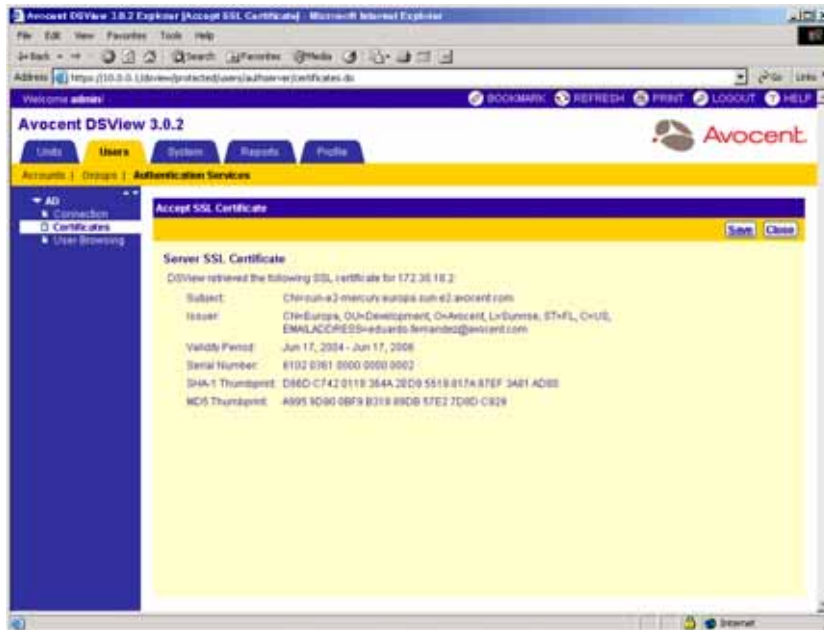


Figure 3.33: Accept SSL Certificate Window

10. Click *Save* to store the certificate values to the DSView software database on the host.
-or-
Click *Close* if you do not wish to save the certificate values.
The Authentication Service Certificate Management window will appear if this is the only certificate you selected. If more than one certificate was selected, each will appear in order in subsequent Accept SSL Certificate windows.
11. Click the checkbox to the left of the server IP addresses for which you want to unregister certificates.
-or-
Click the checkbox to the left of the IP Address heading to select all server IP addresses listed in the window that you wish to unregister.

12. Click the *Unregister* button to unregister the certificates.
13. A confirmation message box will appear. Click *OK* to unregister the server.
-or-
Click *Cancel* to cancel the action.
14. Click *Close*. The User Authentication Services window will appear.

To modify user browsing settings for Active Directory external authentication services:

1. From the User Authentication Services window, click the name of the AD service. The side navigation bar will change to include the name of the AD service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *User Browsing*. The Authentication Service User Browsing - AD window will appear.

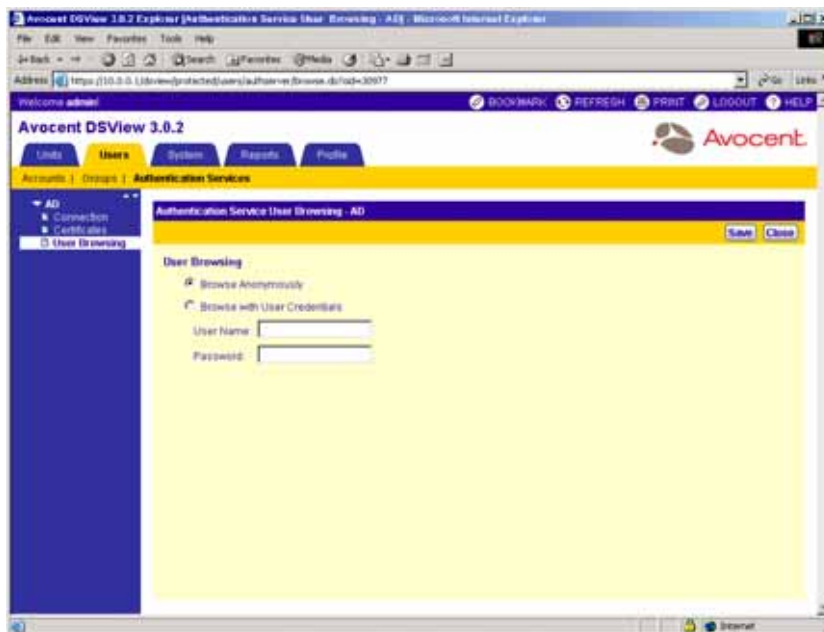


Figure 3.34: Authentication Service User Browsing - AD Window

3. Click *Browse Anonymously* to browse users on the external Active Directory authentication server.
-or-

Click *Browse with User Credentials* to browse users on the external Active Directory authentication based on credentials configured on the server. If this option is selected, do the following:

- a. Type the username for an Active Directory account that has browse rights in the User Name field.
 - b. Type the password for an Active Directory account that has browse rights in the Password field.
4. Click *Save* to save your changes.
 5. Click *Close*. The User Authentication Services dialog box will appear.

Modifying LDAP external authentication services

The following options may be modified for each LDAP external authentication service that has been added to the DSView management software:

- **Connection** - Specifies the LDAP domain and encryption method that you wish to use for authentication. You may also choose to use certificates during authentication.
- **Schema** - Specifies user and group schema settings for the LDAP external authentication service.
- **User Browsing** - Specifies how browsing will be performed for DSView software users on the authentication service.

To modify connections for LDAP external authentication services:

1. From the User Authentication Services window, click the name of the LDAP service. The side navigation bar will change to include the name of the LDAP service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *Connection*. The Authentication Service Connection Settings - LDAP window will appear.

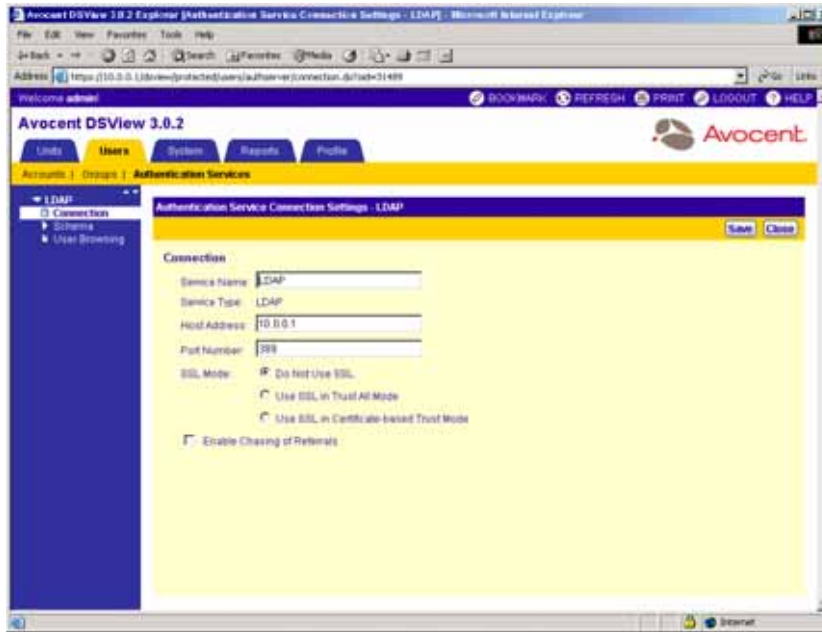


Figure 3.35: Authentication Service Connection Settings - LDAP Window

3. Type a name in the Service Name field to change the name of the service that appears in the Name column of the User Authentication Services window.
4. Type the address of the LDAP host, in dot notation format (xx.xx.xx.xx) in the Host Address field.
5. Type the number of the port you wish to use for connecting to the LDAP host in the Port Number field.
6. Specify a Secure Socket Layer (SSL) Encryption mode:
 - Click *Do Not Use SSL* if you wish for authentication to be performed using unencrypted clear text instead of SSL encryption. This method is the least secure and automatically sets the Port Number field to a default port number of 389.
 - Click *Use SSL in Trust All Mode* to use SSL encryption for data transmission. All server certificates will be trusted and automatically accepted by the DSView management software for transmitting data. This SSL method provides medium security and automatically sets the Port Number field to a default port number of 636.

NOTE: Use SSL in Trust All Mode is not recommended for wide area networks (WANs).

- Click *Use SSL in Certificate-based Trust Mode* to use SSL encryption for data transmission. The DSView management software will approve the server and then the

certificate before transmitting data. This SSL method provides maximum security and automatically sets the Port Number field to a default port number of 636.

7. Click *Save* to save your changes.

If you selected *Use SSL in Certificate-based Trust Mode*, the *Certificates* heading will appear in the side navigation bar. Continue to step 8.

-or-

If you selected *Do Not Use SSL* or *Use SSL in Trust All Mode*, go to step 15.

8. Click *Certificates*. The *Authentication Service Certificate Management - LDAP* window will appear and list all servers that belong to the domain.

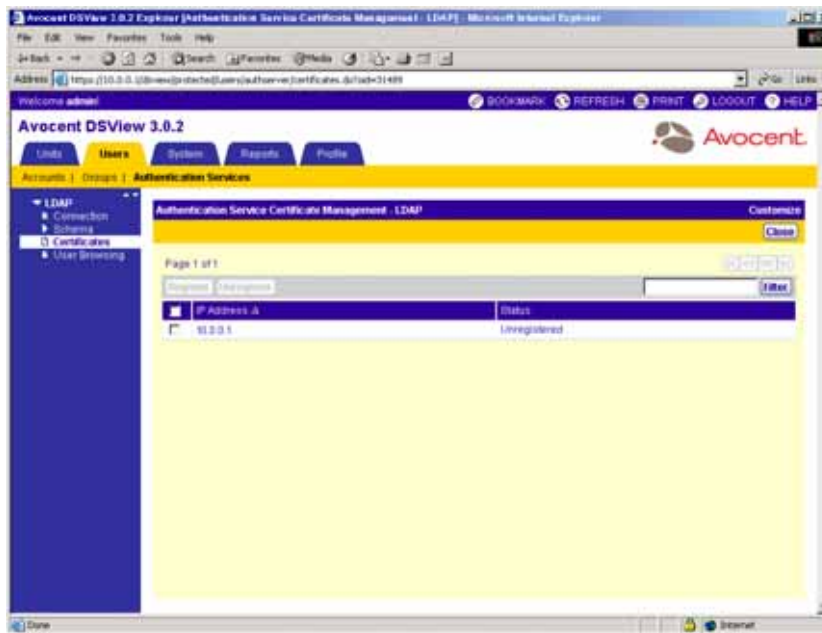


Figure 3.36: Authentication Service Certificate Management - LDAP Window

9. Click the checkbox to the left of the server IP address(es) for which you want to register certificates.

-or-

Click the checkbox to the left of the IP Address heading to select all server IP addresses listed in the window that you wish to register.

10. Click the *Register* button to register the certificates. The *Accept SSL Certificate* window will appear.

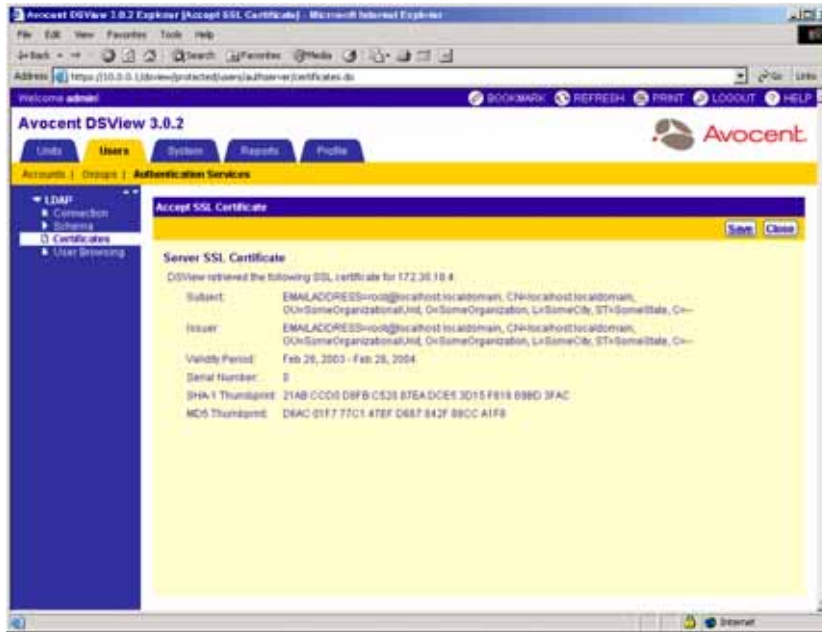


Figure 3.37: Accept SSL Certificate Window

11. Click *Save* to store the certificate values to the DSView software database on the host.

-or-

Click *Close* if you do not wish to save the certificate values.

The Certificate Management window will appear if this is the only certificate you selected. If more than one certificate was selected, each will appear in order in subsequent Accept SSL Certificate windows.

12. Click the checkbox to the left of the server IP address(es) for which you want to unregister certificates.

-or-

Click the checkbox to the left of the IP Address heading to select all server IP addresses listed in the window that you wish to unregister.

13. Click the *Unregister* button to unregister the certificates.
14. A confirmation message box will appear. Click *OK* to unregister the server.

-or-

Click *Cancel* to cancel the action.

15. Click *Close*. The User Authentication Services window will appear.

To modify user schema settings for LDAP external authentication services:

1. From the User Authentication Services window, click the name of the LDAP service. The side navigation bar will change to include the name of the LDAP service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *Schema*. *Users* is automatically selected and the Authentication Service User Schema - LDAP window will appear.

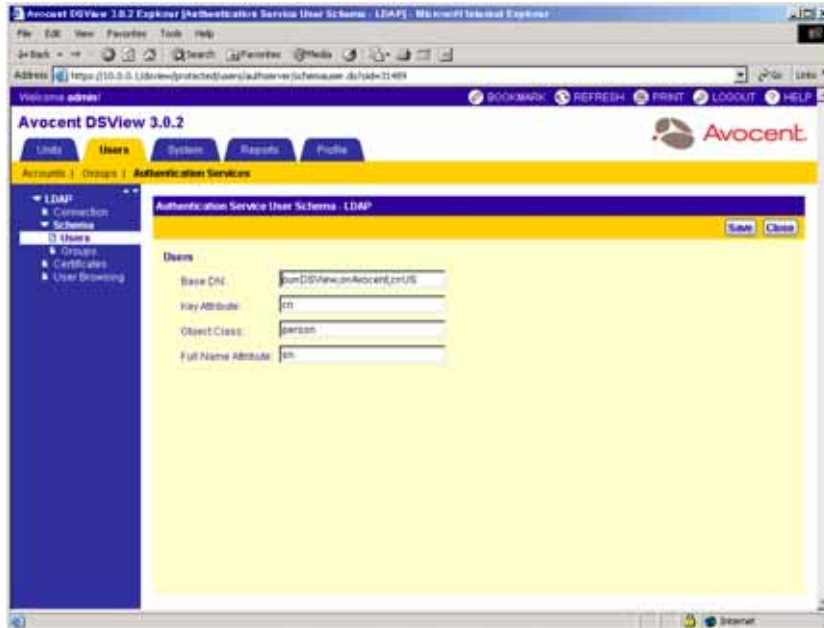


Figure 3.38: Authentication Service User Schema - LDAP Window

3. Type the Base distinguished name (DN) from which to begin searches. This is a required field unless the Directory Service has been configured to allow anonymous search.

NOTE: Each Search DN value must be separated by a comma.

4. Type the key attribute. The default value is common name (cn).
5. Type the object class. The default value is person.
6. Type the full name attribute for the user. The default value is surname (sn).
7. Click *Save* to save your changes.
8. Click *Close*. The User Authentication Services dialog box will appear.

To modify group schema settings for LDAP external authentication services:

1. From the User Authentication Services window, click the name of the LDAP service. The side navigation bar will change to include the name of the LDAP service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *Schema*.
3. From the side navigation bar, click *Groups*. The Authentication Service Group Schema - LDAP window will appear.

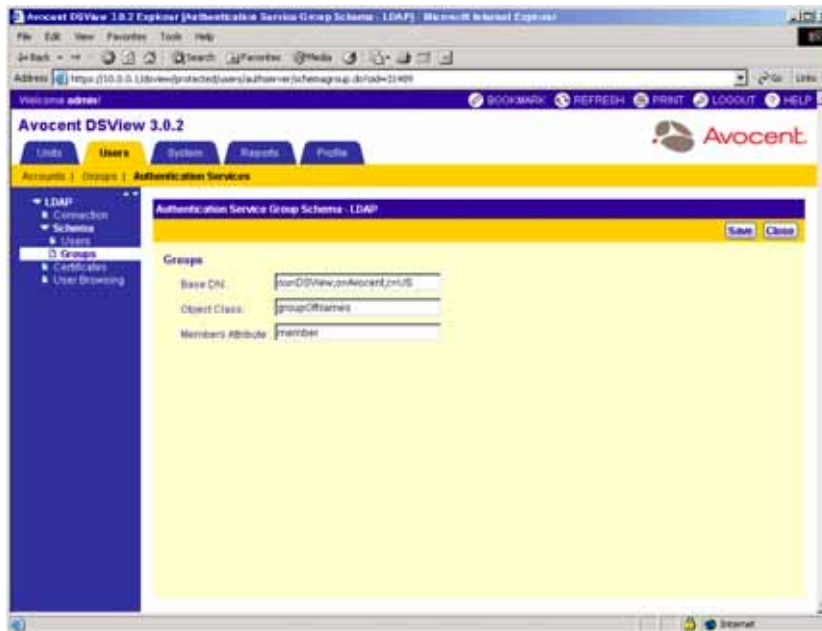


Figure 3.39: Authentication Service Group Schema - LDAP Window

4. Type the Base distinguished name (DN) from which to begin searches. This is a required field unless the Directory Service has been configured to allow anonymous search.
5. Type the object class. The default value is groupOfNames.
6. Type the members attribute. The default value is member.
7. Click *Save* to save your changes.
8. Click *Close*. The User Authentication Services dialog box will appear.

To modify user browsing settings for LDAP external authentication services:

1. From the User Authentication Services window, click the name of the LDAP service. The side navigation bar will change to include the name of the LDAP service at the top and, below the name, the information you may define.

2. From the side navigation bar, click *User Browsing*. The Authentication Service User Browsing - LDAP window will appear.

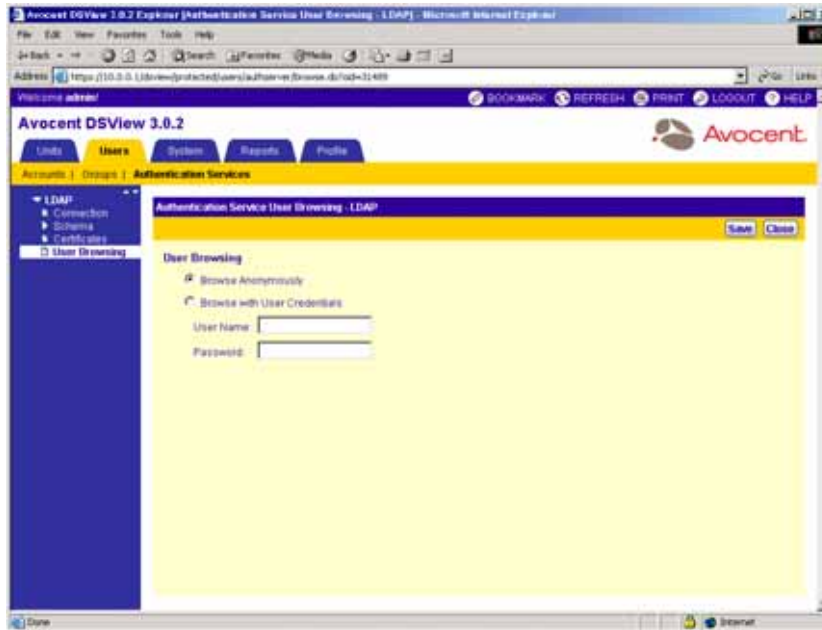


Figure 3.40: Authentication Service User Browsing - LDAP Window

3. Click *Browse Anonymously* to browse users on the external LDAP authentication server.
-or-
Click *Browse with User Credentials* to browse users on the external LDAP authentication based on credentials configured on the server. If this option is selected, do the following:
 - a. Type a log in ID in the *User Name* field in the format <name>=<value> with each name and value pair separated by a comma (.). The default log in is `cn=Manager,o=Avocent,c=US`. The most specific log in IDs should be entered first.

NOTE: The log in ID must be entered in case-sensitive text if the LDAP server is set up to support case-sensitive filenames.

- b. Type the password for the LDAP user account in the *Password* field.
4. Click *Save* to save your changes.
5. Click *Close*. The User Authentication Services dialog box will appear.

Removing authentication services

NOTE: Only user administrators and DSView software administrators may remove authentication services.

The DSView Internal authentication service is resident in the DSView management software and may not be deleted.

To remove authentication services:

1. From the User Authentication Services window, click the checkbox to the left of the authentication service(s) you wish to delete.

-or-

Click the checkbox to the left of Name to select all external authentication services listed in the window for deletion.

2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the external authentication service(s).

-or-

Click *No* to cancel the action.

Specifying and Managing Spoke Authentication Servers

A server may be either a DSView software hub server or a DSView software spoke server. A hub server is required to manage DSView software users and Avocent appliances and also provides internal authentication of users. A DSView software spoke server provides a secondary way to access the software if the hub server is unavailable. The information on the hub server is replicated on the spoke server. The spoke server information, such as its IP address, port number and certificate, is stored in the hub server's database.

A spoke server also provides distributed network capabilities that allow DSView software users with distributed networks to manage appliances across the entire enterprise from a single database. A spoke server may be used to load-balance and distribute processes by logging in to the server and making changes to its database. For example, a spoke server could be responsible for performing tasks such as upgrading the firmware of the DS1800 digital switches, CPS appliances and DSR switches.

For maximum reliability, you may optionally specify up to 15 computers as DSView software Spoke servers. The DSView management software is delivered with the capability to specify one spoke server. Up to 15 spoke servers may be assigned to your DSView software system. The number of available spoke servers is dependent on the number of purchased spoke server licenses.

NOTE: The DSView management software is delivered with one spoke server license. The number of available spoke servers depends on the number of purchased spoke server licenses. Additional licenses may be purchased. Contact your Avocent sales representative for more information.

A spoke server may be created by:

- Specifying a spoke server when installing the DSView management software. Up to 15 spoke servers may be added to the software system. For information on creating a spoke server using this method, see *Specifying and Managing Spoke Authentication Servers* on page 118.
- Converting a hub server to a spoke server by registering it as a spoke to another DSView software hub server. The DSView software system data on the hub server being converted will be lost and the converted hub server will replicate the data of the new specified hub server.

NOTE: The DSView management software versions of the spoke server and the hub server must match in order to register the spoke server. For example, you may not register a spoke server running DSView management software version 3.0 with a hub server running DSView management software 3.0.2.

You must provide the following to convert a hub server to a spoke server:

- The IP address of the new hub server
- The username and password of a user with administrator privileges

NOTE: All data on the hub server being registered as a spoke server will be lost.

If you are configuring the DSView management software and enter a license key that is already in use, you will either need to register the server as a spoke server, or you will need to purchase another license key. See *Specifying and Managing Spoke Authentication Servers* on page 118 for more information.

DSView software spoke server information, such as IP address, port number and certificate, is stored in a database on the hub server.

You may also modify the properties of a spoke server or remove spoke servers from your system.

To view the spoke servers that are installed in your DSView software system, select *System* in the tab bar, *DSView Server* in the top navigation bar and *Spoke Servers* in the side navigation bar. The Spoke Servers window will appear.

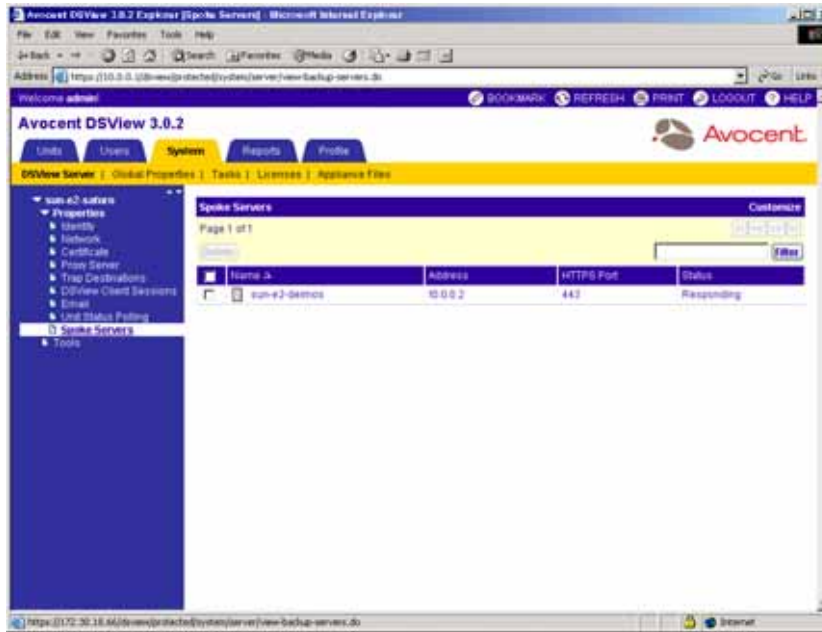


Figure 3.41: Spoke Servers Window

The name of each spoke server displays in the Spoke Servers window. To the left of the name, one of the icons in Table 3.1 will appear, representing the description in the Status column for each spoke server.

Table 3.1: DSView Software Spoke Server Status Icons






Icon	Description	Cause
	Responding	Normal operation. The hub server and spoke servers are communicating with each other using HTTPS.
	Not responding	The hub server and spoke servers cannot communicate with each other using HTTPS. This icon typically indicates a network communication error. Ensure that network connectivity is occurring between the hub server and the spoke servers.
	Hub/Spoke Versions Not Compatible	The versions of DSView management software on the hub server and spoke servers are not compatible.

Table 3.1: DSView Software Spoke Server Status Icons (Continued)

Icon	Description	Cause
	Certificates Do Not Match	Certificates on the hub server and spoke servers do not match. See <i>Managing hub and spoke server certificates</i> on page 131 for information on updating the hub server and spoke server certificates so that they will match.
	Invalid Server or Versions Not Compatible	A server responded, but it is not compatible with the DSView management software. This status typically occurs when communication is attempted with a server that does not contain the software, or if either the hub server or the spoke servers contain an older version of the software. Ensure that the hub server and the spoke servers each contain the DSView management software and that the software version is the same on both servers.

The Spoke Servers window may be used to remove spoke servers from the DSView software system or to modify the properties of individual spoke servers, including their names and connection information.

The Name field, indicating the name of the spoke server is always displayed in the Spoke Servers window. The following fields are displayed in the Spoke Servers window and may be turned off by selecting the *Customize* link:

- Address - Displays the IP address, in standard dot notation (xx.xx.xx.xx) of the spoke server.
- HTTPS Port - Displays the HTTPS port used by the hub server to communicate with the spoke server.
- Status - Displays if the spoke server is responding or not responding.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To add a spoke server:

1. Install the DSView management software on the computer you wish to use as a spoke server. See *Installing the DSView Management Software* on page 43 for more information.
2. Configure the computer as a spoke server. See *Configuring the DSView Management Software* on page 51 for more information.

To register a hub server as a spoke server:

NOTE: Only DSView software administrators may register a hub server as a spoke server.

NOTE: When registering a hub server as a spoke server on another DSView software system, the information on the hub server being registered will be lost. Its database will be updated to match the new hub server to which it is being registered.

1. From the DSView 3.0.2 Explorer, click the *System* tab.

- From the top navigation bar, click *DSView Server*. The side navigation bar will include the name of the server to which you are logged in.
- From the side navigation bar, select *Tools*. The DSView Server Tools window will appear.

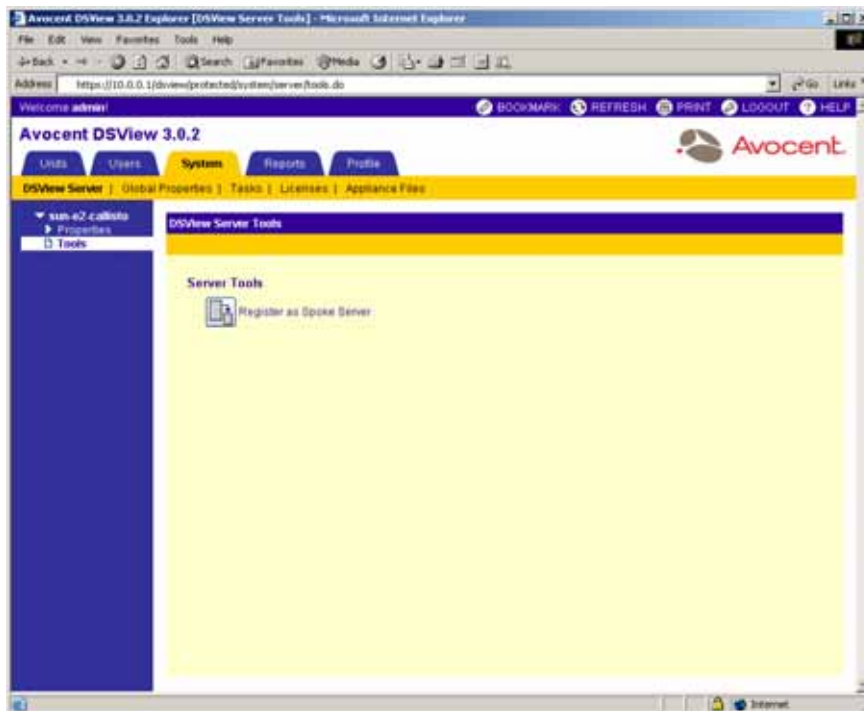


Figure 3.42: DSView Server Tools Window

- Click the *Register as Spoke Server* icon or text. The welcome page of the Register Spoke Server Wizard will appear. Click *Next*.
- The Type in hub DSView Server Address window will appear.

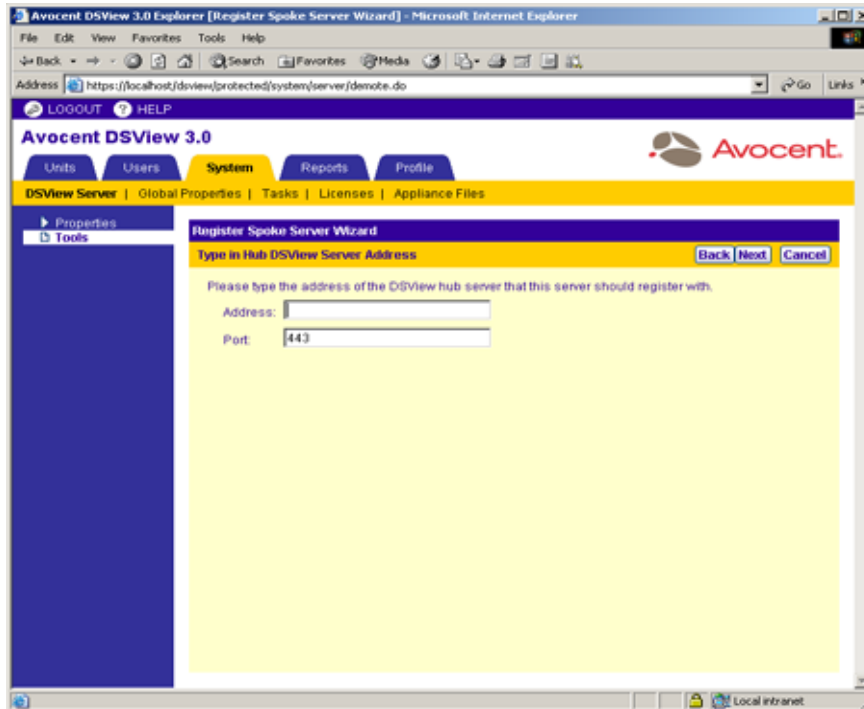


Figure 3.43: Register Spoke Server Wizard - Type in hub DSView Server Address Window

- a. Type the IP address of the hub server in standard dot notation (xx.xx.xx.xx).
-or-
Type the domain name of the hub server.
- b. Type the port number for the hub server.

NOTE: If the default hub server port value (443) is modified, you must specify the modified port number when registering a spoke server so that register requests will be sent to the correct port on the hub server. For example, if the IP address of the hub server is 10.0.0.1 and the port number is changed to 444, type **https://10.0.0.1:444/dsview** in the Address field of the Register Spoke Server Wizard:

6. Click *Next*.

The Operation in Progress window will temporarily appear, followed by the Accept hub DSView Server Certificate window.

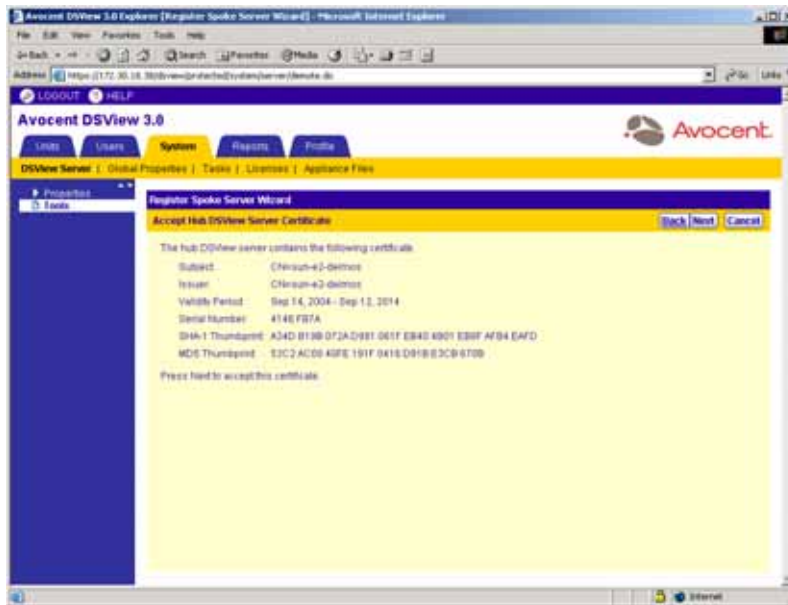


Figure 3.44: Register Spoke Server Wizard - Accept hub DSView Server Certificate Window

7. Click *Next*.
8. The Type in hub DSView Server Administrator Credentials window will appear.

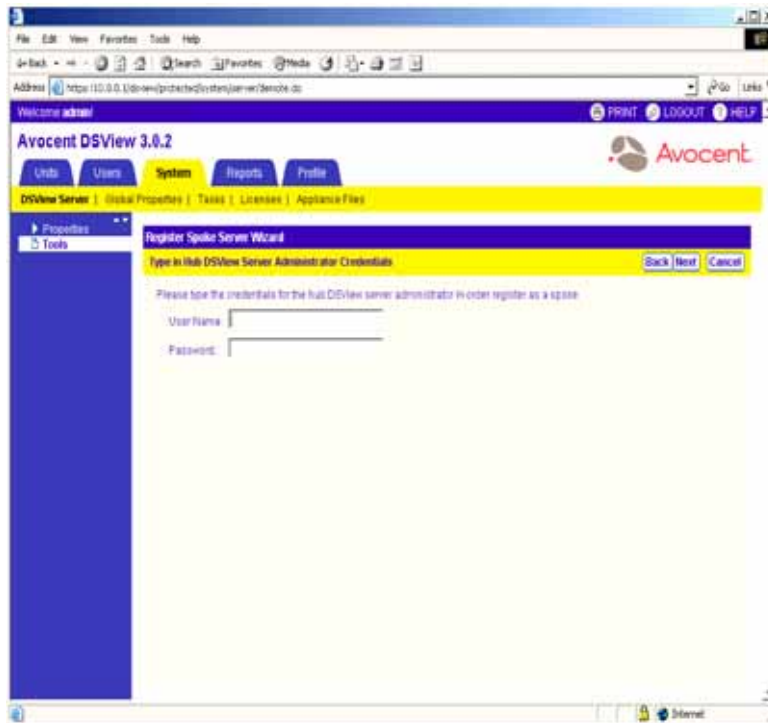


Figure 3.45: Register Spoke Server Wizard - Type in hub DSView Server Administrator Credentials Window

9. Click *Next*.
 - a. Type the name of a DSView software user with DSView software administrator privileges on the hub server.
 - b. Type a password for the user.
10. The Operation In Progress window will appear with the message *Request In Progress Please Wait*. The configuration of the spoke server will be saved to the database of the hub server and the spoke server's certificates will be installed on the hub server.
11. The Completed Successful window will appear when the spoke server has been added.
12. Click *Finish*. The Audit DSView Server Tools window will appear.

Managing Licenses

License keys permit the operation of the DSView management software on the dedicated server and specify the number of clients that may use the software and the number of spoke servers allowed on a system.

By selecting the *Licenses* link in the top navigation bar, you may access side navigation bar links that display license information about the DSView software, clients, spoke servers and purchased license keys. You may also add license keys to expand the capabilities of your DSView software.

Displaying License Information

The License Summary window displays the following information about your DSView software system:

- The serial number of the license key for the DSView management software on the dedicated server.
- The number of licensed clients and the number of users currently logged in as clients. If a site license has been purchased, the Unlimited heading will appear instead of the number of licenses.
- The total number of licensed spoke servers and the number of these licenses currently in use on the DSView software system.

NOTE: The DSView management software supports a maximum of 15 spoke servers.

To display license information:

1. From the DSView 3.0.2 Explorer, click the *System* tab.
2. From the top navigation bar, click *Licenses*.
3. From the side navigation bar, click *Summary*. The License Summary window will appear.

Displaying license keys

You may display the license number and a description of what the license does for all DSView management software licenses you have purchased. One of the following descriptions will display beside each key:

- Master License Key - The key used when the software was initially installed on the dedicated server
- Adds <N> Spoke Servers - A key that adds <N> spoke servers
- Adds <N> Client Session(s) - A key that enables <N> simultaneous DSView software client sessions across all servers
- Client Session Site License - A key that is installed as a site license, which allows an unlimited number of DSView software client sessions

To display license keys:

1. From the DSView 3.0.2 Explorer, click the *System* tab.
2. From the top navigation bar, click *Licenses*.
3. From the side navigation bar, click *License Keys*. The License Keys window will appear and list each installed license key and a description of the key.

NOTE: "Client Session Site License" will appear in the Description field for any key that has been purchased as a site license.

Adding license keys

To add a new license key:

1. From the DSView 3.0.2 Explorer, click the *System* tab.
2. From the top navigation bar, click *Licenses*.
3. From the side navigation bar, click *License Keys*. The License Keys window will appear.
4. Click the *Add* button. The Add Add-On License Key window will appear.
5. If you did not receive a license key, click the <http://www.avocent.com/activation> link to obtain a license key.
6. Type a valid (new 25-character) license key in the License Key field.

NOTE: License keys from a DSView management software release prior to version 3.0 are not valid.

7. Click *Save*. The License Keys window appears containing the new license key.

-or-

Click *Close*. A dialog box will appear and prompt you to save any changes. Click *Yes* to add the license key, or click *No* to cancel the action. The License Keys window will appear and contain the license key if you saved the changes.

Managing servers

You may modify the network settings for hub servers or spoke servers or view the certificate associated with them by clicking on the name of a server and using commands on the side navigation bar.

If you are logged in to the hub server, you may specify a particular spoke server and modify its settings. If you are logged in to a spoke server, you may specify the settings for your hub server.

Customizing the Spoke Servers window

By default, the Name field, providing the name of the spoke server, appears in the Spoke Servers window when you click *System* in the tab bar, *DSView Server* in the top option bar and *Spoke Servers* in the side navigation bar.

By default, the following fields display in the Spoke Servers window and may be removed by selecting the *Customize* link:

- Address - The IP address, in standard dot notation (xx.xx.xx.xx) of the spoke server.
- HTTPS Port - The port used for communication with the spoke server by clients and the hub server.

NOTE: If clients are located on an external connection, the HTTPS port must be open on your firewall.

- Status - This field provides the following information:
 - Whether the spoke server is (Responding) or is not communicating (Not Responding) with the hub server.

NOTE: The port number is typically changed when the value of the Status field is Not Responding.

- Whether the DSView management software versions match on the spoke server and the hub server.
- Whether the certificates match on the spoke server and the hub server.
- Whether the server is compatible with the spoke server.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To view a list of spoke servers:

1. From the DSView 3.0.2 Explorer, click the *System* tab.
2. From the top navigation bar, click *DSView Server*. The side navigation bar will include the name of the server to which you are logged in.
3. From the side navigation bar, click *Properties*.
4. From the side navigation bar, click *Spoke Servers*. The Spoke Servers window will appear.



Figure 3.46: Spoke Servers Window

To delete a spoke server:

NOTE: The Spoke Servers menu is only available on the hub server.

1. From the Spoke Servers window, click the checkbox to the left of the spoke servers you wish to delete.
-or-
Click the checkbox to the left of Name at the top of the list to select all spoke servers listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the spoke servers.
-or-
Click *Cancel* to cancel the action.

NOTE: When a spoke server is deleted, it is no longer allowed to communicate with the hub server. Only spoke servers that are no longer active should be deleted. If a spoke server is still active, it may be re-registered using the Register as Spoke Server wizard. See *Specifying and Managing Spoke Authentication Servers* on page 118 for more information.

Modifying spoke server network settings

You may change the network settings that the hub server uses to communicate with the spoke server. Changing these settings does not affect the actual configuration for the spoke server.

NOTE: The Spoke Servers window is used to update the spoke server configuration information on the hub server after the spoke server IP address or port has been changed. (ask)

You may modify the following network settings:

- The name of the computer being used as a spoke server.
- The network address of the spoke server.
- The port number used by the hub server for communicating with the spoke server.

To modify spoke server network settings:

NOTE: Spoke server network settings may need to be modified by DSView software administrators when Spoke Network Settings are changed and the the hub server did not automatically detect the changes. When modifying the network settings, ensure that a port mismatch does not occur between the hub server and the spoke server.

1. From the Spoke Servers window, click on the name of the spoke server whose network properties you wish to change. The Spoke Server Network Properties window will appear.

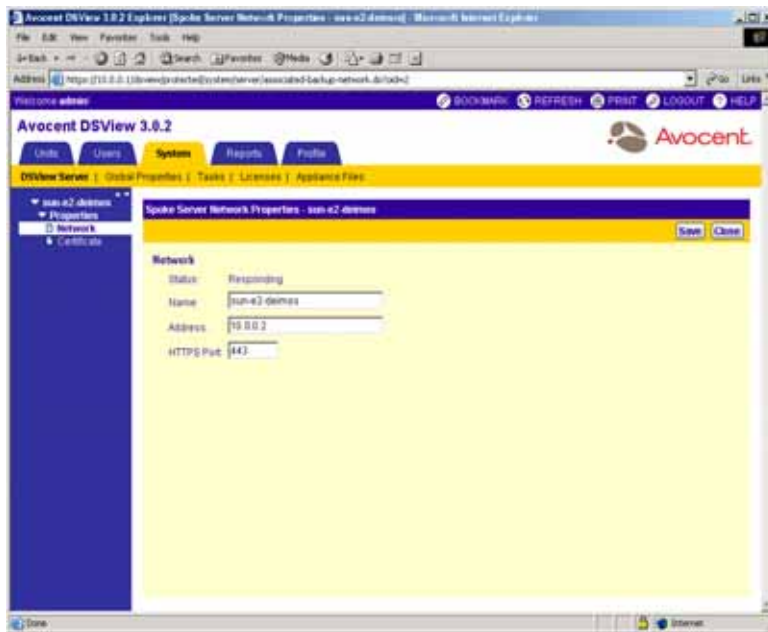


Figure 3.47: Spoke Server Network Properties Window

2. Change any of the following network settings:
 - a. Type a new computer name to use as the spoke server.
 - b. Type a new address in standard dot notation (xx.xx.xx.xx) for the spoke server.
 - c. Type a new port number for the spoke server.
3. Click *Save* to save your changes.
4. Click *Close*. The Spoke Servers window will appear.

Managing hub and spoke server certificates

NOTE: Certificates may only be viewed by DSView software administrators and user administrators.

When a spoke server is registered with a hub server, a certificate trust relationship is established between the two servers. Certificate information must match on the hub server and the spoke servers for communication to take place between the servers. If the spoke server certificate is subsequently changed, a certificate mismatch will occur.

To update the certificate of a spoke server on the hub server:

1. From the hub server's DSView 3.0.2 Explorer, click *System*. *DSView Server* is automatically selected in the top navigation bar and the name of the DSView software hub server appears at the top of the side navigation bar.
2. From the side navigation bar, click *Spoke Servers*. The Spoke Servers window will appear.
3. From the Spoke Servers window, click *Certificate*. The Spoke Server Certificate window will appear including information about the spoke server certificate (Actual Certificate) and the certificate registered for this spoke server on the hub server (Recorded Certificate).
4. The window displays the certificate on the spoke server and the certificate registered on the hub server.

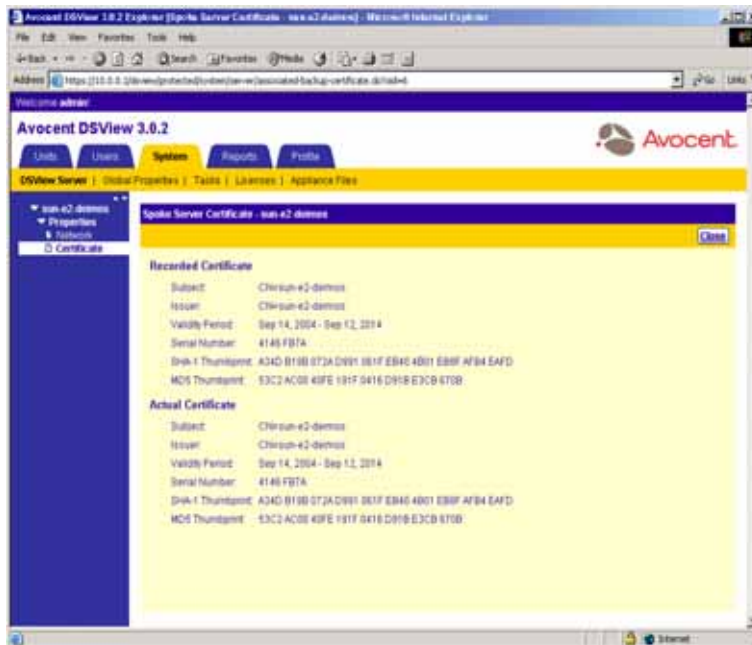


Figure 3.48: Spoke Server Certificate Window

NOTE: If the DSView management software cannot obtain the certificate information from the spoke server, a message will appear at the bottom of the DSView Server Certificate - Spoke Server window. The message states: *Remote server is not responding. Information displayed may not match remote side.*

If the certificate information does not match, continue to step 5.

- or -

If the certificate information matches, go to step 6.

5. Click *Update*. The spoke server certificate information will be updated on the hub server.
6. Click *Close*. The Spoke Servers window will appear.

To update the certificate of a hub server on the spoke server:

1. From the spoke server's DSView 3.0.2 Explorer, click *System*. *DSView Server* is automatically selected in the top navigation bar and the name of the spoke server appears at the top of the side navigation bar.
2. From the side navigation bar, click *hub Server*. The Hub Server window will appear.
3. From the hub Server window, click *Certificate*. The Hub Server Certificate window will appear including information about the spoke server certificate (Actual Certificate) and the certificate registered for this spoke server on the hub server (Registered Certificate).



Figure 3.49: Hub Server Certificate Window

NOTE: If the DSView management software cannot obtain the certificate information from the hub server, a message will appear at the bottom of the DSView Server Certificate - Hub Server window. The message states: *Remote server is not responding. Information displayed may not match remote side.*

If the certificate information does not match, continue to step 4.

4. Click *Update*. The hub server certificate information will be updated on the spoke server.

Managing Units

About Units

In the DSView management software, click *Units* in the tab bar of the DSView 3.0.2 Explorer to access commands to perform the following:

- Add, delete, modify and scan units, which are managed appliances (DS1800 digital switches, DSR switches, DSI5100 IPMI proxy appliances, CPS serial over IP network appliances, EVR1500 environmental monitor and control appliances and generic appliances) and target devices.
- Add access rights to units.
- Export units or the rights associated with them.

Clicking *Units* in the tab bar will automatically select *Units* in the top navigation bar and the topmost item under Unit Views in the side navigation bar. Depending on the user, the user's rights and the units in the DSView software system, one of the following windows will appear:

- Target Devices - All window
- Appliances - All window
- Recently Accessed window

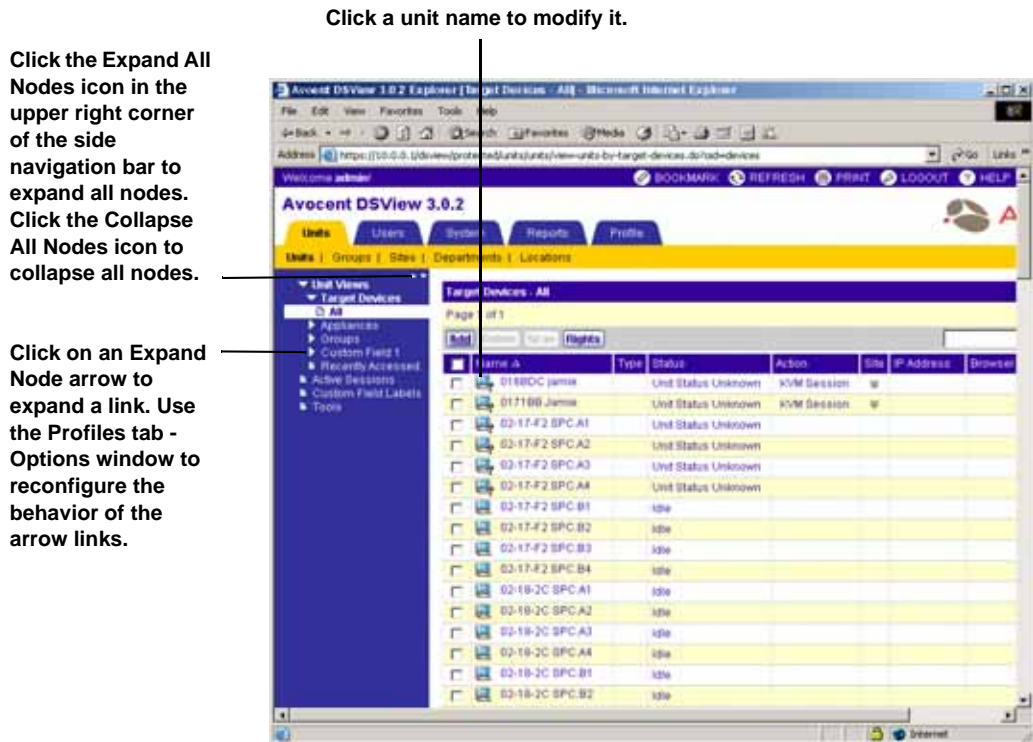


Figure 4.1: Target Devices - All Window

Using the Unit Views to display and modify units

All units in your DSView management software system for which a user has access rights are located beneath the Unit Views heading. Clicking on links beneath Unit Views in the side navigation bar that contain a horizontal arrow will cause the link to expand and display additional sub links. You may click on a link beneath the Target Devices heading to access one of the listed groupings of target devices, or click on the *Appliances* link to display a list of managed appliance groups that you may access.

Clicking on one of the target device types in the side navigation bar will display a target devices window containing a listing of all target devices in the DSView software system of that particular type. Clicking on a managed appliance link, a DSR1021 switch for example, in the side navigation bar will display an Appliances window containing a listing of all managed appliances in the DSView software system of that particular type. You may also click *All* beneath either link to list all target devices or all managed appliances in your DSView software system.

The types of managed appliances that may be added to the DSView management software are predefined and will appear beneath Appliances in the side navigation bar only if an appliance of that type exists in the DSView software system and the user has access to the appliance.

For example, if no DSR1021 switch, CPS810 appliance or EVR1500 environmental monitor exists on your DSView software system, these types will not appear beneath Appliances in the side navigation bar. If a DSR1021 switch to which you have access is added to the DSView software system, a DSR1021 link will appear in the side navigation bar.

Target device types are defined by users. If a type has been assigned to a target device, the type name will appear beneath target devices in the side navigation bar. For example, if you assign a type of Windows 2000 program to three target devices, a Windows 2000 link will appear in the side navigation bar. Clicking on the link will display the three target devices, as well as any other existing target devices assigned a similar type of Windows 2000. See *Modifying unit overview information* on page 164 for information on assigning a type to a target device.

Clicking *Recently Accessed* in the side navigation bar displays a list of appliances that the logged in user has accessed last. You may also click a link beneath *Sites* or a custom field to display a list of appliances associated with the site or custom field.

NOTE: Sites and custom fields will not appear in the side navigation bar unless at least one site or custom field has been defined, at least one unit is associated with the site or custom field and the DSView software user has access to the unit. See *Managing Units Using Sites* on page 350, *Managing Units Using Custom Fields* on page 377 and *Modifying unit access rights* on page 182 for more information.

Clicking *Topology* in the side navigation bar will display the Topology window containing all units, cascade switches, SPC devices and outlets arranged in a hierarchal tree structure. Units are arranged in a parent-child hierarchy, with children (target devices) tiered beneath their parent DS1800 digital switches, DSI5100 or CPS appliance or DSR switch. An SPC power control device will appear as a cascade device attached to a CPS appliance or DSR switch which supports SPC devices. Each outlet will appear with a power indicator cascaded below the port. In Figure 4.4 on page 141, an SPC connected to a CPS1610 appliance is attached to target devices.

The following rules apply to the Topology window:

- If a target device is connected to multiple DS1800 digital switches, DSI5100 or CPS appliances or DSR or cascade switches, it will appear multiple times in the Topology window.
- Cascade devices, such as SPC devices and AutoView and OutLook legacy analog KVM switches, may not be modified from the Topology window.
- If the Topology window has been customized to display items using multiple pages and a parent (DS1800 digital switch, DSI51000 or CPS appliance or DSR or cascade switch) and its children (target devices) cannot be displayed in a single Topology window page, it will be repeated on subsequent pages. Any repeated unit will contain (continued...) after its name. If the Items per Page setting has been customized to a number so small that all parents cannot be repeated, only the parent closest to the target device will be repeated.

NOTE: Scan mode is not available when using the Topology window.

A unit may be modified by clicking on its name. Links for items that may be modified will appear in the side navigation bar.

The items available for editing will vary, based on the following:

- The type of unit that has been selected.
- The access rights specified for the DSView software user on the particular unit. For example, if Configure Unit Settings is not specified for a DSView software user on a particular managed appliance, the Appliance Settings link and its sub-links will not be available in the side navigation bar. The DSView software user will not have access to any commands that allow modification of the managed appliance settings.

See *Managing Units* on page 164 for information on modifying a unit.

The side navigation bar also contains the following three links that may be used to perform other unit related tasks:

- Clicking *Active Sessions* accesses the Active Sessions window, which may be used to remove or display information about target device sessions. See *Viewing active session information* on page 235 for more information.
- Clicking *Custom Field Labels* specifies information for custom fields. See *Managing Units Using Custom Fields* on page 377 for more information.
- Clicking *Tools* accesses unit tools. See *Using Unit Tools* on page 401 for more information.

You may use one of the windows listed beneath Unit Views in the side navigation bar to add, delete, scan and assign rights to units. Clicking on a unit provides access to side navigation bar links that may be used to modify information related to the unit.

Only the units for which you have been assigned privileges will display in the content area. See *Managing DSView Software Users Using User Groups* on page 383 for information on specifying DSView software user privileges and *Connecting to an existing KVM session* on page 267 for more information on Stealth mode.

NOTE: Units will also not display if they are hidden. See *Showing and hiding units* on page 141 for more information.

To display managed appliances in the Appliances window:

1. From the DSView 3.0.2 Explorer, click the *Units* tab. *Units* is automatically selected in the top navigation bar and *Unit Views* is automatically selected in the side navigation bar.
2. Under Unit Views in the side navigation bar, click *Appliances*. The Appliances - All windows will appear including all managed appliances on your system.

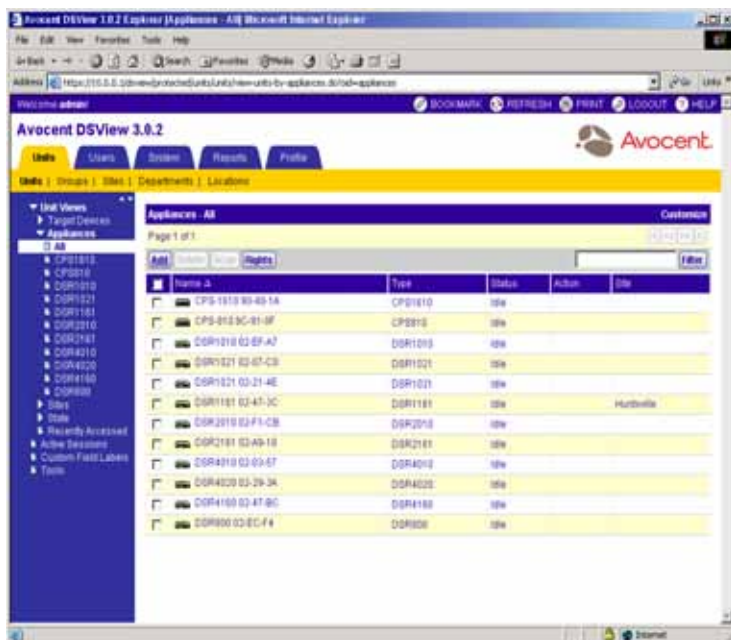


Figure 4.2: Appliances - All Window

- Click on one of the managed appliance links in the side navigation bar to display the Appliances window you wish to view.

NOTE: Managed appliances that you have recently accessed may also be displayed by clicking *Recently Accessed* beneath Unit Views in the side navigation bar.

To display target devices in the target devices window:

NOTE: Only target devices to which a user has been assigned privileges will display.

- From the DSView 3.0.2 Explorer, click the *Units* tab. *Units* is selected in the top navigation bar and *Unit Views - target devices - All* is automatically selected in the side navigation bar. The Target Devices - All window is displayed and includes all target devices on your system.

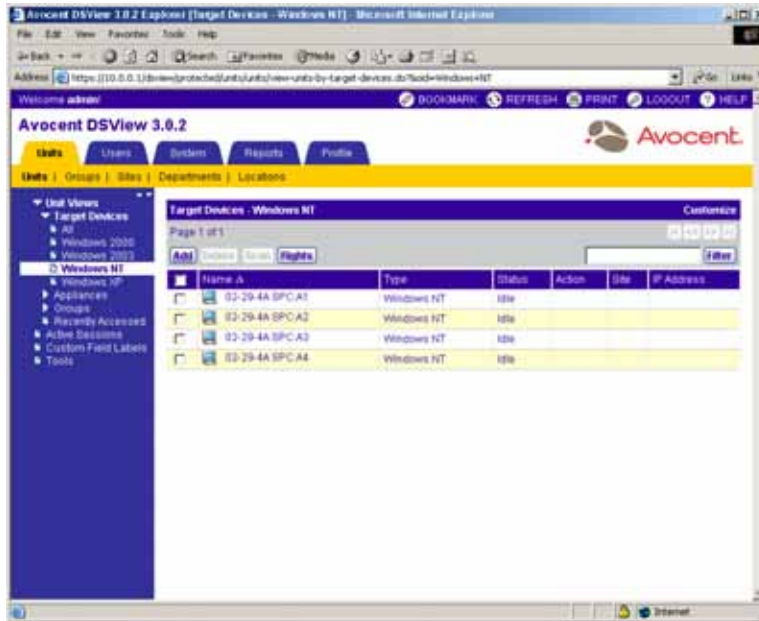


Figure 4.3: Target Devices NT Window

2. If any target devices have been assigned a type, the name of each type will display in the side navigation bar under target devices. Clicking on a target device type will display only the target devices assigned to the type. See *Modifying unit overview information* on page 164 for information on assigning a type to a target device.

To display units and SPC devices and outlets in the Topology window:

1. From the DSView 3.0.2 Explorer, click the *Units* tab. *Units* in the top navigation bar and *Unit Views - Target Devices - All* are automatically selected in the side navigation bar and the Target Devices - All window is displayed including all target devices on your system.
2. Under Unit Views in the side navigation bar, click *Topology*. The Topology window will appear with a display of all appliances in addition to SPC devices and outlets in your system.

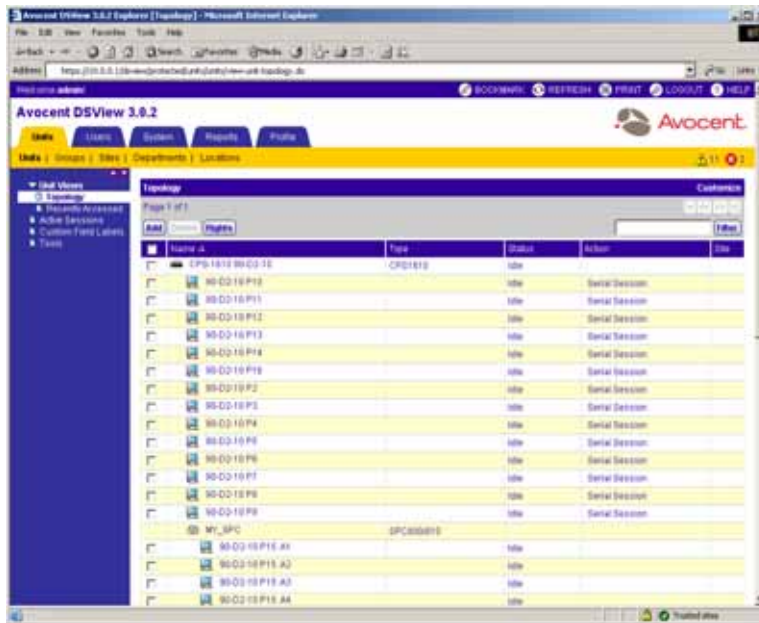


Figure 4.4: Topology Window

Showing and hiding units

NOTE: Appliances will only display if a user has been assigned privileges to the appliances. See *Managing DSView Software Users Using User Groups* on page 383 for information on specifying user privileges.

Display the Visibility column by selecting the **Customize** link. Change the show/hide state of a unit by clicking on **Show** or **Hide**.

Hidden items will appear with a transparent icon if **Show hidden items** is checked in the **Customize** window.

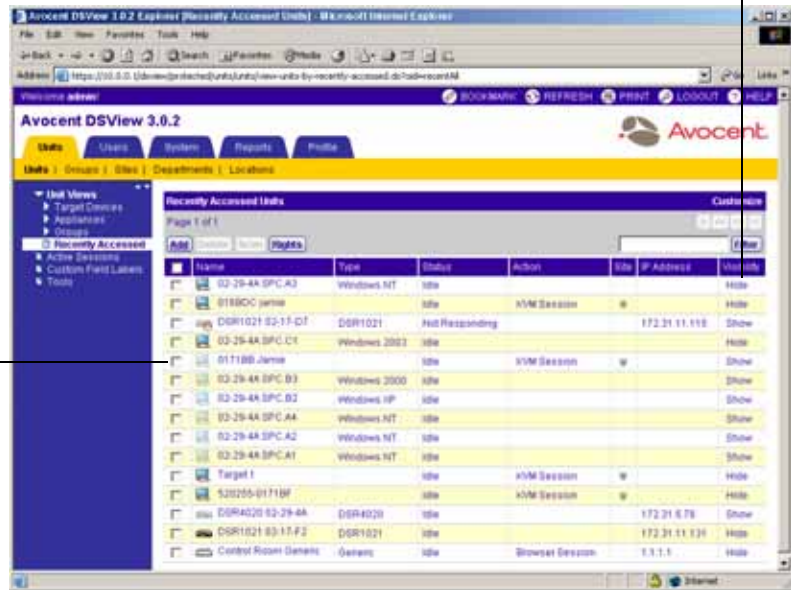


Figure 4.5: Shown and Hidden Units in a Recently Accessed Units Window

If you have clicked the *Customize* link to display the Unit Views Customization window and turned on the display of the Visibility column, you may click *Hide* in the Visibility column to completely remove the display of a unit from the window. Hiding turns off the display of units in the window, but does not remove the units from your DSView software system.

If *Show hidden items* has also been selected in the Unit Views Customization window, all hidden units will appear with a transparent icon instead of being completely hidden. If *Show hidden items* has been selected, you may click *Show* in the Visibility field to make the units visible, which will change the transparent icon to a non-transparent icon. When a unit is made visible, the Visibility column will change to *Hide* so you may once again hide the unit if you wish. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using a Unit Views Customization window.

To hide a unit:

1. Click *Customize* in a Unit Views window. The Unit Views Customization window will appear.
2. Click *Visibility* in the Available Fields column and then click *Add*. Visibility will be moved to the Fields to Show column.

3. Click *Show hidden items* if you wish to display hidden units in the Unit Views Customization window with a transparent icon.
4. Click *Save* and then click *Close*. The window will appear containing the Visibility column. The Visibility column will display Hide for each unit.
5. Click *Hide* for each unit. The display of the selected unit will be turned off in the Unit Views window if *Show hidden items* was not selected in the Unit Views Customization window.
6. -or-
If *Show hidden items* was selected, the hidden unit will appear with a transparent icon.

To show a hidden unit:

1. Click *Customize* in a Unit Views window. The Unit Views Customization window will appear.
2. Click *Visibility* in the Available Fields column and then click *Add*. Visibility will be moved to the Fields to Show column.
3. Click *Show hidden items*.
4. Click *Save* and then click *Close*. The Unit Views window will appear containing the hidden items and the Visibility column. Hidden items will have a transparent icon and the Visibility column will display the Show listing.
5. Click *Show*. The selected unit will be made visible, the transparent icon will be changed to a non-transparent icon and the Visibility column will display the Hide listing.

Customizing Unit Views windows

By default, the following fields appear in the windows displayed by clicking *Units* in the tab bar, *Units* in the top option bar and clicking any of the side navigation bar links beneath Unit Views:

- Name - Displays the names of units. You may click on a name to display and modify information or specify an icon to associate with a unit. See *Managing Units* on page 164 for more information.
- Type - Displays the type of target device or model of managed appliance. See *Modifying unit overview information* on page 164 for information on assigning a type to a target device.
- Status - Displays the current activity level of a unit.

The following status IDs may display for units:

- Idle - The unit is powered up with no connection.
- In Use - The unit has at least one active connection.
- Status Unknown - The status of the unit was reported to the software but cannot be obtained for an unknown reason.

The following status IDs may display for target devices only:







- No Power - The target device is powered down.
- KVM Blocked - The connection path to the target device is blocked because a cascade switch is already in use.
- Partial Power - The DSView management software cannot determine the power state of the target device, or the software received a mixed power state from the target device. For example, if a target device has a KVM connection and an SPC connection, the software will prompt for a power status for both of these connections. If both connections do not reply with ON or OFF, the power status will display as Partial Power.

The following status ID may display for managed appliances only:

- Not Responding - The managed appliance did not provide status information to the server. This may occur for multiple reasons, including:
 - The managed appliance is not powered up.
 - The managed appliance is disconnected from the DSView software system.

An icon will appear to the right of the Name column to represent the status of a unit. Figure 4.1 lists and describes the status icons that may appear.

Table 4.1: Unit Icons

Icon in Name Field	Description in Status Field	Displays for
	In Use	Units
	Not Responding	Managed Appliances
	No Power	Target Devices
	KVM Blocked	Target Devices
	Partial Power	Target Devices
	Status Unknown	Units

- Action - Displays the type of DSView software session that may be initiated. Although an EVR1500 environmental monitor, generic appliance or target device may have multiple actions that may be performed (for example, a target device may be able to open using a Browser Session and Telnet Session), only one action will appear in the Action column. The action that appears is based on the precedence of the action. The precedence is determined by the software and whether the action may be performed on the unit. For example, a target device only attached to a CPS

appliance will not contain a KVM Session link in a Unit Views window. If a target device has a connection to both a CPS appliance and a DS1800 digital switch or DSR switch, a KVM Session link will appear.

Other available actions may be accessed by clicking the Alternate Actions arrow to the right of the action with the highest precedence. Clicking on one of the displayed links will launch the corresponding window type.

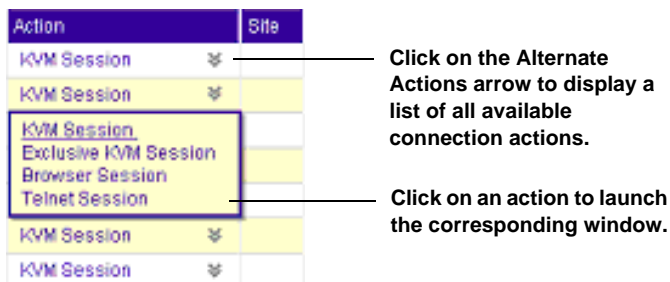


Figure 4.6: Alternate Actions Arrow in a Unit Views Window

Table 4.2 describes the types of software sessions (actions) and the precedence of each action .

Table 4.2: Actions to Initiate DSView Software Sessions

Action	Description	From	Precedence
KVM Session	Opens a Video Viewer window session	Target devices	1 (Highest)
Exclusive KVM Session	Opens a Video Viewer window session	Target devices	1*
IPMI Session	Opens an IPMI Viewer window	IPMI 1.5 target devices	3
Serial Session	Opens a Telnet viewer window session	Target devices	4
Browser Session	Opens a web browser	Target devices, EVR1500 environmental monitors or generic appliances	5
Telnet Session	Opens a Telnet/SSH applet window session	Target devices, EVR100 environmental monitors or generic appliances	6

* Exclusive KVM Session appears in a Unit Views window only when the Alternate Actions arrow is selected in the Action column. An exclusive KVM session is shown immediately after its associated KVM session. For example, if a target device has two available KVM sessions, clicking

the alternate actions icon in the Action column will display KVM Session 1, Exclusive KVM Session 1, KVM Session 2 and Exclusive KVM Session 2.

- Site - Displays the name of a unit set. See *Managing Units Using Sites* on page 350 for information on assigning a site.

The following fields are not displayed by default, but may be displayed by selecting the *Customize* link:

- Browser URL - Displays the URL that may be used by a DSView software user on a DSView software client to access a target device, EVR1500 environmental monitor or generic appliance. This field will be empty if a URL is not available.
- Custom Field 1-3 - Displays the custom fields that have been assigned to units. If the fields have been defined at the DSView software system level and for units, the defined names will appear instead of Custom Field 1, Custom Field 2 and Custom Field 3. See *Managing Units Using Custom Fields* on page 377 for more information on custom fields.
- Department - Displays the department name assigned to units. See *Managing Units Using Departments* on page 357 for information on assigning a unit to a department.
- DSView Software Server - Displays the name of the server associated with units.
- Location - Displays the location (such as a room number) assigned to units. See *Managing Units Using Locations* on page 362 for information on assigning a unit to a location.
- Migration Status - Displays whether units from an imported DSView 2.x database require migration to be operational in the DSView management software. See *Importing DSView 2.x software databases* on page 410 for more information.
- Model Number - Displays the model numbers of units. See *Modifying unit identity properties* on page 172 for more information.
- Part Number - Displays the part numbers of units. See *Modifying unit identity properties* on page 172 for more information.
- Primary Contact - Displays the name of the person who is responsible for a unit. See *Specifying phone contact information for users* on page 260 for information on assigning a primary contact.
- Primary Contact Phone - Displays the phone number of the primary contact. See *Specifying phone contact information for users* on page 260 for information on assigning a primary contact phone number.
- Secondary Contact - Displays the name of the person to contact if the primary contact is unavailable. See *Specifying phone contact information for users* on page 260 for information on assigning a secondary contact.
- Secondary Contact Phone - Displays the phone number of the secondary contact. See *Specifying phone contact information for users* on page 260 for information on assigning a secondary contact phone number.
- Serial Number - Displays the serial numbers of units. See *Modifying unit identity properties* on page 172 for information on assigning a serial number.

- Telnet Port - Displays the port number used for a Telnet connection to a target device by a DSView software client.
- Visibility - Allows a DSView software user to choose whether to display (Show) or not display (Hide) a unit in the Unit Views windows. To view hidden items, click *Show hidden items* in the Units View Customization window.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

Adding Units

You use the Add Unit Wizard to add units to your DSView software system. To access the Add Unit Wizard, click *Add* in a Unit Views window to display the Welcome page of the Add Unit Wizard.

You may add the following:

- A single managed appliance
- Multiple managed appliances based on a range of IP addresses
- A single target device (not attached to a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch)

NOTE: A DSI5100 appliance may be attached to only one DSView software system at a time.

When a managed appliance is added, DSView software administrator, user administrator and appliance administrator privileges are automatically assigned to the managed appliance. A user with any of these privileges may:

- Reboot a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch
- Administer local user accounts on the managed appliance
- Control target device power
- Establish sessions with target devices from the DS1800 digital switch, CPS appliance or DSR switch, or establish sessions with BMCs attached to a DSI5100 appliance as target devices.

Appliance administrators and DSView software administrators may:

- FLASH upgrade a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch
- View and configure settings for a managed appliance

Managed appliance rights may be changed using the *Access Rights* link in the side navigation bar. See *Modifying unit access rights* on page 182 for more information.

An SPC device is automatically added to the DSView software database and associated with the specified serial port on a DSR switch or CPS appliance when you add the DSR switch or CPS appliance. Any target devices plugged into the SPC device outlets are also added, based on the options selected in the Select target devices Options window of the Add Unit wizard.

When a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch is added to the DSView software system, all connections to the target devices may be viewed by clicking on the DS1800

digital switch, DSI5100 or CPS appliance or DSR switch and then clicking *Connections* in the side navigation bar. If you are viewing a CPS appliance, the port and target device will appear. If you are viewing a DSR switch, the port, DSRIQ modules and the target devices to which the DSRIQ modules are attached will appear. A target device added to the DSView software system will display all of the connections paths available to it, including the connection paths for cascade switch channels. See *Managing connections to units* on page 239 for more information.

The applicable X.509 certificate is automatically copied from the DSView management software to the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch being added. A certificate is a unique identifier of an individual DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.

A DS1800 digital switch, CPS appliance or DSR switch may be added in either Secure mode or Non-secure mode. A DSI5100 appliance may only be added in Secure mode. When a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch is added in Secure mode, it may only be added to the DSView software system in which you are logged in. If a DS1800 digital switch, CPS appliance or DSR switch is added in Non-secure mode, it may be added to multiple DSView software systems. You specify whether or not a DS1800 digital switch, CPS appliance or DSR switch uses Secure mode with the Enable Secure Mode checkbox in the Select Options window of the Add Appliance wizard.

NOTE: EVR1500 environmental monitors and generic appliances do not support certificates and may be added to multiple DSView software systems.

To add a single DS1800 digital switch, DSI5100 or CPS appliance or DSR switch:

1. Click *Add* in a Unit Views window. The Welcome page of the Add Unit Wizard will appear. Click *Next*.
2. The Select Add Unit Procedure window will appear.

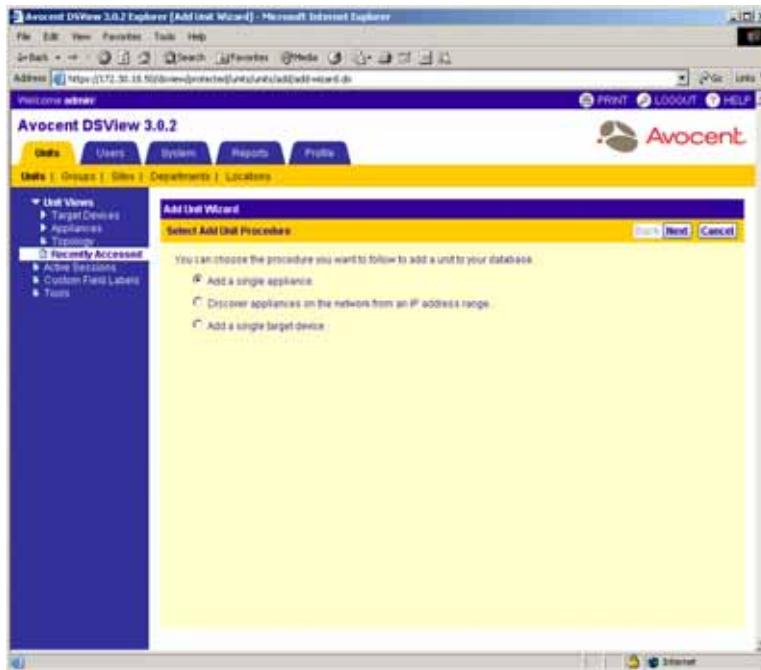


Figure 4.7: Add Unit Wizard - Select Add Unit Procedure Window

- a. Click *Add a single appliance.*
 - b. Click *Next.*
3. The Select Appliance Type window will appear.

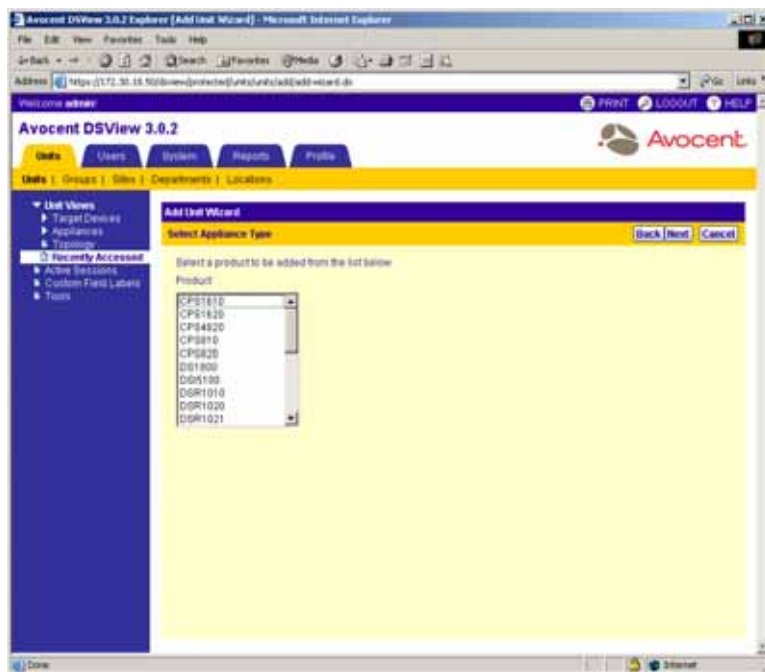


Figure 4.8: Add Unit Wizard - Select Appliance Type Window

- a. Select a DS1800 digital switch, DS5100 or CPS appliance or DSR switch from the product list.
 - b. Click *Next*.
4. A Select Address Configuration of Appliance window will appear including the name of the DS1800 digital switch, DS5100 or CPS appliance or DSR switch.

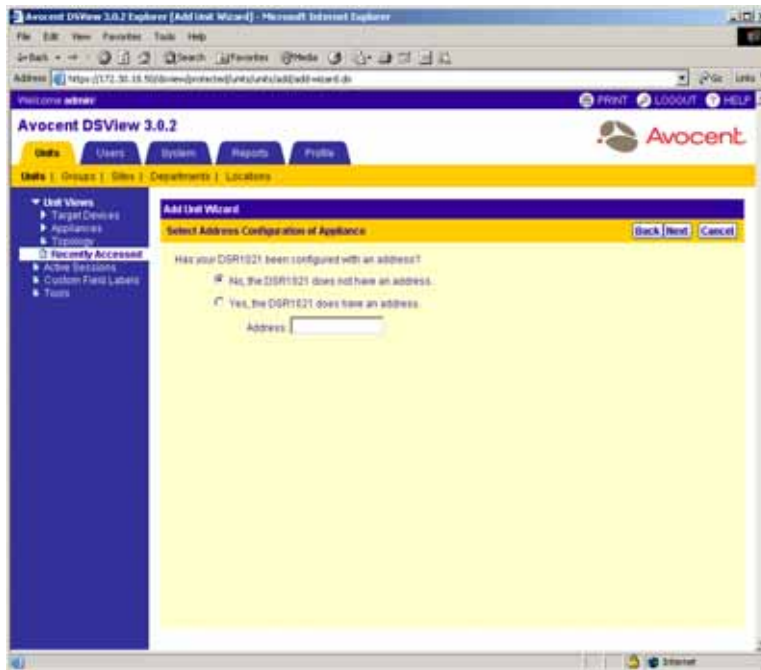


Figure 4.9: Add Unit Wizard - Select Address Configuration of Appliance Window

Click *No, the <Managed Appliance Name> does not have an address* if the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch does not have an existing address. Continue to step 5.

-or-

Click *Yes, the <Managed Appliance Name> does have an address* and either type the address or the fully qualified domain name for the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch. Go to step 6.

5. The Configure Appliance Network Settings window will appear.

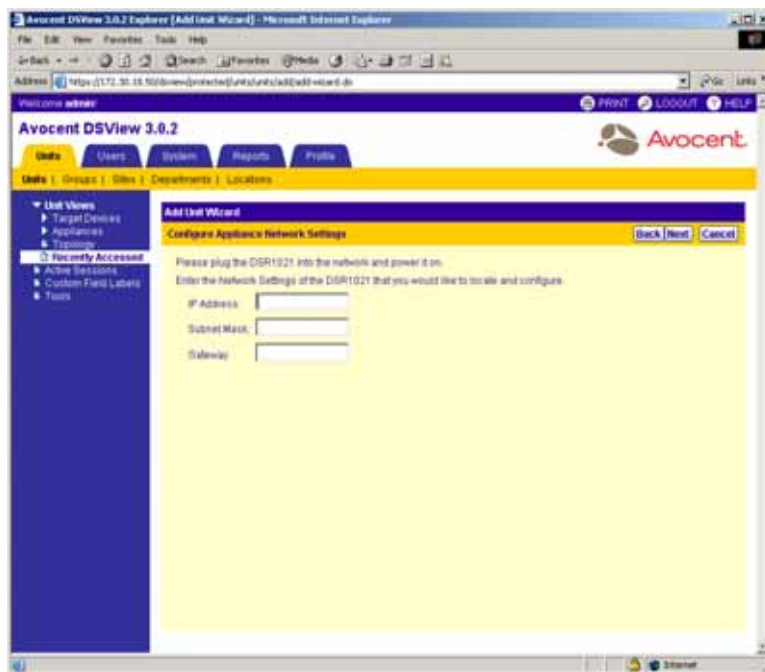


Figure 4.10: Add Unit Wizard - Configure Appliance Network Settings Window

- a. Type the IP address and subnet mask, in standard dot notation (xx.xx.xx.xx), for the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.
 - b. Optionally, type a gateway in standard dot notation (xx.xx.xx.xx).
 - c. Click *Next*.
6. The Select Options window will appear.

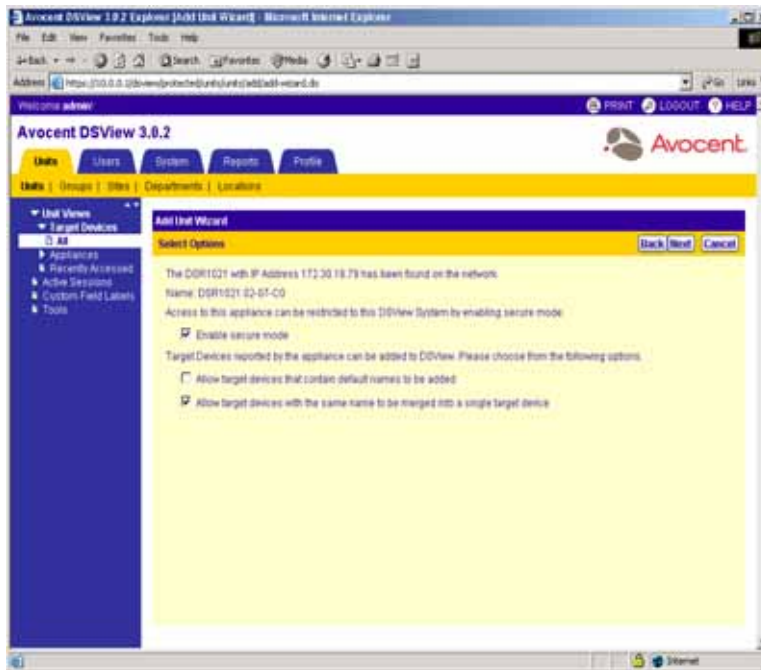


Figure 4.11: Add Unit Wizard - Select Options Window (DS1800 Digital Switches, CPS appliances and DSR Switches)

- a. Click *Enable secure mode* if you wish for the DS1800 digital switch, CPS appliance or DSR switch to only be accessible by this DSView software system.

NOTE: A DSI5100 appliance may only be added in Secure mode. The Enable Secure Mode checkbox will not appear in the Select Options window when adding a DSI5100 appliance.

- b. Click *Prevent target devices that contain default names from being added* if you wish to prevent the adding of any target devices whose port names have not been modified from the factory defaults of the DS1800 digital switch, CPS appliance or DSR switch.

NOTE: Default target device names are not supported on the DSI5100 appliance. Selecting or unselecting the *Prevent target devices that contain default names from being added* checkbox has no effect when adding a DSI5100 appliance, since a target device is named when it is added as a BMC port using the Add IPMI BMC Wizard.

- c. Click *Allow target devices with the same name to be merged into a single target device* if you wish to merge a target device that has multiple connections into a single target device. For example, a target device may be connected to a both a DSR switch and an SPC device outlet connected to a CPS appliance.
- d. Click *Next*.

If you are adding a DS1800 digital switch, CPS appliance or DSR switch, continue to step 7.

-or-

If you are adding a DSI5100 appliance, go to step 8.

7. If one or more cascade switches are connected to the DS1800 digital switch, CPS appliance or DSR switch, the Configure Cascade Switches window will appear.

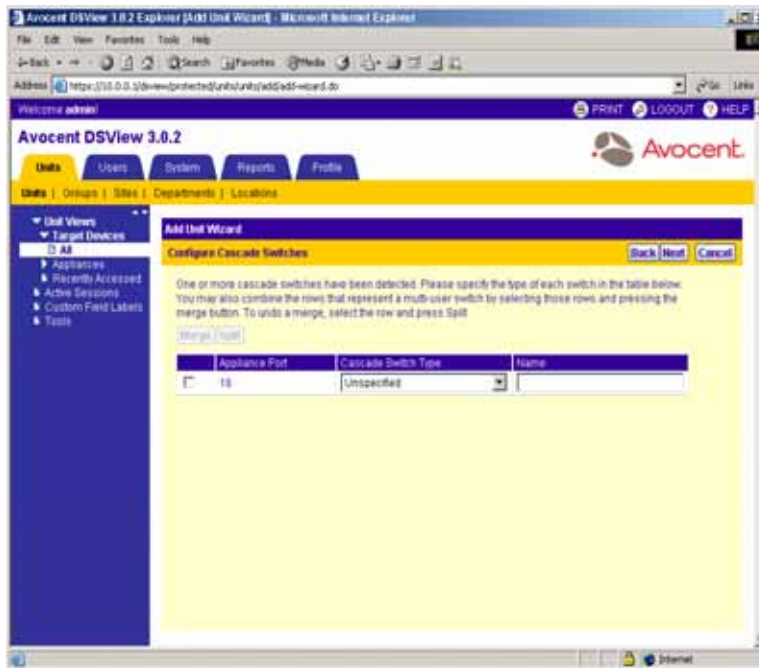


Figure 4.12: Add Unit Wizard - Configure Cascade Switches Window

- a. Select the type of cascade switch for each row from the drop-down menu in the Cascade Switch Type column.
 - b. If you wish, type a name for each row in the Name column.
 - c. If two or more rows of a multiuser cascade switch are discovered, you may merge the rows by selecting the checkboxes of the rows you wish to merge and clicking *Merge*. To undo the merge, click the row of the merged switch and click *Split*.
 - d. Click *Next*.
8. The Completed Successful window will appear.
 9. Click *Finish*.

To add a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch from a range of IP addresses:

1. Click *Add* in the Unit Views window. The Welcome page of the Add Unit Wizard will appear. Click *Next*.
2. The Select Add Unit Procedure window will appear.

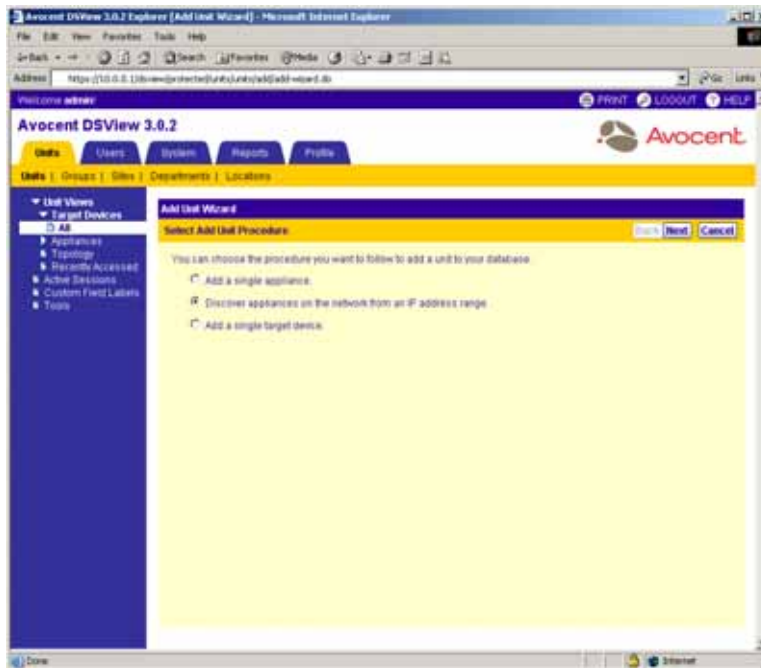


Figure 4.13: Add Unit Wizard - Select Add Unit Procedure Window

- a. Click *Discover appliances on the network from an IP address range*.
 - b. Click *Next*.
3. The Type in Discover IP Address Range window will appear.

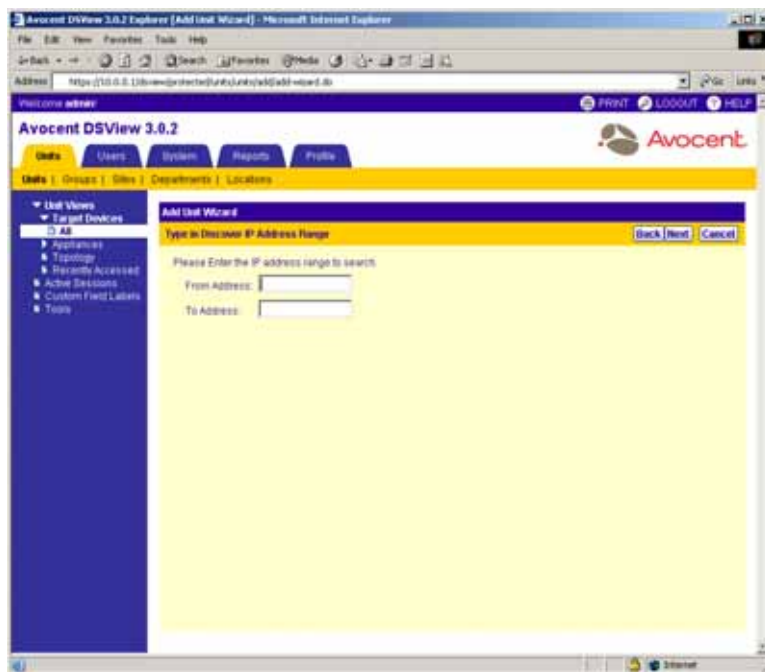


Figure 4.14: Add Unit Wizard - Type in Discover IP Address Range Window

- a. Type the IP address in standard dot notation (xx.xx.xx.xx), from which to begin the search.
- b. Type the IP address in standard dot notation (xx.xx.xx.xx), at which to end the search.
- c. Click *Next*.
4. The DSView management software will search for DS1800 digital switches, DSI5100 or CPS appliances or DSR switches within the IP address ranges. When the search is completed, the Select Appliances to Add window will appear containing the results.

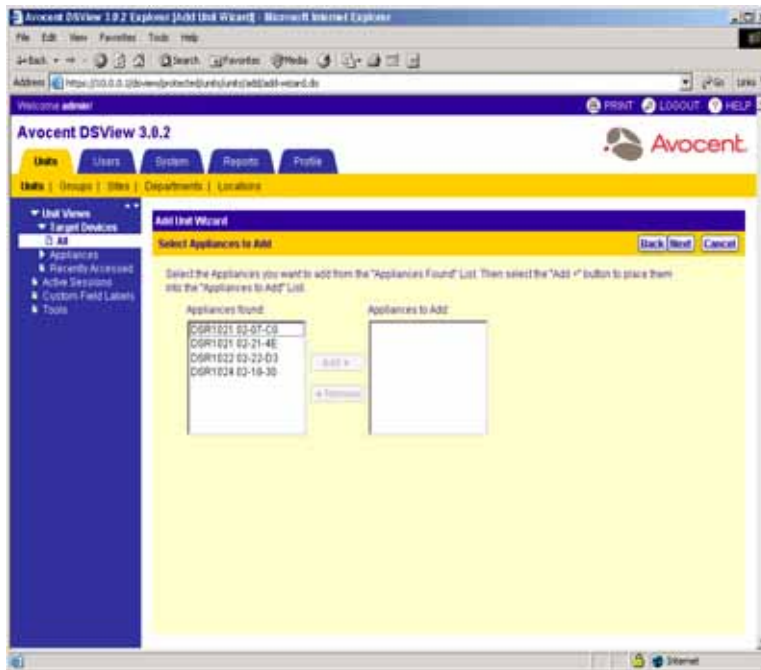


Figure 4.15: Add Unit Wizard - Select Appliances to Add Window

5. Specify the DS1800 digital switches, DSI5100 and CPS appliances and DSR switches that you wish add:
 - a. Select a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch in the Appliances found list. Multiple DS1800 digital switches, DSI5100 and CPS appliances and DSR switches may be selected by pressing **Ctrl** while clicking on the DS1800 digital switch, DSI5100 and CPS appliance and DSR switch names.
 - b. Click *Add*. The DS1800 digital switches, DSI5100 and CPS appliances and DSR switches will be moved to the Appliances to Add list.

NOTE: To remove selected DS1800 digital switches, DSI5100 and CPS appliances and DSR switches, select the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch you wish to remove from the Appliances to Add list (multiple DS1800 digital switches, DSI5100 and CPS appliances and DSR switches may be selected by pressing **Ctrl** while clicking on the DS1800 digital switch, DSI5100 and CPS appliance and DSR switch names) and clicking *Remove*. The DS1800 digital switches, DSI5100 and CPS appliances and DSR switches will be moved to the Appliances found list.

- c. Click *Next*.
6. The Select Options window will appear.

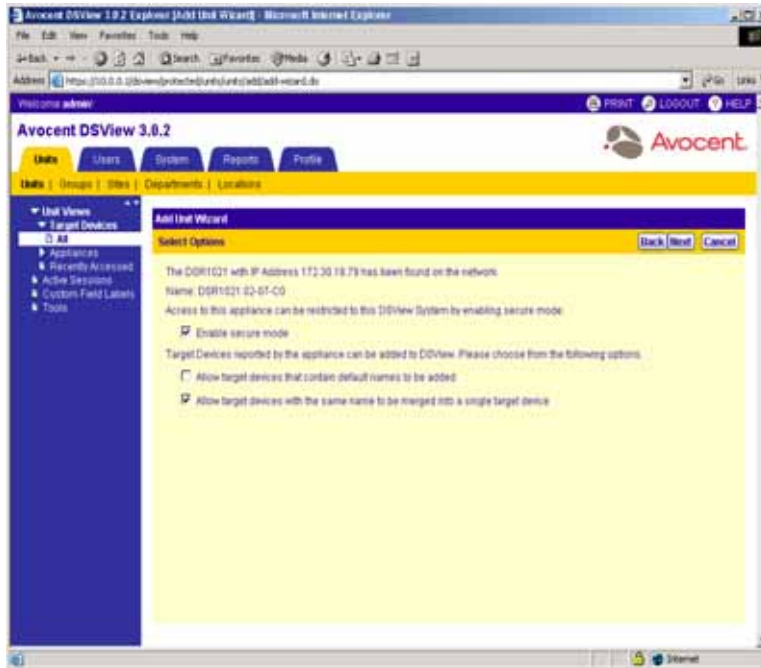


Figure 4.16: Add Unit Wizard - Select Options Window

- a. Click *Enable secure mode* if you wish for the DS1800 digital switch, CPS appliance or DSR switch to only be accessible by this DSView software system.

NOTE: A DSI5100 appliance may only be added in Secure mode. Checking the *Enable Secure Mode* checkbox will affect the mode of DS1800 digital switches, CPS appliances or DSR switches being added, but will have no effect on any DSI5100 appliance you are adding.

- b. Click *Prevent target devices that contain default names from being added* if you wish to prevent the adding of any target devices whose port names have not been modified from the factory defaults of the DS1800 digital switches, CPS appliances and DSR switches.

NOTE: Default target device names are not supported on the DSI5100 appliance. Selecting or unselecting the *Prevent target devices that contain default names from being added* checkbox has no effect when adding a DSI5100 appliance, since a target device is named when it is added as a BMC port using the Add IPMI BMC Wizard.

- c. Click *Allow target devices with the same name to be merged into a single target device* if you wish to merge a target device that has multiple connections into a single target device. For example, a target device may be connected to a both a DS1800 digital switch or DSR switch and an SPC device outlet connected to a CPS appliance.
- d. Click *Next*.

7. The Adding Appliances window will appear while the selected DS1800 digital switches, CPS appliances and DSR switches are added to the DSView software system.
8. The Completed Successful window will appear.
9. Click *Finish*.

To add a single EVR1500 environmental monitor or generic appliance:

1. Click *Add* in the Unit Views window. The Welcome page of the Add Unit Wizard will appear. Click *Next*.
2. The Select Add Unit Procedure window will appear.

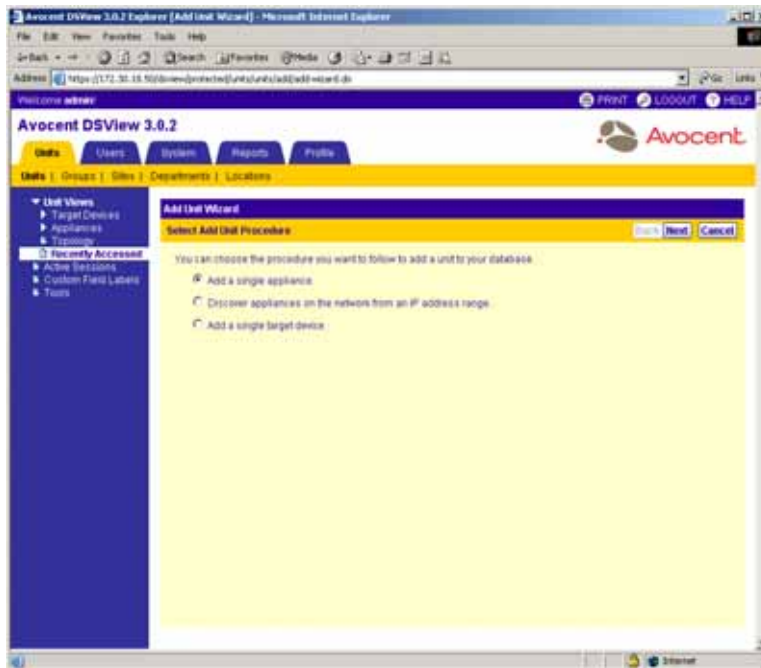


Figure 4.17: Add Unit Wizard - Select Add Unit Procedure Window

- a. Click *Add a single appliance*.
 - b. Click *Next*.
3. The Select Appliance Type window will appear.

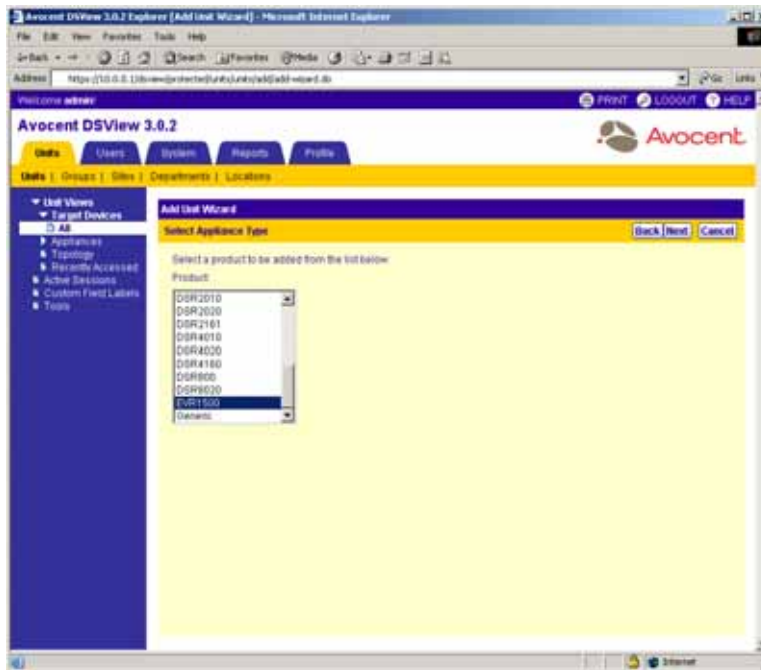


Figure 4.18: Add Unit Wizard - Select Appliance Type Window

- a. Select *EVR1500* or *Generic* from the product list.
 - b. Click *Next*.
4. A Configure Generic Appliance Settings window will appear including the name of the EVR1500 environmental monitor or generic appliance.

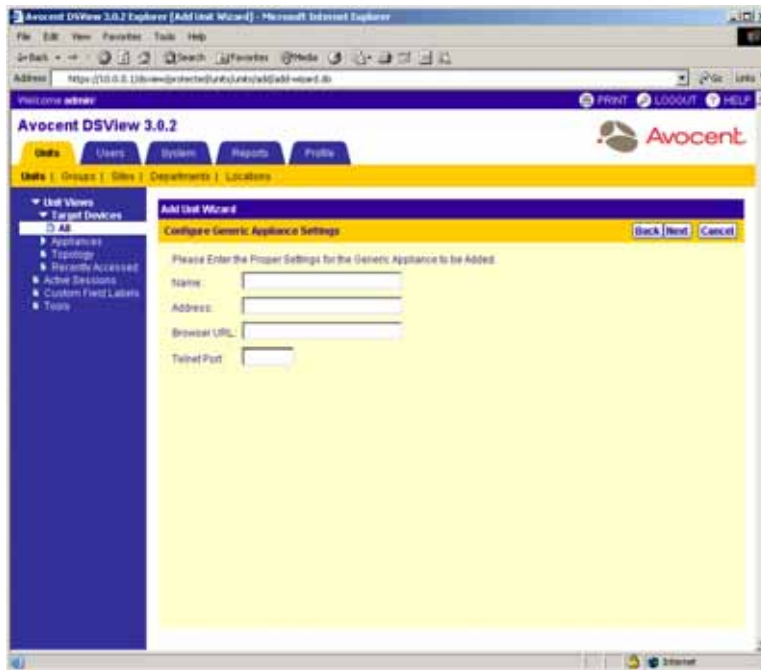
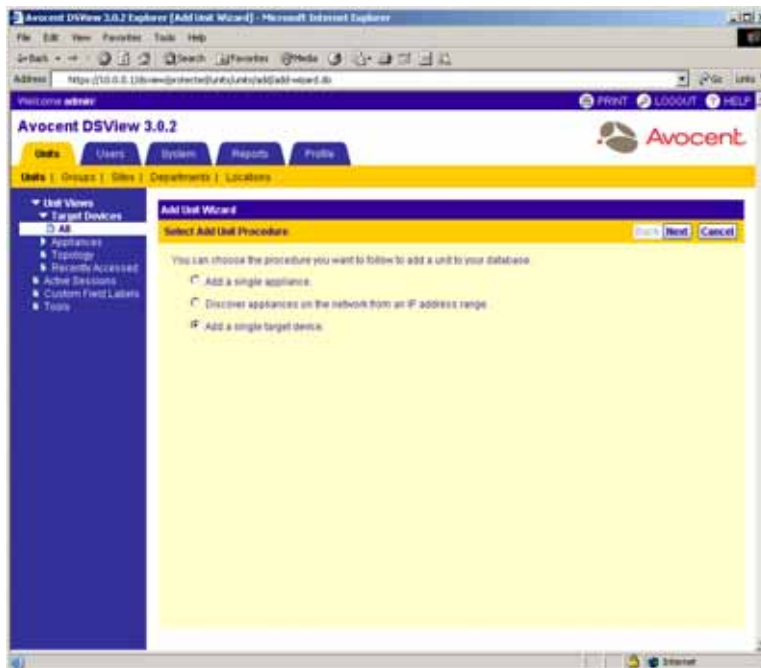


Figure 4.19: Add Unit Wizard - Configure Generic Appliance Settings Window

- a. Type the name of the EVR1500 environmental monitor or generic appliance.
 - b. (Optional) Type either the address or the fully qualified domain name of the EVR1500 environmental monitor or generic appliance.
(Optional) Type the Telnet port for the EVR1500 environmental monitor or generic appliance.
(Optional) Type the web browser URL for the EVR1500 environmental monitor or generic appliance.
 - c. Click *Next*.
5. The Completed Successful window will appear.
 6. Click *Finish*.

To add a target device:

1. Click *Add* in a Unit Views window. The Welcome page of the Add Unit Wizard will appear. Click *Next*.
2. The Select Add Unit Procedure window will appear.

**Figure 4.20: Select Add Unit Procedure Window**

- a. Click *Add a single target device*.
 - b. Click *Next*.
3. The Type in Device Settings window will appear.

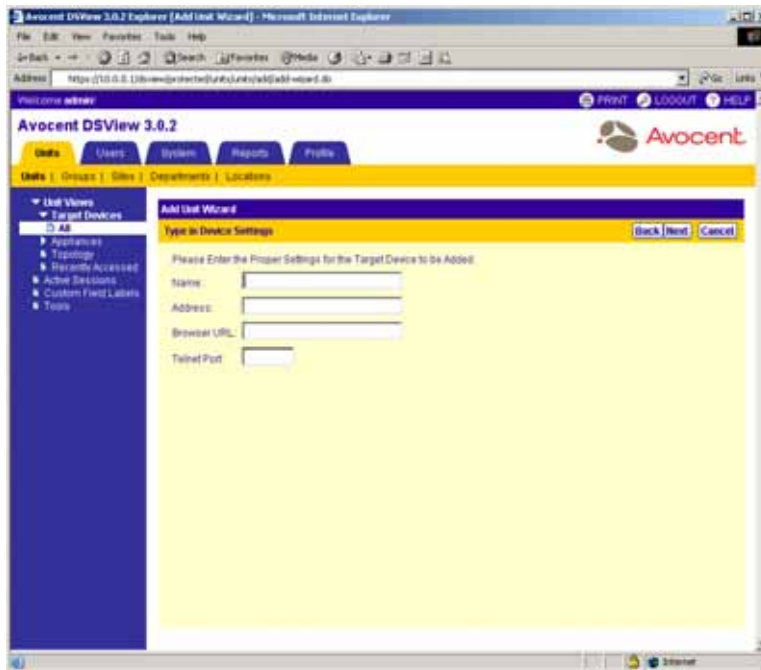


Figure 4.21: Type in Device Settings Window

- a. Type the name of the target device.
- b. (Optional) Type either the address or the fully qualified domain name of the target device.
(Optional) Type the Telnet port for the target device.
(Optional) Type the web browser URL for the target device.
- c. Click *Next*.
4. The Completed Successful window will appear.
5. Click *Finish*.

Managing Units

Clicking on a unit in one of the windows under Unit Views in the side navigation bar allows you to modify items related to the unit.

The following items may be modified for units:

- Overview
- Properties
- Access Rights (displays only for users who are administrators or user administrators)
- Appliance Settings (DS1800 digital switches, CPS appliances and DSR switches only)
- IPMI (DSI1500 appliances only) See for *Viewing Sensor Information by Selecting an IPMI 1.5 Target Device* on page 333 for more information.
- Connections (DS1800 digital switches, DSI5100 and CPS appliances, DSR switches and target devices only)

To display modifiable items for units:

1. From the DSView 3.0.2 Explorer window, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar and *Unit Views - target devices - All* is automatically selected in the side navigation bar.
2. Click on the *target devices*, *Appliances*, *Sites* or *<Custom Field Name>* link in the side navigation bar and then click on the type of unit you wish to display. You may also click *Recently Accessed* to display a list of recently accessed units.
3. Click on the name of a unit. The name of the unit and a list of item links will appear in the side navigation bar. The Unit Overview window will also appear.

Modifying unit overview information

Clicking on the name of a unit will cause the side navigation bar to change, with the name of the unit displayed at the top of the side navigation bar. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. This window contains the following information:

- Target Devices - This area (section listing) includes the name, type and icon associated with the target device. You may also use this window to connect to the target device. The available connection methods are determined by the type of target device. See *Customizing Unit Views windows* on page 143 for more information. If the target device is connected to one or more SPC device outlets, you may power up, power down or cycle the power of the target device.
- Target Devices with a DSI5100 IPMI connection - This area (section listing) includes the name, type and icon associated with the IPMI 1.5 target device, the power state of the target device chassis power and tools that may be used to perform the following tasks:
 - Start an IPMI session with the IPMI 1.5 target device.
 - Perform a hard reset of the IPMI 1.5 target device.

-
- Turn the identity light emitting diode (LED) on the IPMI 1.5 target device on or off.

NOTE: If the BMC does not have a fixed interval, the LED will turn on or off for 45 seconds.

- Power up, power down, cycle the power or perform a graceful shutdown of the IPMI 1.5 target device.
- DS1800 digital switches, CPS appliances and DSR switches - This area (section listing) includes the name and type of managed appliance and tools that may be used to perform the following DS1800 digital switch, CPS appliance and DSR switch tasks:
 - Rebooting a DS1800 digital switch, CPS appliance or DSR switch
 - Upgrading the firmware on a DS1800 digital switch, CPS appliance or DSR switch
 - Resynchronizing a DS1800 digital switch, CPS appliance or DSR switch
 - Saving or restoring the configuration of a DS1800 digital switch, CPS appliance or DSR switch
 - Saving or restoring the user database of a CPS appliance or DSR switch

See *Using DS1800 Digital Switch, DSI5100 and CPS Appliance and DSR Switch Tools* on page 418 for information.

NOTE: The available tasks depend on the type of managed appliance and the DSView software user's rights on the managed appliance.

- DSI5100 appliances - This area (section listing) includes the name and type of the DSI5100 appliance and tools that may be used to perform the following DSI5100 appliance tasks:
 - Rebooting a DSI5100 appliance
 - Upgrading the firmware on a DSI5100 appliance
 - Resynchronizing a DSI5100 appliance

See *Using DS1800 Digital Switch, DSI5100 and CPS Appliance and DSR Switch Tools* on page 418 for information.

- EVR1500 environmental monitor or generic appliance - This area (section listing) includes the name and type of EVR1500 environmental monitor or generic appliance and links for establishing a connection to the EVR1500 environmental monitor or generic appliance.

NOTE: The Type field of managed appliances cannot be modified.

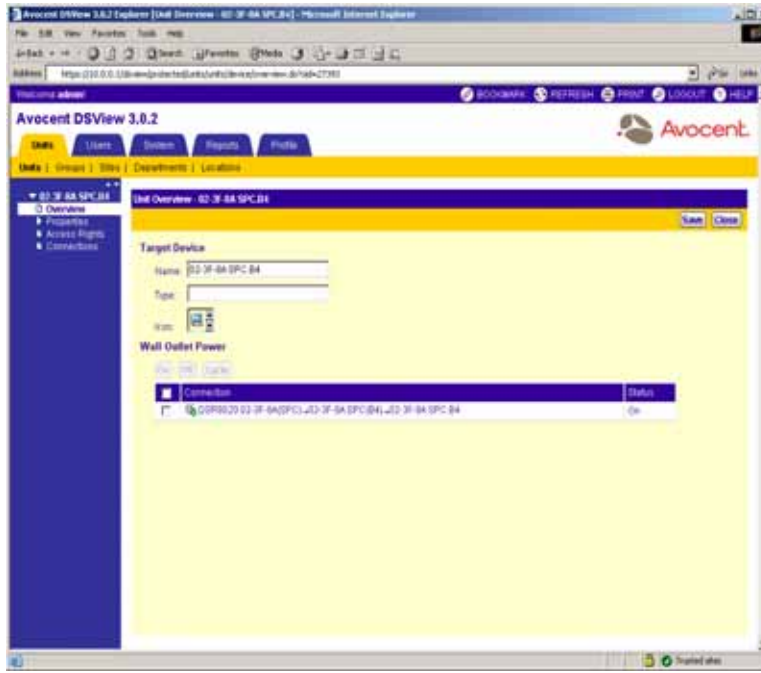


Figure 4.22: Unit Overview Window (target devices - With SPC Device Outlet Connection)

NOTE: Power information appears in the Unit Overview window only if the target device is connected to a SPC device outlet and the DSView software user has power control rights.

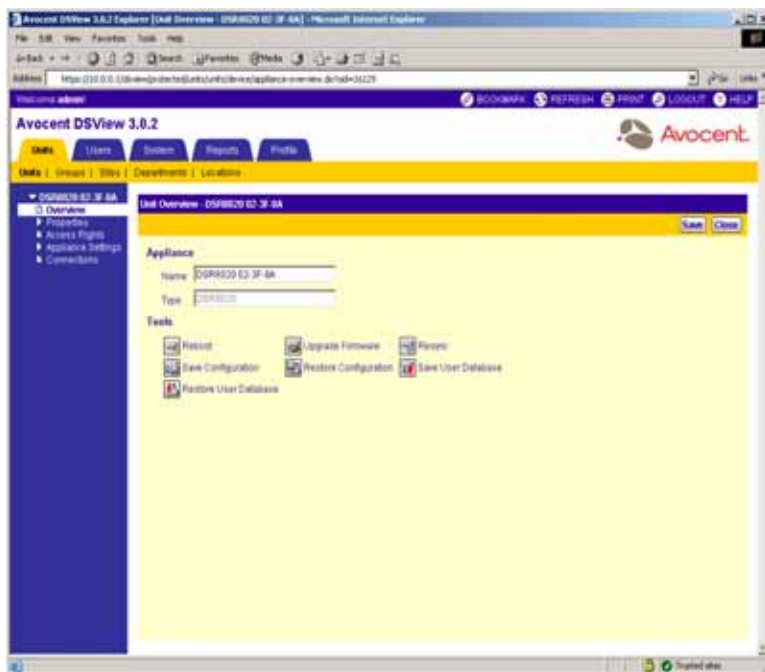


Figure 4.23: Unit Overview Window (DSR Switches and CPS Appliances)

NOTE: The Unit Overview window for DS1800 digital switches and DSR1161, DSR2161, DSR4160, DSR800 switches will not contain the Save User Database or Restore User Database task buttons.

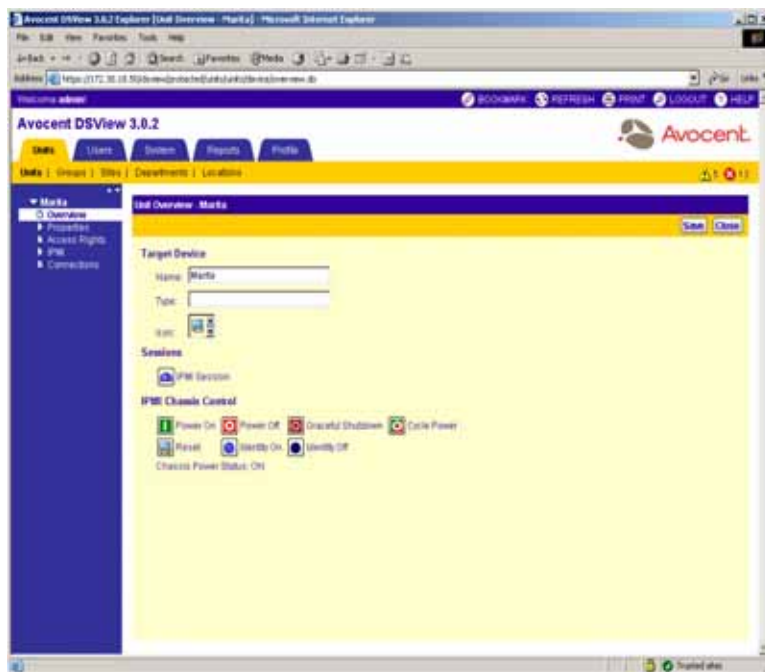


Figure 4.24: Unit Overview Window target devices with a DSI5100 Appliance Connection

NOTE: Other icons may appear in the Unit Overview window for a target device with a DSI5100 appliance connection, based on the connections to the target device.

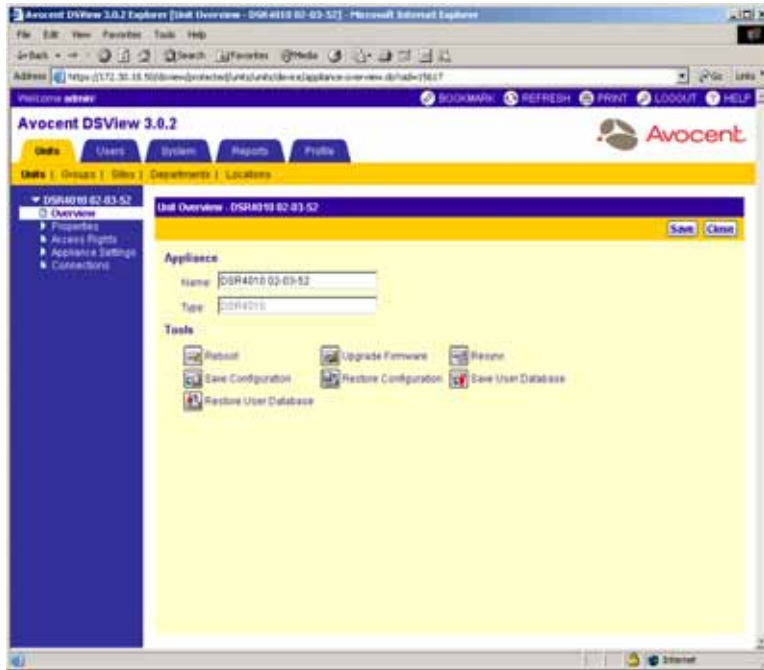


Figure 4.25: Unit Overview Window (DSR Switches and CPS Appliances)

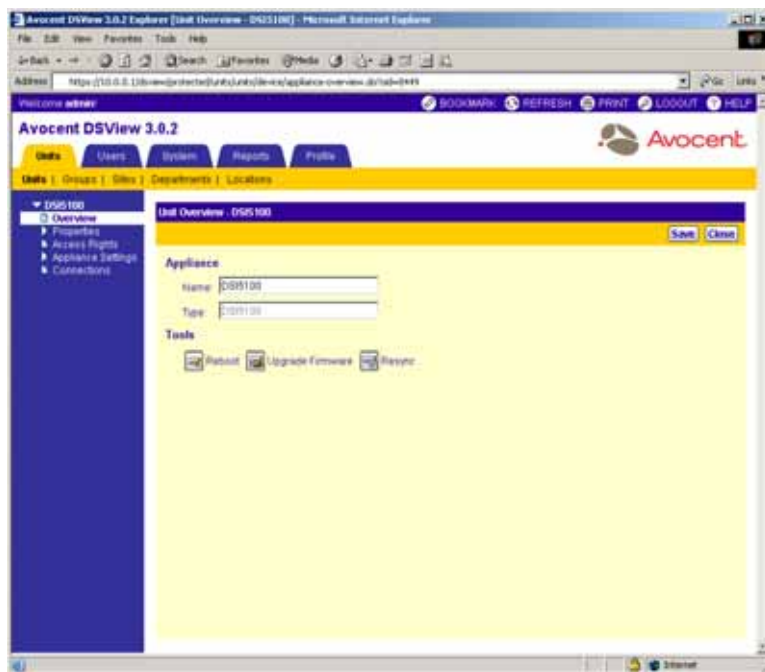


Figure 4.26: Unit Overview Window (DSI1500 Appliances)

To modify target device overview information:

1. From the side navigation bar, click *Overview*. The Unit Overview window will appear.
2. Type a name for the target device.
3. Type a new type for the target device.
4. Choose a new icon for the target device using the arrows.
5. Click *Save*.
6. Click *Close*. A Unit Views window will appear including the new name, type and/or icon for the target device. If you added a type and the type has not previously been defined, it will appear beneath target devices in the side navigation bar.

To start a DSView software session with a target device using the Unit Overview window:

1. From the side navigation bar, click *Overview*. The Unit Overview window will appear.
2. Click *Exclusive KVM Session* if you wish to start a DSView software KVM session without allowing others to connect (share) the session. Otherwise, continue to step 3.
3. Click on the icon or name of the type of session you wish to start:
 - *KVM Session* - A Video Viewer window will appear.

- *IPMI Session*- An IPMI Viewer window will appear.
- *Browser Session* - A web browser window will appear.
- *Telnet Session* - A Telnet/SSH applet window will appear.
- *Serial Session* - A Telnet/SSH applet window will appear.

To change the power state of a target device:

NOTE: To change the power state, a DSView software user must have power control privileges and the target must be connected to and powered by an SPC device outlet. See *Modifying unit access rights* on page 182 and *Managing SPC device port settings (CPS appliances and DSR1021, DSR1022, DSR1024, DSR2020, DSR4020 and DSR8020 switches)* on page 202 for more information.

1. From the side navigation bar, click *Overview*. The Unit Overview window will appear.
2. Click the checkbox to the left of the SPC device outlet for which you wish to change the power state.
-or-
Click the checkbox to the left of Connection at the top of the list to select all SPC device outlets listed in the window.
3. Click *On* to power up the SPC device outlets.
-or-
Click the *Off* to power down the SPC device outlets.
-or-
Click *Cycle* to cycle the power (power down and then power up) the target device connected to the SPC device outlet.

To change the name of a managed appliance:

1. From a Unit Views window, click on a managed appliance name. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear.
2. Type a name for the managed appliance.
3. Click *Save*.
4. Click *Close*. The Unit Views window will appear including the new name of the managed appliance.

Modifying unit properties

A number of unit properties may be modified by clicking on a unit name in a Unit Views window, which displays the Unit Overview Window. Clicking a link beneath *Properties* in the side navigation bar will display a list of properties you may modify.

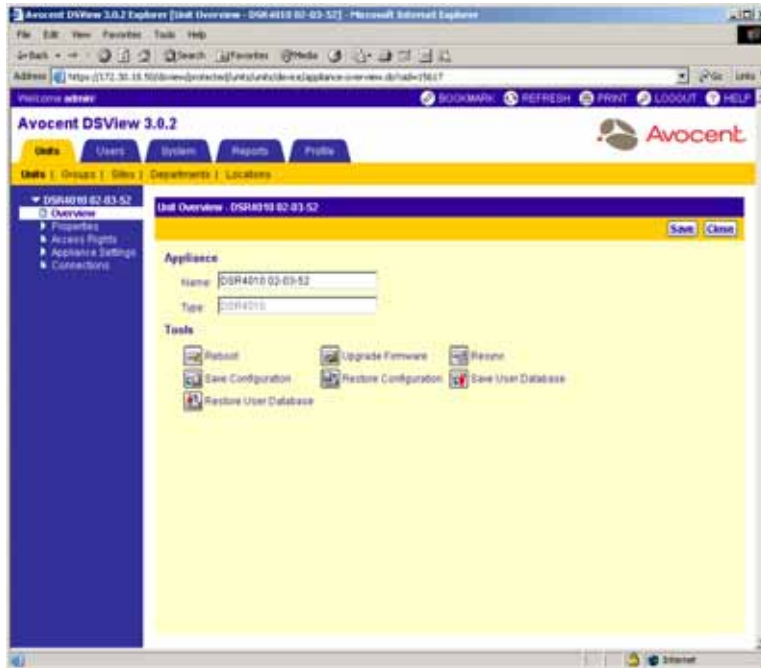


Figure 4.27: Unit Overview Window (DSR Switches and CPS Appliances)

If you have Configure Unit Settings rights on the unit (specified using the Unit Access Rights window) or are a member of the administrators or appliance administrators built-in user groups, you may modify the following properties for a unit:

- Identity
- Location
- Contacts
- Custom Fields
- Notes
- Network

Some properties display by default in a Unit Views window, while others must be displayed by selecting the *Customize* link in the top right corner of the window. See *Using the Customize Link in DSView Management Software Windows* on page 30 for more information on customizing windows.

Modifying unit identity properties

The Identity properties identify a unit and appear in a Unit Views window. Assigning identity properties may be helpful for quickly identifying information about a particular unit.

You may modify the following identity properties:

- The part number
- The serial number
- The model number
- The asset tag number assigned by your organization

NOTE: Identity properties are visual representations only. Defining incorrect information may cause confusion (for example, mistyping a serial number).

To modify the identity properties of a unit:

1. From the side navigation bar, click *Properties*. *Identity* will be automatically selected and the Unit Identification Properties window will appear.

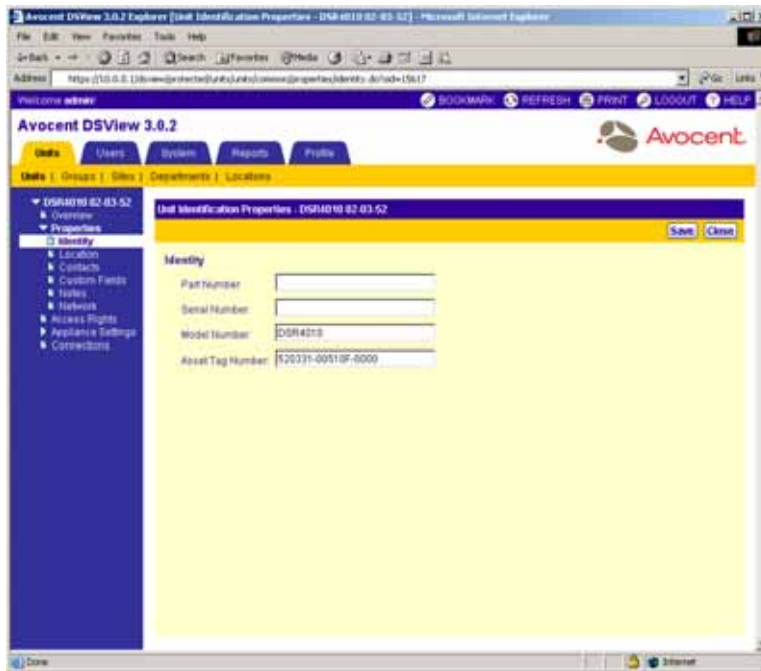


Figure 4.28: Unit Identification Properties Window

2. Type a part number for the unit.
3. Type the serial number for the unit.
4. Type the model number for the unit.
5. Type the asset tag number for the unit.
6. Click *Save* to save your changes.

7. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit location properties

The location properties identify the location of a unit and appear in fields in the Unit Views windows. Assigning location properties may be helpful for quickly identifying where a particular unit is located.

You may modify the following location properties:

- Site (country, city and so on)
- Department (R&D, support and so on)
- Location (floor, room and so on)

NOTE: Location properties are visual representations only. Defining incorrect information may cause confusion (for example, a mistyped room number).

The location properties may be used together to provide a more detailed explanation of where a unit is located. For example, a target device may be located at the Boston site in the accounting department located in room 110.

If no sites, departments or locations are available, they may be added to the DSView software system. See *Managing Units Using Sites* on page 350 for information on adding sites, *Managing Units Using Departments* on page 357 for information on adding departments and *Managing Units Using Locations* on page 362 for information on adding locations.

To modify the location properties of a unit:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Location*. The Unit Location Properties window will appear.

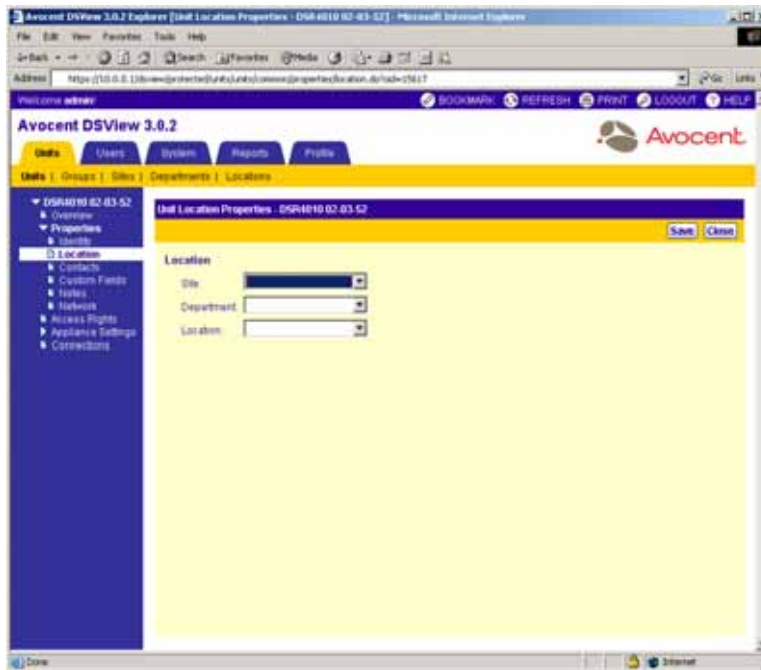


Figure 4.29: Unit Location Properties Window

3. Type or use the drop-down list to select the site where the unit is located.
4. Type or use the drop-down list to select the department where the unit is located.
5. Type or use the drop-down list to select the location where the unit is located.
6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit contact properties

The Contact properties identify the contacts for a unit and appear in the Unit Views window. Assigning contact properties may be helpful for quickly identifying a person to notify if an issue or question arises about a particular unit.

You may modify the following contact properties:

- Primary contact and phone number
- Secondary contact and phone number

NOTE: Contact properties should be kept up-to-date.

To modify the contact properties of a unit:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Contacts*. The Unit Contacts window will appear.

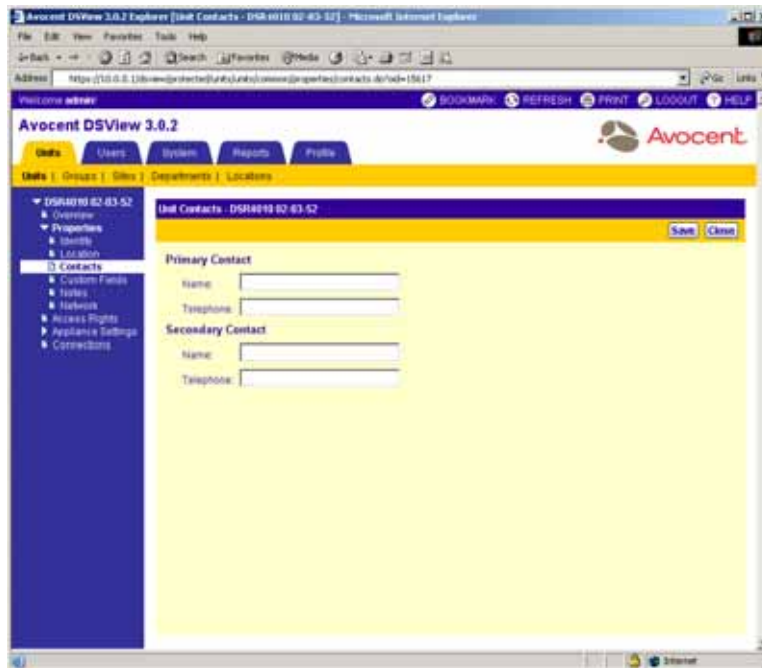


Figure 4.30: Unit Contacts Window

3. Type the name of the primary contact for the unit.
4. Type the phone number of the primary contact for the unit.
5. Type the name of the secondary contact for the unit.
6. Type the phone number of the secondary contact for the unit.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit custom field properties

Three custom fields are provided within the DSView management software. You may specify any information you wish in these fields for display in an Appliances window and the side navigation bar. For example, you may wish to define custom fields such as Program Manager, Building Number and so on. See *Managing Units Using Custom Fields* on page 377 for more information on using custom fields.

To modify the custom fields of a unit:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear.

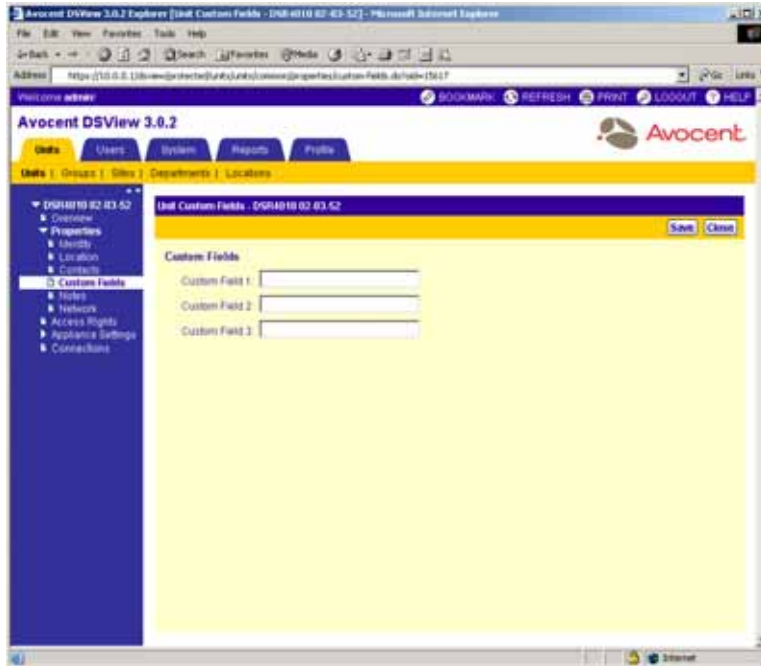


Figure 4.31: Unit Custom Fields Window

3. (Optional) Type the information in each of the custom fields.
4. Click *Save* to save your changes.
5. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit note properties

Note properties include helpful information that you may wish to keep about a unit.

You may modify the following note properties:

- Description
- Accounting
- Comments

To modify the note properties of a unit:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Notes*. The Unit Notes window will appear.

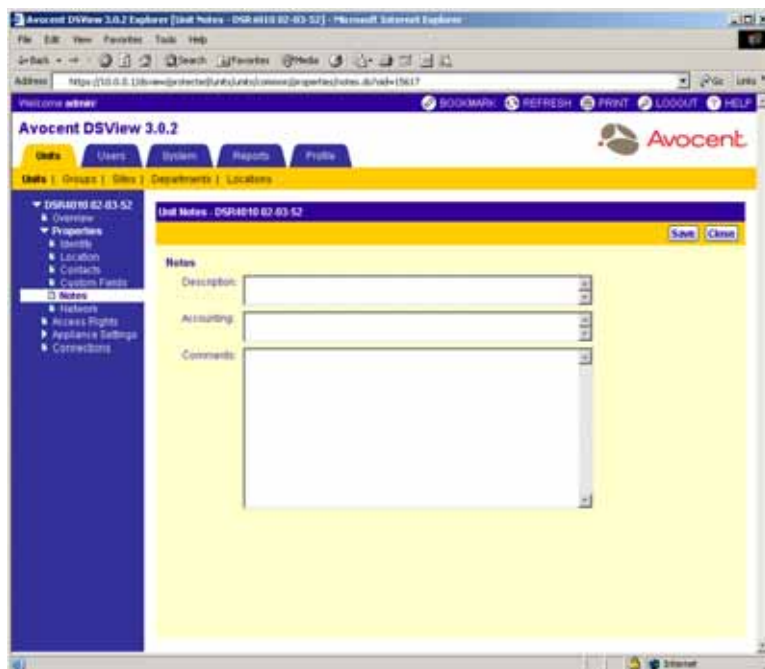


Figure 4.32: Unit Notes Window

3. Type the description information for the unit name.
4. Type the accounting information for the unit name.
5. Type the comments for the unit name.
6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit network properties

Network properties define the network configuration of a managed appliance and appear in the Unit Views window.

You may modify the following unit network properties of units:

- The address or the fully qualified domain name of the unit
- The DSView software server to which the unit is connected

The following additional network properties may be modified for target devices, EVR1500 environmental monitors and generic appliances:

- The Telnet port used for communication with the DSView software server
- The URL used for web browser connections

NOTE: Defining incorrect information may cause network connection errors.

To modify the network properties of a target device:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Network*. The Unit Network Properties window will appear.

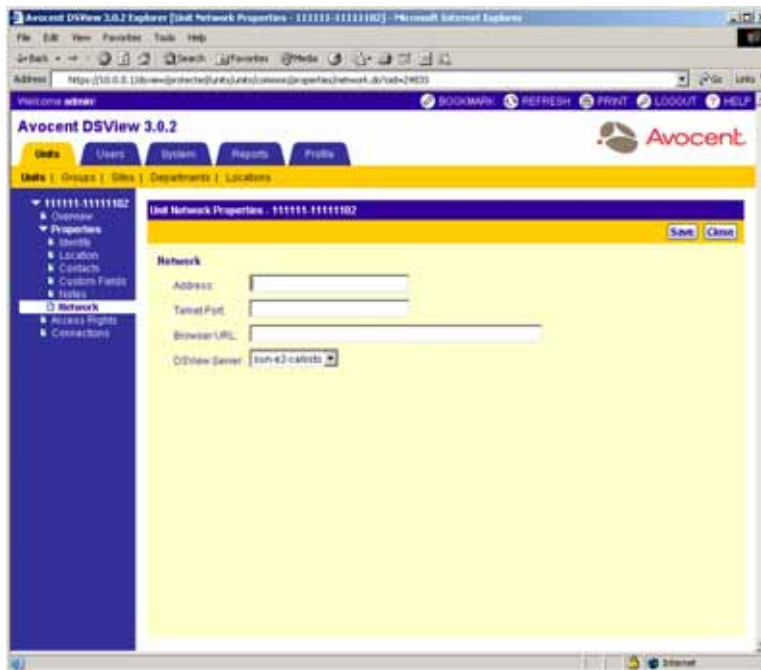


Figure 4.33: Unit Network Properties (target device)

3. Type the address or the fully qualified domain name for the target device.
4. Type Telnet port to use for Telnet connections to the target device. If this field is left blank, Telnet will not be enabled for the target device.
5. Type the URL for a web browser connection to the target device.
6. Select the DSView software server that is in charge of the target device.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear including any modifications.

To modify the network properties of a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Network*. The Unit Network Properties window will appear.

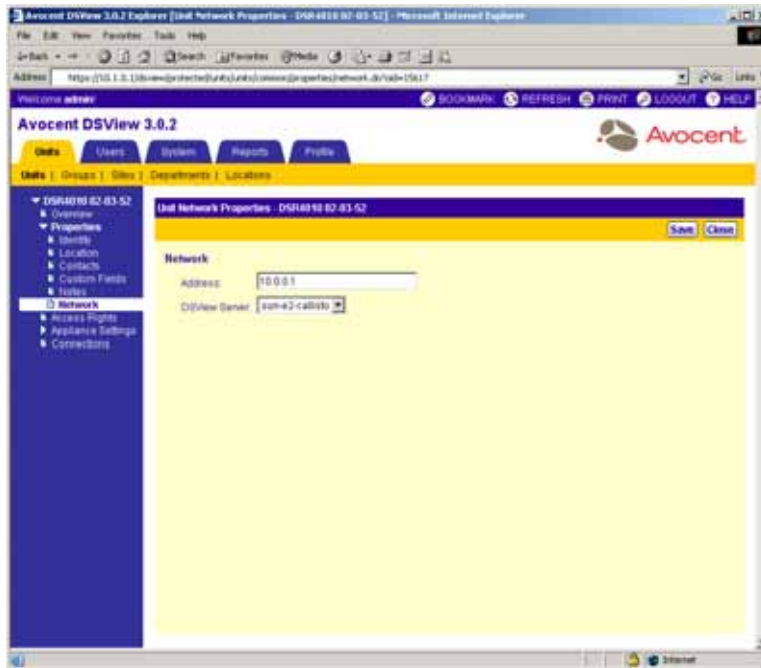


Figure 4.34: Unit Network Properties Window (DSR Switches and CPS Appliances)

3. Type the address or the fully qualified domain name for the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.
4. Select the DSView software server that is in charge of the DS1800 digital switch, CPS appliance or DSR switch.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear including any modifications.

To modify the network properties of an EVR1500 environmental monitor or generic appliance:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Network*. The Unit Network Properties window will appear.

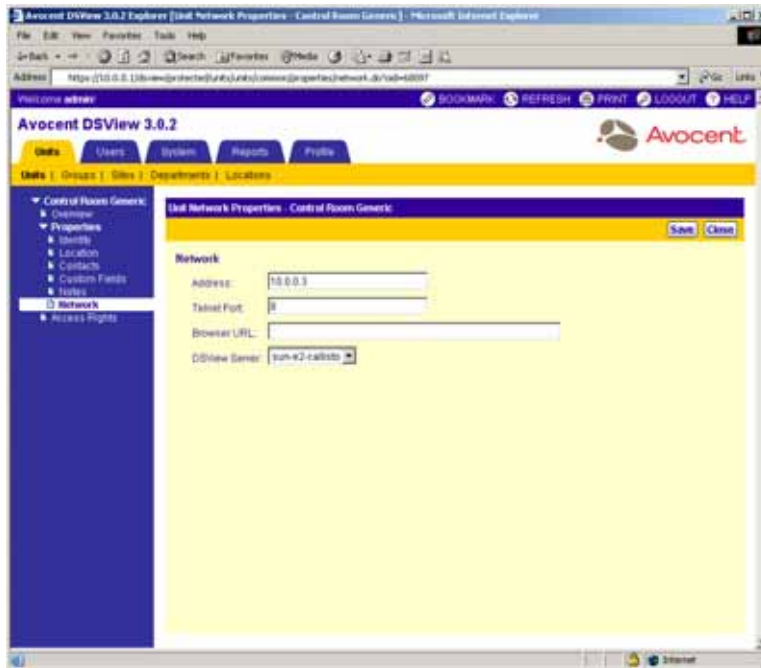


Figure 4.35: Unit Network Properties Window (Generic Appliances)

3. Type the address or the fully qualified domain name for the EVR1500 environmental monitor or generic appliance.
4. Type a Telnet port number for the EVR1500 environmental monitor or generic appliance.
5. Type a web browser address.
6. Select the DSView software server that is in charge of the EVR1500 environmental monitor or generic appliance.

If you are modifying a generic appliance, continue to step 4. If you are modifying an EVR1500 environmental monitor, go to step 7.

7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit access rights

Units are assigned to DSView software users and user groups that determine the actions that may be performed on the units. The Unit Access Rights window enables you to change the group memberships of units.

You may specify whether DSView software users belonging to a particular group have permission to perform the following actions on target devices:

- Establish a Video Viewer session on target devices
- Power up, power down or cycle the power of target devices

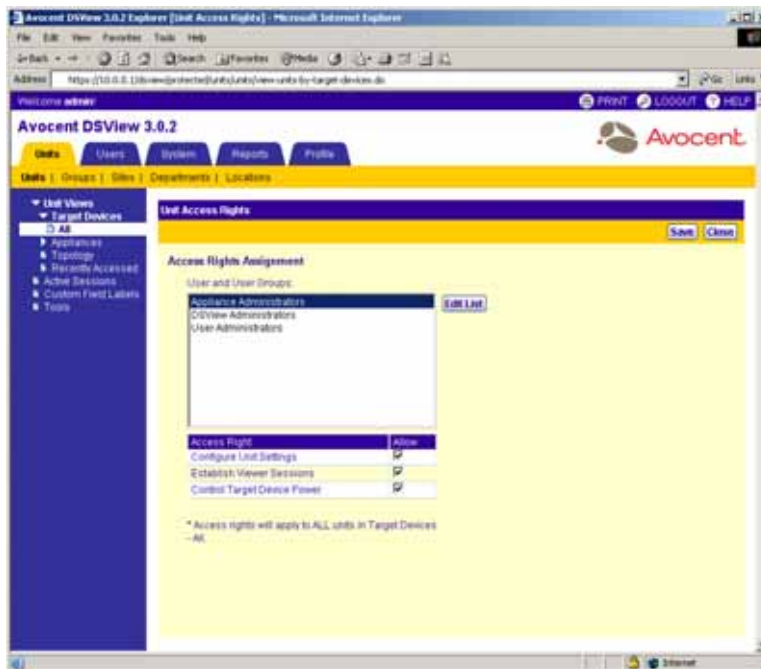


Figure 4.36: Unit Access Rights Window (target devices)

Additionally, you may specify whether a particular DSView software user or user group has or does not have permission to perform the following actions on a DS1800 digital switch, DS15100 or CPS appliance or DSR switch:

- Reboot a DS1800 digital switch, DS15100 or CPS appliance or DSR switch
- Perform FLASH upgrades to a DS1800 digital switch, DS15100 or CPS appliance or DSR switch
- Configure settings for a managed appliance
- Configure local user accounts on a supported DSR switch or CPS appliance

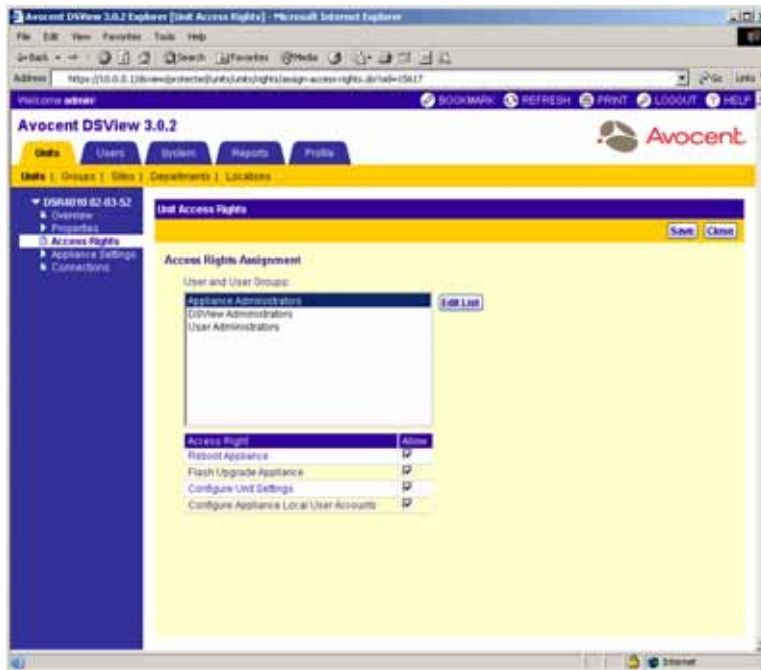


Figure 4.37: Unit Access Rights Window (DS1800 Digital Switches, CPS Appliances and DSR Switches)

Once you have defined the DSView software users and user groups that will have access rights to the unit, you may assign specific access rights. For example, you may allow users to configure settings on a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch, but not allow them to reboot the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch. Instead, you may allow a user who has appliance administrator privileges on the target devices to establish a Video Viewer session, but not allow this user to perform power control operations. Access rights may also be specified for all units in the DSView software system or for a specific unit.

See *Managing DSView Software Users Using User Groups* on page 383 for information on user groups. See *Launching a KVM Session* on page 266 for information on establishing a Video Viewer session, *Modifying unit overview information* on page 164 for information for performing power control using the DSView 3.0.2 Explorer, *Power Controlling Target Devices* on page 294 for information on performing power control using a Video Viewer Window and *Power Controlling target devices (Serial Session Only)* on page 318 for information on performing power control using a Telnet/SSH applet.

To add or remove users and user groups to or from units:

1. From a Unit Views window, click on a unit name to add users or user groups to a single unit. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. Continue to step 2.

-or-

Do not select any checkboxes and click the *Rights* button to add or remove users or user groups to all units in the view. For example, if there are 100 units in the target devices - All window and only 10 are displayed in the view, click *Rights* in the target devices - All window to add users or user groups to all 100 of the target devices. Go to step 3.

-or-

Click the checkboxes next to units in a Unit Views window and then click the *Rights* button to add or remove users or user groups from the selected units. Go to step 3.

2. From the side navigation bar, click *Access Rights*. The Unit Access Rights window will appear.
3. Click *Edit List*. The Unit Access Rights User Selection window will appear.

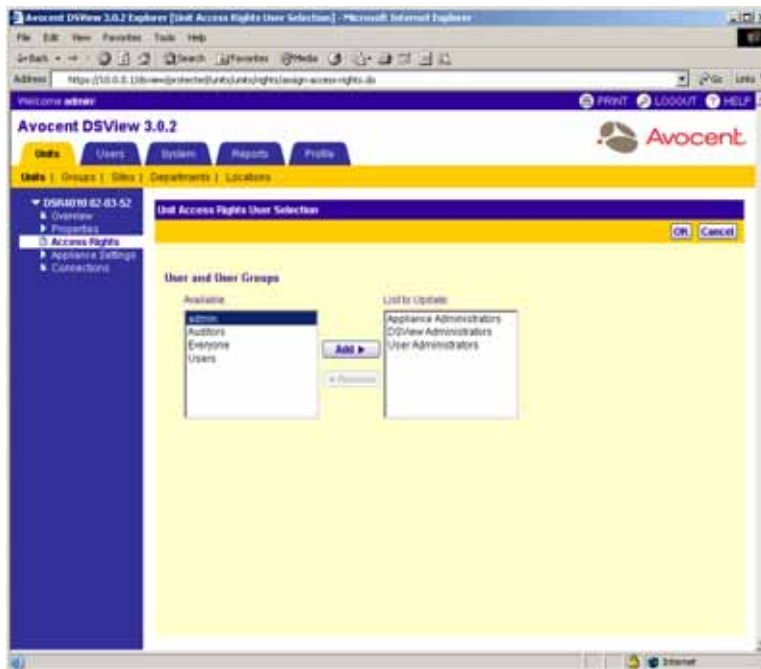


Figure 4.38: Unit Access Rights User Selection Window

4. Add a user or user group:
 - a. Select the user or user group in the Available list. Multiple users and/or user groups may be selected by pressing **Ctrl** while clicking on the column names.
 - b. Click *Add*. The User and User Groups column(s) will be moved to the List to Update list.

-or-

Remove a user or user group:

- a. Select the column you wish to remove from the List to Update list. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.
 - b. Click *Remove*. The User and User Groups column(s) will be moved to the Available list.
5. Click *OK*. The Assign Access Rights window displays either the added DSView software users and/or user groups, or without any removed DSView software user and/or user groups. When a user or user group is added to the user and user group list, default access rights will be displayed in the Unit Access Rights window.
 6. Click *Save* to save your changes.

To modify the access rights of target devices:

1. From a Unit Views window, click on a target device name to change the access rights for a single target device. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. Continue to step 2.

-or-

Click the *Rights* button to change the access rights of all target devices. The Unit Access Rights window will appear. Go to step 3.

-or-

Click the checkboxes next to target devices in a Unit Views window and then click the *Rights* button to change the access rights of the selected target devices. Go to step 3.

2. From the side navigation bar, click *Access Rights*. The Unit Access Rights window will appear.
3. Select a user in the User and User Groups list.
4. Select *Establish Viewer Sessions* to enable the user or members of the user group to establish a Video Viewer session with the target device.
5. Select *Control target device Power* to enable the DSView software user or members of the user group to power up, power down or cycle power to the target device.
6. Repeat steps 3-5 to change access rights for users or user groups.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear and either a KVM Session or Serial Session link will appear in the Action column. A power control option will appear in the Unit Overview window to enable control of target device power.

To modify the access rights of managed appliances:

1. From a Unit Views window, click on a managed appliance name to change the access rights for a single target device. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. Continue to step 2.

-or-

Click the *Rights* button to change the access rights of all managed appliances. The Unit Access Rights window will appear. Go to step 3.

2. From the side navigation bar, click *Access Rights*. The Unit Access Rights window will appear.
3. Select a user in the User and User Groups list.
4. Click *Reboot Appliance* to enable the user or members of the user group to reboot a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.
5. Click *Flash Upgrade Appliance* to enable the user or members of the user group to upgrade the appliance firmware of a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.
6. Click *Configure Unit Settings* to enable user or members of the user group to configure settings on a managed appliance.
7. Click *Configure Appliance Local User Accounts* to enable the user or members of the user group to configure the account information of local users existing for the DS1800 digital switch, CPS appliance or DSR switch.

NOTE: Local user accounts are not supported on DS1800 digital switches or DSR1161, DSR2161, DSR4160 or DSR800 switches and Configure Appliance Local User Accounts will not appear in the Unit Access Rights window for these appliances and switches.

NOTE: The DSI1500 appliance does not contain local user accounts.

8. Repeat steps 3-7 to change access rights for users or user groups.
9. Click *Save* to save your changes.
10. Click *Close*. The Unit Views window will appear.

Modifying managed appliance settings

Use the Appliance Settings in the side navigation bar to specify or view the following network settings for a DS1800 digital switch, CPS appliance or DSR switch:

- Network Settings
- Authentication Server
- SNMP settings, including enabling SNMP, the IP addresses of service managers and destinations and community names
- Version numbers of DS1800 digital switch, CPS appliance or DSR switch software and firmware
- Port management, including upgrading of DSRIQ modules, cascade switches, SPC devices and mode OSCAR interface authentication
- Session management, including modifying settings, viewing and disconnecting sessions and specifying global macros
- Adding, removing and modifying the local CPS appliance or supported DSR switch account

The following appliance settings may be specified for a DSI1500 appliance:

- Version number of DSI5100 hardware and firmware
- DSI5100 appliance port management, including adding and deleting BMCs

To display the list of available appliance settings in the side navigation bar, click on a managed appliance name in the Unit Views window and then click *Appliance Settings*.

Modifying DS1800 digital switch, CPS appliance and DSR switch network settings

Network settings are read directly from a DSR switch or CPS appliance and include, among other settings, the IP address, subnet and gateway of the DS1800 digital switch, CPS appliance or DSR switch.

NOTE: The MAC address may not be modified.

To modify the network settings of a DS1800 digital switch, CPS appliance or DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings in the side navigation bar, click *Network*. The Appliance Network Settings window will appear.

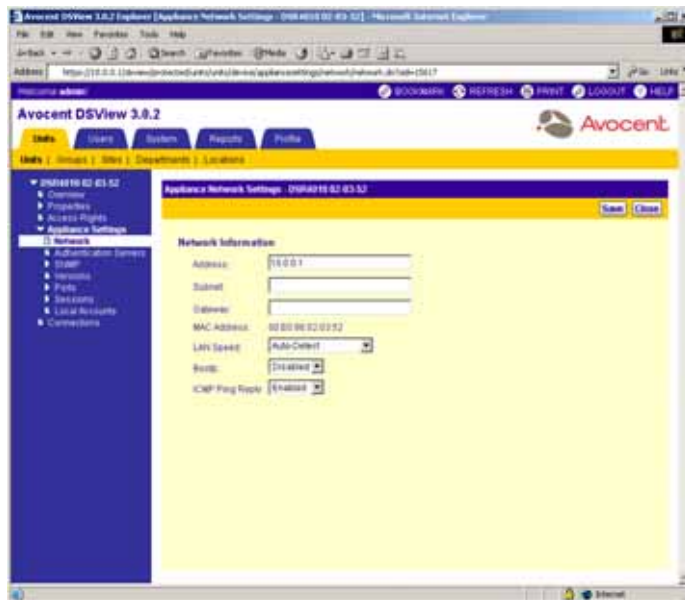


Figure 4.39: Appliance Network Settings Window (DS1800 Digital Switch or DSR Switch)

3. Type a new IP address, in standard dot notation (xx.xx.xx.xx), for the DS1800 digital switch, CPS appliance or DSR switch.
4. Type a new subnet, in standard dot notation (xx.xx.xx.xx), for the DS1800 digital switch, CPS appliance or DSR switch.

5. (Optional) Type a new gateway, in standard dot notation (xx.xx.xx.xx), for the DS1800 digital switch, CPS appliance or DSR switch.
If you are modifying the network properties of a DS1800 digital switch or DSR switch, continue to step 6.
If you are modifying the network properties of a CPS appliance, go to step 8.
6. Use the drop-down menu to specify a LAN speed.
7. Use the drop-down menu to specify if you wish for DHCP (DS1800 digital switches and DSR switches) or BOOTP (CPS appliances) to be enabled or disabled.
8. Use the drop-down menu to specify if you wish ICMP ping reply to be enabled or disabled.
9. Click *Save* to save your changes.
10. Click *Close*. The Unit Views window will appear.

Modifying managed appliance authentication server settings

The authentication server settings specify the IP addresses of the servers used for authentication. You may define the addresses of up to four servers.

To define the IP addresses of authentication servers for a DS1800 digital switch, CPS appliance or DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings in the side navigation bar, click *Authentication Servers*. The Appliance Authentication Servers Settings window will appear.

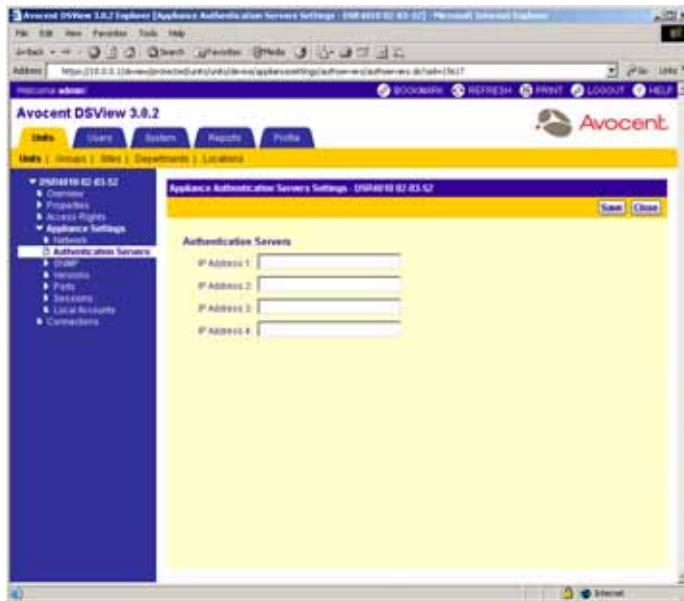


Figure 4.40: Appliance Authentication Servers Settings Window

3. Type an IP address, in standard dot notation (xx.xx.xx.xx), for up to four authentication servers.
4. Click *Save* to save your changes.
5. Click *Close*. The Unit Views window will appear.

Modifying DS1800 digital switch, CPS appliance or DSR switch SNMP settings

The SNMP appliance settings allow the DSView management software to be configured to log enterprise (SNMP) traps sent by DS1800 digital switches, CPS appliances and DSR switches. An SNMP trap is a notification sent by a DS1800 digital switch, CPS appliance or DSR switch to a host system indicating that an event has occurred in the DS1800 digital switch, CPS appliance or DSR switch that may require further attention.

SNMP is a protocol used to communicate management information between network management applications and DS1800 digital switches, CPS appliances and DSR switches using TCP/IP and IPX protocols. Other external SNMP managers (such as Tivoli® and HP OpenView) may communicate with your DS1800 digital switches, CPS appliances and DSR switches by accessing MIB-II (Management Information Base) and the public portion of the enterprise MIB. MIB-II is a standard MIB that many SNMP target devices support. DS1800 digital switches, CPS appliances and DSR switches will send their traps directly to the external SNMP manager in addition to sending it to the server.

When you access a DS1800 digital switch, CPS appliance or DSR switch for the first time, the software will retrieve the SNMP parameters from the DS1800 digital switch, CPS appliance or DSR switch.

DS1800 digital switches, CPS appliances DSR switches are defined in the DSView management software using the following settings, which appear beneath SNMP in the side navigation bar:

- System - Allows SNMP to be enabled or disabled
- Managers - Specifies which stations may manage the DS1800 digital switch, CPS appliance or DSR switch
- Community - The communities to which the traps belong
- Destinations - The stations which may receive SNMP traps from the switch
- Traps - Lists all available traps and allows the traps to be enabled or disabled

If you select *System* beneath SNMP in the side navigation bar and then select *Enabled* from the Enable SNMP drop-down menu in the Appliance SNMP System Settings window, the DS1800 digital switch, CPS appliance or DSR switch will log SNMP received messages over UDP (User Datagram Protocol) port 162.

The traps must be configured on each DS1800 digital switch, CPS appliance and DSR switch using the Command Line Interface (CLI). The address of the server running the DSView management software must be configured as a trap recipient, the proper community must be set and each desired trap must be enabled.

All SNMP traps are logged in the audit log file. See *Working with Audit Logs* on page 477 for more information.

To enable or disable SNMP system settings for a DS1800 digital switch, CPS appliance or DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *SNMP*. *System* is automatically selected in the side navigation bar and the Appliance SNMP System Settings window will appear.

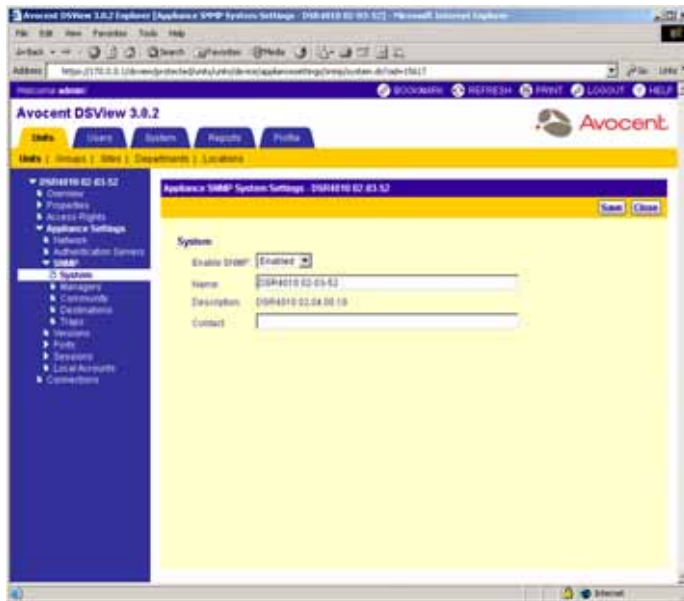


Figure 4.41: Appliance SNMP System Settings Window

3. Select *Enabled* in the Enable SNMP drop-down menu to specify logging of SNMP traps over UDP port 161.
4. If you wish, modify the name and description of the DS1800 digital switch, CPS appliance or DSR switch and type a contact in the fields.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear.

To enable or disable SNMP manager settings for a DS1800 digital switch, CPS appliance or DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *SNMP*.
3. Under SNMP, click *Managers*. The Appliance SNMP Manager Settings window will appear.

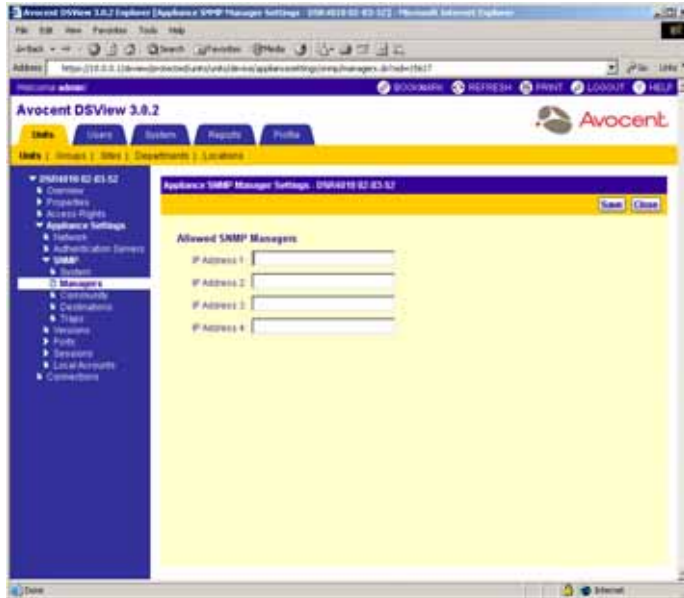


Figure 4.42: Appliance SNMP Manager Settings Window

4. Type the IP addresses, in standard dot notation (xx.xx.xx.xx), for up to four SNMP managers.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear.

To specify SNMP community settings for a DS1800 digital switch, CPS appliance or DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *SNMP*.
3. Under SNMP, click *Community*. The Appliance SNMP Community Settings window will appear.

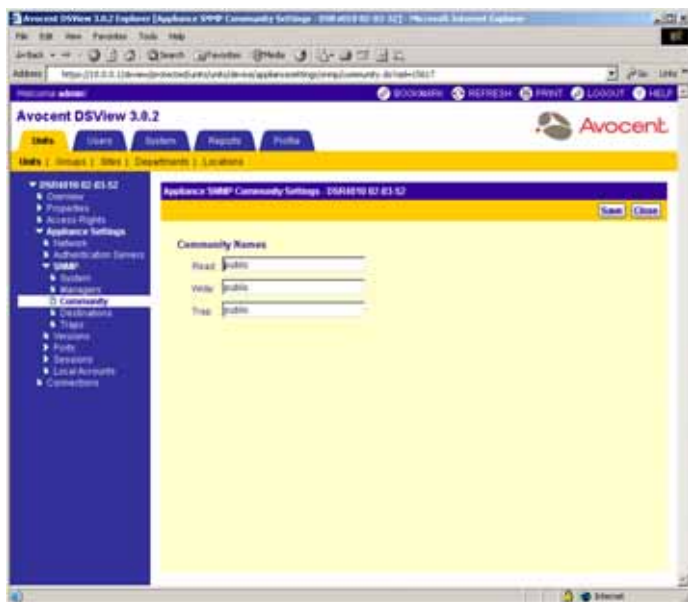


Figure 4.43: Appliance SNMP Community Settings Window

4. Type the SNMP community name for reading.
5. Type the SNMP community name for writing.
6. Type the SNMP community name for SNMP traps.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear.

To specify SNMP destination settings for a DS1800 digital switch, CPS appliance or DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *SNMP*.
3. Under SNMP, click *Destinations*. The Appliance SNMP Destination Settings window will appear.

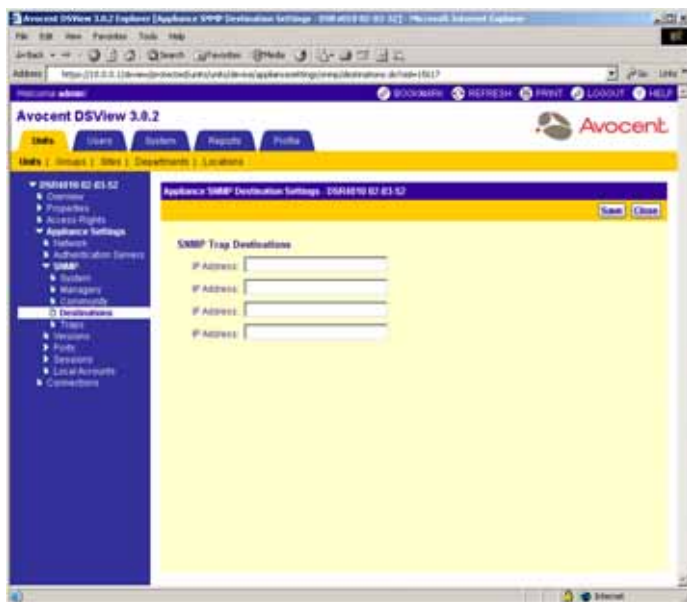


Figure 4.44: Appliance SNMP Destination Settings Window

4. Type the IP addresses, in standard dot notation (xx.xx.xx.xx), for up to four SNMP destinations.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear.

To enable or disable SNMP traps for a DS1800 digital switch, CPS appliance or DSR switch:

NOTE: SNMP traps may also be configured from a system task. See *Managing Tasks* on page 433 for more information.

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *SNMP*.
3. Under SNMP, click *Traps*. The Appliance SNMP Trap Settings window will appear.

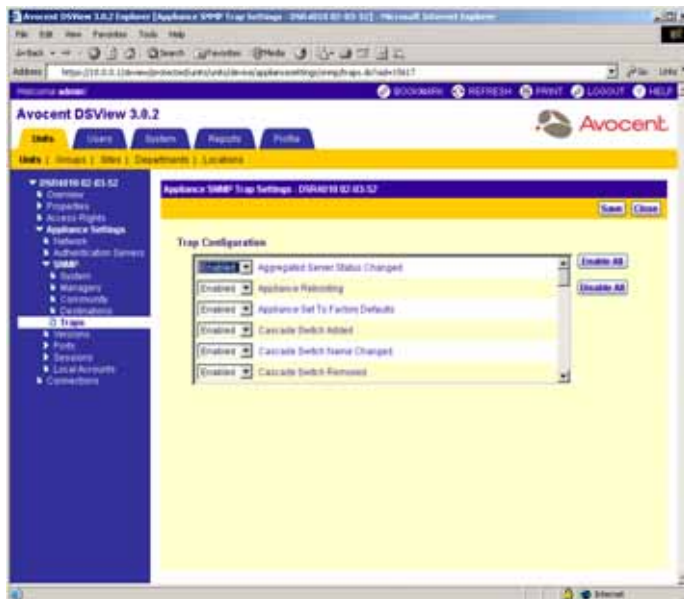


Figure 4.45: Appliance SNMP Trap Settings Window

4. Modify the state of each SNMP trap by selecting one of the following from the drop-down menu:
 - Select *Enabled* to turn the trap on.
 - Select *Disabled* to turn the trap off.

-or-

Click one of the following buttons:

 - Click *Enable All* to turn all traps on.
 - Click *Disable All* to turn all traps off.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear.

Displaying DS1800 digital switch, DSI5100 or CPS appliance or DSR switch version information

Clicking on the *Versions* link below Appliance Settings in the side navigation bar displays the following DS1800 digital switch, DSI5100 or CPS appliance or DSR switch information:

- For DS1800 digital switches and DSR switches - Application, Boot and to enable the Video FPGA versions
- For DSR switches except the DSR4160 switch - OSCAR FPGA
- For DSI5100 appliances - DSI5100 application and boot versions
- For CPS appliances - Bootstrap and Application versions

To display version information for a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Versions*. The Appliance Version Information window will appear.

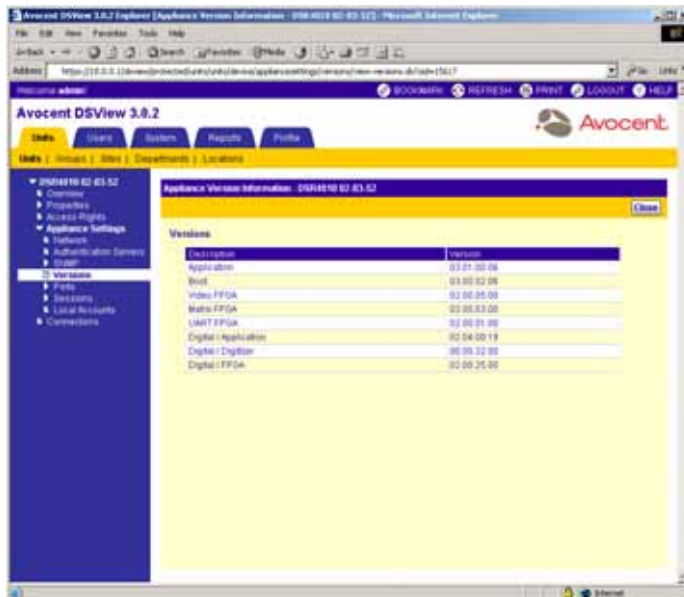


Figure 4.46: Appliance Version Information Window (DSR Switch)

3. Click *Close*. The Unit Views window will appear.

Modifying DS1800 digital switch, CPS appliance or DSR switch port settings

Table 4.3 provides the port settings that you can set to view or modify DS1800 digital switches, IQ modules, CPS appliances and the DSR switches.

Table 4.3: Port Settings for Digital Switches, DSR Switches, IQ Modules and CPS Appliances

Hardware Type	DSView Software Port Setting
DS1800 digital switch	Cascade switches
DSR switch	- Cascade switches port - IQ modules (DSRIQ module, AVRIQ module)
DS1800 digital switch, DSR4160 switch CPS810 appliance, CPS1610 appliance	OSCAR
DSR1022, DSR2020, DSR1012, DSR1022, DSR1024, DSR2020, DSR8020 switch	- Modem - IQ modules (DSRIQ module, AVRIQ module)
CPS appliances and DSR4020, DSR2020, DSR1021, DSR1022, DSR1024, DSR2020 and DSR8020 switches	SPC - See <i>Managing SPC device port settings (CPS appliances and DSR1021, DSR1022, DSR1024, DSR2020, DSR4020 and DSR8020 switches)</i> on page 202 for information on modifying SPC device port settings.
CPS appliances	- Serial - CLI

:To delete offline DSRIQ modules (DSR switches only):

NOTE: Any offline module will appear with a red circle and an "X" to the left of its EID. An online module will appear with a green circle to the left of its EID.

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*. *IQ Modules* is automatically selected in the side navigation bar and the Appliance IQ Modules window will appear.

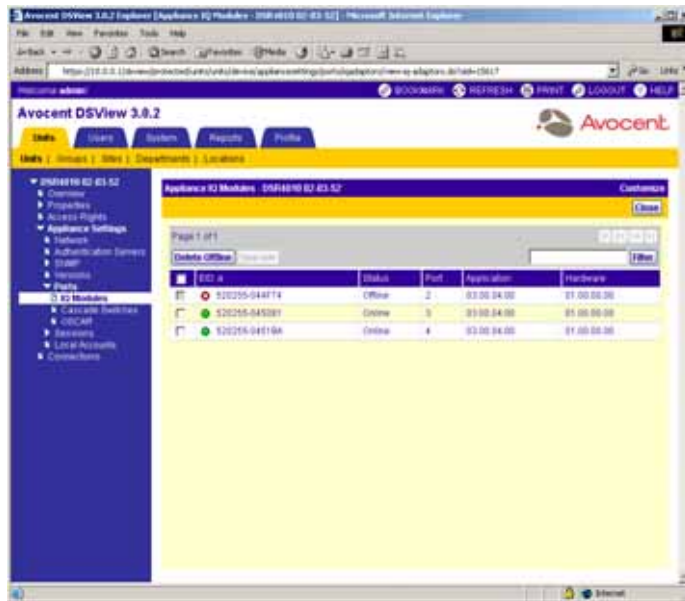


Figure 4.47: Appliance IQ Modules Window

3. Click *Delete Offline*. A confirmation dialog box will appear.
4. Click *Yes* to delete the DSRIQ modules.

-or-

Click *No* to cancel the action.

To upgrade DSRIQ modules (DSR switches only):

NOTE: Offline DSRIQ modules may not be selected for upgrading.

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*. *IQ Modules* is automatically selected in the side navigation bar and the Appliance IQ Modules window will appear.
3. Click the checkbox to the left of the DSRIQ modules you wish to upgrade.

-or-

Click the checkbox to the left of EID at the top of the list to select all DSRIQ modules listed in the window for upgrading.

4. Click *Upgrade*. A confirmation dialog box will appear.
5. Click *OK* to upgrade the DSRIQ modules. A yellow LED icon will appear to the left of the upgrading modules. You may click on the name of a DSRIQ module in the EID column to view its upgrade status in the Appliance Settings - Ports - IQ Modules - Settings window.

When the upgrade is completed, a green circle will appear next to the modules and they may once again be selected.

-or-

Click *Cancel* to cancel the action.

To view cascade switch port settings (DS1800 digital switches and DSR switches only):

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*.
3. Under *Ports*, click *Cascade Switches*. The Appliance Cascade Switches window will appear.

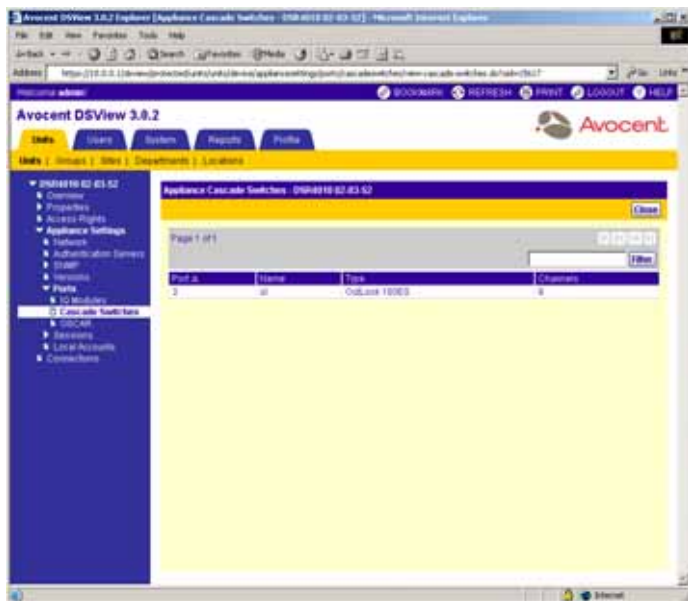


Figure 4.48: Appliance Cascade Switches Window

4. Click *Close* when you are finished. The Unit Views window will appear.

To modify local OSCAR interface authentication settings (all DSR switches except DSR4160):

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*.
3. Under *Ports* click *OSCAR*. The Appliance OSCAR Settings window will appear.

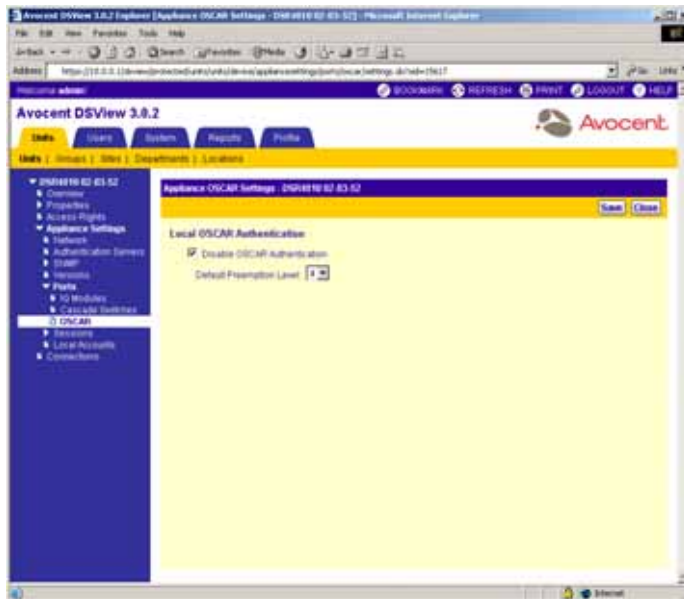


Figure 4.49: Appliance OSCAR Settings Window

4. Click *Disable OSCAR Authentication* to prevent the supported DSR switch from performing internal or external authentication.

NOTE: If the Disable OSCAR Authentication checkbox is not selected, the supported DSR switch will attempt external authentication using the list of authentication servers that reside in the switch. If the authentication fails, the supported DSR switch uses its internal user tables.

If you selected *Disable OSCAR Authentication*, continue to step 5.

-or-

If you did not select *Disable OSCAR Authentication*, go to step 6.

5. From the drop-down menu, specify a preemption level for the supported DSR switch (1-4).
6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear.

NOTE: The Disable OSCAR Authentication checkbox does not appear in the Appliance OSCAR Settings window for DSR1161, DSR2161 and DSR800 switches, since these switches do not support OSCAR authentication.

To modify modem port settings (DSR1021, DSR1022, DSR1024, DSR1020, DSR2020, DSR4020 and DSR8020 switches):

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*.
3. Under Ports, click *Modems*. The Appliance Modem Settings window will appear.



Figure 4.50: Appliance Modem Settings Window

4. Select *Modem sessions can preempt digital sessions* to enable a modem session to disconnect an existing Ethernet connection to the supported DSR switch.
5. Type an authentication time-out for the modem in the range of 30-300 seconds.
6. Type an inactivity time-out for the modem connection in the range of 1-60 minutes.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear.

Managing SPC device port settings (CPS appliances and DSR1021, DSR1022, DSR1024, DSR2020, DSR4020 and DSR8020 switches)

SPC devices and their outlets are managed using the SPC Port Appliance setting. If an SPC device is online, you may choose to view or customize settings or perform power control operations.

NOTE: When using an SPC device with a CPS appliance, you must specify that the CPS appliance serial port is configured as an SPC device port. See *Managing serial port settings (CPS appliances only)* on page 208 for more information.

To modify an SPC device, you must first click on the name of the managed appliance to which it is attached in the Unit Views window. All SPC devices associated with the supported DSR switch or CPS appliance will appear in the SPC Devices Attached to Appliance window.

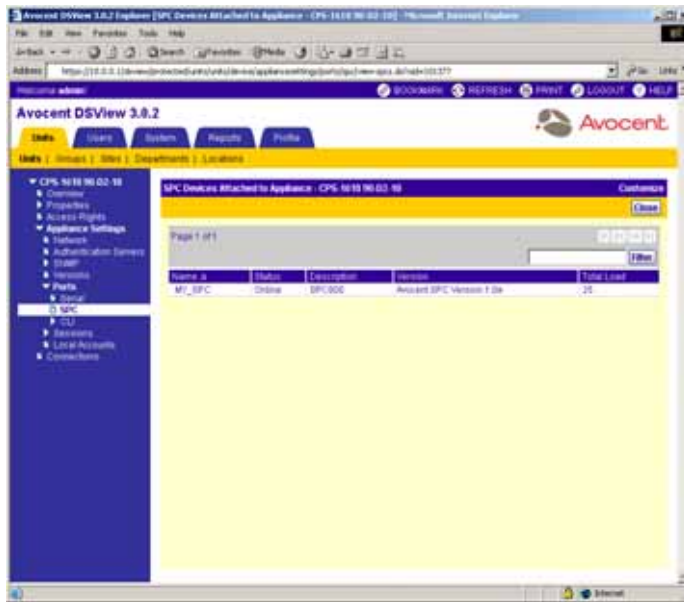


Figure 4.51: SPC Devices Attached to Appliance Window

Click on an SPC device to modify the device itself or individual SPC device outlets using the links in the side navigation bar. Settings for the entire SPC device may be modified by clicking *Appliance Settings* in the side navigation bar, which displays the SPC Settings window. Individual SPC device outlets may be modified by clicking *Sockets* in the side navigation bar and displaying the SPC Sockets window.

NOTE: Target devices attached to the supported DSR switch or CPS appliance are not rebooted.

Customizing the SPC Devices Attached to Appliance window

By default, the following fields display in the Devices Attached to Appliance window. Select the *Customize* link to remove these fields.

- Description - Displays the model of SPC device, such as SPC800 and so on.
- Version - Displays the version of the SPC device, such as Avocent SPC Version 1.0k and so on.
- Total Load - Displays the total, in AMPs, currently in use by the SPC device.

Select the *Customize* link to display the following fields. These fields are not displayed by default.

- Poll rate - Displays how often a supported DSR switch or CPS appliance polls an SPC device.
- Ports Installed - Displays the total number of outlets on an SPC device.
- Total Load Max - Displays the maximum AMP load for the entire SPC device.
- Total Load Min - Displays the minimum AMP load for the entire SPC device.

For more information on using the *Customize* link, see *Using the Customize Link in DSView Management Software Windows* on page 30.

Customizing the SPC Sockets window

By default, the following fields display in the SPC Sockets window and may be removed using the *Customize* link:

- Power - Displays whether an SPC device outlet is powered up or powered down.
- Control - Displays the status of the relay (which controls the physical power to the outlet) in comparison to the controller (which controls the relay). The relay and controller are typically in sync. If either the relay or the controller fails, one of the following will appear:
 - On
 - Off
 - Pend On
 - Pend Off
 - Reboot
 - Pend Reboot
- Module - Displays the current status of the SPC device outlet in relation to the status in the DSView management software as follows:
 - Normal - The state of the SPC device outlet matches the state detected in the software.
 - On Fail - The software detects that the SPC device outlet is powered down, but is powered up.

- Off Fail - The software detects that the SPC device outlet is powered up, but the SPC device outlet is powered down.
- No Response - The software is not receiving a response from the SPC device outlet.
- Minimum On (Seconds) - Displays the minimum amount of time that the SPC device outlet will be powered up.
- Minimum Off (Seconds) - Displays the minimum amount of time that the SPC device outlet will be powered down.

Wake - Displays the wake-up state of the SPC device outlet. The wake-up state indicates the state that the port will go into when the SPC device is powered up during normal operation or when power is restored after an outage. When power is first supplied to the SPC device, all outlets are initially off. The ports are then sequenced on in 2-second increments. Outlets set to a wake-up state of Off will remain off. Outlets set to a wake-up state of On will be turned on (waken from its sleep state).

For information on using the Customize link, see *Using the Customize Link in DSView Management Software Windows* on page 30.

To view or customize SPC device settings:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*.
3. Under Ports, click *SPC*. The SPC Devices Attached to Appliance window will appear.
4. Click on the name of an SPC device. *Settings* will be automatically selected in the side navigation bar and the SPC Settings window will appear. The name of the SPC device will also appear under the supported DSR switch or CPS appliance name in the side navigation bar.

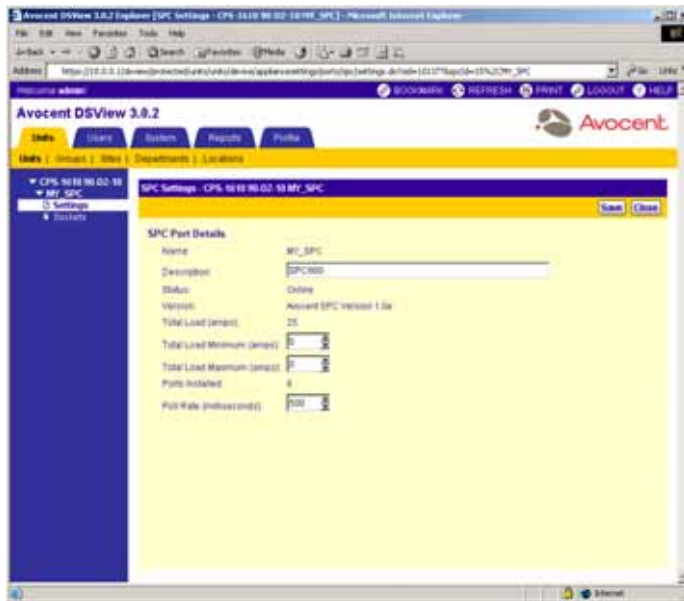


Figure 4.52: SPC Settings Window

5. Type a new description for the SPC device.
6. Type a new total minimum load for the SPC, in amps, or use the arrow buttons to specify a new value.
7. Type a new total maximum load for the SPC, in amps, or use the arrow buttons to specify a new value.
8. Type a polling rate in milliseconds, or use the arrow buttons to specify a new value.
9. Click *Save* to save your changes.
10. Click *Close*. The SPC Devices Attached to Appliances window will appear.
11. Click *Close*. The Unit Views window will appear.

To view or customize SPC device outlet settings:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*.
3. Under Ports, click *SPC*. The SPC Devices Attached to Appliance window will appear.
4. Click on the name of an SPC device. *Settings* will be selected in the side navigation bar and the SPC Settings window will appear. The name of the outlet and SPC device will also appear under the supported DSR switch or CPS appliance name in the side navigation bar.
5. From the side navigation bar, click *Sockets*. The SPC Sockets window will appear.

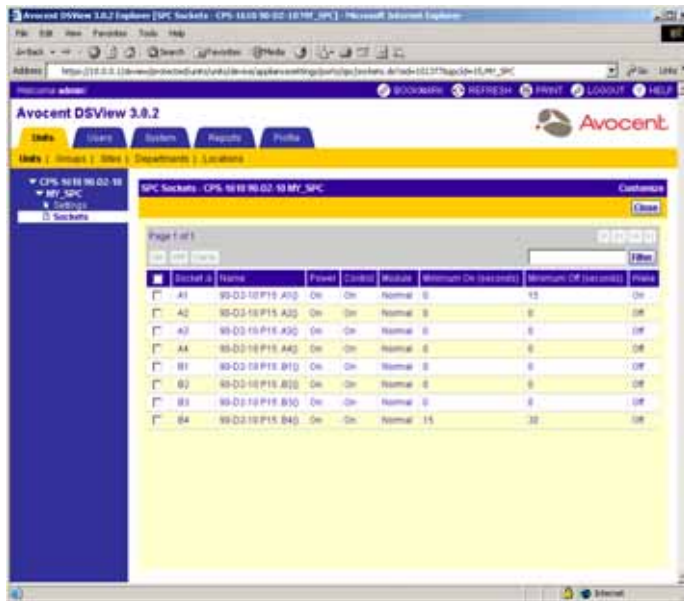


Figure 4.53: SPC Sockets Window

NOTE: When the IP address of a supported DSR switch or CPS appliance attached, in this case, to an SPC device outlet has been modified, it may be necessary to reboot the supported DSR switch or CPS appliance. The software will display a Reboot Required icon in the top left corner of the SPC Sockets window. Click the icon to reboot the supported DSR switch or CPS appliance.

- Click on an SPC socket. The SPC Socket Settings window will appear and the name of the socket will appear under the SPC device in the side navigation bar.

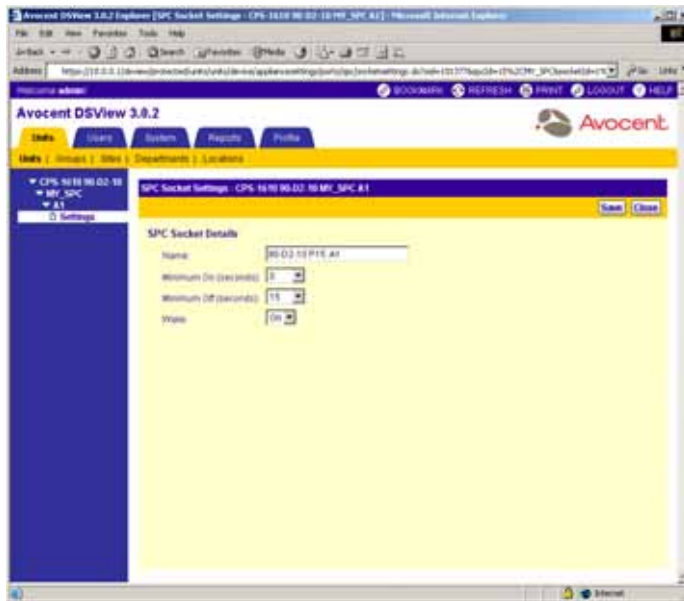


Figure 4.54: SPC Socket Settings Window

7. Type a new name for the socket.
8. From the drop-down menu, specify the minimum amount of time that the SPC socket should be powered up.
9. From the drop-down menu, specify a minimum amount of time that the SPC socket should be powered down.
10. From the drop-down menu, specify whether you wish to enable wake-up for the SPC device outlet.
11. Click *Save* to save your changes.
12. Click *Close*. The SPC Sockets window will appear.
13. Click *Close*. The SPC Devices Attached to Appliance window will appear.
14. Click *Close*. The Unit Views window will appear.

To power up, power down or cycle the power of an SPC device outlet:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*.
3. Under Ports, click *SPC*. The SPC Devices Attached to Appliance window will appear.
4. Click on the name of an SPC device. *Settings* will be selected in the side navigation bar and the SPC Settings window will appear. The name of the outlet and SPC device will also appear beneath the supported DSR switch or CPS appliance name in the side navigation bar.

5. Click *Sockets*. The SPC Sockets window will appear.
6. Click the checkbox to the left of the SPC device outlets you wish to power up, power down or cycle power.
-or-
Click the checkbox to the left of Socket at the top of the list to select all SPC device outlets listed in the window for powering up, powering down or cycling power.
7. Click *On* to power up the selected SPC device outlets. The Power column will display On.
-or-
Click *Off* to power down the selected SPC device outlets. The Power column will display Off.
-or-
Click *Cycle* to cycle the power (power down and then power up) of the selected SPC device outlets. The Power columns will display Off and On and the Control columns will display Cycling while power is cycling. When power cycling is completed, the Power and Cycling columns will display On.

Managing serial port settings (CPS appliances only)

Serial port settings must be defined for CPS appliances so that the appliance may connect to an SPC device or a console. When you click *Serial* in the side navigation bar, the Appliance Serial Ports window will appear. You may click on a serial port in this window to access the settings.

Customizing the Appliance Serial Ports window

By default, the following fields display in the Appliance Serial Ports window and may be removed selecting the *Customize* link:

The following appear in the Properties - Serial Ports window:

- Port - Displays the serial port number
- Name - Displays the name of the serial port
- Type - Displays the type of port (CLI, SPC or Standard)
- Baud - Displays the baud rate of the serial port
- Data Bit - Describes the data bit rate of the serial port

For information on using the *Customize* link, see *Using the Customize Link in DSView Management Software Windows* on page 30.

To view or customize the general properties for a CPS appliance serial port:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*.
3. Under Ports, click *Serial*. The Appliance Serial Ports window will appear.

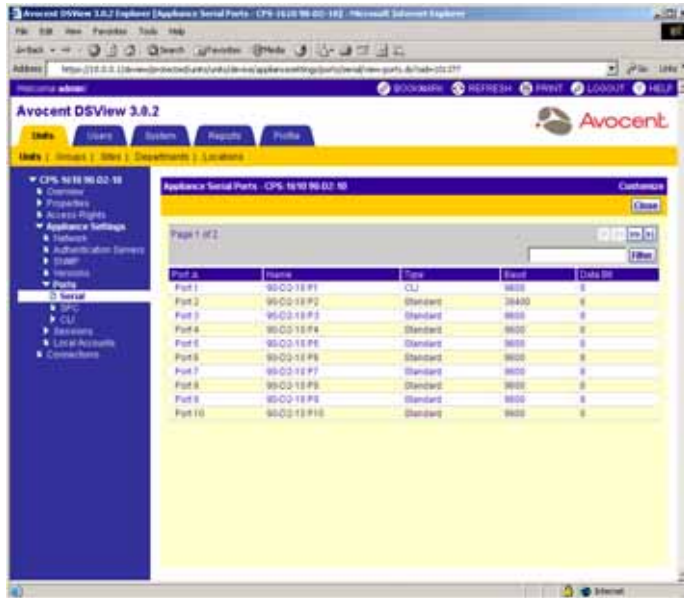


Figure 4.55: Appliance Serial Ports Window

4. Click on the name of a serial port. The Appliance Serial Port General Settings window will appear and the name of the port will appear under the CPS appliance in the side navigation bar.

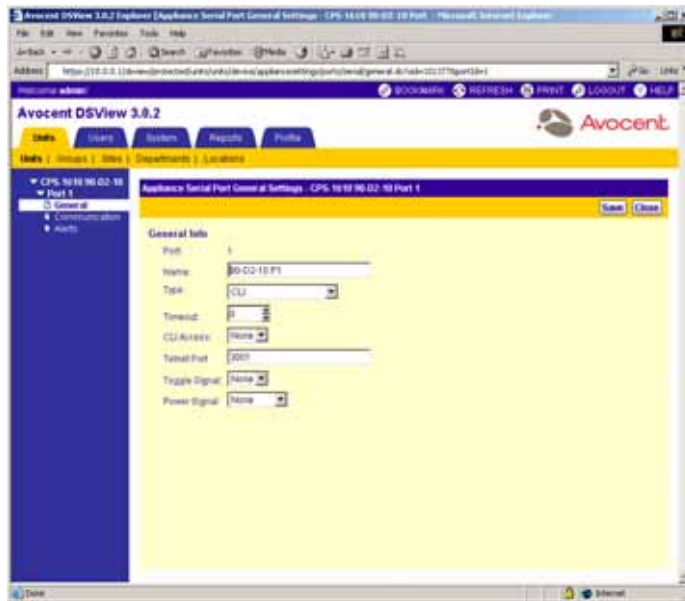


Figure 4.56: Appliance Serial Port General Settings Window

5. Type a new name for the serial port.
6. Using the drop-down menu, specify the type of port:
 - Standard Command Line Interface (CLI) - Select this port type if you wish to define the port as a serial connection for a local terminal.

NOTE: Only one port may be defined as a CLI port. If a second port is defined as a CLI port, the previously defined CLI port will be changed to a Standard port.

- SPC - Select this port type if you wish to connect an SPC device to the port.
 - Standard - Select this port type if you wish to access a serial device using SSH with a CPS appliance.
7. Using the arrow buttons, specify a time-out.
 8. Using the drop-down menu, specify a CLI access character that will be used to access CLI mode on a serial device. The (^) character represents the **Ctrl** key. For example, specifying ^D means that pressing **Ctrl+D** will enter CLI mode.
 9. Type a Telnet port that will be used to access the serial port. The default Telnet port is 3001.
 10. Using the drop-down menu, specify whether or not the port should use a DTR signal. If set to DTR, the CPS appliance will report target devices as ON if the signal given matches the state given. Otherwise, the CPS appliance will report the target device power as OFF.
 11. Using the drop-down menu, specify a power signal type that will be used for power status monitoring of the CPS appliance port:

- CTS High
 - CTS Low
 - DCD High
 - DCD Low
 - DSR High
 - DSR Low
 - None
12. Click *Save* to save your changes.
 13. Click *Close*. The Appliances Serial Ports window will appear.
 14. Click *Close*. The Unit Views window will appear.

To customize the communication properties for a serial port connected to a CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*. The Appliance Serial Ports window will appear.
3. Click on the name of a serial port. Appliance Serial Ports General Settings will appear and the name of the port will appear under the CPS appliance in the side navigation bar.
4. From the side navigation bar, click *Communication*. The Appliance Serial Port Communications Settings window will appear.

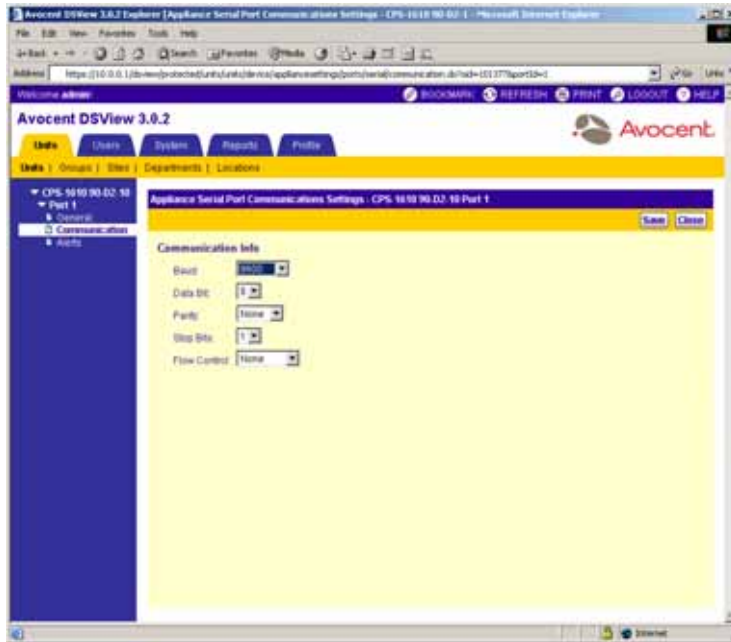


Figure 4.57: Appliance Serial Ports Communications Settings Window

5. From the drop-down menu, select a baud rate (50-14400) for the serial port:
6. From the drop-down menu, select the number of data bits per character (7 or 8) for the serial port.
7. From the drop-down menu, select a parity rate for the serial port:
 - Even - Specifies even parity.
 - Mark - Specifies mark parity.
 - None - Specifies no parity.
 - Odd - Specifies odd parity.
 - Space - Specifies space parity.
8. From the drop-down menu, select a the number of stop bits per character (1 or 2) for the serial port.
9. From the drop-down menu, select a flow control for the serial port.
 - DTR/DCD (Data Terminal Ready/Data Carrier Detect) - Use this option if you wish to use DTR/DCD hardware flow control.
 - None - Select this option if you wish to use no flow control.
 - RTS/CTS (Request to Send/Clear to Send) - Use this option if you wish to use RTS/CTS hardware flow control.

- XOn/XOff - Use this option if you wish to use XON/XOFF software flow control.
10. Click *Save* to save your changes.
 11. Click *Close*. The Appliances Serial Ports window will appear.
 12. Click *Close*. The Unit Views window will appear.

To customize the CLI settings for a CPS appliance:

NOTE: Only one port may be defined as a CLI port on a CPS appliance. If a second port is defined as a CLI port, the previously defined CLI port will be changed to a Standard port. For example, if Port 1 was defined as a CLI port and you now defined Port 2 as a CLI port, Port 1 will revert back to a Standard port and Port 2 will be the CLI port.

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*. The Appliance Serial Ports window will appear.
3. Under Ports, click *CLI Settings* will be selected in the side navigation bar and the Appliance CLI Port Settings window will appear.

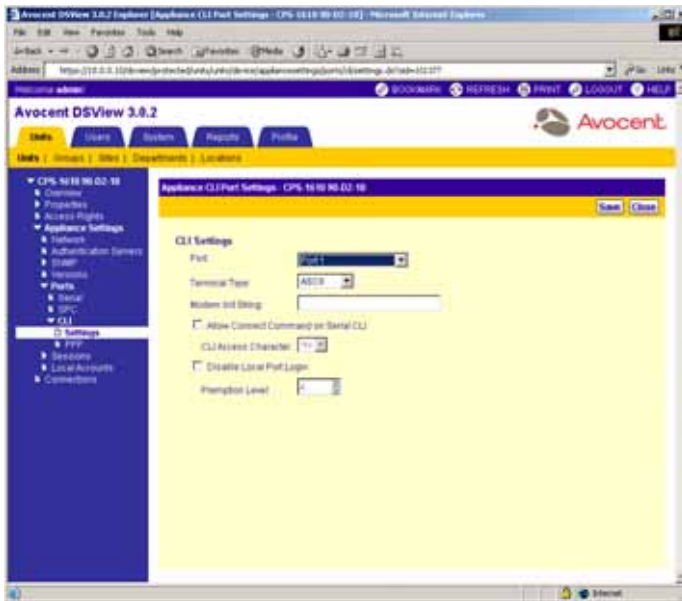


Figure 4.58: Appliance CLI Port Settings Window

4. Using the drop-down menu, specify the CPS appliance port you wish to use for CLI connections to a Serial device. You may choose Unassigned if you do not wish to assign a specific port as the CLI port.
5. Using the drop-down menu, specify one of the following terminal types to use for a CLI connection:

6. Type a modem initialization string that will be used by the CPS appliance for dial-in serial CLI access to an attached serial device. The default value is ATE0V1 SO=1.

NOTE: If you wish to access a serial device using a modem connection, you must specify PPP settings.

7. Click *Allow Connect Command on Serial CLI* to enable users to connect from an existing CLI connection to another CPS appliance port from the CLI by using the CONNECT command.
8. Using the drop-down menu, specify a CLI access character that will be used to access CLI mode on a serial device. The (^) character represents the **Ctrl** key. For example, specifying ^D means that pressing **Ctrl+D** will enter CLI mode.
9. Click *Disable Local Port Login* if you do not wish to require local users to log in to the local port. Local users will be recognized in the DSView management software as having their preemption level set there. If this option is not selected, the local user must log in to the local port and will have a preemption level assigned to them from the DSView management software or from the logged in local account.
10. Click *Save* to save your changes.
11. Click *Close*. The Unit Views window will appear.

To customize the CLI point to point protocol (PPP) settings for a CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Ports*. The Appliance Serial Ports window will appear.
3. Under Ports, click *CLI Settings* will be selected in the side navigation bar and the Appliance CLI Port Settings window will appear.
4. From the side navigation bar, click *PPP*. The Appliance CLI PPP Settings window will appear.

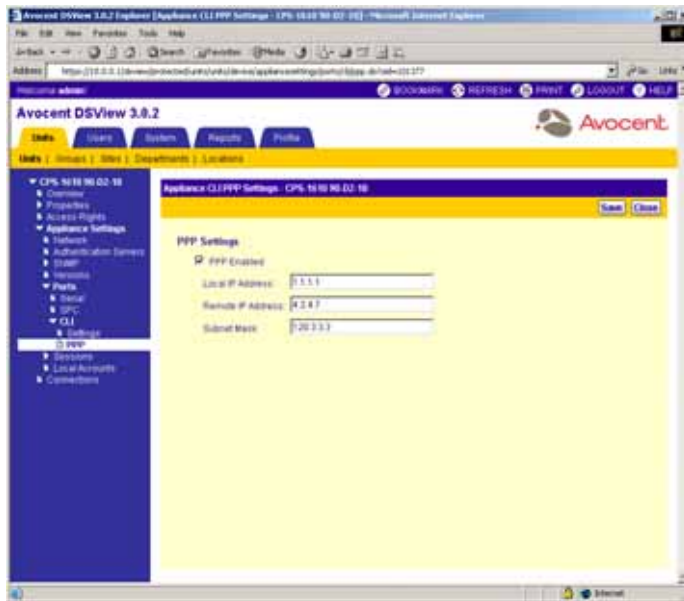


Figure 4.59: Appliance CLI PPP Settings Window

5. Click *PPP Enabled* to enable a modem connection to a serial device using the CPS appliance serial CLI port.
-or-
Do not select the checkbox if you wish to use the CLI port with the local terminal.
6. In the Local IP Address field, type the IP address, in standard dot notation (xx.xx.xx.xx), to be used with a PPP session to the CPS appliance.
7. In the Remote IP Address field, type the IP address, in standard dot notation (xx.xx.xx.xx), to be assigned to the PC dialing into the PPP connection on the CPS appliance.
8. Type a subnet mask, in standard dot notation (xx.xx.xx.xx), on which both the local IP address and remote IP address must reside.
9. Click *Save* to save your changes.
10. Click *Close*. The Unit Views window will appear.

Viewing and modifying session settings on DS1800 digital switches, CPS appliances or DSR switches

The following DSView software session settings may be modified on DS1800 digital switches, CPS appliances or DSR switches:

- Active - Allows a DSView software user to disconnect a DS1800 digital switch, CPS appliance or DSR switch session.

- Settings - Allows settings to be specified for a DSView software session, including history, inactivity time-out and SSH settings for CPS appliances and inactivity time-out and encryption level settings for DS1800 digital switches and DSR switches.

The following DSView software session setting may be modified on DS1800 digital switches and DSR1010, DSR2010, DSR4010, DSR4020, DSR2020, DSR1021, DSR1022, DSR1024, DSR2020 and DSR8020 switches only:

- Exit Macros - Allows a DSView software administrator to create macros that may be used by and reside on a DS1800 digital switch or supported DSR switches.

Customizing the Appliance Sessions window

By default, the following fields display in the Appliance Sessions window for DS1800 digital switches, CPS appliances and DSR switches and may be removed by selecting the *Customize* link:

- Duration - The length of the DSView software session.
- User - The DSView software user who initiated the DSView software session.

Display the following fields by selecting the *Customize* link. These fields are not displayed by default for DS1800 digital switches and DSR switches.

- Channel - Displays the channel being used by the DS1800 digital switch or DSR switch to connect to the DSView software session.
- Client - Displays the proxy address if the proxy is enabled.
- IQ Module - Displays the EID of the target device DSRIQ or AVR IQ module.

NOTE: The IQ Module column may also display the EID of an AVR IQ module if an AutoView® 2000 switch cascaded from a DS1800 digital switch or DSR switch in a non-proxied connection.

- Mode - The mode of the session, which may change during the session. Available modes are:
 - Normal - An interactive session that may be shared with other DSView software users. When two or more users are sharing the session, the mode will change to Sharing Interactive.
 - Exclusive - A private session that does not allow sharing by other users.
 - Sharing Interactive - A DSView software session that is being shared by two or more users. Interactive users have full control of the video, mouse and keyboard. Passive users may also share the session, but may only view the session and have a mode of Sharing Passive.

A DSView software user may view the usernames of other users sharing the session if *View identity of shared connections* is checked in the Video Viewer Session Properties dialog box or if the user is a member of the built-in administrators user group. Users viewing the session in Stealth mode will not be listed. If users disconnect from the session and a single user remains connected, the mode will change to Normal.

- Sharing Passive - A session that is being shared by two or more users. Passive users may only view the DSView software session. Interactive users may also share the session, but have full control of the video, mouse and keyboard and have a state of Sharing Interactive.

A DSView software user may view the usernames of other DSView software users sharing the software session if *View identity of shared connections* is checked in the Video Viewer Session Properties dialog box or if the user is a member of the built-in administrators user group. Users viewing the session in Stealth mode will not be listed. If other users disconnect from the session and a single user remains connected, the mode will change to Normal.

- Scan - A temporary non-exclusive DSView software session that displays connected target devices in a thumbnail viewer.
- Owner - The username of the logged in user that owns the session connected to the DS1800 digital switch or DSR switch port.
- Port - Displays the DS1800 digital switch or DSR switch port number connected to the session.
- Preemption Level - Displays the effective user preemption level for the user that is connected to the DS1800 digital switch or DSR switch port. See *User Preemption Levels* on page 37 for more information on preemption levels.

Display the following fields by selecting the *Customize* link. These fields are not displayed by default for CPS appliances.:

- Client - Displays the IP address of the DSView software client computer connected to the CPS appliance in a non-proxied connection. The IP address of the DSView proxy will display in this column if the client is connected to the CPS appliance using a proxy connection.

- Interface - Displays the interface to which the session is connected, which is either a serial port or the network CLI.
- Preemption Level - Displays the effective user preemption level for the user that is connected to the CPS appliance port. See *User Preemption Levels* on page 37 for more information on preemption levels.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To view an active session or session information on a DS1800 digital switch, CPS appliance or DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.

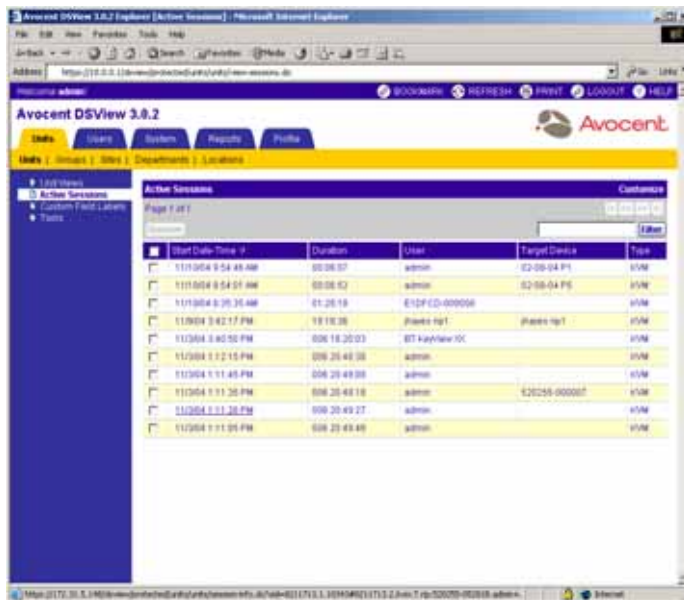


Figure 4.60: Appliance Sessions Window

3. To view information about a specific session, click on the name of the KVM or serial session. The Active Session Information window will appear, including information about the active KVM or serial session.

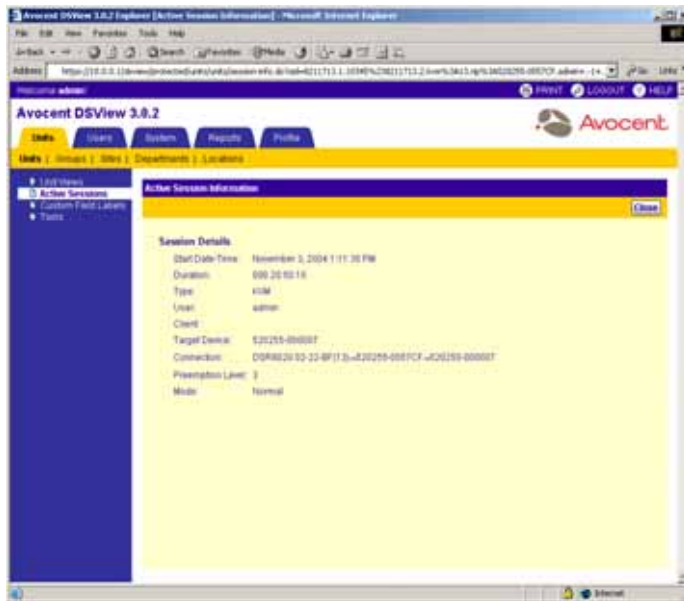


Figure 4.61: Active Session Information Window

4. Click *Close*. The Appliance Sessions window will appear.
5. Click *Close*. The Unit Views window will appear.

To disconnect an active DSView software session on a DS1800 digital switch, CPS appliance or DSR switch:

NOTE: Any DSView software user that has access to the DS1800 digital switch, CPS appliance or DSR switch and has a higher preemption level than the active session may disconnect the session.

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.
3. Click the checkbox to the left of the sessions you wish to disconnect.
-or-
Click the checkbox to the left of *Server* at the top of the list to select all sessions listed in the window for disconnection.
4. Click *Disconnect*. A confirmation dialog box will appear.
5. Click *OK* to disconnect the DSView software sessions.
-or-
Click *Cancel* to cancel the action.

To view and modify the session settings on a CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.
3. Under Sessions, click *Settings*. The Appliance Settings - Sessions - Settings window will appear including SSH settings for the CPS appliance.

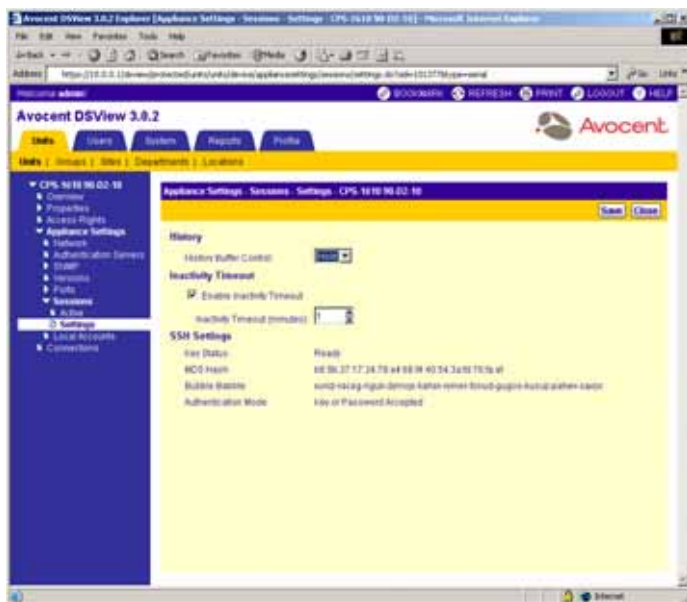


Figure 4.62: Appliance Settings - Sessions - Settings Window (CPS Appliance)

4. Using the drop-down menu, specify how the most recent 64K bytes of online and offline data (history) from a serial port will be controlled:
 - **Auto** - Select this option to display the history buffer content to a Telnet window.
 - **Hold** - Select this option to save the buffer contents. To view the contents, you must access the CPS appliance CLI and use the Port History command to view the port's history buffer content.
5. Click *Enable Inactivity Timeout* and use the arrows to specify a time-out value (from 1-90 minutes) that the CPS appliance will wait until the user must log back into the CPS appliance.
6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear.

To modify the DSView software session settings on a DS1800 digital switch or DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.
3. Click *Settings* in the side navigation bar. The Appliance Settings - Sessions - Settings window will appear.

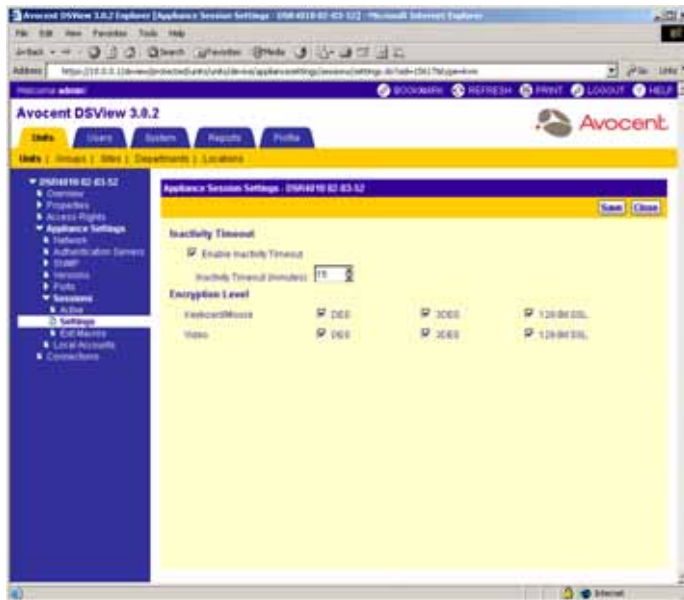


Figure 4.63: Appliance Settings - Sessions - Settings Window (DSR Switch)

4. Click *Enable Inactivity Timeout* and use the arrows to specify a time-out value (from 1-90 minutes) that the DS1800 digital switch or DSR switch will wait until the DSView software user must log back into the DS1800 digital switch or DSR switch.
5. Specify an encryption level for the keyboard, mouse and video:
 - DES - SSL Single DES Encryption
 - 3DES - SSL Triple DES Encryption
 - 128-Bit SSL - 128-bit encryption which used an ARCFOUR (RC4®) SSL cipher.

NOTE: At least one encryption level must be specified for the keyboard and mouse.

NOTE: When you specify more than one SSL encryption type, the DS1800 digital switch or DSR switch negotiates the strongest algorithm that is supported by both sides. The strongest algorithm is 128 bit, followed by 3DES and DES.

6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear.

Defining exit macros

Since clients are running remotely on PCs, certain commands must be sent to the controlled target device via keyboard macros. For example, pressing **Ctrl+Alt+Delete** on your keyboard would reset the PC running the client rather than resetting the target device. To reset the target device, a macro is needed. The DSView management software provides numerous sequences pre-configured for ease of operation.

Three kinds of macros are available in the DSView management software. Two of these, personal macros and global macros, are created using the Video Viewer window. See *Using the Video Viewer Window* on page 265 for more information on personal and global macros.

The third kind of macro is an exit macro. Exit macros are supported on DS1800 digital switches and the following DSR switches:

- DSR1010 switch
- DSR2010 switch
- DSR4010 switch
- DSR4020 switch
- DSR2020 switch
- DSR1021 switch
- DSR1022 switch
- DSR1024 switch
- DSR2020 switch
- DSR8020 switch

Exit macros may be created and maintained by any DSView software users with Configure Unit Settings specified in the Unit Access Rights window. Exit macros reside on DS1800 digital switches or supported DSR switches. You may create different groups of exit macros for each DS1800 digital switch and supported DSR switch in your system.

Exit macros allow software administrators to create a macro that returns a target device to a known state. For example, if a user is connected to a target device using a DS1800 digital switch or supported DSR switch and the user closes the Video Viewer session, an exit macro may be executed that resets the target device to a known state by logging the user out of the target device session.

Exit macros are created and maintained by clicking on a DS1800 digital switch or supported DSR switch in a Unit Views window and selecting *<Name> - Appliance Settings - Sessions - Exit*

Macros from the side navigation bar. They are stored on the DS1800 digital switch or supported DSR switch and executed whenever a DSView software session is terminated.

To define exit macros (DS1800 digital switches and supported DSR switches only):

1. From the side navigation bar, click *Appliance Settings*.
2. Under Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.
3. Under Sessions, click *Exit Macros* in the side navigation bar. The Appliance Exit Macros window will appear.

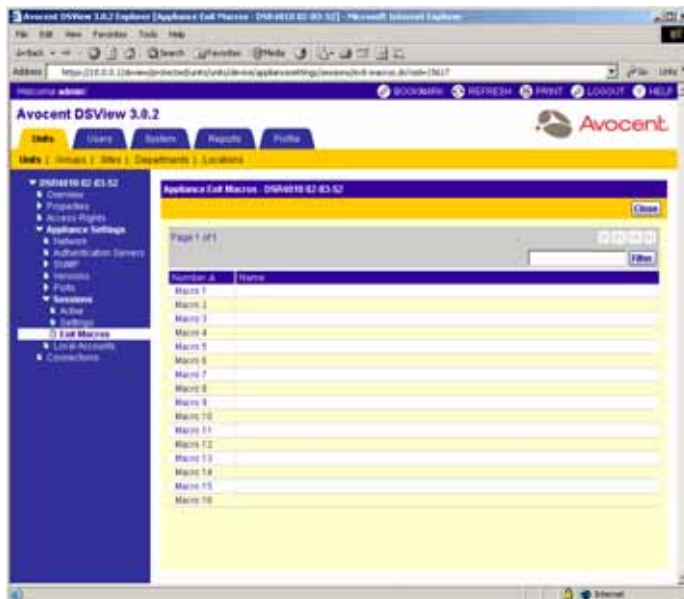


Figure 4.64: Appliance Exit Macros Window

4. Click the number of a macro. The Appliance Exit Macro Settings window will appear.

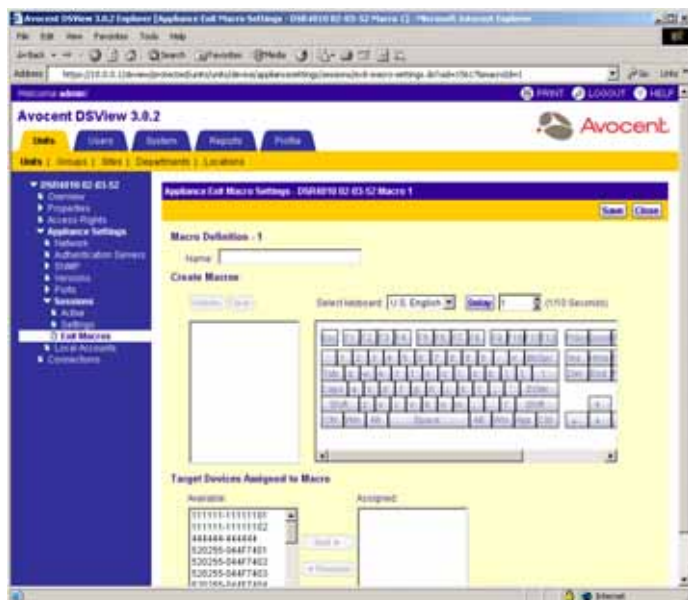


Figure 4.65: Appliance Exit Macro Settings Window

5. Enter a unique description for the global macro in the Name field.
6. From the Select Keyboard drop-down menu, select the country configuration of your keyboard. The keyboard graphic in the window will update to reflect your selection.
7. Click on the buttons in the keyboard graphic you wish to use to create the macro. As a button is clicked, it will appear in the list box to the left of the keyboard graphic.

You may type or use the arrow buttons to specify a delay between buttons you selected from the keyboard graphic. First, click the button in the list box after which you wish to place a delay. Next, click *Delay* to insert the delay in the list box.

8. Specify the attached target devices on which you wish to use the macro:
 - a. Select the target device in the Available list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the target device names.
 - b. Click *Add*. The target devices will be moved to the Assigned list.

NOTE: To remove selected target devices, select the target device you wish to remove from the Assigned list (multiple target devices may be selected by pressing **Ctrl** while clicking on the target device names) and clicking *Remove*. The target devices will be moved to the Available list.

9. Click *Save* to save your changes.
10. Click *Close*. Unit Views window will appear.

Example: To create a macro where the **Ctrl** key is held while **F1-F2-F3** are typed:

1. Type **ControlF1-F2-F3** in the Name field. This is the name of the macro that will appear in the Appliance Exit Macros window.

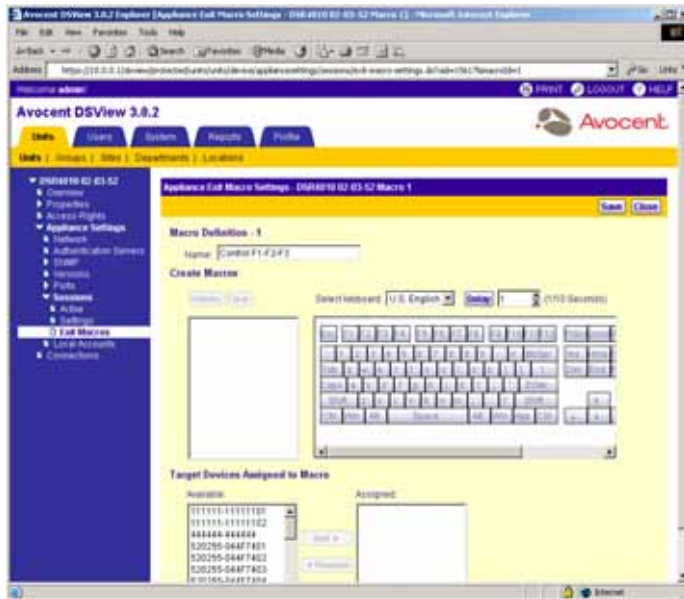


Figure 4.66: Entering the Macro Name

2. Click on the left or right *Ctrl* key in the keyboard graphic in the window. Ctrl Left - PRESS or Ctrl Right - PRESS will appear in the list box to the left of the keyboard graphic.
3. Click *F1*, *F2* and *F3* in the keyboard graphic in the window. The keystrokes will appear in the list box to the left of the keyboard graphic.
4. Click the same left or right *Ctrl* key in the graphic that you pressed in step 2. Ctrl Left - RELEASE or Ctrl Right - RELEASE will appear in the list box to the left of the keyboard graphic.

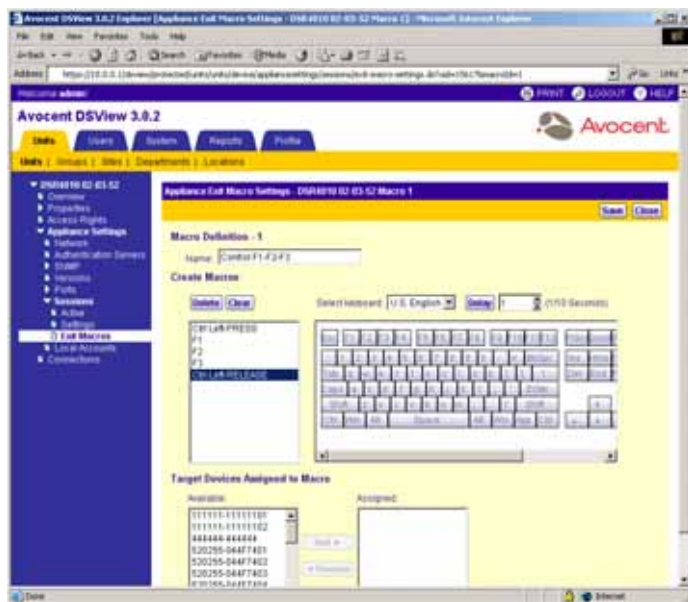


Figure 4.67: The Completed Macro

5. In the Assigned to Macro area, select the target devices to which you wish to assign the macro.
6. Click *Save* to save your changes.
7. Click *Close*. The Appliance Exit Macros window will appear.

Modifying local account settings on supported DSR switches and CPS appliances

NOTE: Local accounts are not supported on DS1800 digital switches or DR1161, DSR2161, DSR4160 or DSR800 switches.

Clicking a supported DSR switch or CPS appliance and using the Appliance Settings Local Accounts link allows you to add, remove or modify local user accounts on a supported DSR switch or CPS appliance using the Appliance Local User Accounts window.

Local accounts allow a user to log in to a supported DSR switch or CPS appliance locally if the supported DSR switch or CPS appliance has a server configured as an authentication server. You may assign a user administrators, appliance administrators or users level to a local user. See *User Groups* on page 35 for information on privileges.

Local accounts are supported on CPS appliances the following DSR switches:

- DSR1010 switch
- DSR2010 switch
- DSR4010 switch

- DSR4020 switch
- DSR2020 switch
- DSR1021 switch
- DSR1022 switch
- DSR1024 switch
- DSR2020 switch
- DSR8020 switch

To display the Appliance Local User Accounts window:

1. Under the Appliance Settings in the side navigation bar, click *Local Accounts*. The Appliance Local User Accounts window will appear.

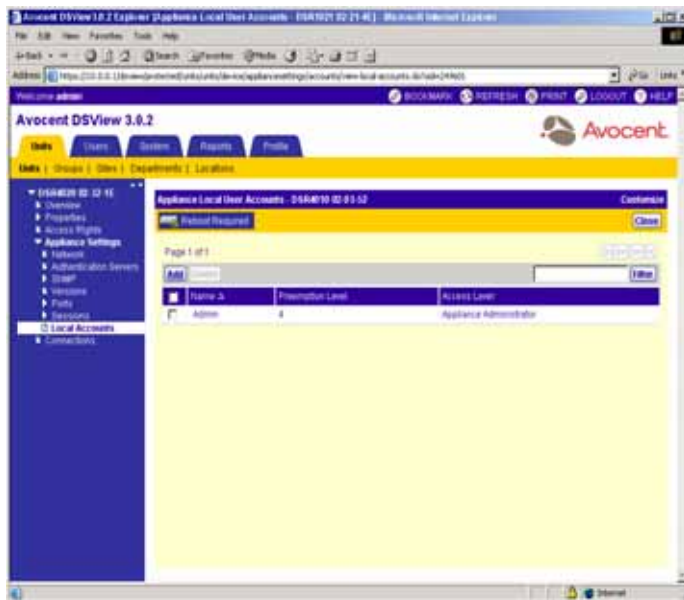


Figure 4.68: Appliance Local User Accounts Window

Customizing the Appliance Local User Accounts window

By default, the following fields display in the Appliance Local User Accounts window and may be removed by selecting the *Customize* link

- Preemption Level - The preemption level of the local user account.
- Access Level - The access level of the local user. See *User Groups* on page 35 for information on access levels.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To add a local user account for a supported DSR switch or CPS appliance:

NOTE: A DSView software user must have Configure Local Accounts rights specified in the Unit Access Rights window to add local user accounts.

1. From the Appliance Local User Accounts window, click *Add*. The welcome page of the Add Local User Account Wizard will appear. Click *Next*.
2. The Type in Local User Credentials window will appear.

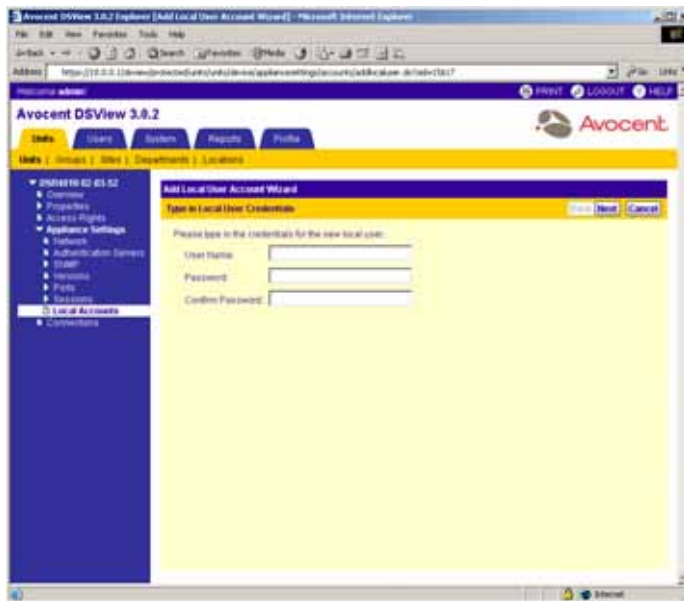


Figure 4.69: Add Local User Account Wizard - Type in Local User Credentials Window

- a. Type the name of the local user account.
 - b. Type a password for the local user account.
 - c. Confirm the password for the local user account.
 - d. Click *Next*.
3. The Select Preemption Level window will appear.

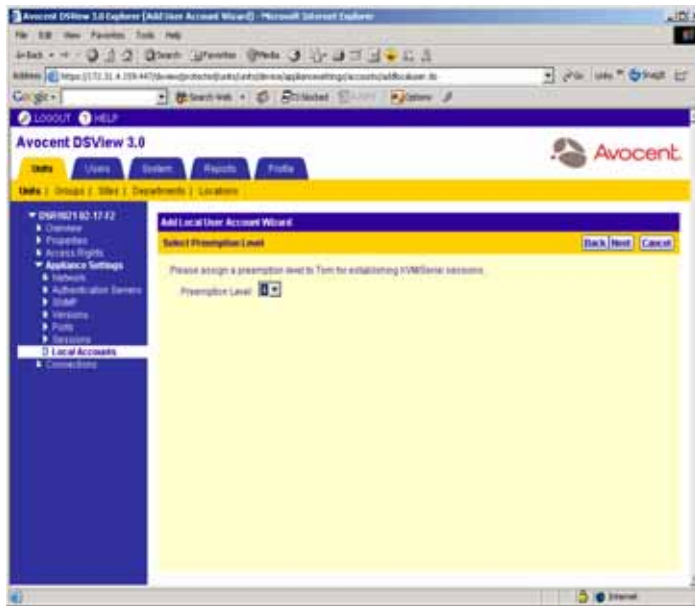


Figure 4.70: Add Local User Account Wizard - Select Preemption Level Window

- a. Select a preemption level (1-4) for the local user. See *User Preemption Levels* on page 37 for information on preemption levels. Click *Next*.
4. The Select Access Level window will appear.

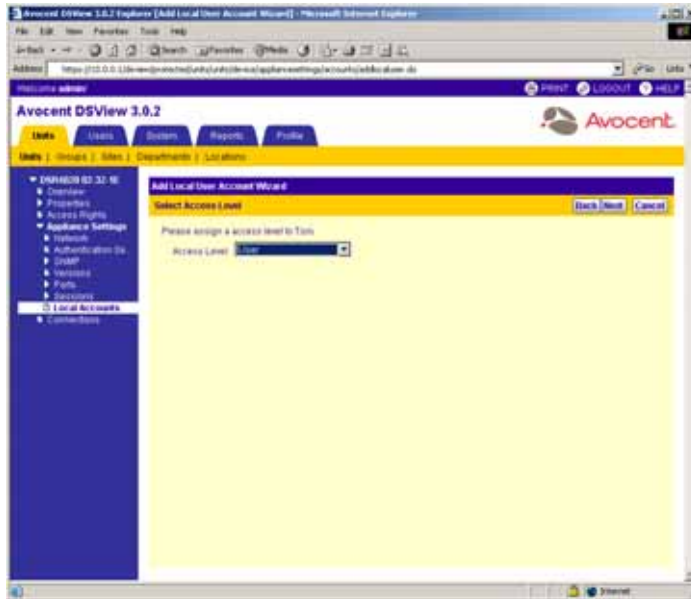


Figure 4.71: Add Local User Account Wizard - Select Access Level Window

- a. Use the drop-down menu to select an access level:
 - Appliance Administrator
 - User
 - User Administrator
- b. Click *Next*.

If you selected *User*, continue to step 5.

-or-

If you selected *Appliance Administrator* or *User Administrator*, go to step 7.

NOTE: DSR1010, DSR2010 and DSR4010 switches support local accounts, but do not support the changing of their access level from the appliance administrator access level. The Access Level combo box will not appear for these switch types.

5. The Assign target devices window will appear.

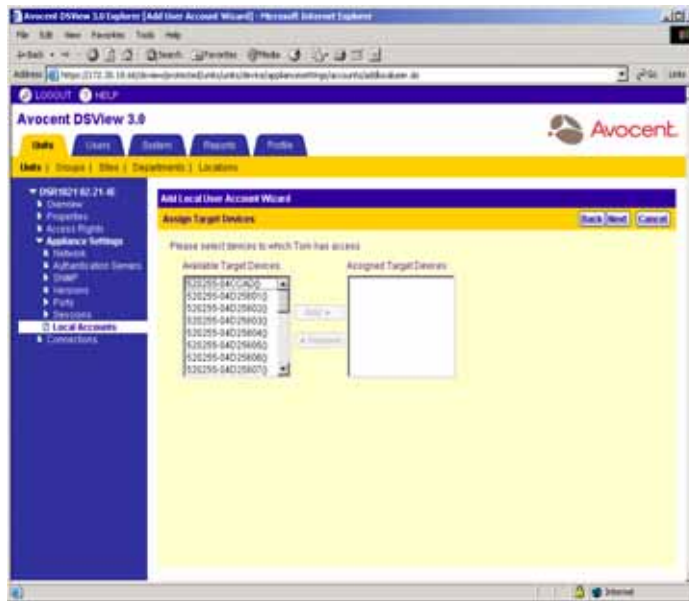


Figure 4.72: Add Local User Account Wizard - Assign target devices Window

6. Perform the following to grant (add or remove) user access rights to a target device:
 - Select the name of the target device in the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the target devices. Click *Add*. The target devices will be moved to the Assigned target devices list.
 - or-
 - Select the name of the target device in the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the column names. Click *Remove*. The target devices will be moved to the Available list.
7. Click *Next*. The Completed Successful window will appear.
8. Click *Finish*. The Appliance Local User Accounts window will appear including the newly-added local user.

To delete a local user account on a supported DSR switch or CPS appliance:

NOTE: A DSView software user must have Configure Local Accounts rights specified in the Unit Access Rights window to delete local user accounts.

1. From the Appliance Local User Accounts window, click the checkbox to the left of the local users you wish to delete.

-or-

Click the checkbox to the left of Name at the top of the list to select all local user accounts listed in the window for deletion.

2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the local user accounts.

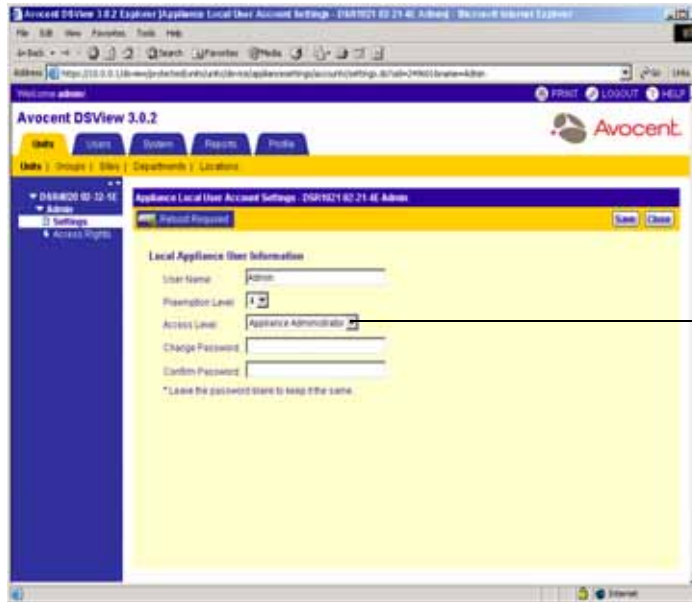
-or-

Click *Cancel* to cancel the action.

To modify the settings of a local user account on a supported DSR switch or CPS appliance:

NOTE: A DSView software user must have Configure Local Accounts rights specified in the Unit Access Rights window to modify local user account settings.

1. From the Appliance Local User Accounts window, click on the name of a local user account. *Settings* is selected in the side navigation bar and the name of the local user account appears below the name of the supported DSR switch. The Appliance Local User Account Settings window will appear.



DSR1010, DSR2010 and DSR4010 switches support local accounts, but do not support the changing of their access level from the appliance administrator access level. The Access Level combo box will not appear for these switch types.

Figure 4.73: Appliance Local User Account Settings Window

2. Type a new name for the local user.
3. Use the drop-down menu to select a different preemption level (1-4) for the local user. See *User Preemption Levels* on page 37 for information on preemption levels.
4. If available, use the drop-down menu to select a different access level:
 - User Administrator
 - Appliance Administrator
 - User
5. Type a new password for the local account and then confirm the password.
6. Click *Save* to save your changes.
7. Click *Close*. The Appliances window will appear including your changes.

To assign target device access rights to a local account on a local CPS appliance or supported DSR switch:

NOTE: A DSView software user must have Configure Appliance Local User Accounts rights specified in the Unit Access Rights window to assign target device access rights to a local account on a CPS appliance or supported DSR switch.

1. From the Appliance Local User Accounts window, click on the name of a local account. *Settings* is selected in the side navigation bar and the name of the local account appears below the

name of the CPS appliance or supported DSR switch. The Appliance Local User Account Settings window will appear.

NOTE: If the local user has Configure Local Accounts rights, a message will appear informing the DSView software user that they may access all target devices in the system.

From the side navigation bar, click *Access Rights*. The Appliance Local User Account Access Rights window will appear.

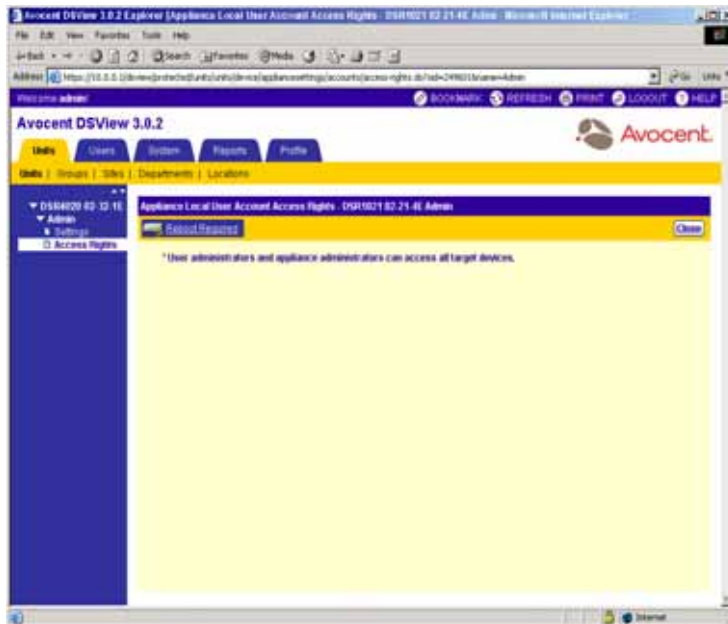


Figure 4.74: Appliance Local User Account Access Rights Window

2. Perform the following to grant (add or remove) local user accounts access to a target device:
 - Select the name of the target device in the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the target devices. Click *Add*. The target devices will be moved to the Assigned target devices list.
 - or-
 - Select the name of the target device in the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the column names. Click *Remove*. The target devices will be moved to the Available list.
3. Click *Save* and then *Close*. The Appliance Local User Accounts window will appear.

Viewing active session information

You may view all active connections to target devices in your DSView software system using the Active Sessions window.

Customizing the Active Sessions window

The following field is always displayed in the Active Sessions window:

- Start-Date-Time - Displays the time when the target device session was started.

By default, the following fields display in the Active Sessions window and may be removed by using the Customize link:

- Duration - The length of the DSView software session.
- User - The user who initiated the session, which may be a DSView software user, a local port user or a user with a local user account.
- target device - The name of the target device being used for the session.
- Type - The type of session, which may be KVM or Serial.

The following fields are not displayed by default, but may be displayed using the Customize link:

- Client - Displays the IP address of the client computer connected to the session for a non-proxy connection. The IP address of the DSView proxy will appear in this column for a proxy connection.
- Connection - Displays the connection path from the target device to the DS1800 digital switch, CPS appliance or DSR switch. See *Managing connections to units* on page 239 for more information.
- Mode - The mode of the session, which may change during the session. Available modes are:
 - Normal - An interactive session that may be shared with other DSView software users. When two or more DSView software users are sharing the session, the mode will change to Sharing Interactive.
 - Exclusive - A private session that does not allow sharing by other DSView software users.
 - Sharing Interactive - A DSView software session that is being shared by two or more DSView software users. Interactive DSView software users have full control of the video, mouse and keyboard. Passive users may also share the software session, but may only view the session and have a mode of Sharing Passive.

A DSView software user may view the usernames of other DSView software users sharing the DSView software session if *View identity of shared connections* is checked in the Video Viewer Session Properties dialog box or if the DSView software user is a member of the built-in administrators user group. Users viewing the session in Stealth mode will not be listed. If other users disconnect from the session and a single user remains connected, the mode will change to Normal.

- Sharing Passive - A DSView software session that is being shared by two or more DSView software users. Passive users may only view the DSView software session. Inter-

active DSView software users may also share the session, but have full control of the video, mouse and keyboard and have a mode of Sharing Interactive.

A DSView software user may view the usernames of other DSView software users sharing the session if *View identity of shared connections* is checked in the Video Viewer Session Properties dialog box or if the DSView software user is a member of the built-in administrators user group. Users viewing the session in Stealth mode will not be listed. If other users disconnect from the session and a single user remains connected, the mode will change to Normal.

- Scan - A temporary non-exclusive DSView software session that displays connected target devices in a thumbnail viewer.
- Owner - Displays the name of the user that launched the session, which may be a DSView software user, a local port user or a user with a local user account.
- Preemption Level - Displays the effective user preemption level for the DSView software user that is connected to the target device session. See *User Preemption Levels* on page 37 for more information on preemption levels.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To view a list of active sessions and information about active sessions:

1. From the DSView 3.0.2 Explorer, click the *Units* tab. *Units* is automatically selected in the top navigation bar.
2. From the side navigation bar, click *Active Sessions*. The Active Sessions window will appear.

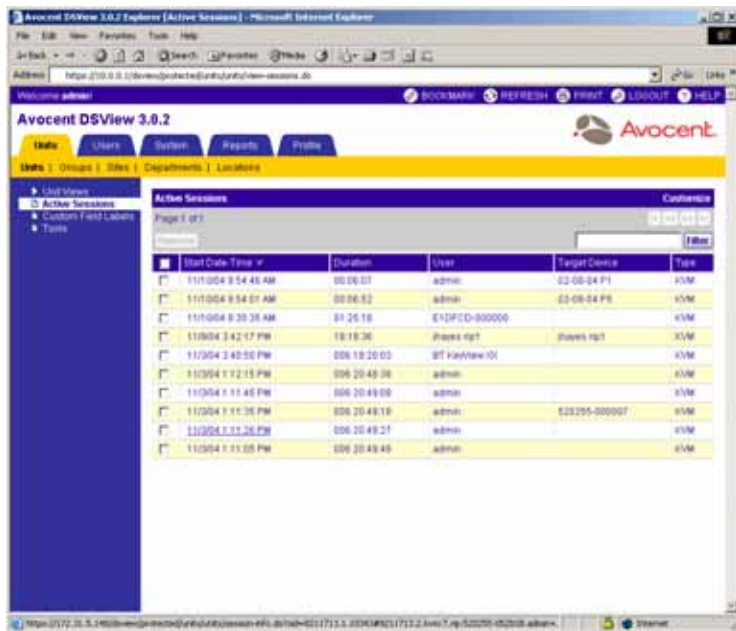


Figure 4.75: Active Sessions Window

- Click on the name of an active session in the Start-Date-Time column. The Active Session Information window will appear.

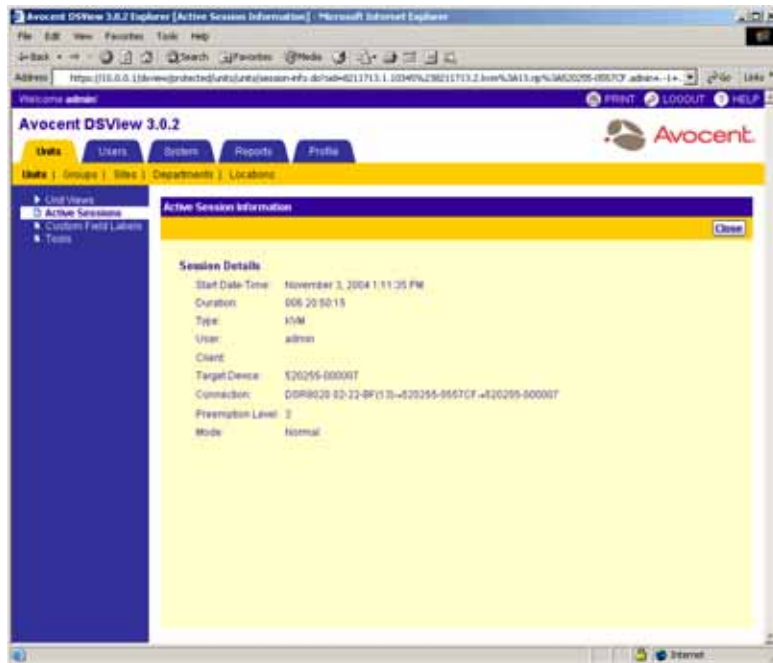


Figure 4.76: Active Session Information Window

4. Click *Close* to dismiss the window and return to the Active Sessions window.

To remove an active session from the Active Sessions window:

NOTE: Removing an active DSView software Session from the Active Sessions window does not disconnect the session.

1. From the Active Sessions window, click the checkbox to the left of the active session you wish to remove.
-or-
Click the checkbox to the left of Start-Date-Time at the top of the list to select all active sessions listed in the window for removal.
2. Click *Remove*. A confirmation dialog box will appear.
3. Click *OK* to remove the active sessions.
-or-
Click *Cancel* to cancel the action.

Managing connections to units

Clicking on a unit in a Unit Views window and then clicking the *Connections* link will display the Target Device Connections window if you clicked on a target device or the Appliance Connections window if you clicked on a DS1800 digital switch, CPS appliance or DSR switch.

The Target Device Connections window lists all connections to the target device. You may also use this window to add or delete a connection to or from the target device.

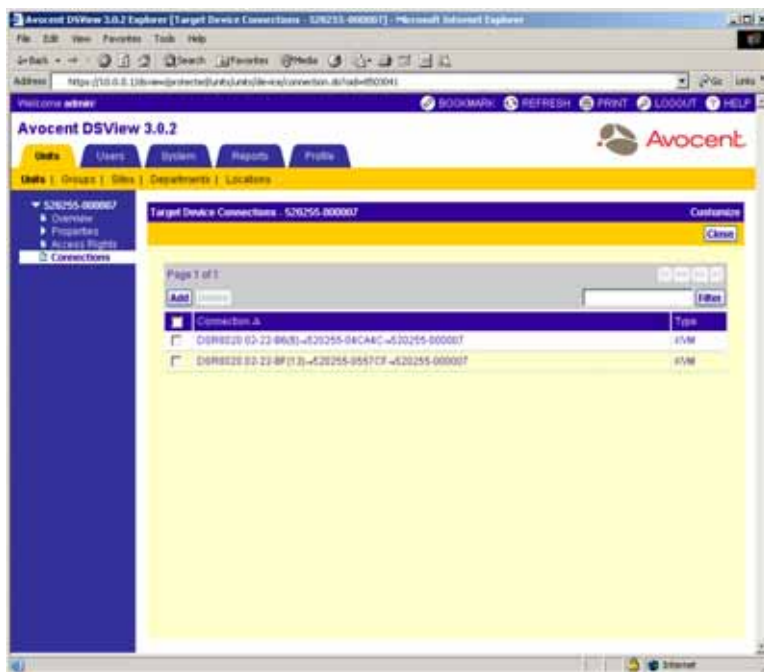


Figure 4.77: target device Connections Window

The Appliance Connections window lists all connections from the DS1800 digital switch, CPS appliance or DSR switch to cascade switches or target devices. Clicking on a DS1800 digital switch, CPS appliance or DSR switch connection will display the Appliance Connections - Rename window in which you may rename the units which are part of the connection path. The Appliance Connections - Rename window also displays the type of any SPC device, DSR, AutoView or Outlook switch, or CPS appliance that is connected to a DS1800 digital switch, CPS appliance or DSR switch.

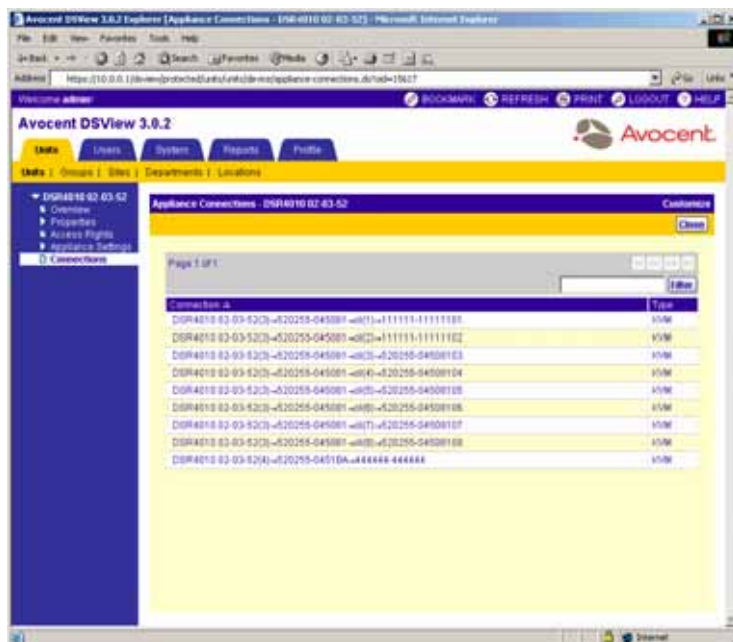


Figure 4.78: Appliance Connections Window

NOTE:The connections of EVR1500 environmental monitors and generic appliances may not be viewed.

Connections typically appear in a format similar to the following for connections to target devices, cascade switches and SPC devices:

<DS1800 Digital Switch, CPS Appliance or DSR Switch Name>(<Port>) → <EID Number>
→ <target device>

<DS1800 Digital Switch, CPS Appliance or DSR Switch Name>(<Port>) → <EID Number>
→ switch one <Port>→<target device>

<DS1800 Digital Switch, CPS Appliance or DSR Switch Name>(<Port>) → <SPC Device>
(<Port>) → <target device>

<DSI5100 Appliance Name>(<Port>)→<target device>

The following examples illustrate typical connections that may appear in your DSView management software.

Example: Target device connections

dsr-1021-huntsville(3)→520255-044F6F→td-john

dsr-1021-huntsville(4)→520255-03F757→td-mary

dsr-1021-huntsville(8)→520255-016BE0→td-tim

In the above example, there are three target devices connected to ports 3, 4 and 8 of a DSR1021 switch named dsr-1021-huntsville. The DSR1021 switch ports are connected to the three target devices using DSRIQ modules. The DSRIQ with an EID of 520255-044F6F is connected to target device td-john, while 520255-03F757 is connected to td-mary and 520255-016BE0 is connected to td-tim.

Example: Cascade switch connection

dsr-1021-huntsville(1)→520255-023FB7→switch one (1)→520255-023FB701

dsr-1021-huntsville(1)→520255-023FB7→switch one (2)→520255-023FB702

dsr-1021-huntsville(1)→520255-023FB7→switch one (3)→520255-023FB703

dsr-1021-huntsville(1)→520255-023FB7→switch one (4)→520255-023FB704

dsr-1021-huntsville(1)→520255-023FB7→switch one (5)→520255-023FB705

dsr-1021-huntsville(1)→520255-023FB7→switch one (6)→520255-023FB706

dsr-1021-huntsville(1)→520255-023FB7→switch one (7)→520255-023FB707

dsr-1021-huntsville(1)→520255-023FB7→switch one (8)→520255-023FB708

In the above example, an AutoView 200 1 x 8 switch is connected to port one of a DSR1021 switch named dsr-1021-huntsville using a DSRIQ module with an EID of 520255-023FB7. Each port of the AutoView 200 switch is connected to a different target device (520255-023FB701-520255-023FB708).

Example: SPC device connection

dsr-1021-huntsville(SPC)→02-17-F2 SPC (A1)→02-17-F2 SPC A1

In the above example, an SPC switch is connected to the SPC port of a DSR1021 switch named dsr-1021-huntsville. SPC device outlet A1 is connected to target device 02-17-F2 SPC A1.

Customizing the Target Device Connections window

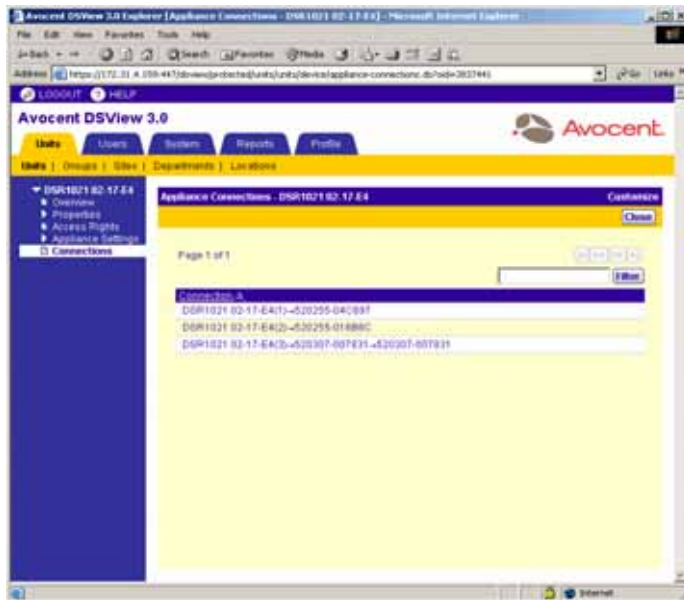
By default, the following field displays the Target Device Connections window and may be removed using the Customize link:

- Type - Displays the type of connection:
 - KVM - A connection to a port of a DS1800 digital switch or DSR switch using a DSRIQ module.
 - Serial - A serial port connection to a CPS appliance.
 - Power - A connection to an SPC device outlet.
 - IPMI - A connection to a DSI5100 appliance.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To display the Target Device Connections or Appliance Connections window:

1. From a Unit Views window, click on a unit name. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear.
2. From the side navigation bar, click *Connections*. The Target Device Connections window, including all connections to the target device, will appear if you clicked on a target device name.

**Figure 4.79: Appliance Connections Window (target device)**

-or-

The Appliance Connections window, including all connections to the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch, will appear if you clicked on a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.

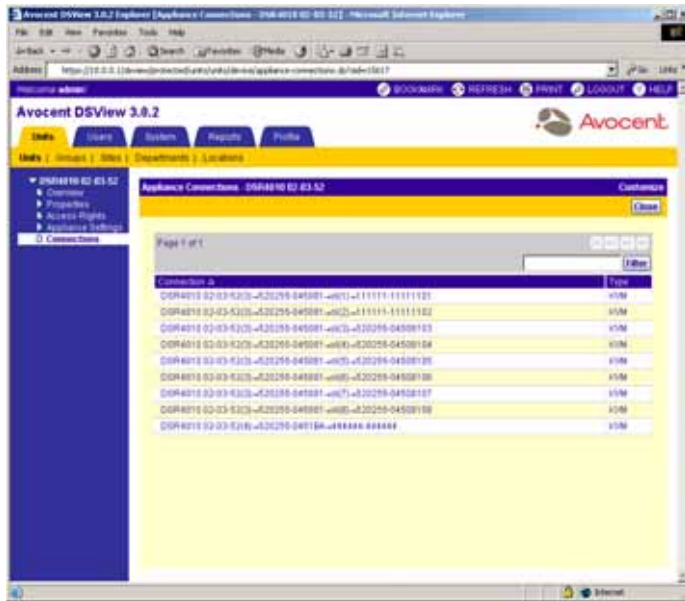


Figure 4.80: Appliance Connections Window (Appliance)

To rename a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch connection:

1. From the Appliance Connections window, click on a connection. The Appliance Connections - Rename window will appear.

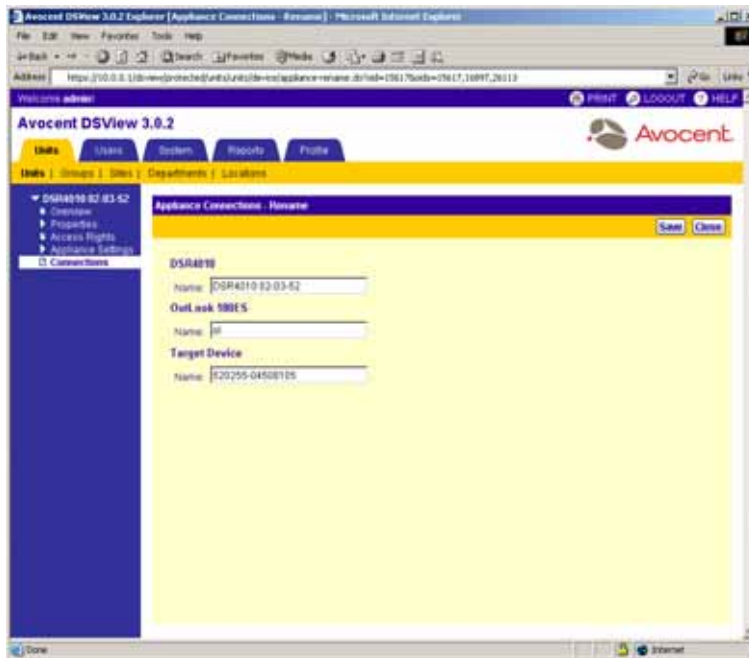


Figure 4.81: Appliance Connections - Rename Window

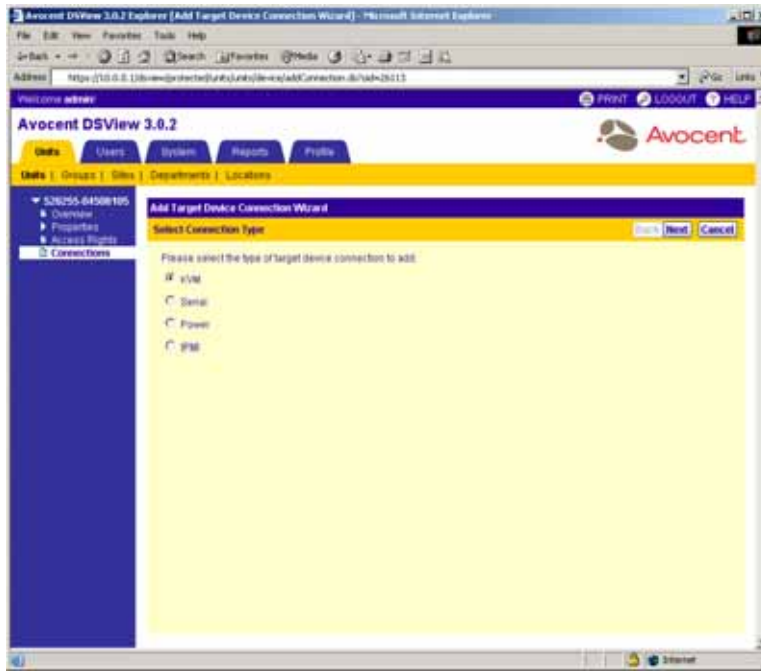
2. Type in new name for one or more items in the connection chain.
3. Click Save.
4. Click *Close*. The Appliance Connections window will appear including your changes.

Adding target device connections

Use the Add Target Device Connection Wizard to create a connection to a target device in the DSView management software.

To add target devices:

1. Click *Add* in the Target Device Connections window to display the Welcome page of the Add Target Device Connection Wizard.
2. From the Add Target Device Connection Wizard, click *Next*.
3. The Select Connection Type window will appear.

**Figure 4.82: Add Target Device Connection Wizard - Select Connection Type Window**

- a. Select *KVM* to create a connection to a DS1800 digital switch or DSR switch port using a DSRIQ module.
-or-
Select *Serial* to create a serial port connection to a CPS appliance.
-or-
Select *Power* to create a connection to an SPC device outlet.
-or-
Select *IPMI* to create a connection to a DSI5100 appliance.

NOTE: An IPMI connection may only be made to IPMI 1.5 compatible target devices.

- b. Click *Next*.

- The Select Appliance with Available Ports window will appear.

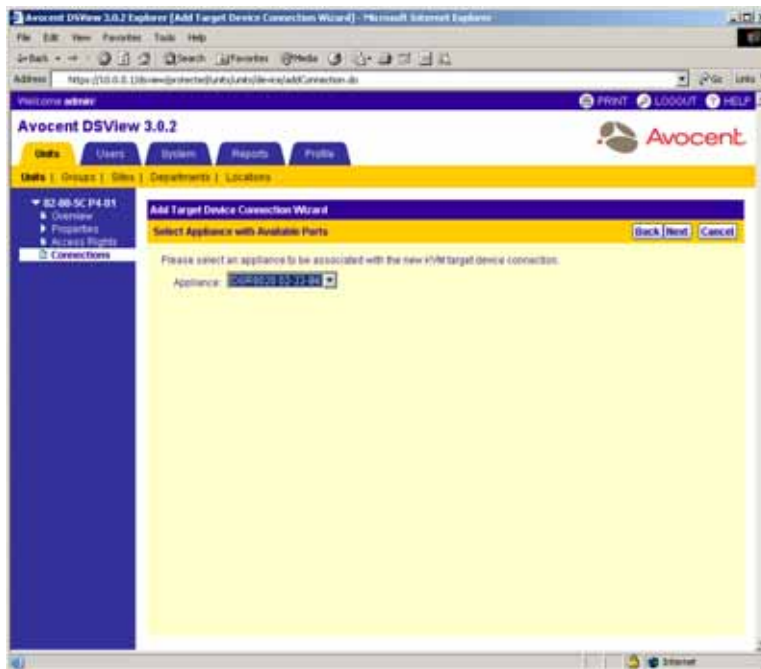


Figure 4.83: Add Target Device Connection Wizard - Select Appliance with Available Ports Window (KVM Connection Type Shown)

- Select a DS1800 digital switch, DS15100 or CPS appliance or DSR switch from the drop-down menu.
 - Click *Next*.
- The Select Available Connection window will appear.

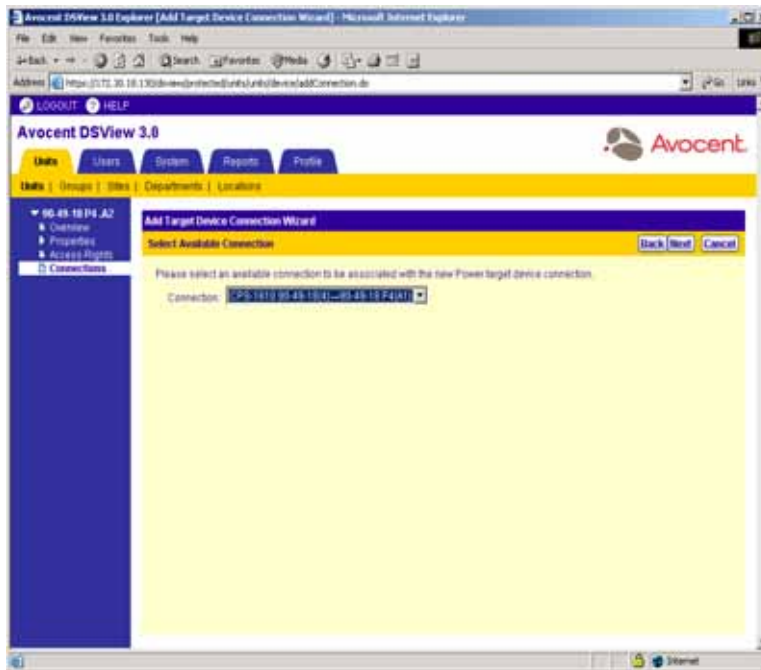


Figure 4.84: Add Target Device Connection Wizard - Select Available Connection Window (KVM Connection Type Shown)

- a. Select a connection from the drop-down menu.
 - b. Click *Next*.
6. The Completed Successful window will appear. Click *Finish*. The Target Device Connections window will appear including the new connection to the target device.

To delete a target device connection:

1. From the Target Device Connections window, click the checkbox to the left of the target device connection you wish to delete.
-or-
Click the checkbox to the left of Connection at the top of the list to select all target devices listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the target device connections.
-or-
Click *Cancel* to cancel the action.

Managing DSView Software Users

About DSView Software Users

You must add DSView software users to grant them access to the DSView management software. Users are assigned a default access level when they are added. If you wish to assign users a different access level, you will need to change their permissions.

In the DSView management software, click *Users* in the tab bar of the DSView 3.0.2 Explorer to access commands to perform the following:

- Add user accounts
- Delete user accounts
- Unlock user accounts
- Reset user account passwords
- Specify properties for DSView software users, including contact information, restrictions, certificates and access rights to appliances and target devices

Clicking *Users* in the tab bar will automatically select *Accounts* in the top navigation bar, *User Accounts - All* in the side navigation bar and display the User Accounts - All window. The User Accounts - All window displays a list of all DSView software users of all user account levels defined in the DSView software system.

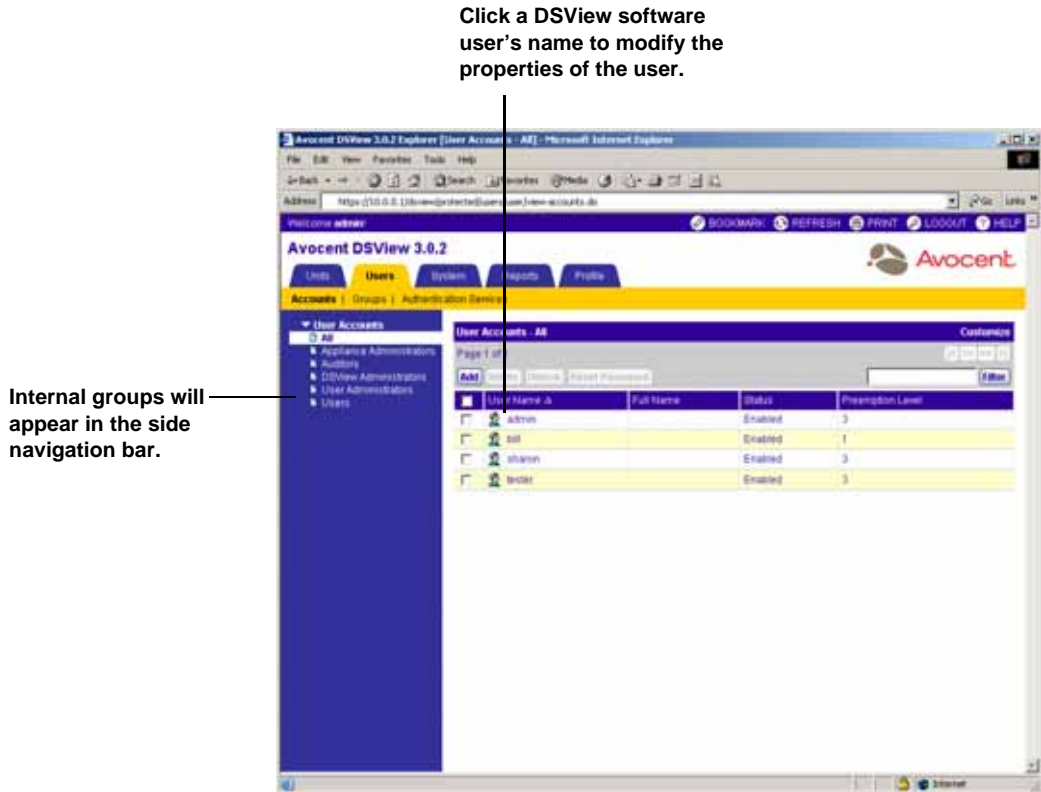


Figure 5.1: User Accounts - All Window

Using User Accounts to Display and Modify Users

All DSView software users defined in the DSView software system are located under User Accounts in the side navigation bar. Clicking on one of the links beneath User Accounts in the side navigation bar will display a User Accounts window containing a list of all DSView software users belonging to the particular type of user account. For example, if three users named John, Mary and Tim are members of the appliance administrators built-in user group, clicking *Appliance Administrators* in the side navigation bar will display these three as well as other DSView software users that are members of the appliance administrators built-in user group.

NOTE: A DSView software user may belong to multiple user groups.

Five types of user groups to which users may be added are predefined and appear in the side navigation bar: Appliance Administrators, Auditors, DSView software administrators, User Administrators and Users. These user groups are built-in groups which contain privileges which may not be changed. See *Managing DSView Software Users Using User Groups* on page 383 for information about built-in user group privileges.

A DSView software user may also create any number of user-defined groups, which also appear in the side navigation bar.





See *Managing DSView Software Users Using User Groups* on page 383 for more information about built-in and user-defined groups.

The properties of a user may be modified by clicking on a DSView software user's name. Links for items that may be modified will appear in the side navigation bar. See *Modifying User Account Properties* on page 256 for information on modifying the properties of a DSView software user.

Customizing the User Accounts window

By default, the User Name field is always displayed in the User Accounts window. One of the icons in Table 5.1 will appear to the left of the usernames and represent the status of each DSView software user.

Table 5.1: DSView Software User Status Icons

Icon	Authentication Method Assigned to DSView Software User	Description
	DSView Internal	Disabled - The DSView software user cannot log in to the DSView management software. See <i>Specifying account restrictions for users</i> on page 258 for more information.
	All Authentication Methods	Enabled - The DSView software user can log in to and use the DSView management software.
	DSView Internal	Locked - The user account has been locked and the DSView software user cannot log in to the DSView management software because the maximum number of log in failures has been exceeded. See <i>Modifying authentication services</i> on page 102 for more information on locking accounts and <i>Unlocking User Accounts</i> on page 255 for information on unlocking an account.
	All External Authentication Services	Suspicious - The DSView management software user account exists for the DSView software user, but the external authentication server no longer contains the account.

The following fields display in the User Accounts window and may be removed by clicking the *Customize* link:

- Full Name - Displays another name for a DSView software user-defined in the user's properties. For example, a user may have a username of Sunrise1 and a full name defined as Mary Jones. See *Modifying the names of users* on page 257 for information on defining a full name.
- Status- Displays whether the user account is Enabled, Disabled, Locked or Suspicious. One of the icons in Table 5.1 will appear to the left of the DSView software user in the User Name column, reflecting the status of the user account.

- Preemption Level - Displays the effective preemption level of a user. See *User Preemption Levels* on page 37 for information on preemption levels.

The following fields may be displayed in the User Accounts window by clicking the *Customize* link:

- Authentication Server - Displays the name of the internal or external authentication server. See *Managing Authentication Services* on page 87 for information on specifying an authentication server.
- Business Address - Displays the business address defined in the user's properties. See *Specifying address information for users* on page 259 for information on defining a business address.
- Business Mobile - Displays the business mobile phone number defined in the user's properties. See *Specifying phone contact information for users* on page 260 for information on defining a business mobile phone number.
- Business Phone - Displays the business phone number defined in the user's properties. See *Specifying phone contact information for users* on page 260 for information on defining a business phone number.
- Default E-Mail - Displays the default email account defined in the user's properties. See *Specifying email contact information for DSView software users* on page 260 for information on defining a default email account.
- Custom Field 1-Custom Field 6 - Displays the custom fields for the user. If you have specified text for a custom field, that text will display when you display the custom field. See *Managing DSView Software Users Using User Groups* on page 383 for more information.
- E-Mail 1-E-Mail 5 - Displays five additional email accounts defined in the user's properties. See *Specifying email contact information for DSView software users* on page 260 for information on defining additional email accounts.
- Group Preemption Level - Displays the highest preemption level of all groups to which the user belongs. For example, if a user belongs to appliance administrators (with a group preemption level of 3) and auditors (with a group preemption level of 1), this field will display 3. See *User Preemption Levels* on page 37 for information on group preemption levels.
- Home Address - Displays the home address defined in the user's properties. See *Specifying address information for users* on page 259 for information on defining a home address.
- Home Phone - Displays the home phone number defined in the user's properties. See *Specifying phone contact information for users* on page 260 for information on defining a home phone number.
- Mobile Phone - Displays the mobile phone number defined in the user's properties. See *Specifying phone contact information for users* on page 260 for information on defining a mobile phone number.
- Pager - Displays the pager number defined in the user's properties. See *Specifying phone contact information for users* on page 260 for information on defining a pager number.

- User Preemption Level - Displays the user preemption level defined in the user's properties. See *User Preemption Levels* on page 37 for information on preemption levels and *Changing the preemption level* on page 259 for information on defining a defining a user preemption level.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To display users in the User Accounts window:

1. From the DSView 3.0.2 Explorer, click the *Users* tab. *Accounts* is automatically selected in the top navigation bar, *User Accounts - All* is automatically selected in the side navigation bar and the User Accounts - All window will appear including all DSView software users in your DSView software system.
2. Click one of the links below User Accounts in the side navigation bar to display the User Accounts window you wish to view.

Adding Users

Clicking *Add* in a User Accounts window will display the Add User Wizard, which guides a DSView software user through the process of creating a new user account.

The following are defined when a user account is created:

- Whether the user will be authenticated using the DSView Internal authentication or an external authentication server.
- The user groups in which the user will be included. Each user group contains specific access rights that allow a DSView software user to perform specific actions.
- The preemption level for interrupting or disconnecting serial or KVM sessions. See *User Preemption Levels* on page 37 for information on preemption levels.

NOTE: You must have DSView software administrator or user administrator rights to add a user. See *Managing DSView Software Users Using User Groups* on page 383 for more information.

To add users:

1. From a User Accounts window, click the *Add* button. The Welcome window of the Add User Account Wizard will appear. Click *Next*.
2. The Select Authentication Service window will appear.

The Select Authentication Service window will contain a list of all external authentication servers and the DSView Internal server that may be used to authenticate users when they log in. Any of the following authentication servers may be available:

NOTE: There may be multiple authentication services in your system. All authentication services in your DSView software system will appear in the Select Authentication Service window.

- Active Directory - An external authentication service (purchased separately).

- DSView Internal - The internal DSView management software authentication service that validates users against database tables in the authenticating DSView software server. The DSView Internal authentication service is always available.
- LDAP - An external authentication service (purchased separately).
- NT - An external authentication service (purchased separately). The NT authentication service requires the Microsoft Win32 platform.

See *Managing Authentication Services* on page 87 for information on adding an authentication service.

- a. Select an authentication service.
- b. Click *Next*.

If you selected *DSView Internal* as the authentication service, continue to step 3.

If you selected any other type of authentication service, go to step 4.

3. The Type in User Credentials window will appear.
 - a. Type a username, password and confirm the password of the DSView software user you are adding. To enable DSView software users to set their own passwords when they log in to the DSView software, click *User must change password at next login*.

NOTE: Usernames may be up to 64 non-case-sensitive characters long and cannot contain the “at” (@) symbol. Usernames are case-preserving. For example, if an account named JDoe is created, it will be saved as JDoe in the DSView software server, but a user may log in as JDoe, jdoe, JDOe and so on.

NOTE: Passwords may be 3-64 characters long. By default, passwords must contain at least three characters. Passwords will never expire unless *User must change password at next login* is selected in the Unit Password window, or Passwords Expire information is specified in the Authentication Service User Account Policies window. A DSView software administrator may specify a different minimum character length and modify expiration criteria. See *Modifying authentication services* on page 102 for more information.

- b. Click *Next*. Go to step 6.

4. Click *Specify user on external authentication service* and type the name of the user in the field.

NOTE: Usernames may be up to 64 characters long and may not contain the “at” (@) symbol. Usernames may or may not be case-sensitive, depending on the requirements of your external authentication server.

-or-

Click *Find user on external authentication service* to browse a list of users on the external authentication service.

Click *Next*.

If you selected *Find user on external authentication service*, continue to step 5.

If you selected *Specify user on external authentication service*, go to step 6.

5. The Select User from External Authentication Service window displays.
 - a. Select a user from the list.
 - b. Click *Next*.

6. The Assign User to User Groups window will appear.
This window displays a list of all built-in groups and any user-defined groups in the authentication service you specified for the user. See *Grouping* on page 349 for more information on groups.
 - a. Select one or more groups from the Available Groups window and click *Add* to make the DSView software user a member of the groups.
 - b. Click *Next*.
7. The Select User Preemption Level window will appear.
 - a. Type a preemption level (from 1-4) in the field, or select it using the drop-down menu. The higher the number, the higher the preemption level. For example, a DSView software user with a preemption level of 4 can preempt DSView software users assigned preemption levels of 1, 2 or 3. See *User Preemption Levels* on page 37 for more information on preemption levels.
 - b. Click *Next*.
8. The Completed Successful window will appear. Click *Finish*. The DSView software user has been added.

Deleting User Accounts

To delete user accounts:

1. From a User Accounts window, click the checkbox to the left of the DSView software users you wish to delete.
-or-
Click the checkbox to the left of User Name at the top of the list to select all DSView software users listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the DSView software users.
-or-
Click *No* to cancel the action.

Unlocking User Accounts

If lock-out settings have been specified for the DSView Internal authentication service and a DSView software user exceeds these settings, the user will not be allowed to attempt another log in until a certain amount of time has passed. Users that have been locked out will appear with a lock next to their name in the User Accounts window and *Locked* will appear in the Status column. DSView software user administrators or administrators may manually unlock the DSView software user accounts. See *Modifying authentication services* on page 102 for information on specifying lockout settings.

To unlock a DSView software user account:

1. From a User Accounts window, click the checkbox to the left of the DSView software users you wish to unlock.
2. Click *Unlock*. The specified DSView software users' accounts will be unlocked and the User Accounts - All window will update.

Resetting a User Account Password

A DSView software administrator or user administrator may choose to reset a user's password. The DSView software user will be required to login by typing **password** as their password and then choosing and verifying a new password for their account the next time they wish to start a new DSView management software session.

To reset a user account password:

1. From a User Accounts window, click the checkbox to the left of the DSView software user(s) to reset the password.
2. Click *Reset Password*.
3. A confirmation message box will appear. Click *Yes* to reset the password for the DSView software user.
-or-
Click *No* to exit without changing the password.

Modifying User Account Properties

If you have DSView software administrator or user administrator privileges, you may modify the following account properties for a user:

- The user (login) name and full name
- The certificate associated with the DSView software user
- Login password
- Account login restrictions
- The user groups to which the DSView software user is assigned
- User preemption levels
- Home and business addresses
- Home, business, mobile and pager phone numbers
- Primary email address and up to five additional email addresses
- Notes you wish to add about the DSView software user
- Up to six custom fields

To modify a user account:

1. Click on the name of a DSView software user in a User Accounts window. The name of the DSView software user account will appear at the top of the side navigation bar and a list of links will appear beneath the name.
2. Click on a link to display a window in which you may change the specific property.

Modifying the names of users

The username information that you may specify for a DSView software user includes:

- User Name - The name that the DSView management software uses to log in and identify the user.
- Full Name - The actual name of the user.

For example, you may use Engr10 as the username and Jonathan Z. Smith as the full name to identify the person associated with the username of a DSView software user in a User Accounts window.

To modify the name of a user:

1. From a User Accounts window, click on a username. *Name* is automatically selected in the side navigation bar and the User Name window will appear.
2. Type the username for the user.
3. Type the full name of the user.
4. Click *Save* to save your changes.
5. Click *Close*. The User Accounts window will appear including any modifications.

Modifying the certificates associated with users

NOTE: This property may only be modified for DSView software users using Internal Authentication. See *Managing Authentication Services* on page 87 for more information on authentication services.

To modify the certificate associated with a user:

1. From the side navigation bar, click *Certificate*. The User Certificate window will appear.
2. Type the path and name of the certificate.
-or-
Use the *Browse* button and select a certificate using the Choose File dialog box.
3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window will appear including any modifications.

Modifying user passwords

NOTE: This property may only be modified for DSView software users using Internal Authentication. See *Managing Authentication Services* on page 87 for more information on authentication services.

The password of a DSView software user may be changed or you may specify that the DSView software users enter a new password when they log in to their next session.

To modify the password of a user:

1. From the side navigation bar, click *Password*. The User Password window will appear.
2. Type the new password you wish to assign to the DSView software user and verify the password.
3. Click *User must change password at next login* to enable a user to define a new password when they log in to their next session.
4. Click *Save* to save your changes.
5. Click *Close*. The User Accounts window will appear, including any modifications.

Specifying account restrictions for users

NOTE: This property may only be modified for DSView software users using Internal Authentication. See *Managing Authentication Services* on page 87 for more information on authentication services.

To specify account restrictions for users:

1. From the side navigation bar, click *Restrictions*. The User Account Restrictions window will appear.
2. Click *Disable user account* to prevent the user from logging in to the DSView management software. The user's account may be re-enabled by unchecking *Disable user account*.

NOTE: The DSView software users will remain logged in if they have an open session.

3. Click *User must change password at next login* to enable a user to define a new password when logging in to the session.
4. Click *User cannot change password* to prevent the user from changing a password.
5. Click *Password never expires* to prevent a user's password from expiring.
6. Click *Save* to save your changes.
7. Click *Close*. The User Accounts window will appear including any modifications.

Changing user group membership

The DSView management software enables you to add and remove users from user groups.

To change the group membership of a DSView software user:

1. From the side navigation bar, click *User Groups*. The User Group Membership window will appear.
2. Select the groups to which you wish to add or remove a user.

To add a user to groups:

- a. In the Available Groups list, select the group to which you wish to add a user. Multiple groups may be selected by pressing **Ctrl** or **Shift** while clicking on the group names.
- b. Click *Add*. The columns will be moved to the Member of list.
-or-
To remove the user from groups:
 - a. In the Member of list, select the group from which to remove the user. Multiple groups may be selected by pressing **Ctrl** or **Shift** while clicking on the group names.
 - b. Click *Remove*. The groups will be moved to the Available Groups list.
3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window displays the changes you made.

Changing the preemption level

You may specify the user preemption level for the DSView software user. See *User Preemption Levels* on page 37 for information on preemption levels.

To change the preemption level of a DSView software user:

1. From the side navigation bar, click *Preemption Levels*. The User Preemption Level window will appear.
2. Select a preemption level (1-4) from the drop-down menu.
3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window will appear including any modifications.

Specifying address information for users

NOTE: This property may only be modified for DSView software users using Internal Authentication. See *Managing Authentication Services* on page 87 for more information on authentication services.

You may specify the home and business address for a DSView software user. Both names appear in the User Accounts window.

To specify address information for a user:

1. From the side navigation bar, click *Addresses*. The User Address Properties window will appear.
2. Type the home address of the user.
3. Type the business address of the user.
4. Click *Save* to save your changes.
5. Click *Close*. The User Accounts window will appear including any modifications.

Specifying phone contact information for users

NOTE: This property may only be modified for DSView software users using Internal Authentication. See *Managing Authentication Services* on page 87 for more information on authentication services.

You may specify home, business, mobile and business mobile phone numbers and a pager number for a DSView software user. The numbers will appear in the User Accounts window. Assigning phone contact information may be helpful for quickly locating the person if an issue or question arises.

To specify phone contact information for a user:

1. From the side navigation bar, click *Telephones*. The User Telephone Properties window will appear.
2. Type the home phone number of the DSView software user.
3. Type the business phone number of the DSView software user.
4. Type the mobile phone number of the DSView software user.
5. Type the mobile business phone number of the DSView software user.
6. Type the pager number of the DSView software user.
7. Click *Save* to save your changes.
8. Click *Close*. The User Accounts window will appear including any modifications.

Specifying email contact information for DSView software users

NOTE: This property may only be modified for DSView software users using Internal Authentication. See *Managing Authentication Services* on page 87 for more information on authentication services.

You may specify a primary email address and up to five additional email addresses for a DSView software user. The email addresses will appear in the User Accounts window. Assigning email contact information may be helpful for notifying the person if an issue or question arises.

To specify email contact information for user:

1. From the side navigation bar, click *E-Mail Addresses*. The User E-Mail Properties window will appear.
2. Type the primary email address of the DSView software user.
3. Type up to five additional email addresses.
4. Click *Save* to save your changes.
5. Click *Close*. The User Accounts window will appear including any modifications.

Creating user notes

NOTE: This property may only be modified for DSView software users using Internal Authentication. See *Managing Authentication Services* on page 87 for more information on authentication services.

Notes contain future reference information about a user.

To create notes about a DSView user:

1. From the side navigation bar, click *Notes*. The User Notes window will appear.
2. Type the information you wish to note about the DSView user.
3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window will appear including any modifications.

Modifying custom field properties

NOTE: This property may only be modified for DSView software users using Internal Authentication. See *Managing Authentication Services* on page 87 for more information on authentication services.

Six custom fields for DSView software users are provided within the DSView management software. You may specify any information you wish in these fields for display in the User Accounts window.

To modify the custom fields:

1. From the side navigation bar, click *Custom Fields*. The User Custom Fields window will appear.
2. Type the information in the fields you wish to define.
3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window will appear including any modifications.

Viewing the Access Rights of Users

The access rights of one or more user groups and/or users may be associated to one or more units. For example:

- A user is created with the login name johnsmith.
- The user is then assigned to the User Administrators group.
- A DSR1021 switch is added to the DSView software system.
- Using the Unit Access Rights window, the User Administrators group is assigned to the DSR1021 switch and various rights are assigned to the switch. The DSView software user johnsmith will have the rights assigned to the user administrators group as long as he is a member of the group. If johnsmith is removed from the user administrators group, he will no longer have the rights of the group.

Alternatively, if the user administrators group was not going to be assigned access rights to the DSR1021 switch, access rights could be added for only the user johnsmith.

See *Adding Users* on page 253 for information on adding a DSView software user, *Managing DSView Software Users Using User Groups* on page 383 for information on assigning a DSView

software user to a group and *Modifying unit access rights* on page 182 for information on assigning access rights to a managed appliance.

Customizing the target device Access Rights and Appliance Access Rights windows

By default, the Name field is always displayed in the target device Access Rights window. The following fields also display and may be removed by clicking the *Customize* link:

- Viewer Sessions - Specifies whether the DSVIEW software user may view KVM sessions using a Video Viewer window or Serial sessions using a Telnet/SSH applet window.
- Power Control - Specifies whether the DSVIEW software user may control the power of the target device if it is connected to an SPC device outlet.

By default, the Name field is always displayed in the Appliance Access Rights window. The following fields also display and may be removed by clicking the *Customize* link:

- Reboot - Specifies whether the DSVIEW software user may reboot the DS1800 digital switch, CPS appliance or DSR switch. See *Rebooting DS1800 digital switches, DS15100 and CPS appliances and DSR switches* on page 421 for more information.
- Flash Upgrade - Specifies whether the DSVIEW software user may FLASH upgrade the DS1800 digital switch, CPS appliance or DSR switch. See *To update the firmware of specific appliances of a specific type to DSVIEW software compatibility* on page 465 for more information.
- Settings - Specifies whether the DSVIEW software user may change the appliance settings of the DS1800 digital switch, CPS appliance or DSR switch. See *Modifying managed appliance settings* on page 186 for more information.
- Local Users - Specifies whether the DSVIEW software user may manage local accounts on the DS1800 digital switch, CPS appliance or DSR switch. See *Modifying local account settings on supported DSR switches and CPS appliances* on page 226 for more information.

See *Using the Customize Link in DSVIEW Management Software Windows* on page 30 for information on using the Customize link.

To view a DSVIEW software user's access rights to a target device:

1. From the side navigation bar, click *Access Rights*.
2. From the side navigation bar, click *target devices*. The target device Access Rights window will appear.
 - If a black check mark appears, the user has the right to perform the corresponding action.
 - If a grey check mark appears, a group to which the user belongs has the right to perform the corresponding action.
 - If no check mark appears, the indicated action may not be performed because access rights have not been specified on the target device for the user or group to which the user belongs.

3. Click *Close* when you are finished reviewing the access rights. The User Accounts window will appear.

To view a DSView software user's access rights to a managed appliance:

1. From the side navigation bar, click *Access Rights*.
2. From the side navigation bar, click *Appliances*. The Appliance Access Rights window will appear:
 - If a black check mark appears, the user has the right to perform the corresponding action.
 - If a grey check mark appears, a group to which the user belongs has the right to perform the corresponding action.
 - If no check mark appears, the indicated action may not be performed because access rights have not been specified on the managed appliance for the DSView software user or group to which the DSView software user belongs.
3. Click *Close* when you are finished reviewing the access rights. The User Accounts window will appear.

Using the Video Viewer Window

About the Video Viewer Window

The Video Viewer window is used to conduct a KVM session with one or more target devices attached to one or more DS1800 digital switches or DSR switches. When you connect to a device using the Video Viewer, the target device desktop appears in a separate window. You will see both the local and the target device cursor. The Video Viewer window supports either a 3- or 5-button mouse.

The DSView management software uses either a Java-based program or an ActiveX applet to display the Video Viewer window.

NOTE: The DSView management software uses system memory to store and display images within Video Viewer windows. Each opened Video Viewer window requires additional system memory. An 8-bit color setting on the Client PC requires 1.4 MB of memory per Video Viewer window, a 16-bit color setting requires 2.4 MB and a 32-bit color setting requires 6.8 MB. Opening more than four simultaneous Video Viewer windows may affect system performance and is not recommended. If you attempt to open more Video Viewer windows than your system memory allows, you will receive an out of memory error and the requested Video Viewer window will not open.

From this window, you will be able to operate a device as if you were sitting in front of it. You may also perform viewer-specific tasks such as sending macro commands to the device.

KVM sessions may be launched to devices from any DS1800 digital switch or DSR switch. Each KVM session will be established using the encryption level specified by the DSView software administrator in the Appliance Settings - Sessions - Settings Window. See *Viewing and modifying session settings on DS1800 digital switches, CPS appliances or DSR switches* on page 215 for more information.

If the device you are attempting to access is currently being viewed by another DSView software user and you have administrator privileges, you may disconnect the other DSView software user so that you may access that device.

You cannot preempt a local user who is in Broadcast mode. See the DSR Installer/User Guide for additional information.

Video Viewer window minimum requirements

The Video Viewer window requires one of the following operating systems:

- Windows 2000 Workstation or Server with Service Pack 2
- Windows Server 2003 Standard, Enterprise or Web Edition
- Windows NT 4.0 Workstation or Server with Service Pack 6a
- Windows XP Home Edition or Professional

The Video Viewer window requires Internet Explorer 6.0 SP1 or later.

To launch a KVM session, a user must be individually assigned rights or belong to a user group which has been assigned rights to establish a KVM session. DSView software users and user groups are assigned KVM session establishment rights at the DS1800 digital switch or DSR switch level using the Unit Access Rights window. See *Modifying unit access rights* on page 182 for more information. You may review which DSView software users may establish KVM session connections at the user level by viewing the target device Access Rights or Appliance Access Rights windows. See *Viewing the Access Rights of Users* on page 261 for more information.

Launching a KVM Session

NOTE: When using a non-proxied connection, video performance over a slower network connection may be less than optimal. Since certain color settings (such as Gray Scale) use less network bandwidth than others (such as Best Color), changing the color settings may increase video performance. For optimal video performance over a slower network connection, a color setting such as Gray Scale/Best Compression or Low Color/High Compression is recommended. See *Adjusting color depth* on page 275 for more information.

A KVM session is launched from the DSView 3.0.2 Explorer or using the Unit Overviews window.

To launch a KVM session from the DSView 3.0.2 Explorer:

1. Display a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window. See *Using the Unit Views to display and modify units* on page 136 for more information.
2. Click the *KVM Session* link in the Action column of the target device you wish to view. The Video Viewer launches in a new window.

To launch a KVM session using the Unit Overview window:

1. Display a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window. See *Using the Unit Views to display and modify units* on page 136 for more information.
2. Click on the name of a target device connected to a DS1800 digital switch or DSR switch. The side navigation bar will contain the name of the target device at the top and *Overview* will automatically be selected. The Unit Overview window will appear.

3. Click on the *KVM Session* name or icon.

The Video Viewer launches in a new window.

Launching an exclusive KVM session

If a DSView software user needs to access a port while excluding all other DSView software users, an Exclusive KVM connection is used. When a port is selected with the Exclusive KVM connection setting enabled, no other DSView software user in the system may switch to that port. If a new DSView software user initiates a connection to a port currently accessed by a different DSView software user using an Exclusive KVM connection, that new user will receive a message indicating the port's status and will not be connected to the port.

To launch an exclusive (non-shared) KVM session from the DSView 3.0.2 Explorer:

1. Display a Target Devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window. See *Using the Unit Views to display and modify units* on page 136 for more information.
2. Click the alternate actions arrow in the Action column of the target device you wish to view. A list of actions will appear.
3. Click the *Exclusive KVM Session* link.

The Video Viewer launches in a new window. A yellow dot will appear next to the icon of the target device in the Target Devices, Units in Site, Units in Custom Field, Topology and Recently Accessed Units windows to indicate that the target device is using an Exclusive KVM connection. Other DSView software users may not share the session.

To launch an exclusive (non-shared) KVM session in the Unit Overview window:

1. Display a Target Devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window. See *Using the Unit Views to display and modify units* on page 136.
2. Click on the name of the target device to which you wish to establish an exclusive connection. The name of the target device and a list of item links will appear in the side navigation bar, *Overview* will be automatically selected in the side navigation bar and the Unit Overview window will appear.
3. Click *Exclusive KVM Session*.
4. Click the *KVM Session* icon or link in the Unit Overview window.

The Video Viewer launches in a new window. A yellow dot will appear next to the icon of the target device in the Target Devices, Units in Site, Units in Custom Field, Topology and Recently Accessed Units windows to indicate that the target device is using an Exclusive KVM connection. Other DSView software users may not share the session.

Connecting to an existing KVM session

When you attempt to connect to a port already in use by another DSView software user, the Cannot connect to the server dialog box displays and states that the port is in use along with the name of the

current DSView software user(s). At this point, you may request to share access to the port with the current DSView software user(s).

You may be presented with one or more of the following options in the Cannot connect to the server dialog box:

- **Actively share a connection** - When the dialog box contains a statement prompting you wish to share a connection to the server and you click *Share with the other user* and do not click *Passive Share*, an active connection will be established. When sharing access to a port actively, all DSView software users may monitor the port and take control if no other DSView software user is currently active.

When you click *OK* on the Cannot connect to the server dialog box, the primary DSView software user that is currently active will receive a request to allow sharing unless *Allow shared connections* automatically in the Video Viewer Session Properties window has been selected. See *Specifying Video Viewer Session Settings* on page 271 for more information. If they confirm, then you will gain active access to the port.

- **Passively share a connection** - When you click *Share with the other user* and also click *Passive Share* in the dialog box, a passive connection will be established. When sharing access to a port passively, you may only view what occurs on the server without controlling the keyboard or mouse.

When you click *OK* on the *Cannot connect to the server* dialog box, the primary DSView software user that is currently active will receive a request to allow sharing unless *Allow shared connections* automatically has been selected in the Video Viewer Session Properties window. See *Specifying Video Viewer Session Settings* on page 271 for more information. If they confirm, then you will gain passive access to the port.

- **Preempt a DSView software user's connection (DSView software administrators and user administrators only)** - When the dialog box contains a statement asking if you wish to preempt the DSView software user's session and you click *Preempt the other user*, the DSView software user requesting access to the target device will be connected and the existing DSView software user(s) will lose their connection to the target device. The existing DSView software user(s) will be notified that the DSView software session has been preempted.
- **Make a stealth connection (DSView software administrators and user administrators only)** - When the dialog box contains a statement asking if you wish to connect using *Stealth mode* and if you click *Stealth mode*, a Video Viewer window session will be started but you will only be able to view what occurs on the server without controlling the keyboard or mouse. The DSView software user that is currently active will not receive notification that access is being shared and no request to authorize sharing will be made.

Up to 12 DSView software users may share a single port at one time. If a 13th DSView software user attempts to connect, an error message will inform the DSView software user that no sessions are available.

At any time, a DSView software user may select *View - List of Shared Users* in a Video Viewer window to view a list of DSView software users sharing their port or channel. DSView software users in *Stealth mode* are excluded from this list.

Session time-out

A remote session may time-out if there has been no activity in a Session window for a specified time. The session time-out value is configured by your DSView software administrator at the DS1800 digital switch or DSR switch level using the Appliance Session Settings window. See *Modifying managed appliance settings* on page 186 for more information.

You may override this value within the DSView 3.0.2 Explorer. If you specify a new time-out value, it will be used the next time the DSView management software is started. See *Connecting to an existing KVM session* on page 267 for more information.

Window Features

Figure 6.1 shows the Video Viewer window areas, and descriptions follow in Table 6.1.

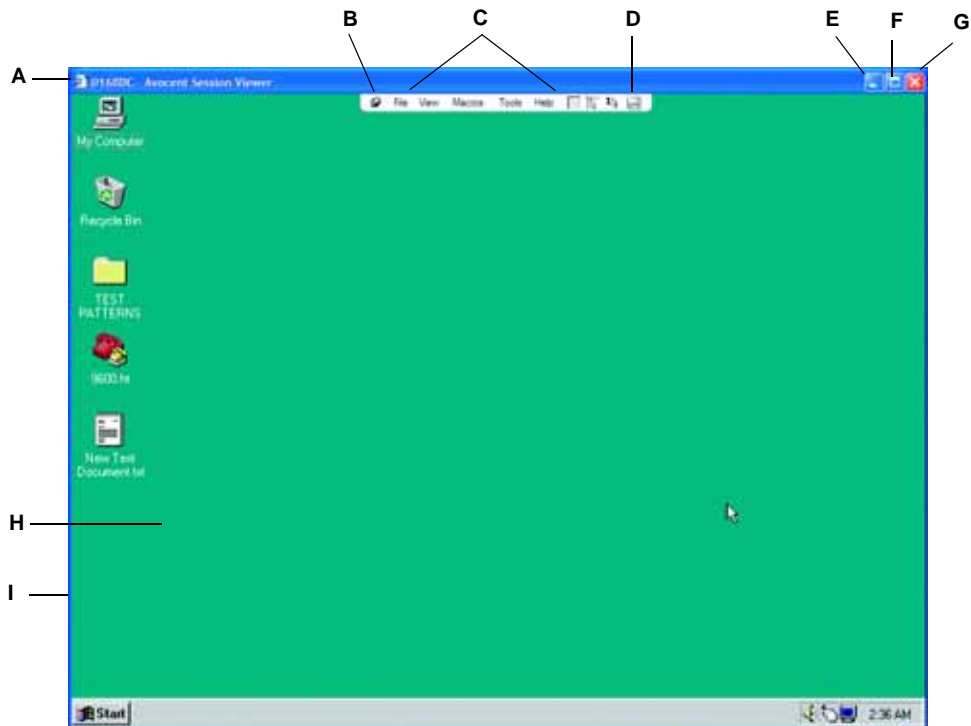


Figure 6.1: Video Viewer Window (Normal Window Mode)

Table 6.1: Video Viewer Window Descriptions

Letter	Description
A	Title Bar: Displays the name of the server being viewed. When in Full Screen mode, the title bar disappears and the server name appears between the menu and toolbar.
B	Thumbtack: Locks the view of the menu and toolbar so that it is visible at all times.
C	Menu and toolbar: Allows you to access many of the features in the Video Viewer window. The menu and toolbar will be in a show/hide state if the thumbtack has not been used. Place your cursor over the toolbar to display the menu and toolbar. Up to ten commands and/or macro group buttons may be displayed on the toolbar. By default, the Single Cursor Mode, Refresh, Automatic Video Adjust and Align Local Cursor buttons appear on the toolbar. See <i>Modifying the toolbar</i> on page 271 and <i>Using Global and Personal Macros</i> on page 286 for more information.
D	Macro button: Displays when a DSView software user specifies icons for macros and indicates that the icons should appear on the toolbar. See <i>Using Global and Personal Macros</i> on page 286 for more information.
E	Minimize button: Minimizes the display of the Video Viewer window into the taskbar at the bottom of the local computer.
F	Maximize button: Changes the window to Full Screen mode, which expands the accessed device desktop to fill the entire screen. When you expand the window, the following occurs: <ul style="list-style-type: none"> • The title bar disappears. • The server name appears between the menu and toolbar. • The Maximize button is changed to a Normal Window Mode button and it appears on the toolbar. Clicking the button will toggle the Video Viewer window to Normal Window mode. • The Close button appears on the toolbar.
G	Close button: Closes the Video Viewer window.
H	Accessed device desktop: Interacts with your device through this window.
I	Frame: Resizes the Video Viewer window by clicking and holding on the frame.

NOTE: The Close button may not be present on all operating systems.

See the DSR Installer/User Guide for information about how the keys on a standard Type 5 Sun keyboard are emulated on a PS/2 keyboard.

Specifying Video Viewer Session Settings

To specify Video Viewer session settings:

NOTE: You must have DSView software administrator or user administrator privileges to specify Video Viewer session settings.

1. From the DSView 3.0.2 Explorer, click the *System* tab.
2. From the top navigation bar, click *Global Properties*. *Video Session Properties* is automatically selected in the side navigation bar and the Video Viewer Session Properties window will appear.
 - a. Select *Allow shared connections automatically* if you wish to allow other DSView software users to share a Video Viewer session automatically. You will not be notified that they wish to connect to the session and will not be able to accept or reject the connection.
-or-
Leave the checkbox empty if you wish to be notified that other DSView software users wish to share the Video Viewer session. When a DSView software user attempts to connect to the session, you will be notified and allowed to either accept or reject their connection request.
 - b. Select *View identity of shared connections* if you wish to view a list of shared connections using the *View - Connected Users* command. See *Displaying Video Viewer Window Users* on page 295 for information on viewing a list connected DSView software users.
3. Click *Save* to save your changes and then *Close*.

Modifying the toolbar

You may choose the amount of time before the toolbar hides in the Video Viewer window when it is in show/hide state (that is, not locked in place by the thumbtack) and which commands and macros appear on the toolbar. See *Using Global and Personal Macros* on page 286 for information on personal macros and managing exit (global) and personal Macros in the Video Viewer window.

To specify a toolbar hide time:

1. Select *Tools - Session Options* from the Video Viewer window menu.
-or-
Click the *Session Options* button.
The Session Options dialog box appears.
2. Click the *Toolbar* tab.
3. Use the arrow keys to specify the number of seconds to delay the hiding of the toolbar.
4. Click *OK* to save your changes and dismiss the dialog box.

To add or remove macros or commands from the toolbar:

1. Select *Tools - Session Options* from the Video Viewer window menu.
-or-
Click the *Session Options* button.
The Session Options dialog box appears.
2. Click the *Toolbar* tab.
3. Select or deselect the checkboxes of the commands and macros you wish to display or remove from the toolbar.
4. Click *OK* to save your changes and dismiss the dialog box.

Toggle menu and toolbar activation

You may specify a key that will show the menu and toolbar when they are hidden.

To select a key for toggling activation of the menu and toolbar:

1. Select *Tools - Session Options* from the Video Viewer window menu.
-or-
Click the *Session Options* button.
The Session Options dialog box appears.
2. Click the *General* tab.
3. Select a keystroke from the drop-down menu in the Menu Activation Keystroke area.
4. Click *OK*. When you disable the menu and toolbar, the specified key may be pressed to reenable the menu and toolbar.

Setting the Window Size

NOTE: The View - Scaling command is not available if the Video Viewer window is in Full Screen mode or to non-primary DSView software users of a shared session.

When the DSView management software is used for the first time, any Video Viewer windows that are opened from a DS1800 digital switch or DSR switch port or channel in any DSView management software sessions will display at a resolution of 1024 x 768 until the value is changed by a DSView software user. Each Video Viewer window may be set to a different resolution.

The DSView management software will automatically adjust the display if the window size changes during a session as long as autoscaling is enabled. When a DSView software user accesses a channel via sharing, the display will be adjusted to match the input resolution selected by the primary DSView software user of that channel. This will prevent the primary DSView software user's display from being affected. If the target device resolution changes any time during a session, the display will be adjusted automatically.

To change the Video Viewer window resolution:

Select the *View - Scaling* command and then click on the desired resolution.

Adjusting the View

Using menus or Task buttons in the Video Viewer window, you may:

- Align the mouse cursors.
- Refresh the screen.
- Enable or disable Full Screen mode. When Full Screen mode is enabled, the image will be adjusted to fit the desktop up to a size of 1024 x 768. If the desktop has a higher resolution, the following will occur:
 - The full screen image will be centered in the desktop and the areas surrounding the Video Viewer window will be black.
 - The menu and toolbar will be locked so that they are visible at all times.
- Enable automatic, full or manual scaling of the session image. With automatic scaling, the desktop window remains fixed and the device image is scaled to fit the window. With full scaling, the desktop window is sized to match the resolution of the server being viewed. With manual scaling, a drop-down menu of supported image scaling resolutions is displayed.
- Change the color depth of the session image.

To align the mouse cursors:

Click the *Align Local Cursor* button in the Video Viewer window toolbar. The local cursor will align with the cursor on the remote device.

If cursors drift out of alignment, turn off mouse acceleration in the device.

To refresh the screen:

Click the *Refresh Image* button in the Video Viewer window.

-or-

Select *View - Refresh* from the Video Viewer window menu. The digitized video image will be completely regenerated.

NOTE: You may also specify background refreshing of the Video Viewer window by a DS1800 digital switch or DSR switch. See *Using background refresh* on page 274 for more information.

To enable or disable Full Screen mode:

NOTE: The *View - Full Screen* command may only be used by the primary DSView software user. The command is not available to non-primary DSView software users who are sharing the session.

1. To enable Full Screen mode, click the *Maximize* button.

-or-

Select *View - Full Screen* from the Video Viewer window menu.

The desktop window will disappear and only the accessed device desktop will be visible. The screen will be resized up to a maximum of 1024 x 768. If the desktop has a higher resolution, then a black background will surround the full screen image. The floating toolbar will appear.

2. To disable Full Screen mode, click the *Full Screen Mode* button on the floating toolbar to return to the desktop window.

To enable automatic, full or manual scaling:

NOTE: The *View - Scaling* command is not available if the Video Viewer window is in Full Screen mode or to non-primary DSView software users of a shared session.

To enable automatic scaling, select *View - Scaling* from the Video Viewer window menu. The device image will be scaled automatically.

-or-

To enable full scaling, select *View - Scaling* from the Video Viewer window menu. The device image will be scaled to the resolution of the server being viewed automatically.

-or-

To enable manual scaling, select *View - Scaling* from the Video Viewer window menu, then choose the dimension to scale the window. Available manual scaling sizes are:

- 1024 x 768
- 960 x 720
- 896 x 672
- 832 x 624
- 768 x 576
- 704 x 528
- 640 x 480

Using background refresh

In addition to using the Refresh Image command, you may also choose to allow the DS1800 digital switch or DSR switch to background refresh the Video Viewer window. When this option is enabled, a small portion of video data is constantly sent by the DS1800 digital switch or DSR switch. When background refresh is not enabled, the Video Viewer window is updated by the DS1800 digital switch or DSR switch only when it determines that the target device video image has changed.

NOTE: This option is not available if the DS1800 digital switch or DSR switch being used to view the target device does not support background refresh or if the DSR Remote Operations software is being used to connect to the DSR switch viewing the target device. See *DSR Remote Operations Software (Supported DSR Switches Only)* on page 514 for more information.

To enable or disable background refresh:

1. Select *Tools - Session Options* from the Video Viewer window menu.
-or-
Click the *Session Options* button.
The Session Options dialog box appears.
2. Click the *General* tab.
3. Select *Background Refresh* to enable the option.
-or-
Uncheck *Background Refresh* to disable the option.
4. Click *OK*.

Adjusting color depth

NOTE: The *View - Color* command may only be used by the primary DSView software user. The command is not available to non-primary DSView software users who are sharing the session.

The DS1800 digital switch or DSR switch Dambrackas Video Compression™ (DVC) algorithm enables DSView management software users to adjust the number of viewable colors in a remote session window. You may choose to display more colors for the best fidelity, or fewer colors to reduce the volume of data transferred on the network.

The DVC algorithm upgrade is standard on all DS1800 digital switches and DSR switches supported by the DSView management software.

Video Viewer windows can be viewed using the Best Color Available (slower updates), Best Compression (fastest updates), a combination of Best Color and Best Compression or in Greyscale.

The color depths of individual ports and channels can be specified by selecting the *View - Color* command in a remote session window. These settings are saved individually per port and channel.

Additional video adjustment

Generally, the Video Viewer window automatic adjustment features will optimize the video for the best possible view. However, DSView software users may fine tune the video with the help of Avocent Technical Support by using the *Tools - Manual Video Adjust* command in the Video Viewer window menu or clicking the *Manual Video Adjust* button. This displays the Manual Video Adjust dialog box.

Video adjustment is a per target setting and applies to each target device you access.

Modified video settings are written to the DS1800 digital switch or DSR switch. Settings are also stored per port/channel session on a system when they are made and saved so they may be used during a non-shared session as follows:

- If sharing is not enabled, the video settings made on the local DS1800 digital switch or DSR switch during the session are used.

- If sharing is enabled for the non-primary DSView software user, video settings are read from the DS1800 digital switch or DSR switch.

See *Connecting to an existing KVM session* on page 267 for more information on session sharing. Users may verify the level of packets per second required to support a static screen by observing the packet rate which is located in the lower left-hand corner of the dialog box.

To manually adjust the video quality of the window:

NOTE: The following video adjustments should be made only on the advice and with the help of Avocent Technical Support.

1. Select *Tools - Manual Video Adjust* from the Video Viewer window menu.
-or-
Click the *Manual Video Adjust* button
The Manual Video Adjust dialog box appears. See the following figure; descriptions follow in Figure 6.2.
2. Click the icon corresponding to the feature you wish to adjust.
3. Move the slider bar and then fine tune the setting by clicking the *Min (-)* or *Max (+)* buttons to adjust the parameter for each icon pressed. The adjustments will display immediately in the Video Viewer window.
4. When finished, click *Close* to exit the Manual Video Adjust dialog box.

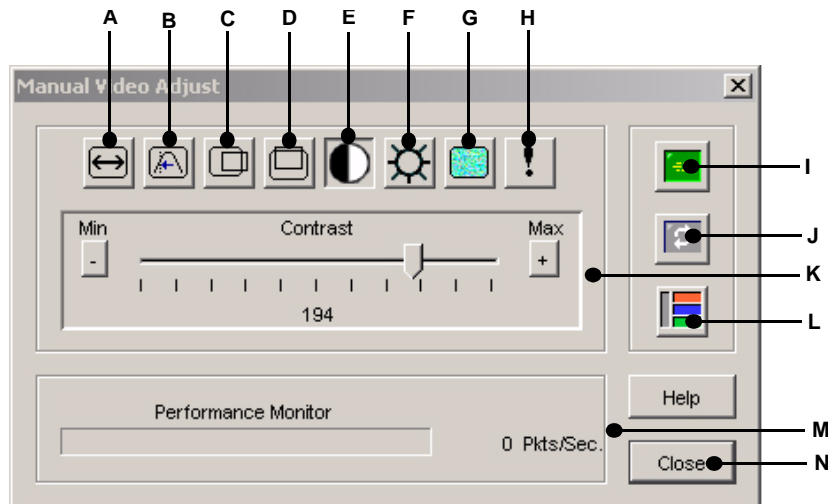


Figure 6.2: Manual Video Adjust Dialog Box

Table 6.2: Manual Video Adjust Dialog Box Descriptions

Letter	Description	Letter	Description
A	Image Capture Width	H	Pixel Noise Threshold
B	Pixel Sampling/Fine Adjust	I	Automatic Video Adjustment
C	Image Capture Horizontal Position	J	Refresh Image
D	Image Capture Vertical Position	K	Adjustment bar
E	Contrast	L	Video Test Pattern
F	Brightness	M	Performance Monitor
G	Block Noise Threshold	N	Close button

Image Capture Width, Pixel Sampling/Fine Adjust, Image Capture Horizontal Position and Image Capture Vertical Position

The Image Capture Width, Pixel Sampling/Fine Adjust, Image Capture Horizontal Position and Image Capture Vertical Position adjustments affect how the target video is captured and digitized and are seldom changed.

The image capture parameters are automatically changed by the Automatic Adjustment function. A special image is required on the target in order to make accurate adjustments independently.

Contrast and Brightness

If the image in the Video Viewer window is too dark or too light, select *Tools - Automatic Video Adjust* or click the *Automatic Video Adjust* button. This command is also available in the Video Adjustments dialog box. In most cases, this will correct video problems. In those cases where clicking on Auto Adjust several times does not set the contrast and brightness as desired, adjusting the contrast and brightness manually may help.

First, increase the brightness. Do not go more than 10 increments before moving the contrast. Generally, the contrast should be moved very little.

Detection thresholds

In some cases, noise in the video transmission keeps the packets/sec count up. This may be seen when little dots change in the area of the cursor when it is moved. Varying the threshold values may result in “quieter” screens and improved cursor tracking.

Noise Threshold and Priority Threshold values may be modified if you are using standard video compression. Block Noise Threshold and Pixel Noise Threshold values may be modified if you are using the DS1800 digital switch or DSR switch DVC algorithm upgrade. Default threshold values can be restored by clicking *Auto Adjust Video*.

Block Noise Threshold and Pixel Noise Threshold

The Block Noise Threshold and Pixel Noise Threshold values set the minimum color levels in terms of changed video blocks and pixels per thousand that are allowed. See *Adjusting the View* on page 273 for information on changing the color depth of a Video Viewer window. The thresholds are described below:

- The Block Noise Threshold sets the minimum color change that will occur in a single video block. Increasing the value will reduce the network bandwidth. Decreasing the value will make the size of these artifacts smaller.
- The Pixel Noise Threshold sets the minimum color change in a single pixel. Decreasing the value will reduce the number of low-contrast artifacts, but will increase network bandwidth.

Automatic Video Adjustment

NOTE: You may also select *Tools - Automatic Video Adjust* from the Video Viewer window menu or click the *Automatic Video Adjust* toolbar icon to automatically adjust the video.

In most cases, you will not need to alter the Video Settings from the default. The system will automatically adjust and use the optimal video parameters. The DSView management software performs best when the video parameters are set such that no (0) video packets are transmitted for a static screen.

You may easily adjust your video parameters by clicking on the *Auto Adjust Video* button in the Manual Video Adjust dialog box, which instructs the DS1800 digital switch or DSR switch to optimize the video to ideal settings.

NOTE: A green screen with yellow lettering may appear during auto-adjustment.

Refresh Image

NOTE: You may also select *View - Refresh* from the Video Viewer window menu to refresh the image.

Clicking the *Refresh Image* button in the Manual Video Adjust dialog box will completely regenerate the digitized video image.

Video Test Pattern

Clicking the *Video Test Pattern* button in the Manual Video Adjust dialog box will toggle a display of a video test pattern. Click the *Video Test Pattern* button again to toggle back to a normal video image.

Adjusting Mouse Options

The Video Viewer window mouse options affect cursor type, cursor mode, scaling, alignment and resetting. Mouse settings are device-specific; that is, they may be set differently for each device.

NOTE: If the device does not support the ability to disconnect and reconnect the mouse (almost all newer PCs do), then the mouse will become disabled and the device will have to be rebooted.

Cursor type

The Video Viewer window offers five appearance choices for the local mouse cursor. You may also choose no cursor or the default cursor.

Single Cursor mode

In Single Cursor mode, the display of the local (second) cursor in the Video Viewer window is turned off and only the target device mouse pointer will be visible. The only mouse movements that will appear are those of the target device remote cursor. Single Cursor mode is used when there is no need for a local cursor.

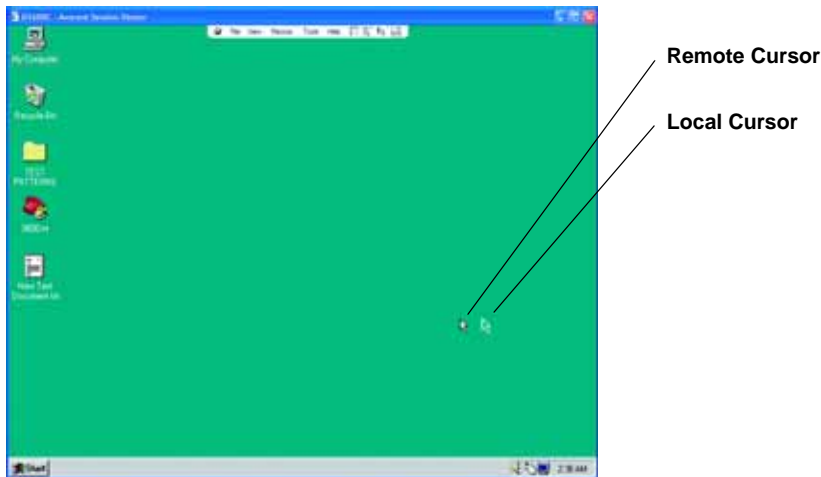


Figure 6.3: Video Viewer Window with Local and Remote Cursors Displayed

The cursor mode status of the Video Viewer window displays in the title bar, including the keystroke that will exit Single Cursor mode. You may define the keystroke that will exit Single Cursor mode in the Session Options dialog box.

NOTE: When using a device that captures keystrokes before they reach the Client, you should avoid using those keys to restore the mouse pointer.

To enter Single Cursor mode:

Select *Tools - Single Cursor Mode*. The local cursor will not appear and all movements will be relative to the target device.

-or-

Click the *Single Cursor Mode* button.

To select a key for exiting Single Cursor mode:

1. Select *Tools - Session Options* from the Video Viewer window menu.

-or-

Click the *Session Options* button.

The Session Options dialog box appears.

2. Click the *Mouse* tab.
3. Select a terminating keystroke from the drop-down menu in the Single Cursor mode area.
4. Click *OK*. When you enable Single Cursor mode, the specified key may be pressed to return to Regular Desktop mode.

To exit Single Cursor mode:

Press the key on the keyboard that is identified in the title bar.

Cursor settings

When using the DSView management software, your mouse pointer will change shape when over a Video Viewer window. You may change the appearance of this second local cursor or eliminate it from within the DSView management software.

Scaling

You may choose among three preconfigured mouse scaling options or set your own custom scaling. The preconfigured settings are: Default (1:1), High (2:1) or Low (1:2), as follows:

- In a 1:1 scaling ratio, every mouse movement on the desktop window will send an equivalent mouse movement to the server.
- In a 2:1 scaling ratio, the same mouse movement will send a 2X mouse movement.
- In a 1:2 scaling ratio, the value will be 1/2X.

Alignment

Because the DSView management software cannot get constant feedback from the mouse, there are times when the mouse on the DS1800 digital switch or DSR switch may lose sync with the mouse on the host system. If your mouse or keyboard no longer responds properly, you may align the mouse to re-establish proper tracking.

Alignment causes the local cursor to be aligned with the cursor on the remote server. Resetting causes the appliance to simulate a mouse and keyboard reconnect at the device as if you had disconnected and then reconnected them.

To change the mouse cursor setting:

1. Select *Tools - Session Options* from the Video Viewer window menu.
-or-
Click the *Session Options* button.
The Session Options dialog box appears.
2. Click the *Mouse* tab.
3. Select a mouse cursor type in the Local Cursor panel.
4. Click *OK*.

To set mouse scaling:

1. Select *Tools - Session Options* from the Video Viewer window menu.
-or-
Click the *Session Options* button.
The Session Options dialog box appears.
2. Click the *Mouse* tab.
3. To use one of the preconfigured settings, check the appropriate radio button.
4. To set custom scaling, click the *Custom* radio button. The X and Y fields become enabled. Type a mouse scaling value in the X and Y fields. For every mouse input, the mouse movements are multiplied by the respective X and Y scaling factors. Valid input ranges are 0.25-3.00.

To realign the mouse:

Click the *Align Local Cursor* button in the Video Viewer window toolbar.

Using Scan Mode

NOTE: Scan mode is not available when using the Topology Unit View window.

When the checkboxes of two or more target devices are selected in the DSView 3.0.2 Explorer, the Scan button will become available. If the *Scan* button is clicked, Scan mode will be started and the Video Viewer windows will appear in the Thumbnail Viewer. A series of thumbnail frames appear in the Thumbnail Viewer, each containing a small, scaled, non-interactive version of a target device screen image.

The Scan mode moves from one thumbnail image to the next, logging into a device and displaying an updated device image for a specified length of time (View Time Per Server), before logging out of that device and moving on to the next thumbnail image. You may also specify a scan delay between thumbnails (Time Between Servers). During the delay, you will see the last thumbnail image for all devices in the scan sequence, though you won't be logged into any devices.

When you first launch the Thumbnail Viewer, each frame will be filled with a white background until a device image is displayed. An indicator light at the bottom of each frame displays the device status. The default thumbnail size is based on the number of devices in the scan list.

Scan mode has a lower priority than an active connection. If you or another DSView software user are connected to a device, that device will be skipped in the scan sequence, and Scan mode will proceed to the next device unless the Shared Connections Automatically option has been selected, in which case target devices may be shared and will not be skipped in the scan sequence. No login error messages will appear. After your interactive session is closed, the thumbnail will be included in the scan sequence again.

You may disable a device thumbnail from the scan sequence. The thumbnail image remains, but it is not updated until it is once again enabled.

When running Scan mode, it is recommended that the following audit log events (enabled by default) are disabled in the DSView software system:

- Appliance Change Of State
- Appliance Viewer Session Started
- Appliance Viewer Session Stopped
- Viewer Session Started
- Viewer Session Stopped

Each thumbnail scan will result in the logging of the above audit log events. The audit log could grow to a huge size if the events are enabled and Scan mode is left running continuously for a length amount of time.

Thumbnail Viewer features

Figure 6.4 shows the Thumbnail Viewer areas, and descriptions follow in Table 6.3.

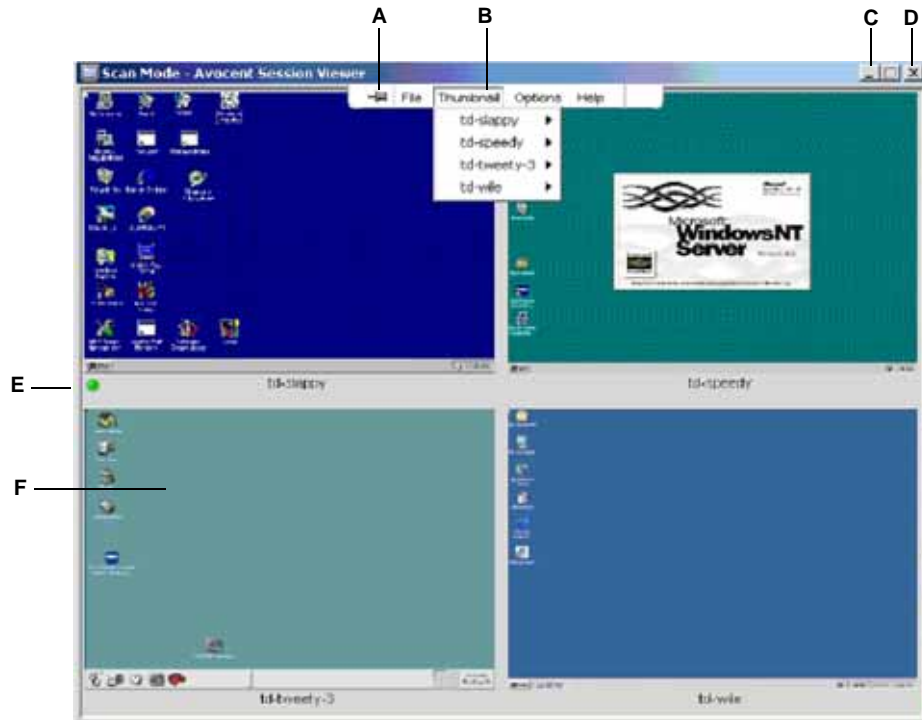


Figure 6.4: Thumbnail Viewer

Table 6.3: Thumbnail Viewer Descriptions

Letter	Description
A	Thumbtack: Locks the view of the menu so that it is visible at all times.
B	Menu: Allows you to access the features in the Thumbnail Viewer. The menu will be in a show/hide state if the thumbtack has not been used. Place your cursor over the toolbar to display the menu.
C	Minimize button: Minimizes the display of the Thumbnail Viewer window into the toolbar at the bottom of the local computer.
D	Close button: Closes the Thumbnail Viewer and all thumbnails being viewed.

Table 6.3: Thumbnail Viewer Descriptions (Continued)

Letter	Description
E	<p>Status indicator: The device name and status indicator appear below each thumbnail as follows:</p> <ul style="list-style-type: none"> • A green LED indicates that a device is currently being scanned. • A red X indicates that the last scan of the device was not successful. The scan may have failed due to a credential or path failure (for example, the device path on the appliance was not available). The tool tip for the LED indicates the reason for the failure.
F	Thumbnail image: Interacts with your device through this window.

NOTE: The Close button may not be present on all operating systems.

Performing Thumbnail Viewer tasks

To set scan preferences:

1. Select *Options - Preferences* from the Thumbnail Viewer menu. The Scan Mode Preferences dialog box appears.
2. In the View Time Per Server field, enter the time each thumbnail will be active during the scan, in the range 5-60 seconds.
3. In the Time Between Server field, enter the time the scan will stop between each device, in the range 1-60 seconds.
4. Click *OK*.

To pause or restart a scan sequence:

Select *Options - Pause Scan* from the Thumbnail Viewer menu. The scan sequence will pause at the current thumbnail if the Thumbnail Viewer has a scan in progress or will restart the scan if currently paused.

To change the thumbnail size:

Select *Options - Thumbnail Size* from the Thumbnail Viewer menu. Choose the desired thumbnail size from the cascade menu.

To disable a device thumbnail in the scan sequence:

Select a device thumbnail. Select *Thumbnail - <device name> - Disable* from the Thumbnail Viewer menu.

-or-

Right-click on a device thumbnail and select *Disable* from the pop-up menu. Updating of the thumbnail image will stop until it is enabled.

To enable a device thumbnail in the scan sequence:

Select a device thumbnail. Select *Thumbnail - <device name> - Enable* from the Thumbnail Viewer menu.

-or-

Right-click on a device thumbnail and select *Enable* from the pop-up menu.

Updating of that thumbnail image will resume.

To launch a session to a device from the Thumbnail Viewer:

Select a device thumbnail. Select *Thumbnail - <device name> - View Interactive Session* from the Thumbnail Viewer menu.

-or-

Right-click on a device thumbnail and select *View Interactive Session* from the Thumbnail Viewer menu. That target device desktop will appear in a Video Viewer window.

-or-

Double-click on the thumbnail image.

To exit the Thumbnail Viewer:

Select *File - Exit*.

-or-

Click the *Close* button.

Using Keyboard Pass-through

Keystrokes that a DSView software user enters when using a Video Viewer window may be interpreted in two ways, depending on the screen mode of the Video Viewer window.

If a Video Viewer window is using Full Screen mode, all keystrokes and keyboard combinations except **Ctrl-Alt-Del** are sent to the remote server being viewed. If a Video Viewer window is using Regular Desktop mode, Keyboard Pass-through mode may be used to control whether the remote server or local computer will recognize certain keystrokes or keystroke combinations.

Keyboard pass-through must be specified using the Session Options dialog box. When enabled, keyboard pass-through will send all keystrokes and keystroke combinations except **Ctrl-Alt-Del** to the remote server being viewed when the Video Viewer window is active. When the local desktop is active, keystrokes and keystroke combinations entered by the DSView software user affect the local computer.

NOTE: The **Ctrl-Alt-Delete** keyboard combination can only be sent to a remote server by using a macro. See *Using Global and Personal Macros* in the following section for more information.

NOTE: The Japanese keyboard **ALT-Han/Zen** keystroke combination is always sent to a remote server, regardless of the screen mode or keyboard pass-through setting.

To specify keyboard pass-through:

1. Select *Tools - Session Options* from the Video Viewer window menu.
-or-
Click the *Session Options* button.
The Session Options dialog box appears.
2. Click the *General* tab.
3. Select *Pass-through all keystrokes in regular window mode*.
4. Click *OK*.

Using Global and Personal Macros

NOTE: Macros may not be created, edited, copied or deleted if the DSR Remote Operations software is being used to connect to the DSR appliance viewing the target device. See *DSR Remote Operations Software (Supported DSR Switches Only)* on page 514 for more information.

NOTE: You must have Appliance Administrator privileges to create and modify Global Macros. See *User Groups* on page 35 for more information.

Three types of macros are available in the DSVIEW management software. Exit macros are created within the DSVIEW 3.0.2 Explorer and are used by and located on DS1800 digital switches and DSR switches. See *Defining exit macros* on page 222 for more information.

The other two types, global macros and personal macros, are created and used by the Video Viewer. Global macros are created and maintained by DSVIEW software users with administrative privileges and are stored on the hub server and any specified spoke servers. See *Viewing and modifying session settings on DS1800 digital switches, CPS appliances or DSR switches* on page 215 for more information on global macros.

NOTE: Global and personal macros may also be created in the Telnet/SSH applet window. Macros created using the Telnet/SSH applet window are not compatible with the Video Viewer and may only be used with target devices connected to CPS appliances.

DSVIEW software users can create personal macros for their own use. These macros can be accessed on the local computer using the Video Viewer window. Personal macros may be customized and grouped in any manner you wish with the exception of being included in a Global Macro group.

When a session is started in the DSVIEW management software, global and personal macros are retrieved from the DSVIEW software server. Then, when a Video Viewer window session is started, the macros are loaded. A DSVIEW software user may choose to use either personal macros or global macros and switch between using them at any time during the session.

Both personal and global macros may be added to the Video Viewer window toolbar by assigning an icon to them using the Toolbar tab on the Session Options dialog box. A user may then execute

the macro by clicking the button on the toolbar. See *Modifying the toolbar* on page 271 for more information.

The Video Viewer window macro function allows you to:

- Send multiple keystrokes to a device, including keystrokes that you cannot generate without affecting your local system, such as **Ctrl-Alt-Delete**.
- Send a macro from a predefined macro group. Macro groups for Windows, Novell and Sun are already defined.
- Create, edit and delete your own macros. When you create or edit a macro, you may type the desired keystrokes or you may select from among several available categories of keystrokes. Each category contains a set of keystroke combinations. Selecting from the available categories and keystrokes saves time and eliminates the risk of typographical errors.

Since the DSView management software may be used to access different computer platforms, DSView software users may find it helpful to assign distinct macro groups to Global Macros or Personal Macros on individual systems. You may group macros by selecting the *Macros - Configure - Macro Groups* command in the Video Viewer window and specifying the macro group to display in the Macro Groups dialog box.

The Macro Groups dialog box may also be used to switch between using Global and Personal Macros at any time during a session.

The Video Viewer window contains grouping commands that allow you to:

- Create, edit and delete your own macro groups. A DSView software user with software administrator or user administrator privileges may also modify the predefined macro groups.
- Change the macro group that displays by default. This causes the macros in the specified group to be available on the Macros menu.

Macro group settings are device-specific; that is, they may be set differently for each device.

NOTE: Exit Macros, which reside on and are used by a DS1800 digital switch or DSR switch, may also be created. See *Defining exit macros* on page 222 for more information.

To send a macro:

1. Select *Macros - <desired macro>* from the Video Viewer window menu.

-or-

Select *Macros - Configure - Macros* from the Video Viewer window menu.

NOTE: The *Macros - Configure - Macros* menu item is not available if you are using the DSR Remote Operations Software.

-or-

Click the *Macros* button.

The Macros dialog box appears.

2. Select one of the following:
 - Select *All* to view both personal and global macros.
 - Select *Personal* to view personal macros only.
 - Select *Global* to view global macros only.
3. Select the desired macro from the Defined Macros list and then click *Run*.
4. Click *Close* when you are finished to dismiss the dialog box.

To create or edit a macro:

NOTE: Macros cannot be created or edited if you are using the DSR Remote Operations Software.

1. Select *Macros - Configure - Macros* from the Video Viewer window menu.
-or-
Click the *Macros* button.
The Macros dialog box appears.
2. To create a macro, click *Create*.
-or-
To edit a macro, click *Edit*.
The Create Macro or Edit Macro dialog box appears.
3. If you are creating a macro, type a 1-32 character name in the Macro Name field.
4. Select whether you wish to edit or create a personal or global macro from the Macro Type area.
5. Select the type of keyboard you wish to use to create or edit the macro from the Keyboard Type drop-down menu. Available keyboard types are:
 - U.S. English
 - Dutch
 - Danish
 - German
 - French
 - Italian
 - Spanish
 - JapaneseSelect an icon to associate with the macro from the Macro Icon drop-down menu.
6. To build the macro, click on the keys on the virtual keyboard in the dialog box that you wish to use to create the macro. The keys of the virtual keyboard operate like a physical keyboard. As a key is clicked, it will appear in the Keystrokes list box to the left of the virtual keyboard.
You may type or press the arrow keys to specify a delay between keys. First, click the key in the list box after which you wish to place a delay. Next, click *Delay* to insert the delay in the list box.

Keystrokes unique to Sun keyboards may be added to the macro by selecting the key type from the drop-down menu to the right of the Sun Key button and clicking the button.

7. If necessary, use the following keys to modify the entries in the Keystrokes list box:
 - Click *Reset* to remove all entries from the list box.
 - Click on an entry and click *Remove* to remove it from the list box.
 - Click on an entry and click *Move Up* to promote the entry in the list box.
 - Click on an entry and click *Move Down* to demote the entry in the list box.
8. Click *OK* to accept the changes and return to the Macros dialog box.
-or-
Click *Cancel* to exit the Macros dialog box without saving your changes.

To delete a macro:

NOTE: Macros cannot be deleted if you are using the DSR Remote Operations Software.

1. Select *Macros - Configure - Macros* from the Video Viewer window menu.
-or-
Click the *Macros* button.
The Macros dialog box appears.
2. Select one of the following:
 - Select *All* to view both personal and global macros.
 - Select *Personal* to view personal macros only.
 - Select *Global* to view global macros only.
3. Select the desired macro from the Defined Macros list and then click *Delete*. You are prompted to confirm the deletion.
4. Click *Yes* to confirm the deletion.
-or-
Click *No* to cancel the deletion.
5. Click *Close* to exit the Macros dialog box.

To copy a macro:

NOTE: Macros cannot be copied if you are using the DSR Remote Operations Software.

1. Select *Macros - Configure - Macros* from the Video Viewer window menu.
-or-
Click the *Macros* button.
The Macros dialog box appears.

2. Select one of the following:
 - Select *All* to view both personal and global macros.
 - Select *Personal* to view personal macros only.
 - Select *Global* to view global macros only.
3. Select the desired macro from the Defined Macros list and then click *Copy*. The Copy Macro dialog box will appear.
4. Type a 1-32 character name in the Name of copied macro field.
5. Select whether you wish to make the copied macro a personal or global macro from the Macro Type area.
6. Click *OK* to copy the macro. The Copy Macro dialog box is dismissed and the copied macro will appear in the Macros dialog box.
-or-
Click *Cancel* to cancel the action.
7. Click *Close* to exit the Macros dialog box.

To create a macro group:

NOTE: Macro groups cannot be created if you are using the DSR Remote Operations Software.

1. Select *Macros - Configure - Macro Groups* from the Video Viewer window menu.
-or-
Click the *Macro Groups* button.
The Macro Groups dialog box appears.
2. Click *Create*. The Create/Edit Macro Group dialog box will appear.
3. In the Macro Group Name field, enter a 1-32 character unique macro group name.
4. In the Group Type area, click *Global* if you wish to create a Global Macro group.
-or-
Click *Personal* if you wish to create a personal macro group.
5. Click *OK* to save the name and return to the Macro Groups dialog box.
-or-
Click *Cancel* to leave the dialog box without saving changes.
6. Click *Close* to exit the Macro Groups dialog box.

To add or delete macros in an existing macro group:

NOTE: Macros cannot be added to or deleted from macro groups if you are using the DSR Remote Operations Software.

1. Select *Macros - Configure - Macro Groups* from the Video Viewer window menu.
-or-
Click the *Macro Groups* button.
The Macros Groups dialog box appears.
2. Select one of the following:
 - Select *All* to view both Personal and Global macro groups.
 - Select *Personal* to view Personal Macro groups only.
 - Select *Global* to view Global Macro groups only.
3. Select the macro group to be altered from the Defined Groups list box. Windows and Sun are the default macro groups. If you have created new groups, they will also be displayed.
4. Click *Edit*. The Create/Edit Macro Groups dialog box will appear.
5. If you are editing a Personal Macro group, select one of the following from the View area:
 - Select *All* to view both personal and global macros.
 - Select *Personal* to view personal macros only.
 - Select *Global* to view global macros only.
6. To add macros to the group, select the macro to add from the Macros Available list. Click the *Add* button. The macro moves to the Macros in Group list. Use the *Move Up* and *Move Down* buttons to move the macro up or down in relation to the other macros.
7. To remove macros from the group, select the macro to delete from the Macros in Group list. Click the *Remove* button. The macro moves to the Macros Available list.
8. Repeat steps 6 and 7 until the Macros in Group list contains all the desired macros.
9. Click *OK* to accept the macro group and return to the Macro Groups dialog box.
-or-
Click *Cancel* to leave the dialog box without saving changes.
10. Click *Close* to exit the Macro Groups dialog box.

To rename a macro group:

NOTE: Macro groups cannot be renamed if you are using the DSR Remote Operations Software.

1. Select *Macros - Configure - Macro Groups* from the Video Viewer window menu.
-or-
Click the *Macro Groups* button.
The Macro Groups dialog box appears.

2. Select one of the following:
 - Select *All* to view both Personal and Global Macro groups.
 - Select *Personal* to view Personal Macro groups only.
 - Select *Global* to view Global Macro groups only.
3. Select the macro group to be altered from the Defined Groups list box. Windows and Sun are the default macro groups. If you have created new groups, they will also be displayed.
4. Click *Edit*. The Create/Edit Macro Groups dialog box will appear.
5. In the Macro Group Name field, enter a 1-32 character unique macro group name.
6. Click *OK* to save the name and return to the Macro Groups dialog box.
-or-
Click *Cancel* to leave the dialog box without saving changes.
7. Click *Close* to exit the Macro Groups dialog box.

To delete a macro group:

NOTE: Macro groups cannot be deleted if you are using the DSR Remote Operations Software.

1. Select *Macros - Configure - Macro Groups* from the Video Viewer window menu.
-or-
Click the *Macro Groups* button.
The Macro Groups dialog box appears.
2. Select one of the following:
 - Select *All* to view both Personal and Global Macro groups.
 - Select *Personal* to view Personal Macro groups only.
 - Select *Global* to view Global Macro groups only.
3. Select the macro group to be deleted from the Defined Groups list box.
4. Click the *Delete* button. You are prompted to confirm the deletion.
5. Click *Yes* to confirm the deletion.
-or-
Click *No* to cancel the deletion.
6. Click *Close* to exit the Macro Groups dialog box.

To copy a macro group:

NOTE: Macro groups cannot be copied if you are using the DSR Remote Operations Software.

1. Select *Macros - Configure - Macro Groups* from the Video Viewer window menu.
-or-
Click the *Macro Groups* button.
The Macro Groups dialog box appears.
2. Select one of the following:
 - Select *All* to view both personal and global macros.
 - Select *Personal* to view personal macros only.
 - Select *Global* to view global macros only.
3. Select the desired macro from the Defined Groups list and then click *Copy*. The Copy Macro Group dialog box will appear.
4. Type a 1-32 character name in the Name of copied macro group field.
5. Select whether you wish to make the copied macro group a personal or global macro from the Macro Type area.
6. Click *OK* to copy the macro group. The Copy Macro Group dialog box is dismissed and the copied macro group will appear in the Macro Groups dialog box.
-or-
Click *Cancel* to cancel the action.
7. Click *Close* to exit the Macro Groups dialog box.

To change the macro group to be displayed on in the Macros menu:

NOTE: The macro group displayed on the Macros menu cannot be changed if you are using the DSR Remote Operations Software.

1. Select *Macros - Configure - Macro Groups* from the Video Viewer window menu.
-or-
Click the *Macro Groups* button.
The Macro Groups dialog box appears.
2. Select one of the following:
 - Select *All* to view both Personal and Global Macro groups.
 - Select *Personal* to view Personal Macro groups only.
 - Select *Global* to view Global Macro groups only.
3. Select the macro group to be displayed from the Defined Groups list box.

4. Select *Display on Menu* if you wish for the macro group to appear in the Macros menu.
5. Click *Close* to exit the Macro Groups dialog box.

Macros in the selected group will appear in the Video Viewer window Macros menu.

To display a macro group:

NOTE: Macro groups cannot be displayed if you are using the DSR Remote Operations Software.

Select *Macros - Display on Menu* and select one of the following macro groups:

- Sun
- Windows

Power Controlling Target Devices

NOTE: You must have Appliance Administrator privileges to use the Tools - Power Control command. See *User Groups* on page 35 for more information.

If a target device is connected to an SPC device outlet, you may power up, power down or cycle (power up and then power down) the target device using the Power Control dialog box.

To power up a target device:

1. Select *Tools - Power Control* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click the *Power On the Server* button. A warning dialog box will appear.
3. Click *OK* to power up the target device.

-or-

Click *No* to cancel the command.

4. Click *Close* to dismiss the dialog box.

To power down a target device:

1. Select *Tools - Power Control* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click the *Power Off the Server* button. A warning dialog box will appear.
3. Click *OK* to power down the target device.

-or-

Click *No* to cancel the command.

4. Click *Close* to dismiss the dialog box.

To power cycle a target device:

1. Select *Tools - Power Control* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click the *Power Cycle the Server* button. A warning dialog box will appear.
3. Click *OK* to power cycle the target device.
-or-
Click *No* to cancel the command.
4. Click *Close* to dismiss the dialog box.

Displaying Video Viewer Window Users

NOTE: The *View - Connected Users* command is not available if the DSR Remote Operations software is being used to connect to the DSR appliance viewing the target device. See *DSR Remote Operations Software (Supported DSR Switches Only)* on page 514 for more information.

You may select the *View - Connected Users* command or click the *Connected Users* button to view the current users connected to a Video Viewer window session.

To view current Video Viewer window users:

1. Select *View - Connected Users* from the Video Viewer window menu.
-or-
Click the *Connected Users* button.
The Users Connected to <device - Video Session number> dialog box appears, containing a list of all users connected to the Video Viewer window session.
2. Click *OK* to close the dialog box.

Saving the View

The display of a Video Viewer window may be saved to either a file or to the clipboard for pasting into a word processing or other program.

To capture the Video Viewer window to a file:

1. Select *File - Capture to File* from the Video Viewer window menu.
-or-
Click the *Capture to File* button.
The Save As dialog box appears.
2. Enter a filename and choose a location to save the file.
3. Click *Save*.

To capture the Video Viewer window to your clipboard:

Select *File - Capture to Clipboard* from the Video Viewer window menu.

-or-

Click the *Capture to Clipboard* button.

The image data is saved to the clipboard.

Closing a Video Viewer Window Session

To close a Video Viewer window session:

Select *File - Exit* from the Video Viewer window.

Using the Telnet/SSH Applet

About the Telnet/SSH Applet

The DSView management software ships bundled with a built-in proprietary Telnet/SSH applet that provides features unavailable in many other Telnet programs. This feature includes configurable session properties tailored for each device and configurable user preferences for all sessions.

Additionally, the DSView management software Telnet/SSH applet offers a separate History mode to review session data, a choice of connection modes to a CPS serial over IP network appliances and generic appliances, a scripting function for automatic device login and a logging function for saving session data to a file.

DSView software clients may use the DSView management software Telnet/SSH applet to access CPS810 and CPS1610 appliances or their ports, or any generic appliance that supports Telnet/SSH applet connections.

The Telnet/SSH applet uses the credentials provided by the DSView management software to establish a session and will automatically accept the CPS appliance server key. When the Common Telnet Viewer is launched, the DSView management software displays the Telnet/SSH applet window. The username and password provided by the DSView software users when they log in are authenticated by the authentication service configured in the DSView management software.

Telnet/SSH Applet Features

A new Telnet/SSH applet window will appear for each new Telnet/SSH session established by a DSView software user. The Telnet/SSH applet window contains commands and a window that provides virtual terminal emulation. Figure 7.1 shows the Telnet/SSH applet and descriptions follow in Table 7.1.

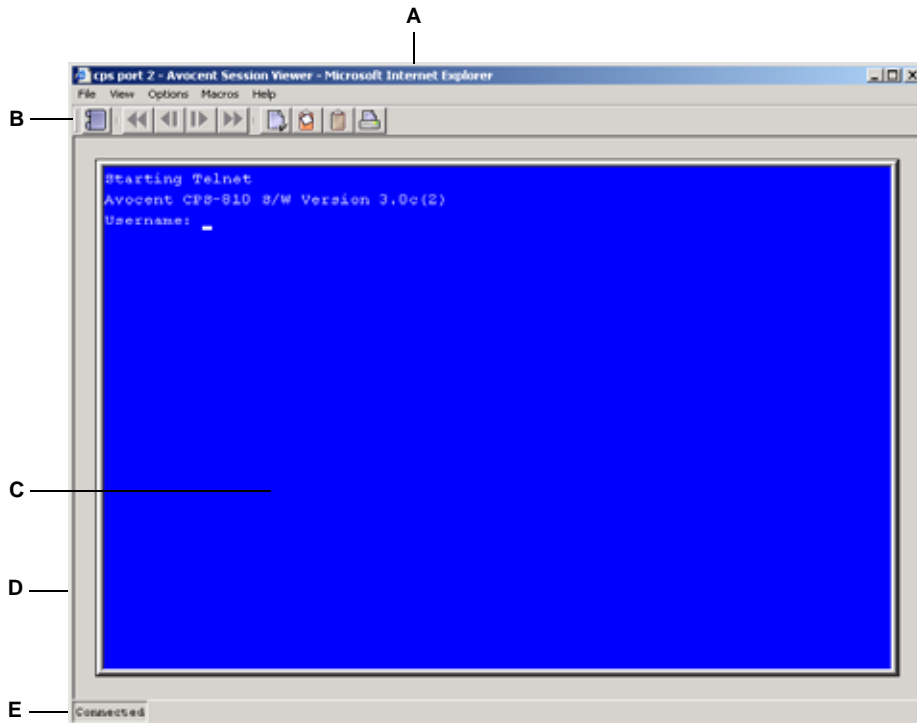


Figure 7.1: Telnet/SSH Applet Window

Table 7.1: Telnet/SSH Applet Window Descriptions

Letter	Description
A	Title Bar: Displays the name of the target device being viewed.
B	Toolbar: Allows you to access many of the features in the Telnet/SSH applet. See Table 7.2 for a description of the toolbar icons.
C	Virtual Terminal window: Interacts with your target device through this window. By default the window size is 80 characters x 24 lines.
D	Applet window: Resizes the window when you click and hold on the frame. Although the window may be resized, the Virtual Terminal window will remain the same size.

Table 7.1: Telnet/SSH Applet Window Descriptions (Continued)

Letter	Description
E	<p>Status Bar: Displays one of the following:</p> <ul style="list-style-type: none"> • Connected - Displays during normal terminal emulation in a Telnet/SSH applet session • ESC to return to Terminal mode - Displays when the Telnet/SSH applet screen is in History mode • Logging - Displays when logging is enabled • Logging Paused - Displays when logging is paused

NOTE: The Close button may not be present on all operating systems.

Telnet/SSH applet window toolbar

Table 7.2: Telnet/SSH Applet Window Toolbar Icons











Icon	Description
	History - Enables and disables History mode
	Double-left Icon - Moves to the beginning of the history buffer (oldest data) when History mode is enabled
	Left-arrow-and-bar - Moves back one page in the history buffer when History mode is enabled
	Right-arrow-and-bar - Moves forward one page in the history buffer when History mode is enabled
	Double-right Icon - Moves to the end of the history buffer (newest data) when History mode is enabled
	Session Settings - Displays the Session Properties dialog box
	Help - Displays the DSView management software help
	Copy Screen - Copies a screen of Telnet/SSH applet session data to the system clipboard or, if History mode is enabled, copies a screen of Telnet/SSH applet history buffer contents to the system clipboard

Table 7.2: Telnet/SSH Applet Window Toolbar Icons (Continued)

Icon	Description
	Paste - Pastes the contents of the system clipboard into a DSView management software Telnet/SSH applet session
	Prints a screen of Telnet/SSH applet session data or, if History mode is enabled, prints a screen of Telnet/SSH applet session history data

Security Property

A fully functional SSH2 (Secure Shell Version 2) Client is built into the Telnet/SSH applet. The SSH2 Client is Java-based and provides a secure method for accessing target devices.

The Telnet/SSH applet provides the following security features:

- Strict host key checking
- Support ciphers for AES (128-, 192-, 256-bit), Blowfish, Twofish, Cast, 3DES and Arcfour
- Diffie-Hellman key exchange support
- SSH-RSA key types
- Supported for hmac-md5, hmac-sha1, hmac-sha1-96, hmac-md5-96 and hmac-ripemd160

The DSView management software will determine whether to create a Telnet or SSH2 connection when you start a session with a CPS or generic appliance. A serial connection provides SSH2 serial access to the target device from the CPS appliance. Terminal emulation options are supported using both types of connections.

The SSH2 Client is started when you initiate a session with a CPS appliance port from the DSView 3.0.2 Explorer. The DSView software server is contacted, which in turn contacts the target device connected to the CPS appliance port and exchanges X.509 certificates with the target device. The target device also supplies a session certificate, private key and CPS appliance certificate.

These certificates are then passed back to the SSH2 Client, which uses them to determine the SSH2 host key and the DSView software user SSH2 key. The Telnet/SSH applet will then establish a session with the target device (or through the proxy server if there is a proxy server connection). The Telnet/SSH applet then passes the RSA public key from the session certificate when establishing the SSH connection. Finally, the Virtual Terminal window will open using an SSH2 Shell over SSH connection.

SSH2 settings may be viewed by clicking on a CPS appliance name in the DSView 3.0.2 Explorer and selecting *Appliance Settings - Sessions - Settings* in the side navigation bar to display the *Properties - Sessions - Settings* window.

Opening a Session

A DSView management software Telnet/SSH applet session is opened using the DSView 3.0.2 Explorer by clicking on *Telnet Session* or *Serial Session* in the Action column of the target device. If the target device is attached to a CPS appliance or generic appliance port, Telnet Session will appear. If the target device is attached to a CPS appliance or generic appliance that is also attached to a serial device, Serial Session will appear.

NOTE: If multiple connection methods are available, an alternate actions arrow will appear to the right of the action. Clicking the alternate action arrow will display a list of other actions, in descending order of priority, which may be selected to launch the corresponding window type.

To open a Telnet/SSH applet session:

1. From the DSView 3.0.2 Explorer, click the *Units* tab. *Units* is automatically selected in the top navigation bar and *Unit Views* is automatically selected in the side navigation bar.
2. From the side navigation bar, click a link to display the Appliances, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window.
3. In the Action column for the CPS appliance or generic appliance, click *Telnet Session*. The Telnet/SSH applet window will appear.

-or-

In the Action column for the CPS appliance or generic appliance, click *Serial Session*. The Telnet/SSH applet window will appear.

-or-

Click the alternate actions arrow in the Action column for the CPS appliance or generic appliance and click either *Telnet Session* or *Serial Session*. The Telnet/SSH applet window will appear.

-or-

Click on the name of the CPS appliance or generic appliance you wish to view. *Overview* will automatically be selected and the name of the CPS appliance or generic appliance will appear at the top of the side navigation bar. The Overview window will appear.

NOTE: If a web browser address was defined when you added the CPS appliance or generic appliance, Browser Session will appear in the Action column and you must use the Overview window or click the alternate actions arrow to open a Telnet/SSH applet window.

4. Click the *Telnet Session* icon or text.

-or-

Click the *Serial Session* icon or text.

The Telnet/SSH applet window will appear.

Customizing the Telnet/SSH Applet

You may specify preferences that will be used for every Telnet/SSH applet session, regardless of the device to which you connect. These application preferences are entered from the Telnet/SSH applet window when you are connected to a device or port. After the preferences are entered, they are applied to devices/ports during subsequent sessions.

Changing Colors

You may change the background color and text color on the DSView management software Telnet/SSH applet window at any time.

To change the DSView management software Telnet/SSH applet window background color:

1. Select *Options - Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Colors panel, click the *Background/Normal Mode* box and choose a color. The default value is blue.

To change the DSView management software Telnet/SSH applet window text color:

1. Select *Options - Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Colors area, click the *Text/Normal Mode* box and choose a color. The default value is white.

Changing the Cursor

You may specify whether the cursor (caret) on the Telnet/SSH applet window appears as an underline or as a block.

To change the DSView management software Telnet/SSH applet cursor appearance:

1. Select *Options - Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Caret list, choose *Block* to display the cursor as a block or choose *Underline* to display the cursor as an underline. The default value is Underline.

Enabling and disabling the exit warning prompt

When the exit warning prompt is enabled, a message appears when you select *Telnet - Exit*. You may then choose to exit or continue the session. When disabled, the session closes without further prompting.

To enable/disable an exit warning prompt for DSView management software Telnet/SSH applet sessions:

1. Select *Options - Preferences* from the menu bar. The Preferences dialog box will appear

2. Enable or disable the *Prompt on Exit* checkbox. The default value is enabled.

Customizing Session Properties

When you are connected to a CPS appliance or generic appliance or port using the DSView management software Telnet/SSH applet, you may specify session properties that will be stored and reused every time you connect to the selected CPS appliance or generic appliance or port. When you select *Options - Session Properties* in the DSView management software Telnet/SSH applet, the Session Properties dialog box will appear containing Terminal, Login Scripts and Logging tabs.

Changing the terminal window size

The Terminal Size lists specify the number of rows and columns to display in the virtual terminal window. These values determine the window height and width.

To change the DSView Telnet terminal window size:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. In the Rows list, choose a value of 24 or 48. The default value is 24.
4. In the Columns list, choose a value of 80 or 132. The default value is 80.

Changing the Terminal Emulation mode

You may set the DSView management software Telnet/SSH applet to emulate ASCII, VT100, VT100+, VT102, VT52, VT220 or VT320 terminals, depending on the connected device. *Terminal Emulation* on page 525 contains encoding and decoding information for each of the terminal emulation types.

To change the DSView management software Telnet/SSH applet Terminal Emulation mode:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. From the Terminal Emulation list, choose one option: ASCII, VT100, VT100+, VT102, VT52, VT220 or VT320. The default value is VT100.

NOTE: When connecting to a CPS appliance or generic appliance, the terminal type setting must match the terminal emulation type.

Changing Arrow key sequences

When the Terminal Emulation mode is VT100, VT100+, VT102, VT52, VT220 or VT320, you may specify either VT100 or ANSI **Arrow** key sequences. The following table lists the **Arrow** keys and the sequences transmitted for each

Table 7.3: Arrow Key Sequences

Key	VT100	ANSI	VT52 *
Up Arrow	<Esc> [A	<Esc> OA	<Esc> A
Down Arrow	<Esc> [B	<Esc> OB	<Esc> B
Right Arrow	<Esc> [C	<Esc> OC	<Esc> C
Left Arrow	<Esc> [D	<Esc> OD	<Esc> D

*When the Terminal Emulation mode is VT52, the **Arrow** keys are interpreted as indicated in this column, regardless of the value in the Arrow Keys list.

To change the DSView management software Telnet/SSH applet Arrow key sequences:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. In the Arrow Keys list, choose either *VT100* or *ANSI*. The default value is VT100.

Changing the terminal type

The terminal type is used during Telnet session negotiation. You may change this value at any time.

To change the terminal type:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Terminal* tab.

- In the Terminal Type box, enter a value of up to 40 characters, beginning with a letter and ending with a letter or digit. Valid characters are the letters A-Z, digits 0-9, forward slash, dash, left parenthesis and right parenthesis.

NOTE: When you are connected to a CPS appliance or generic appliance, the terminal type must be entered in the Terminal Type field exactly as shown in the following table for each Terminal Emulation mode.

Table 7.4: TerminalEmulation and Type

Terminal Emulation	Terminal Type
VT52	DEC-VT52
VT100	DEC-VT100
VT100+	DEC-VT100
VT102	DEC-VT102
VT220	DEC-VT220
VT320	DEC-VT320

Changing the linefeed settings

When connecting to devices that do not insert a carriage return in incoming or outgoing data, you may instruct the DSView management software to automatically insert a line after each line of data. This prevents overwriting data when a new line is received.

To change the linefeed settings:

- Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
- Click the *Terminal* tab.
- If the *New Line Mode - Inbound* box is checked, an inbound carriage return from the device will be treated as if both a carriage return and a linefeed were received. If not checked, a linefeed is not added to an inbound carriage return.

If the *New Line Mode - Outbound* box is checked, an outbound carriage return to the device will always be followed by a linefeed character. If not checked, a linefeed is not sent with a carriage return. The default value is disabled for inbound and outbound.

Enabling and disabling line wrap

When line wrap is enabled, characters wrap onto the next line when a new character is received and the cursor is at the end of the line. When disabled, new characters will overwrite the last character on the current line when the cursor is at the end of the line.

To enable/disable line wrap:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. Enable or disable the *Auto wrap line* checkbox. The default value is enabled.

Enabling and disabling local echo

When you are connected to a device that does not repeat or echo the data that you type, you may enable Local Echo mode. Otherwise, the DSView management software Telnet/SSH applet will not display the text you type. However, if you are connected to a device that echoes data, and you are in Local Echo mode, all of the data you type will appear on your terminal twice.

To enable/disable local echo:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. Enable or disable the *Local echo* checkbox. The default value is disabled.

Enabling and disabling 7-bit ASCII

When you are connected to a device that requires transmission of 7-bit ASCII, you may instruct the DSView management software Telnet/SSH applet to strip the eighth bit of every character that is sent and received.

To enable/disable 7-bit ASCII:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. Enable or disable the *Strip 8th bit* checkbox. The default value is disabled.

Login scripts

The DSView management software Telnet/SSH applet has a login scripting function that enables you to automatically log in to a device. A login script is built with a sequence of expect and send

strings, and initial transmission characters that work with them. To use a login script, you must enable automatic login in a checkbox.

The first Initial character (that is, the first entry in the Initial character column) specifies what is sent to the device as soon as the Telnet/SSH applet session is established. This is selected from a list containing the choices: None, CR (carriage return), CR+LF (carriage return and linefeed), ESC (Escape) and CTRL+P (Control and P).

The first Expect string indicates what the device will send as its first prompt.

The first Send string indicates what the login script will send to the device after it receives the first Expect string.

You may then build additional Expect and Send strings according to what the particular device will prompt for and what will be sent in response.

To build a login script and enable/disable automatic login:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Login Scripts* tab.
3. Enable or disable the *Automate login* checkbox. The default value is disabled.
4. In the Initial Character list, select one option: CR (carriage return), CR+LF (carriage return and linefeed), ESC (Escape), CTRL+P (Control+P sequence, 0X10 in hex) or None (no initial transmission character).
5. In the Expect box, type the 1-32 alphanumeric character string that you expect from the device. Spaces are allowed.
6. In the Send box, type the 0-32 alphanumeric character string that you wish to send in response to the Expect string. Spaces are allowed, and a blank field is valid. A CR or CR+LF is appended to the string, based on the New Line Mode - Outbound setting.
7. Repeat the Expect and Send entries as needed, to a maximum of four each.

Telnet/SSH Applet History Mode

NOTE: To display History mode data in the Telnet/SSH applet window, the History Buffer Control in the Appliance Settings window must be set to *Auto*. See page 220 for more information.

The DSView management software Telnet/SSH applet's History mode enables you to view the history of a current DSView management software Telnet/SSH applet session. You may navigate to various parts of the history buffer by clicking menu selections or tools, or by pressing **Arrow** keys. You may configure the maximum size of the history buffer, and customize the background and text colors of the History mode display.

While you are in History mode, new incoming data is buffered, but it will not be displayed until you exit History mode. You may not enter outgoing data. The status bar in the lower left area of the display will show *ESC to return to terminal mode*.

To enter the DSView management software Telnet/SSH applet's History mode:

Select *View - History* from the menu bar.

-or-

Click the *History* icon in the toolbar.

To exit the DSView management software Telnet/SSH applet's History mode:

Press the **Esc** key.

-or-

Click the *History* icon in the toolbar.

To go to the beginning of the DSView management software Telnet/SSH applet's history:

Select *View - Goto Beginning* from the menu bar.

-or-

Click the *double-left-arrow* icon in the toolbar.

To go to the end of the DSView management software Telnet/SSH applet's history:

Select *View - Goto End* from the menu bar.

-or-

Click the *double-right-arrow* icon in the toolbar.

To move up (back) one page in the DSView management software Telnet/SSH applet's history:

Select *View - Previous Page* from the menu bar.

-or-

Click the *left-arrow-and-bar* icon in the toolbar.

To move down (forward) one page in the DSView management software Telnet/SSH applet's history:

Select *View - Next Page* from the menu bar.

-or-

Click the *right-arrow-and-bar* icon in the toolbar.

To move back or forward one line in the DSView management software Telnet/SSH applet's history:

Press the **Left Arrow** (for back) or **Right Arrow** (for forward) on your keyboard.

To change the maximum number of lines in the DSView management software Telnet/SSH applet's history buffer:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. In the History Buffer Size box, type a value from 1-1000. The default value is 256.

To change the background color for the DSView management software Telnet/SSH applet's History mode:

1. Select *Options - Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Colors panel, click the *Background/History Mode* box and select a color. The default color is dark cyan.

To change the text color for the DSView management software Telnet/SSH applet's History mode:

1. Select *Options - Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Colors section, click the *Text/History Mode* box and select a color. The default color is white.

Macros

NOTE: Three additional types of macros are available in the DSView management software. Exit macros, created within the DSView 3.0.2 Explorer, reside on DS1800 digital switches and DSR switches and are used by these switches. Global macros and personal macros are created using the Video Viewer window and are used with KVM sessions with target devices attached to DS1800 digital switches and DSR switches. None of these macros may be used or are compatible with a Telnet/SSH applet.

The DSView management software Telnet/SSH applet has a macro function that allows you to create and use macros during Telnet/SSH applet sessions. A macro comprises a series of keystrokes that you define. Additionally, you may specify a hotkey in the macro's definition. When you define a macro and enable its inclusion in the Macros menu, you may execute the macro during a Telnet/SSH applet session either by selecting it from the Macros menu or by pressing the defined hotkey on your keyboard.

You may also define one or more global macro or personal macro groups, then add macros to the groups. Personal macro groups may be created by any DSView software user and are only available for use on the target device on which they are created. Global macros may only be created by a DSView software administrator and are available for use by any DSView software user on the DSView software system.

A macro may belong to more than one macro group or belong to both personal and global macro groups; however, a macro does not have to belong to a macro group. Selecting *Macros - Configure - Groups* takes you to the Configure Macro Groups dialog box which contains a list of defined macro groups from which you may select one group or all defined groups. The macros in the selected group(s) are then available for use during subsequent Telnet/SSH applet sessions with that device/port.

After defining a macro or a macro group, you may edit or delete it at any time. When you delete a macro or macro group, you are prompted for confirmation. When you change a macro group name, each macro belonging to the changed macro group is updated, but the change is not visible until the next Telnet/SSH applet session is established. When you delete a macro group, you delete only its name - the individual macros in the group are not affected.

To create a macro:

1. Select *Macros - Configure - Macros* from the menu bar. The Configure Macros dialog box appears.
2. Click the *Create* button. The Configure Macros dialog box expands to display an Edit Macro area.
3. In the Macro Name field, Type a 1-64 character name for the macro.
4. To define a hotkey for the macro, choose one from the Key list. To add a modifier to the hotkey, check the *Control*, *Shift* or *Alt* boxes.
5. By default, the *Include in Menu* box is checked, indicating the macro will appear in the Macros menu. If you do not wish to include the macro in the Macros menu, uncheck this box. In this case, if the macro definition includes a hotkey, you will still be able to use the hotkey to run the macro, even if the macro's name does not appear in the Macros menu.
6. Type the macro string in the Keystrokes box. For non-printing and special character code sequences, use the following escape sequences:

New line: \n

Carriage return: \r

Form feed: \f

Horizontal tab: \t

Backspace: \b

Delay character (500 ms): \d

Hexadecimal code sequence: \Øx<NN>, where <NN> is the hexadecimal byte. For example, the **Ctrl+D** character sequence may be sent by using 0x04.

Octal code sequence: \Ø<NNN>, where <NNN> is the octal byte. For example, the **Ctrl+D** character sequence may be sent by using 0004.

7. From the Control Code drop-down menu, select the sequence you wish to invoke with the selected characters.

8. In the Access Rights area, specify whether you wish for the macro to be a global macro (available to all DSView software users) or a personal macro (available only to the current DSView software user).

NOTE: You must have DSView software administrator privileges to use the Access Rights area.

9. Click *OK*. The Configure Macros dialog box returns to its abbreviated view and the macro appears in the Macros area.
10. Click *OK* to dismiss the Configure Macros dialog box.

To edit an existing macro:

NOTE: You must have DSView software administrator privileges to edit Global Macros.

1. Select *Macros - Configure - Macros* from the menu bar. The Configure Macros dialog box appears.
2. In the Macros table, select the macro you wish to edit.
3. Click the *Edit* button. The Configure Macros dialog box expands to display an Edit Macro area containing the information defined for the macro.
4. Edit the macro properties as needed.
5. Click *OK*. The changes are saved and the Configure Macros dialog box returns to its abbreviated view.
6. Repeat steps 2-5 to edit additional macros.
7. Click *OK* to dismiss the Configure Macros dialog box.

To delete a macro:

NOTE: You must have DSView software administrator privileges to delete Global Macros.

1. Select *Macros - Configure - Macros* from the menu bar. The Configure Macros dialog box appears.
2. Select the macro in the Macros table that you wish to delete.
3. Click the *Delete* button. A dialog box appears, prompting you to confirm the deletion.
4. Click *Yes* to confirm the deletion.
-or-
Click *No* to cancel the action.

To execute a macro:

1. Select the macro from the Macros menu.
-or-
If the macro's definition includes a hotkey, press the hotkey or hotkey sequence.
-or-

Select *Macros - Configure - Macros* from the menu bar.

The Configure Macros dialog box appears.

2. Select the macro in the Macros table that you wish to run.
3. Click *Run*.

To create a macro group:

1. Select *Macros - Configure - Groups* from the menu bar. The Configure Macro Groups dialog box appears.
2. Click the *Create* button. The Configure Macros dialog box expands to display a Create Group area.
3. In the Group Name field, type a 1-64 character name for the macro group.
4. Click *Active Group* if you wish for the group to appear in the Macro Groups table so other DSView software users may edit the group.
5. Select the macros you wish to add or remove to or from the macro group.

To add macros to the macro group:

- Select the macro you wish to add from the Macros Available list. Multiple macros may be selected by pressing **Ctrl** while clicking on the macro names.
- Click *Add*. The macros will be moved to the Macros In Group list.

To remove macros from the macro group:

- Select the macro you wish to remove from the Macros In Group list. Multiple macros may be selected by pressing **Ctrl** while clicking on the macro names.
 - Click *Remove*. The macros will be moved to the Macros Available list.
6. In the Access Rights area, specify whether you wish for the macro group to be a Global Macro group (available to all DSView software users) or a Personal Macro group (available only to the current DSView software user).

NOTE: You must have DSView software administrator privileges to use the Access Rights area.

7. Click *OK*. The Configure Macro Groups dialog box returns to its abbreviated view.
8. Click *OK* to dismiss the Configure Macro Groups dialog box.

To enable a macro group for use during Telnet/SSH applet sessions:

NOTE: You must have DSView software administrator privileges to enable a macro group.

1. Select *Macros - Configure - Groups* from the menu bar. The Configure Macro Groups dialog box appears.
2. Click the checkbox in the Active column for the macro groups you wish to use.
3. Click *OK* to dismiss the Configure Macro Groups dialog box.

To edit an existing macro group:

NOTE: You must have DSVIEW software administrator privileges to edit Global Macro groups.

1. Select *Macros - Configure - Macro Groups* from the menu bar. The Configure Macro Groups dialog box appears.
2. In the Macro Groups table, select the macro group you wish to edit.
3. Click the *Edit* button. The Configure Macro Groups dialog box expands to display an Edit Group area containing the information defined for the macro.
4. Edit the macro group properties as needed.
5. Click *OK*. The changes are saved and the Configure Macro Groups dialog box returns to its abbreviated view.
6. Repeat steps 2-5 to edit additional macro groups.
7. Click *OK* to dismiss the Configure Macro Groups dialog box.

To delete a macro group:

NOTE: You must have DSVIEW software administrator privileges to delete Global Macro groups.

1. Select *Macros - Configure - Macro Groups* from the menu bar. The Configure Macro Groups dialog box appears.
2. Select the macro group in the Macro Groups table that you wish to delete.
3. Click the *Delete* button. A dialog box appears, prompting you to confirm the deletion.
4. Click *Yes* to confirm the deletion.
-or-
Click *No* to cancel the action.

Logging

The DSVIEW management software Telnet/SSH applet has a logging function that saves the contents of a Telnet/SSH applet session to a file. You may enable automatic logging or dynamically start logging at any time. Additionally, you may pause, resume and stop logging, regardless of whether it was started automatically or dynamically.

While logging is occurring or when it is paused, a Logging Status label appears in the status panel at the bottom of the DSVIEW management software Telnet/SSH applet window.

NOTE: When you enable or disable automatic logging, the logging will begin or end at the start of the next DSVIEW management software Telnet/SSH applet session to that device. If you change the default log file directory used for automatic logging, the change does not take effect until the next session to that device.

Log files

The format of log filenames is shown below, where <mmddy> represents the month, day and year, and <hhmmss> represents the current hour, minute and second in military time:

```
scvTelnet<mmddy>_<hhmmss>.log
```

The default log directory is session-specific, that is, each Telnet/SSH applet session may have its own location for storing logfiles. You may change the name of the file and the location of the directory that stores the logfiles. If you do not change the default directory, logfiles are stored in your home directory.

You may view a log file at any time, using a standard text editor. The screen buffer is written to the log file when the buffer is full, or when logging is paused or stopped. To ensure the log file is up-to-date, either pause or stop the logging.

To change the default log file directory:

1. Select *Options - Session Properties* from the menu bar.

-or-

Select the *Session Settings* icon in the toolbar.

The Session Properties dialog box will appear.

2. Click the *Logging* tab. The Default Directory field displays the current default location for logfiles.
3. Click the *Browse* button. The Set Directory dialog box appears.
4. Select a directory from the Look in list.

-or-

Create a new directory:

- a. Click the *Create New Folder* button. A new directory named New Folder appears in the directory list.
 - b. Click the *New Folder* entry in the directory list to highlight it. Then, click the entry again to edit its name. Type in a new name. Press **Enter**. The directory appears in alphabetical order in the directory list.
 - c. Select the newly-created directory in the directory list. The Filename field will now contain the name of the new directory.
5. Click the *Set Directory* button to select the newly-created or selected directory as the default log file directory. The Set Directory dialog box will close.
 6. The Default Directory field now contains the name of the newly-created or selected directory. Click *OK* to save the new information.

-or-

Click *Cancel* to exit the dialog box without saving any new information.

To enable automatic logging:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Logging* tab.
3. Enable the *Logging* checkbox.
4. The Default Directory field displays the current default location for logfiles. If that is the desired directory, click *OK*. If you wish to change the default log file directory, see the *To change the default log directory* section in this chapter.

Automatic logging will begin when you initiate the next DSView management software Telnet/SSH applet session to that device. At that time, the Logging Status label will indicate *Logging*.

To disable automatic logging:

1. Select *Options - Session Properties* from the menu bar.
-or-
Click the *Session Settings* icon in the toolbar.
The Session Properties dialog box will appear.
2. Click the *Logging* tab.
3. Disable the *Logging* checkbox.
4. Click *OK*.

Automatic logging will stop when you initiate the next DSView management software Telnet/SSH applet session to that device. When logging stops, the Logging Status label disappears.

To start dynamic logging:

1. Select *Options - Logging - Start* from the menu bar. The Log dialog box appears.
2. The Look in list contains the default log file directory and the Filename field contains the default log filename. Using this filename format is recommended; however, you may change it for the duration of this DSView management software Telnet/SSH applet session. If you choose to use the default log filename, skip to step 4.
3. To change the default log filename for the duration of the dynamic logging session, you may select a directory from the Look in list. The directory list may contain directories and files. To create a new directory:
 - a. Click the *Create New Folder* button. A new directory named New Folder appears in the directory list.
 - b. Click the *New Folder* entry in the directory list to highlight it. Then click the entry again to edit its name. Type in a new name. Press **Enter**. The directory appears in alphabetical order in the directory list.

- c. Double-click the newly-created directory in the directory list. The Filename field will now contain the name of the new directory.
 - d. Type a new filename in the Filename field. If you enter a filename that already exists, the new file will overwrite the old file.
4. Click *Log* to confirm the directory selection and begin logging.
-or-
Click *Cancel* to exit the dialog box and cancel the request to start logging.

When logging begins, the Logging Status label will indicate *Logging*.

To pause logging:

Select *Options - Logging - Pause* from the menu bar. The Logging Status label will change to *Logging Paused*.

To resume logging:

Select *Options - Logging - Resume* from the menu bar. The Logging Status label will change to *Logging*.

To stop logging:

Select *Options - Logging - Stop* from the menu bar. The Logging Status label will disappear.

Copying, Pasting and Printing Session Data

In the DSView management software Telnet/SSH applet you may:

- Copy a screen of the DSView management software Telnet/SSH applet session data to the system clipboard
- Copy the DSView management software Telnet/SSH applet history buffer contents to the system clipboard
- Paste the contents of the system clipboard into a DSView management software Telnet/SSH applet session
- Print a screen of the DSView management software Telnet/SSH applet session data
- Print a screen of the DSView management software Telnet/SSH applet session history data

Information that is copied from a DSView management software Telnet/SSH applet session may be pasted in other applications. Similarly, information copied from other applications may be pasted into a DSView management software Telnet/SSH applet session.

NOTE: Only textual data may be copied and pasted in the DSView management software Telnet/SSH applet.

To copy a Telnet/SSH applet application window screen:

Select *Options - Copy Screen* from the menu bar.

-or-

Click the *Copy Screen* icon in the toolbar.

The screen contents are saved to the system clipboard. You may then paste the clipboard contents into this or another application.

To copy Telnet/SSH applet session history data:

1. Select *View - History* from the menu bar.
-or-
Click the *History* icon in the toolbar.
2. Select *Options - Copy Screen* from the menu bar.
-or-
Click the *Copy Screen* icon in the toolbar.

The entire contents of the history buffer are copied to the system clipboard. You may then paste the clipboard contents into this or another application.

NOTE: The entire history buffer is copied to the system clipboard, regardless of the amount of data in it.

To paste system clipboard contents:

1. Place textual data on the system clipboard, using a text editor or other application.
2. Initiate a DSView management software Telnet/SSH applet session.
3. At the point where you wish to paste the clipboard contents, select *Options - Paste* from the menu bar.
-or-
Click the *Paste* icon in the toolbar.

To print a Telnet/SSH applet window screen:

1. Select *Options - Print Screen* from the menu bar.
-or-
Click the *Print Screen* icon in the toolbar.
2. The operating system's print dialog box appears. Make the appropriate settings. The screen contents will then be sent to the printer.

To print a screen of Telnet/SSH applet window session history data:

1. Select *View - History* from the menu bar.
-or-
Click the *History* icon in the toolbar.
2. Select *Options - Print Screen* from the menu bar.
-or-
Click the *Print Screen* icon in the toolbar.

3. The operating system's print dialog box appears. Choose the appropriate settings. The screen contents will then be sent to the printer.

Power Controlling target devices (Serial Session Only)

NOTE: A DSView software user must have DSView software administrator privileges to control the power of a target device.

If a target device attached to a CPS810 and CPS1610 appliance port is connected to an SPC device outlet and the target device has been accessed in a serial session, you may power up, power down or cycle (power down and then power up) the target device using the Power Control dialog box. The Options - Power menu option will not be available if the target device cannot be power controlled using the DSView management software, or if the DSView software user does not have power control privileges (specified by selecting *Reboot Appliance* in the Unit Access Rights window).

The current state of the SPC device outlet appears in the Current Power Status area of the dialog box. As you change the power state, the information is updated in real time.

NOTE: Depending on the configuration of an SPC device outlet, an SPC device outlet may not immediately respond to a power change request (for example, an SPC device outlet may be configured to remain off for a specific period of time, and so on).

To power up a target device:

1. Select *Options - Power* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click *On*.
3. Click *Close* to dismiss the dialog box.

To power down a target device:

1. Select *Options - Power* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click *Off*.
3. Click *Close* to dismiss the dialog box.

To power cycle a target device:

1. Select *Options - Power* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click *Cycle*.
3. Click *Close* to dismiss the dialog box.

Closing a Telnet Appliance Session

To close a Telnet/SSH applet session:

Select *File - Exit* from the Telnet/SSH applet window.

Working with IPMI 1.5 Target Devices

About IPMI 1.5 Target Devices

An IPMI 1.5 target device is a server containing one or more BMCs (Baseboard management controllers) that are used to monitor internal sensor information such as temperature, fan speed and battery voltage. The BMCs in IPMI 1.5 target devices are added to your DSView software system using a DSI5100 IPMI proxy appliance, which provides a secure interface to all IPMI 1.5 target devices in your enterprise. The DSI5100 appliance is used to access, aggregate and report information from sensors read by the BMCs.

Sensor information may be viewed either graphically using the IPMI Viewer window, or by clicking on an IPMI 1.5 target device in a Unit Views window.

Adding and Modifying DSI5100 Appliance BMCs

NOTE: You must have Configure Unit Settings rights to customize DSI5100 appliance BMC settings. See *Modifying unit access rights* on page 182 for more information.

BMCs accessed by a DSI5100 appliance are managed using the Appliance BMC Ports window. You may choose to add or remove BMCs or modify the name, IP address, or username and password of a BMC.

To modify an existing BMC, you must first click on the name of the DSI5100 appliance to which it is associated in a Unit Views window. Next, from the side navigation bar, click *Appliance Settings* and then *BMCs* to display the Appliance BMC Ports window. All BMCs associated with the DSI5100 appliance will appear in the Appliance BMC Ports window.

Information related to the IPMI 1.5 target device may be edited by clicking on the IPMI 1.5 target device in a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window. Overview, Properties, Access Rights and Connections information is modified similarly to that of non-IPMI 1.5 target devices. See *Managing Units* on page 164 for more information.

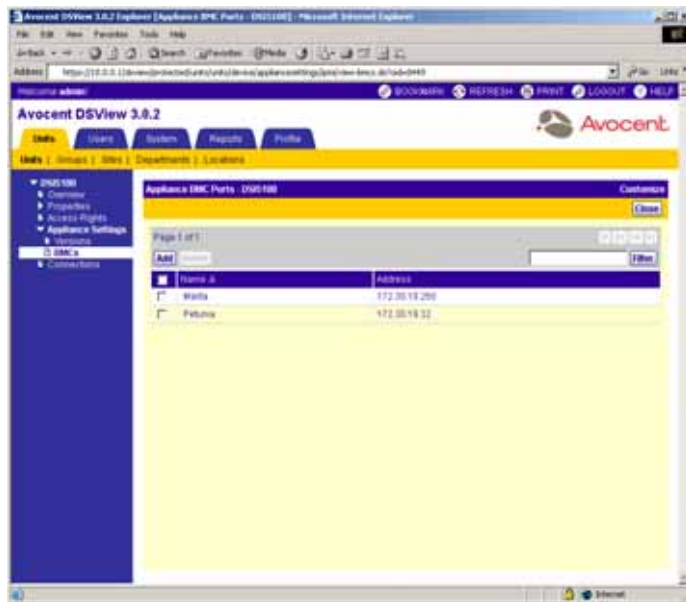


Figure 8.1: Appliance BMC Ports Window

Click on the name of a BMC to modify it using the links in the side navigation bar. The following BMC settings may be viewed and modified:

- Identity
- Credentials

Adding BMCs for use with a DS15100 appliance

To add an IPMI 1.5 target device:

1. Click *Add* in the Appliance BMC Ports window. The Welcome page of the Add IPMI BMC Wizard will appear. Click *Next*.
2. The Select a Target Device Option window will appear.

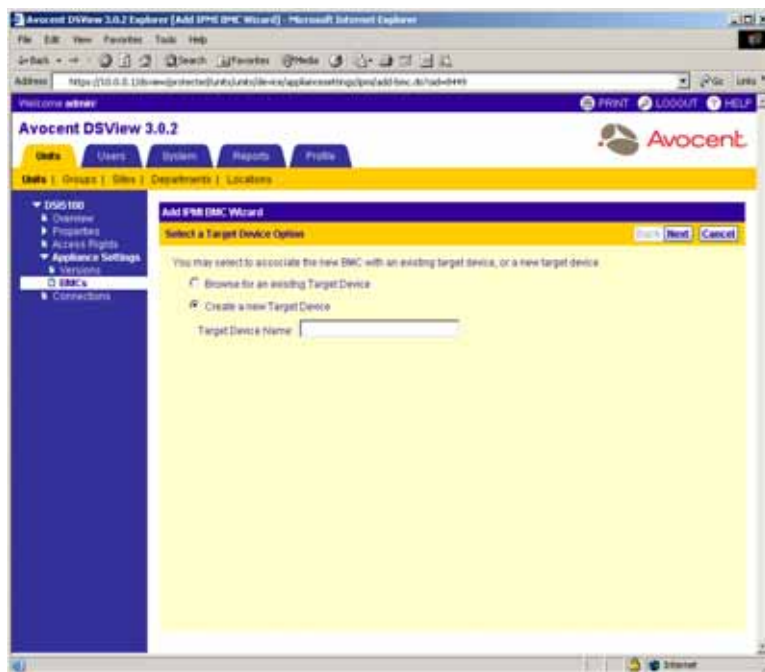


Figure 8.2: Add IPMI BMC Wizard - Select a Target Device Option Window

- a. Click *Browse for an existing target device* if you wish to associate the BMC with an existing target device.

-or-

Click *Create a new target device* and type a name for the target device to which the BMC is attached.

NOTE: Only DSView software administrators and appliance administrators have the right to create a new target device. If you are not a member of one of these groups, the Select a Target Device Option window will not appear. The Select a Target Device window will appear instead and you must browse to select an existing target device to which you have Configure Unit Settings rights.

- b. Click *Next*.

If you selected *Browse for an existing target device*, continue to step 3.

-or-

If you selected *Create a new target device*, go to step 4.

3. The Select a Target Device window will appear.

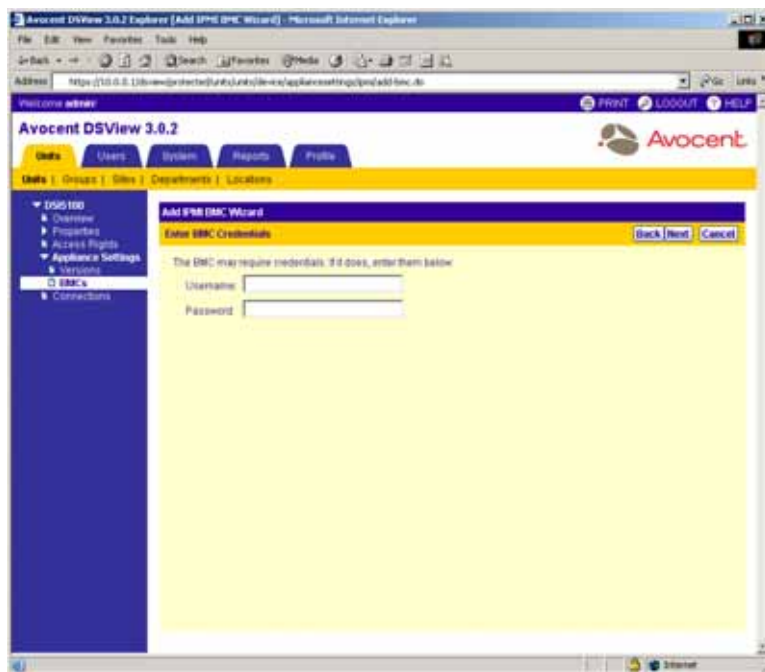


Figure 8.5: Add IPMI BMC Wizard - Enter BMC Credentials Window

- a. If required, type a username (0-16 characters) that will be used for communication with the BMC.
 - b. If required, type a password (0-16 characters) that will be used for communication with the BMC.
 - c. Click *Next*.
6. The Adding BMC window will appear, followed by the Completed Successful window.
 7. Click *Finish*.

Customizing the Appliance BMC Ports window

By default, the following fields display in the Appliance BMC Ports window:

- Name - The name of the BMC. You may click on a name to display and modify BMC information.
- Address - The BMC IP address in standard dot notation (xx.xx.xx.xx).

The following fields are not displayed by default, but may be displayed using the Customize link:

- Username - The username that will be used when communicating with the BMC.
- Privilege Level - The privilege level of the BMC user, as specified in the BMC. (administrator and so on)

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To view or customize BMC identity settings:

1. From the side navigation bar, click *Appliance Settings*. *Versions* is automatically selected in the side navigation bar and the Appliance Version Information window will appear.
2. From the side navigation bar, click *BMCs*. The Appliance BMC Ports window will appear.
3. Click on the name of a BMC port. *Identity* will be automatically selected in the side navigation bar and the BMC Identity window will appear. The name of the BMC port will also appear beneath the DSIS100 appliance name in the side navigation bar.

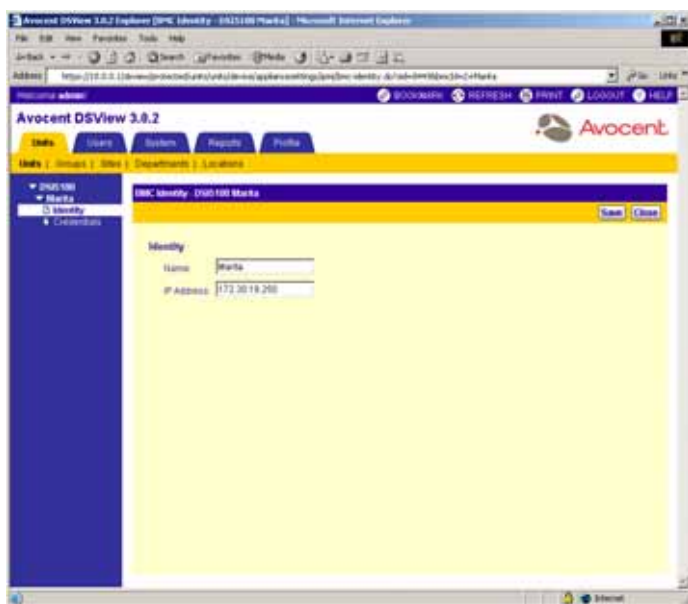


Figure 8.6: BMC Identity Window

4. Type a new name for the BMC.
5. Type the IP address, in standard dot notation (xx.xx.xx.xx), for the BMC.
6. Click *Save* to save your changes.
7. Click *Close*. The Appliance BMC Ports window will appear.

To view or modify BMC credentials:

1. From the side navigation bar, click *Appliance Settings*. *Versions* is automatically selected in the side navigation bar and the Appliance Version Information window will appear.
2. From the side navigation bar, click *BMCs*. The Appliance BMC Ports window will appear.

3. Click on the name of a BMC port. *Identity* will be automatically selected in the side navigation bar and the BMC Identity window will appear. The name of the BMC port will also appear beneath the DSIS100 appliance name in the side navigation bar.
4. From the side navigation bar, click *Credentials*. The BMC Credentials window will appear.

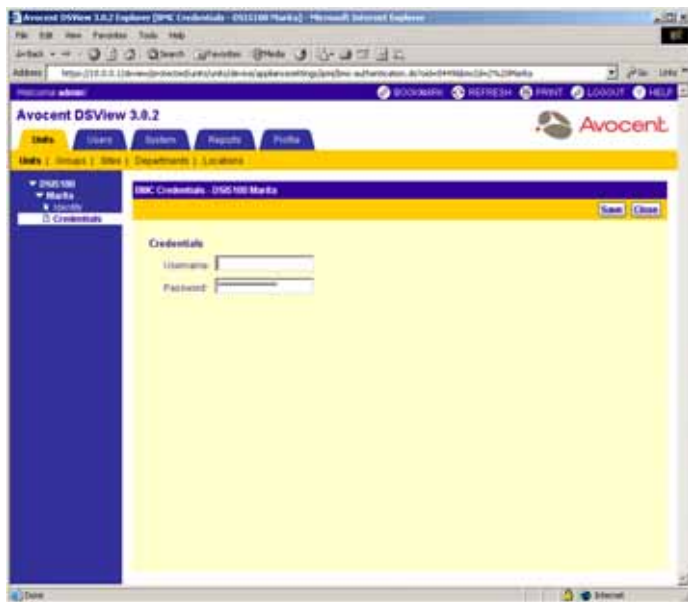


Figure 8.7: BMC Credentials Window

5. Type a new username (0-16 characters) that will be used for communication with the BMC.
6. Type a new password (0-16 characters) that will be used for communication with the BMC.

NOTE: If either the Username or Password field is left blank, anonymous authentication will be used for communication with the BMC.

7. Click *Save* to save your changes.
8. Click *Close*. The Appliance BMC Ports window will appear.

To delete BMCs:

NOTE: DSView software users must have Configure Unit Settings rights to delete BMCs. See *Modifying unit access rights* on page 182 for more information.

1. From the side navigation bar, click *Appliance Settings*. Versions is automatically selected in the side navigation bar and the Appliance Version Information window will appear.
2. From the side navigation bar, click *BMCs*. The Appliance BMC Ports window will appear.

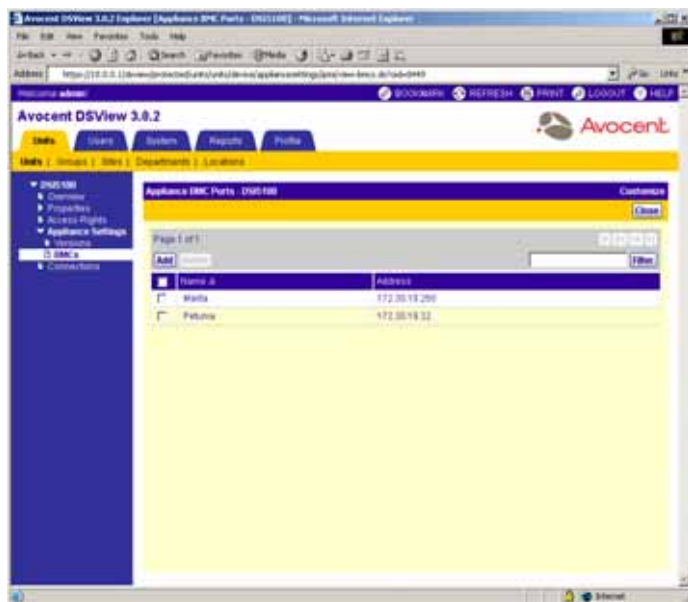


Figure 8.8: Appliance BMC Ports Window

3. Click the checkbox to the left of the BMC you wish to delete.
-or-
Click the checkbox to the left of Name at the top of the list to select all BMCs listed in the window for deletion.
4. Click *Delete*. A confirmation dialog box will appear.
5. Click *OK* to delete the BMCs.
-or-
Click *Cancel* to cancel the action.

Viewing Sensor Information Using the IPMI Viewer

The IPMI Viewer window is used to graphically view reported sensor information in the DSView management software. When you click *IPMI Session* in a Unit View window, the IPMI Viewer window appears in a separate web browser window.

The information graphically displayed using gauges in the IPMI Session window may vary between IPMI 1.5 target devices, due to the type of sensors in the BMC. For example, if a BMC does not contain a sensor that displays voltage information, that gauge will not appear in the IPMI Viewer window. You may specify how often information is refreshed in the IPMI Viewer window.

Launching an IPMI Viewer session

An IPMI session is launched from the DSView 3.0.2 Explorer or using the Unit Overviews window.

To launch an IPMI session from the DSView 3.0.2 Explorer:

1. Display a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window. See *Using the Unit Views to display and modify units* on page 136 for more information.
2. Click the *IPMI Session* link in the Action column of the target device you wish to view.
The IPMI Viewer window launches in a new web browser window.

To launch an IPMI session using the Unit Overview window:

1. Display a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window. See *Using the Unit Views to display and modify units* on page 136 for more information.
2. Click on the name of a target device connected to a DSI5100 appliance. The side navigation bar will contain the name of the target device at the top and *Overview* will automatically be selected. The Unit Overview window will appear.
3. Click on the *IPMI Session* name or icon.
The IPMI Viewer window launches in a new web browser window.

Window Features

Figure 8.9 shows the IPMI Viewer window areas, and descriptions follow in Table 8.1.

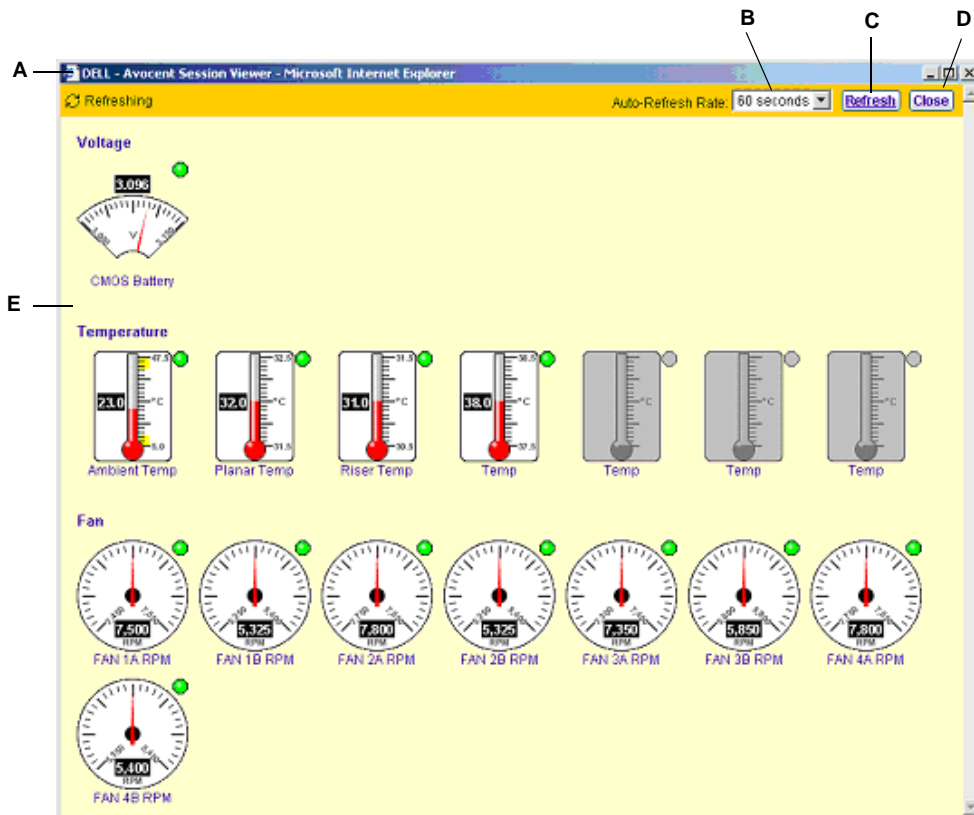


Figure 8.9: IPMI Viewer Window

Table 8.1: IPMI Viewer Window Descriptions

Letter	Description
A	Title Bar: Displays the name of the IPMI 1.5 target device being viewed.
B	Auto-Refresh Rate: Allows you to specify how often the IPMI Viewer window gauges are updated. The default value is 60 seconds.
C	Refresh: Manually updates the IPMI Viewer window gauges.
D	Close: Closes the IPMI Viewer window.

Table 8.1: IPMI Viewer Window Descriptions (Continued)

IPMI Viewer display area: Contains gauges that display numeric readings from the BMC sensors in the IPMI 1.5 target device. Depending on the sensors on the BMC, any of the following gauges may appear in the IPMI Viewer window:

- Voltage - The voltages in the IPMI 1.5 target device.
- E • Current - The currents in the IPMI 1.5 target device.
- Fans - The revolutions per minute (RPM) of each fan in the IPMI 1.5 target device.
- Temperature - The temperatures in the IPMI 1.5 target device, in degrees Celsius, including ambient, planar and riser temperature.

Each gauge contains a status icon to its upper left, which may be one of the following:

Icon	Description
------	-------------



(green circle) The current value is within acceptable threshold values.



(grey circle) The current value is unknown.



(yellow exclamation) The current value is in the non-critical area.



(red x) The current value is in the critical area.



(dark red sad face) The current value is in the non-recoverable area.

Gauges may also contain color areas at their upper and lower thresholds, as listed in Table 8.2.

Table 8.2: Upper and Lower Threshold Gauge Colors

Color	Description
Yellow	Non-critical threshold values
Red	Critical threshold values
Dark red	Non-recoverable threshold values

In Figure 8.10, the temperature gauge contains threshold values of approximately 5.0-9.25 at its lower threshold and approximately 43.25-47.5 at its upper threshold.

NOTE: Unsupported numeric sensor thresholds will not appear in the IPMI Viewer window.

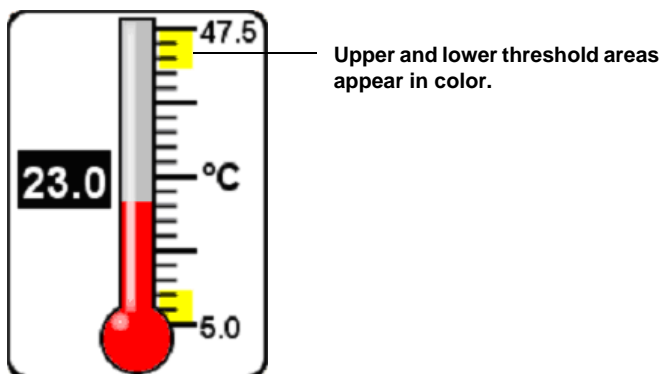


Figure 8.10: Upper and Lower Threshold Values

Refreshing the IPMI Viewer Window

To specify an automatic refresh rate for the IPMI Viewer window:

From the IPMI Viewer window, select one of the following refresh rates:

- 30 seconds
- 60 seconds
- 90 seconds

-or-

Select *Continuous* to update in real-time the values that dynamically change in the IPMI 1.5 target device BMC.

-or-

Select *Never* to prevent the gauges from automatically refreshing.

To refresh the IPMI Viewer window manually:

Select the *Refresh* button.

Closing an IPMI Viewer Window

To close the IPMI Viewer window:

Select the *Close* button.

Viewing Sensor Information by Selecting an IPMI 1.5 Target Device

NOTE: To view IPMI 1.5 target device information, a DSView software user must be individually assigned rights or belong to a user group assigned rights to the IPMI 1.5 target device using the Unit Access Rights window. See *Modifying unit access rights* on page 182 for more information.

You may view information related to a supported IPMI 1.5 target device, including general information about the target device, the target device LAN configuration, field replaceable units (FRUs) in the target device, in addition to discrete and numeric sensor information and system events read from the BMC.

Clicking the name of a supported IPMI 1.5 target device in a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window will display an IPMI link in the side navigation bar. Clicking the *arrow* next to IPMI will display a list of sub-links and automatically select the *Device Info* link and the IPMI Device Information window.

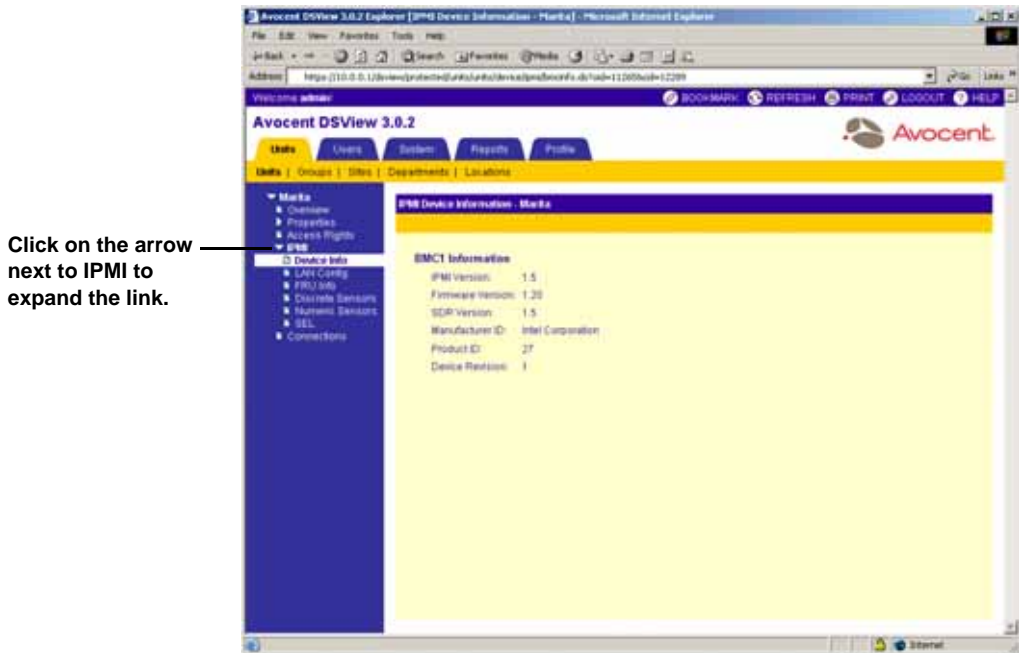


Figure 8.11: IPMI Device Information Window

The following sub-links appear beneath the IPMI link when it is expanded. Clicking one of the sub-links in the side navigation bar performs the following actions:

- Device Info - Displays the IPMI Device Information window
- LAN Configuration - Displays the IPMI LAN Configuration window
- FRU Info - Displays the Field Replaceable Unit Information window
- Discrete Sensors - Displays the IPMI Discrete Sensors window
- Numeric Sensors - Displays the IPMI Numeric Sensors window
- SEL - Displays the System Event Log window

Viewing IPMI 1.5 target device BMC information

The IPMI Device Information window displays information for all BMCs in the IPMI 1.5 target device. The following information will appear for each BMC:

- IPMI Version - The IPMI version with which the BMC is compatible.
- Firmware Version - The BMC firmware version.
- SDR Version - The sensor data record (SDR) command set version of the SDR device.
- Manufacturer ID - The original equipment manufacturer (OEM) of the functionality in the BMC, including commands, codes and interfaces.
- Product ID - The manufacturer-specified identification used to specify the type of board, module or system in which the BMC is used.
- Device Revision - The firmware version revision of the BMC.

To view IPMI 1.5 target device BMC information:

1. From a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window, click on the name of a IPMI 1.5 target device. The side navigation bar will contain the name of the target device at the top and *Overview* will automatically be selected. The Unit Overview window will appear.
2. From the side navigation bar, click *IPMI*. Device Info will automatically be selected and the IPMI Device Information window will appear.
3. Click *Close* when you are finished to return to the target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window.

Viewing LAN configuration information

The BMC LAN Configuration window displays information related to all BMCs in the IPMI 1.5 target device. The following information will appear for each BMC:

- IP Address - The BMC IP address in standard dot notation (xx.xx.xx.xx).
- LAN MAC - The BMC MAC address.
- Default Gateway IP - The IP gateway (router) address used to send BMC messages or alerting a party on a different subnet.
- Default Gateway MAC - The MAC gateway (router) address used to send BMC messages or alerting a party on a different subnet.

The following information may also appear for each configured BMC:

- Backup Gateway Address - The alternate gateway (router) IP address used to send LAN alerts.
- Backup MAC Address - The alternate gateway (router) MAC address used to send LAN alerts.

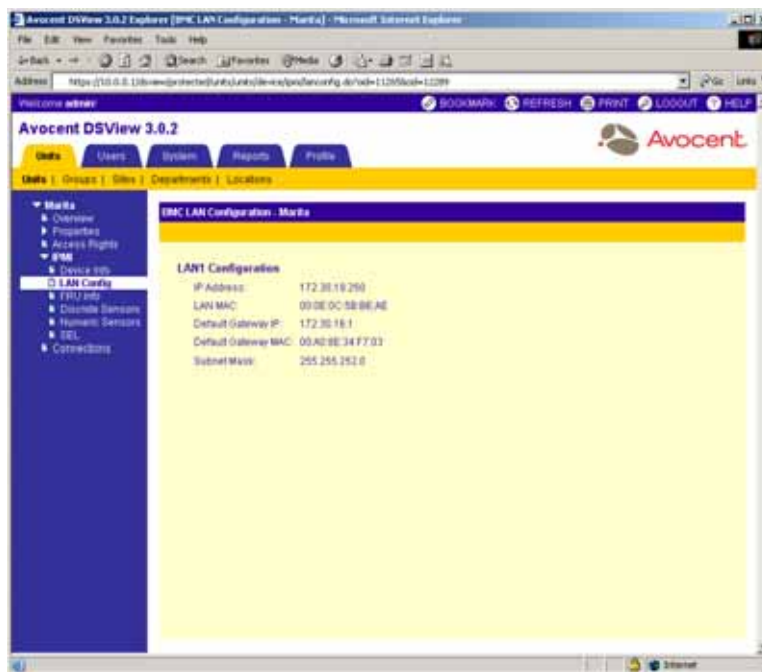


Figure 8.12: BMC LAN Configuration Window

To view LAN configuration information:

1. From a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window, click on the name of a supported IPMI 1.5 target device. The side navigation bar will contain the name of the target device at the top and *Overview* will automatically be selected. The Unit Overview window will appear.
2. From the side navigation bar, click *IPMI*. Device Info will automatically be selected and the IPMI Device Information window will appear.
3. From the side navigation bar, click *LAN Config*. The BMC LAN Configuration window will appear.
4. Click *Close* when you are finished to return to the target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window.

Viewing field replaceable unit (FRU) information

The Field Replaceable Unit Information window displays information related to the FRU boards in the IPMI 1.5 target device. Any of the following information may appear for each configured FRU board:

Chassis information

- Type
- Part Number
- Serial Number

Board information

- Language (English and so on)
- Manufacture Date
- Manufacturer
- Product Name
- Serial Number
- Part Number
- File Version - The file used to load the FRU information to the board.

Product information

- Language (English and so on)
- Manufacturer
- Name
- Part Model Number
- Version
- Product Serial Number
- Asset Tag
- File Version - The file used to load the FRU information to the board.

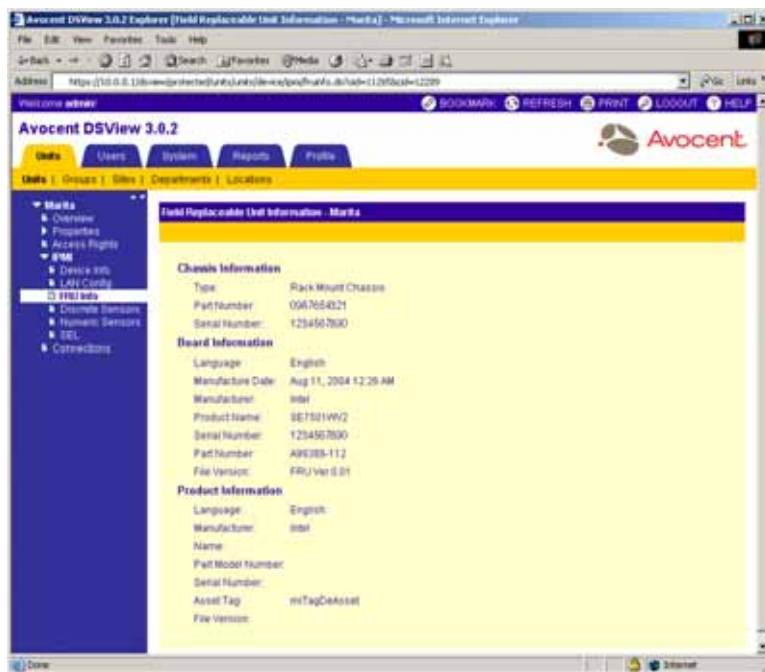


Figure 8.13: Field Replaceable Unit Information Window

To view FRU information:

1. From a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window, click on the name of a supported IPMI 1.5 target device. The side navigation bar will contain the name of the target device at the top and *Overview* will automatically be selected. The Unit Overview window will appear.
2. From the side navigation bar, click *IPMI*. Device Info will automatically be selected and the IPMI Device Information window will appear.
3. From the side navigation bar, click *FRU Info*. The Field Replacement Unit Information window will appear.
4. Click *Close* when you are finished to return to the target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window.

Viewing IPMI 1.5 target device discrete sensor information

The IPMI Discrete Sensors window displays information about the discrete sensors managed by the BMCs in the IPMI 1.5 target device.

The type and number of sensors displayed will vary by BMC, motherboard and chassis implementation.

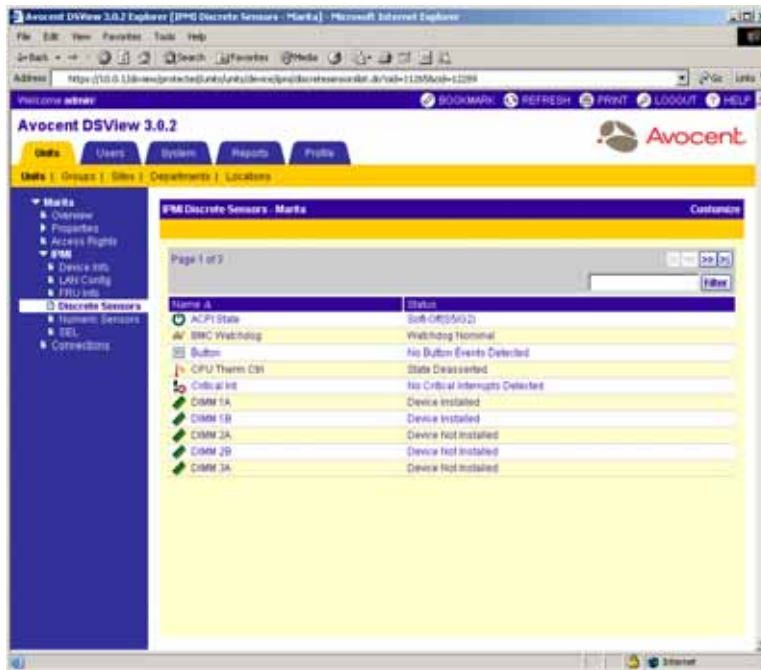


Figure 8.14: IPMI Discrete Sensors Window

To view detailed information about a specific sensor managed by a BMC, click on its name. The IPMI Discrete Sensor Details window will appear.

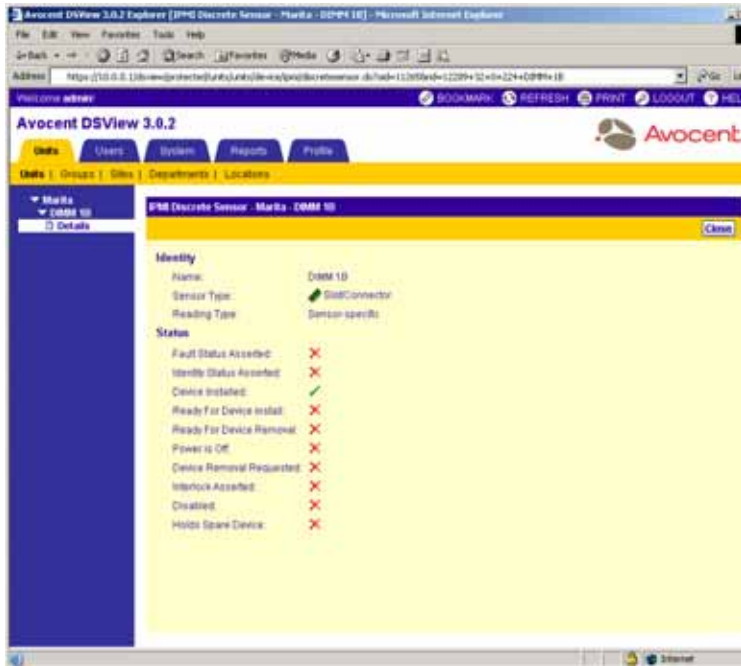


Figure 8.15: IPMI Discrete Sensor Details Window

The following information appears in the IPMI Discrete Sensor Details window about the selected sensor:

- Name - The discrete sensor name.
- Sensor Type - The discrete sensor type.
- Reading Type - The discrete sensor reading type.
- Status - Displays a list of discrete sensor items and the state of each. A green check mark will appear to the right of items for which the state is active and a red X will appear to the right of items for which the state is not active.
- A red x will appear to the right of items for which the indicated action has not been taken.

Customizing the IPMI Discrete Sensors window

The following field is always displayed in the IPMI Discrete Sensors window:

- Name - The name of the discrete sensor. An icon representing the discrete sensor type will appear to the left of the name. Clicking on the name of the discrete sensor or its icon will display the IPMI Discrete Sensor Detail window.

By default, the following field displays in the IPMI Discrete Sensors window and may be removed by using the Customize link:

- Status - The discrete sensor status.

The following fields are not displayed by default, but may be displayed using the Customize link:

- Sensor Type - The discrete sensor type.
- Reading Type - The discrete sensor reading type.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To view IPMI 1.5 target device sensor information:

1. From a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window, click on the name of a supported IPMI 1.5 target device. The side navigation bar will contain the name of the target device at the top and *Overview* will automatically be selected. The Unit Overview window will appear.
2. From the side navigation bar, click *IPMI*. Device Info will automatically be selected and the IPMI Device Information window will appear.
3. From the side navigation bar, click *Discrete Sensors*. The IPMI Discrete Sensors window will appear.
4. Click on the name of a sensor. The IPMI Discrete Sensor Details window will appear.
5. Click *Close* when you are finished to return to the IPMI Discrete Sensors window.
6. Click *Close* when you are finished to return to the target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window.

Viewing IPMI 1.5 target device numeric sensor information

The IPMI Numeric Sensors window displays information about the numeric sensors managed by the BMCs in the IPMI 1.5 target device.

The type and number of sensors displayed will vary by BMC, motherboard and chassis implementation.

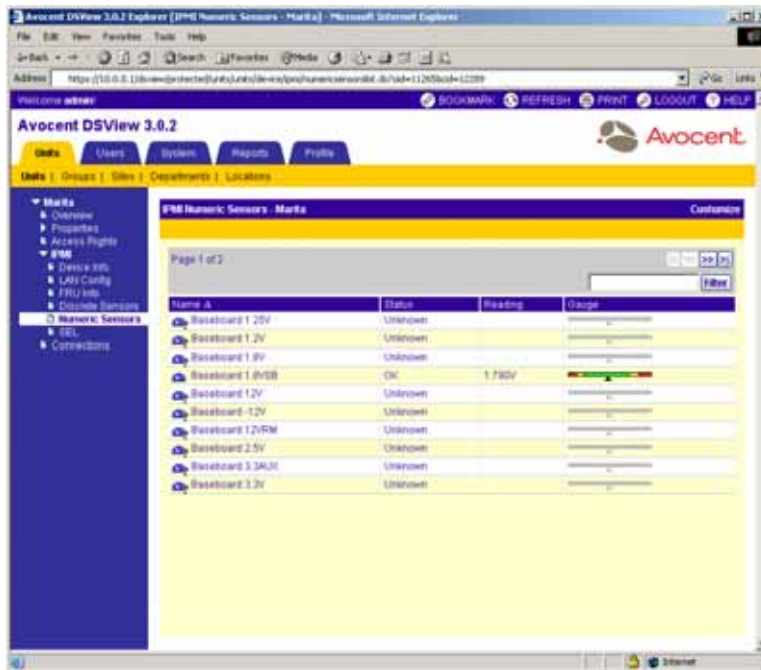


Figure 8.16: IPMI Numeric Sensors Window

To view detailed information about a specific sensor managed by a BMC, click on its name. The IPMI Numeric Sensor Details window will appear.

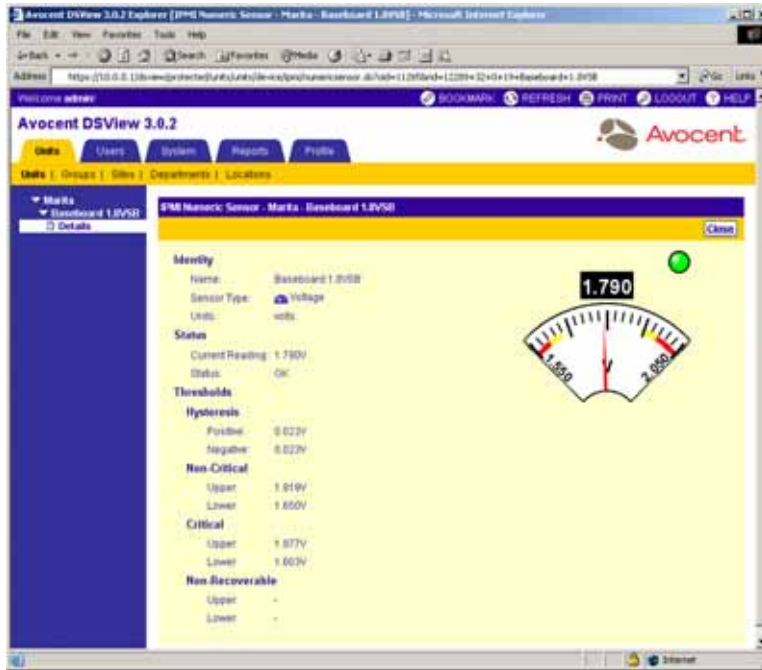


Figure 8.17: IPMI Numeric Sensor Details Window

The following information appears in the IPMI Numeric Sensor Details window about the selected sensor:

- Name - The numeric sensor name.
- Sensor Type - The numeric sensor type. A gauge icon representing the numeric sensor type will appear to the left of the name.
- Units - The numeric sensor type units (volts, RPM and so on).
- Current Reading - The numeric sensor current reading (5.006V, 35.0°C and so on).
- Status - The numeric sensor status. Available status values are:
 - OK
 - Non-Critical (Low)
 - Critical (Low)
 - Non-Recoverable (Low)
 - Non-Critical (High)
 - Critical (High)
 - Non-Recoverable (High)

The following information may appear for a selected sensor in the IPMI Numeric Sensors window, depending on whether the information is applicable to the sensor type:

- Lower Critical - The lower critical numeric sensor value.
- Lower Non-Critical - The lower non-critical numeric sensor value.
- Lower Non-Recoverable - The lower non-recoverable numeric sensor value.
- Negative Hysteresis - The negative hysteresis numeric sensor value.
- Positive Hysteresis - The positive hysteresis numeric sensor value.
- Upper Critical - The upper critical numeric sensor value.
- Upper Non-Critical - The upper non-critical numeric sensor value.
- Upper Non-Recoverable - The upper non-recoverable numeric sensor value.

The IPMI Numeric Sensor Details window may also contain one of three gauge types displaying the numeric sensor reading, including upper and lower thresholds and the status of the sensor. See *Window Features* on page 330 for more information. Customizing the IPMI Numeric Sensors window





Customizing the IPMI Numeric Sensors window

By default, the following fields display in the IPMI Numeric Sensors window and may be removed using the *Customize* link:

- Name - The numeric sensor name. An icon representing the numeric sensor type will appear to the left of the name. Clicking on the name of the numeric sensor or its icon will display the IPMI Numeric Sensor Detail window.

The name field also contains an icon that indicates the numeric sensor type (for example, fan, battery and so on) and may also contain an icon indicating whether the current value is within acceptable thresholds, as shown in Figure 8.11.

Table 8.3: Numeric Sensor Threshold Icons

Icon	Description
None	The current value is within acceptable thresholds.
	(yellow circle) The current value is in the non-critical area.
	(red x) The current value is in the critical area.
	(dark red sad face) The current value is in the non-recoverable area.
	(question mark) The current value is unknown.

- Status - The numeric sensor status.

- Reading - The numeric sensor reading.
- Gauge - A graphic that displays the current numeric sensor reading and whether the reading is within a valid range. A pointer is positioned at the current reading. Depending on the numeric sensor, the gauge may contain any of the following items:
 - Green area - Normal values within the specified thresholds.
 - Yellow areas - Upper and lower non-critical threshold values.
 - Red areas - Upper and lower critical threshold values.
 - Dark red areas - Upper and lower non-recoverable threshold values.

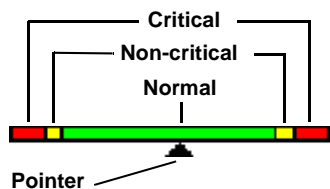


Figure 8.18: Numeric Sensor Threshold Gauge

NOTE: A grey gauge will appear if the numeric sensor values are invalid.

The following fields are not displayed by default, but may be displayed using the Customize link:

- Lower Critical - The lower critical numeric sensor value.
- Lower Non-Critical - The lower non-critical numeric sensor value.
- Lower Non-Recoverable - The lower non-recoverable numeric sensor value.
- Negative Hysteresis - The negative hysteresis numeric sensor value.
- Positive Hysteresis - The positive hysteresis numeric sensor value.
- Sensor Type - The numeric sensor type.
- Units - The numeric sensor units.
- Upper Critical - The upper critical numeric sensor value.
- Upper Non-Critical - The upper non-critical numeric sensor value.
- Upper Non-Recoverable - The upper non-recoverable numeric sensor value.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To view IPMI target numeric sensor information:

1. From a target devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window, click on the name of a supported IPMI 1.5 target device. The side navigation bar will contain the name of the target device at the top and *Overview* will automatically be selected. The Unit Overview window will appear.

2. From the side navigation bar, click *IPMI*. Device Info will automatically be selected and the IPMI Device Information window will appear.
3. From the side navigation bar, click *Numeric Sensors*. The IPMI Numeric Sensors window will appear.
4. Click on the name of a sensor. The IPMI Numeric Sensor window will appear.
5. Click *Close* when you are finished to return to the IPMI Numeric Sensors window.
6. Click *Close* when you are finished to return to the Target Devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window.

Viewing the BMC system log and log events

The System Event Log window displays the BMC events which have occurred during the DSVIEW software session.

If a user or a user group to which to a user belongs has Configure Unit Settings access rights for the IPMI 1.5 target device, the Clear Log button will appear in the System Event Log window. Clicking the *Clear Log* button clears all entries from the system event log on the IPMI 1.5 target device and writes the name of the IPMI 1.5 target device and the user who cleared the system event log to the audit log. See *Modifying unit access rights* on page 182 for more information on setting access rights and *About Audit Logs* on page 477 for more information on the audit log.

The generated events will vary by BMC, motherboard and chassis implementation.

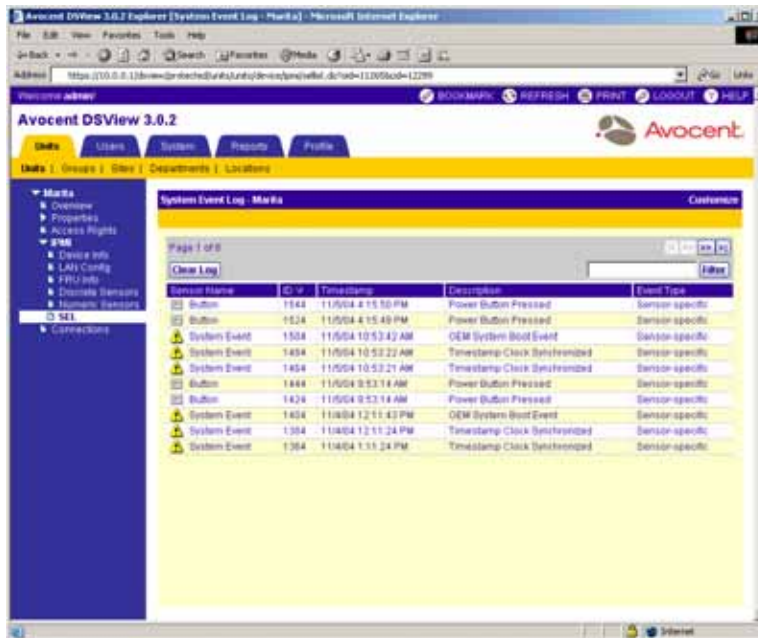


Figure 8.19: System Event Log Window

To view detailed information about a specific BMC event, click on the event name. The Event Entry Details window will appear.

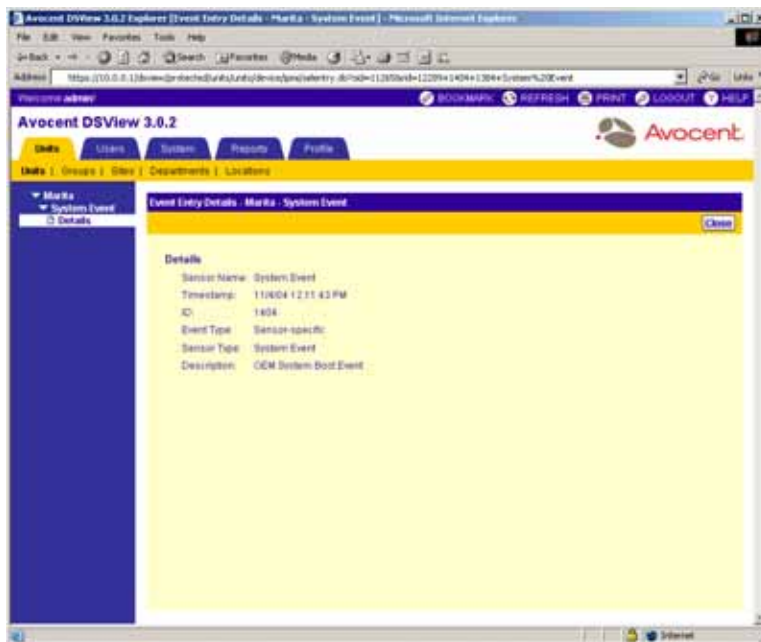


Figure 8.20: Event Entry Details Window

The following information appears in the Event Entry Details window about the selected sensor event:

- Sensor Name - The sensor name.
- Timestamp - The time, in the target device time zone, at which the event occurred on the IPMI 1.5 target device.
If the BMC clock has not been synchronized with the PC clock, the timestamp may reflect the time relative to the startup of the host instead of the event occurrence.
- ID - The unique system event log (SEL) identifier used for retrieving events.
- Event Type - The event type.
- Sensor Type - The sensor type.
- Description - A description of the event.

NOTE: Additional information provided by certain sensor events may also appear in the Event Entry Details window.

Customizing the System Event Log window

The following fields are always displayed in the System Event Log window:

- **Sensor Name** - The numeric sensor name. An icon representing the numeric sensor type will appear to the left of the name. Clicking on the name of the numeric sensor or its icon will display the Event Entry Details window.
- **ID** - The unique system event log identifier for the event.

By default, the following fields display in the System Event Log window and may be removed using the Customize link:

- **Timestamp** - The time, in the target device's time zone, at which the event occurred on the IPMI 1.5 target device.
If the BMC clock has not been synchronized with the PC clock, the timestamp may reflect the time relative to the startup of the host instead of the event occurrence.
- **Description** - A description of the event
- **Event Type** - The event type.

The following field is not displayed by default, but may be displayed using the Customize link:

- **Sensor Type** - The sensor type for the event.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To view the BMC system log and log events:

1. From a Target Devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window, click on the name of a supported IPMI 1.5 target device. The side navigation bar will contain the name of the target device at the top and *Overview* will automatically be selected. The Unit Overview window will appear.
2. From the side navigation bar, click *IPMI*. Device Info will automatically be selected and the IPMI Device Information window will appear.
3. From the side navigation bar, click *SEL*. The System Event Log window will appear.
4. Click on the name of a sensor event name. The Event Entry Details window will appear.
5. Click *Close* when you are finished to return to the System Event Log window.
6. Click *Close* when you are finished to return to the Target Devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window.

Grouping

About Grouping

The DSView 3.0.2 Explorer automatically groups managed appliances (DS1800 digital switches, DSR switches, CPS serial over IP network appliances, DS15100 IPMI proxy appliances, EVR1500 environmental monitor and control appliances and generic appliances) by the type of appliance (CPS 1610 appliance, DSR1021 switch and so on). Target devices are automatically grouped based on the type to which they are assigned.

You may view the target devices in your DSView software system by clicking *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar, *target devices - All* will automatically be selected in the side navigation bar and the target devices - All window will appear. You may then click a target device type beneath target devices in the side navigation bar to display a target devices window containing only target devices of the particular type.

Managed appliances may be displayed by clicking *Appliances* in the side navigation bar. *All* is automatically selected and the Appliances - All window will appear. You may then click a DS1800 digital switch, DSR switch or CPS appliance type, *DS15100*, *EVR1500* or *Generic* beneath Appliances in the side navigation bar to display an Appliances window containing only managed appliances of the particular type.

NOTE: Recently accessed units may be viewed by clicking the *Recently Accessed* link in the side navigation bar.

In addition to these types of groupings, the DSView management software also allows you to group units in other ways. You may add or modify the group types and add or delete members to or from the following types of groups:

- Personal and global unit groups - Global unit groups may be seen by all DSView software users, while personal unit groups are visible only to the DSView software user who created the group.
- Custom Fields - Custom fields allow a DSView software user to create groupings of units which are accessed by all DSView software users in the DSView software system by clicking a link in the side navigation bar.
- Sites
- Departments
- Locations

A site, department and location may be used together to provide a detailed description of where a unit resides. For example, a DSR1021 switch may be assigned a site of New York, a department of Information Technology and a location of Room 214.

DSView software users may be grouped in the following ways:

- Built-In user groups - These groupings already reside in your DSView management software.
- User-Defined user groups - These groups are defined by a DSView software user.

Managing Units Using Sites

A site is a location that contains a managed appliance. You may wish to assign a location name to a site, such as Austin, 10045 Zip Code and so on.

Sites will appear in the side navigation bar when you click *Units* in the tab bar and *Units* in the top navigation bar if at least one unit is associated with a site. All sites that contain at least one unit are listed in alphabetical order when you click *Sites* in the side navigation bar, as shown in Figure 9.1. To view the managed appliances assigned to a particular site, click the name of a site in the side navigation bar.

Click *Sites* in the top navigation bar to add, remove and change the names of sites.

The site assigned to a unit also appears in the Site column.

Click *Sites* in the side navigation bar to display a list of sites and then click a site name to display the units assigned to the site.

Name	Type	Status	Action	Site
Control Room Generic	Generic	Idle	Browser Session	Site Four
111111-11111101		Unit Status Unknown	KVM Session	Site One
DDR4218-03-03-52	DDR4218	Not Responding		Site Two
DSR150	DSR150	Idle		Site Three
S20255-04508105		No Power	KVM Session	
Mails		No Power	KVM Session	
S20255-04508103		No Power	KVM Session	
S20255-04508107		No Power	KVM Session	
111111-11111102		Unit Status Unknown	KVM Session	
044444-044444		Unit Status Unknown	KVM Session	

Figure 9.1: Displaying Sites

Sites that contain units to which a DSView software user does not have access rights will not appear in the side navigation bar. The only sites that will appear in the side navigation bar are for DSView software users that have access rights to the units in the sites.

The site assigned to a unit will appear in the Site column of the windows listed in Table 9.1 when you click the *Units* tab bar, the *Units* top navigation bar and the corresponding link in the side navigation bar.

Table 9.1: Windows Containing a Site Column

Window	Link Clicked in Side Navigation Bar
Units in Site window	Sites
Target Devices window	A link under target devices
Appliances window	A link under Appliances
Units in Group window	Groups
Units in Custom Fields window	A link under Custom Field
Recently Accessed Units window	Recently Accessed
Topology window	Topology

NOTE: The Site column may be turned off using the Customize link. See *Using the Customize Link in DSView Management Software Windows* on page 30 for more information.

To use a site:

1. Add the site to the DSView software system.
2. Associate units with the site.

Viewing, adding, modifying and deleting sites

You may view, add, delete or change the name of a site in the DSView software system using the Sites window.

NOTE: You may customize the number of sites that appear in the Sites window by clicking the *Customize* link. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information using the Customize link.

To display the Sites window and view sites:

1. From the DSView 3.0.2 Explorer, click *Units* in the tab bar.
2. From the top navigation bar, click *Sites*. *Sites* is automatically selected in the side navigation bar and the Sites window will appear.

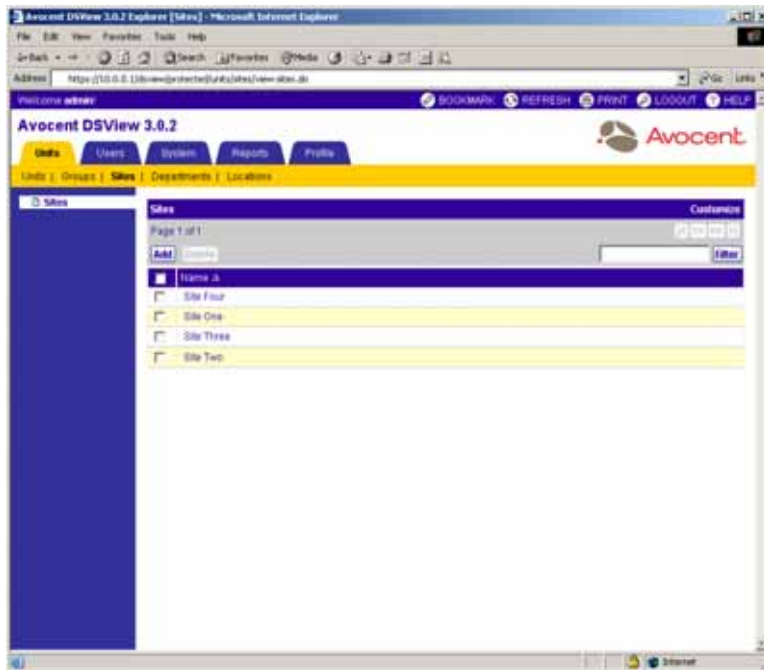


Figure 9.2: Sites Window

To add a site:

1. From the Sites window, click *Add*. The Add Site window will appear.

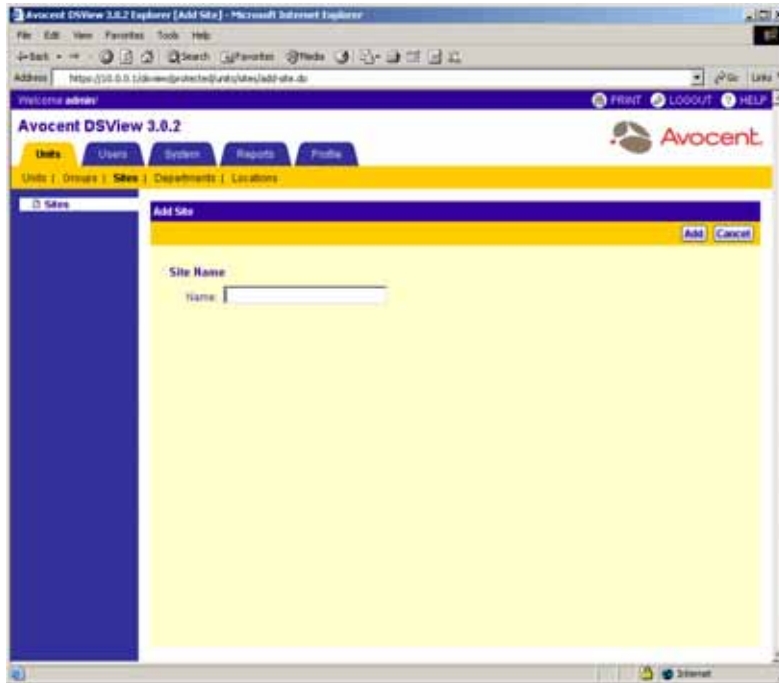


Figure 9.3: Add Site Window

2. Type a name for the site.
3. Click *Add*. The Sites window will appear including the newly added site.

To delete a site:

1. From the Sites window, click the checkbox to the left of the sites you wish to delete.
-or-
Click the checkbox to the left of Name at the top of the list to select all sites listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the sites.
-or-
Click *No* to cancel the action.

To change the name of a site:

1. From the Sites window, click on the name of a site. The side navigation bar will change to include the name of the site at the top.
2. Click *Name*. The Site Name window will appear.

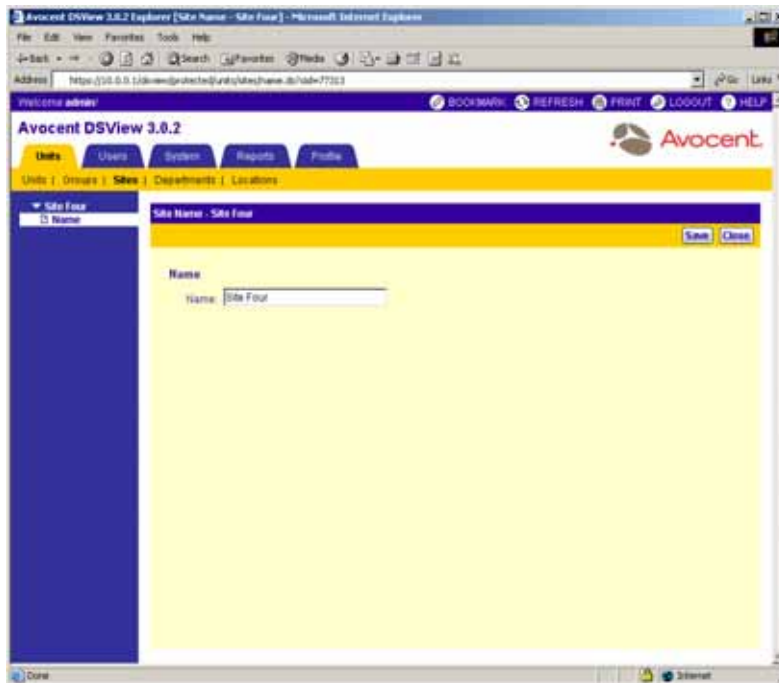


Figure 9.4: Site Name Window

3. Type a new name in the Name field. Names may be 1-64 characters long.
4. Click *Save* to save your changes.
5. Click *Close*. The Sites window will appear including the renamed site.

Displaying units associated with sites

Once a site has been created, it may be displayed. Initially, the site will be empty. You may associate units to the site. See *Associating, changing or removing the association of units with a site* on page 356 for more information.

To display the units associated with a site:

1. From the DSView 3.0.2 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. From the side navigation bar, click *Sites*. The Units in Site window will appear with information for the first alphabetically-listed site.

In Figure 9.5, Site Three is assigned as the site name. The window is named Units in Site - Site Three and contains only units that are assigned to the Site Three site.

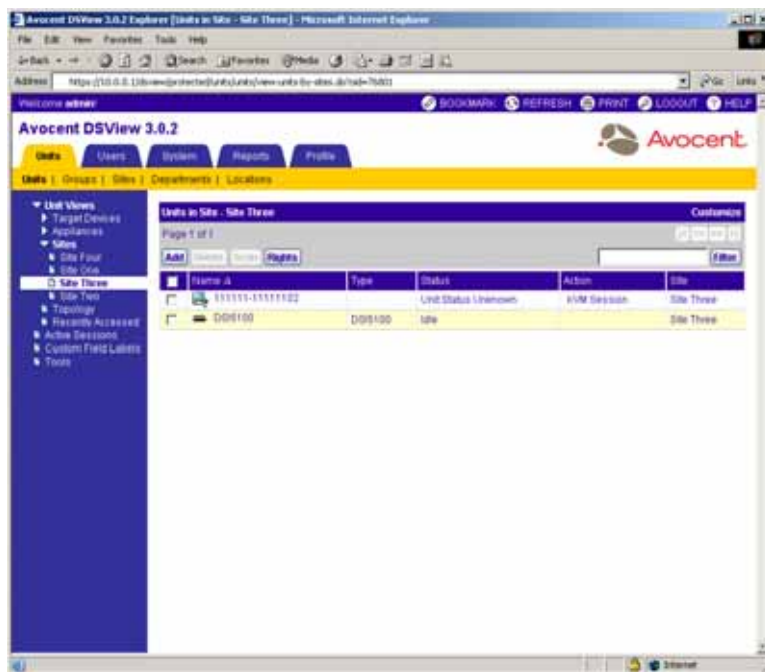


Figure 9.5: Example Units in Site Window

3. Click on a site link in the side navigation bar to display another site.

Associating, changing or removing the association of units with a site

Once you have created a site, you may associate existing units with the site. If a unit is already associated with a site, it may be changed so that it will be associated with another site.

See *Adding Units* on page 147 for more information on using the Add Unit Wizard.

To associate or change the association of an existing unit to a site:

1. From the DSView 3.0.2 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. Click one of the links listed in Table 9.2 in the side navigation bar to display the corresponding window for the units you wish to associate, change or remove the association.

Table 9.2: Links for Adding, Changing or Removing Site Association

Link	Window	Changes Site Associations For...
A link under Target Devices	Target Devices window	Target devices only
A link under Appliances	Appliances window	Managed appliances only
Sites	Units in Site window	Units
Groups	Units in Group window	Units
A link under Custom Field	Units in Custom Fields window	Units
Recently Accessed	Recently Accessed Units window	Units
Topology	Topology window	Units

NOTE: For custom fields to display in the side navigation bar, at least one unit to which a DSView software user has access rights must have a custom field setting. The default labels for custom fields defaults are Custom Field 1, Custom Field 2 and Custom Field 3, which may be changed. See *Managing Units Using Custom Fields* on page 377 for more information.

3. Click on the name of a unit. The Unit Overview window will appear.
4. From the side navigation bar, click *Properties*.
5. From the side navigation bar, click *Location*.
6. Using the drop-down menu, select the site to associate with the unit. If you do not wish to associate the unit with any site, choose the top (empty) item from the drop-down menu.
7. Click *Save*.
8. Click *Close*. The Site column will display the new site name and the unit will appear under the site when you click *Units* from the tab bar, *Units* from the top navigation bar and *Sites* and the site name from the side navigation bar.

Managing Units Using Departments

A department is a location name used to identify where a unit resides. A department may be named in any way you wish. For example, you may wish to assign department names such as Software Development, Human Resources, Accounting and so on.

The department assigned to a unit will appear in the Department column of the windows listed in Table 9.3 when you click the *Units* tab bar from the *Units* top navigation bar and the corresponding link in the side navigation bar.

Table 9.3: Windows Containing a Department Column

Window	Link Clicked in Side Navigation Bar
Units in Site window	Sites
target devices window	A link under target devices
Appliances window	A link under Appliances
Units in Group window	Groups
Units in Custom Fields window	A link under Custom Field
Recently Accessed Units window	Recently Accessed
Topology window	Topology

By default, the Department column is not displayed in any of the windows. You may display the Department column by clicking *Customize* and adding the field. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To use a department:

1. Add the department to the DSView software system.
2. Associate units with the department.

Viewing, adding, modifying and deleting departments

You may view, add, delete or change the name of a department in the DSView software system using the Departments window.

NOTE: You may customize the number of departments that appear in the Departments window by clicking the *Customize* link. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information using the Customize link.

To display the Departments window and view departments:

1. From the DSView 3.0.2 Explorer, click *Units* in the tab bar.
2. From the top navigation bar, click *Departments*. *Departments* is automatically selected in the side navigation bar and the Departments window will appear.

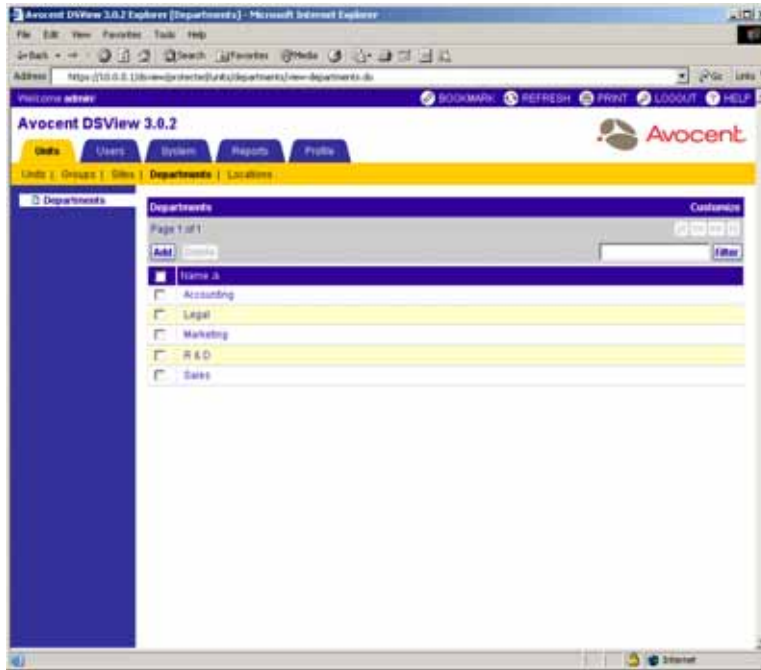


Figure 9.6: Departments Window

To add a department:

1. From the Departments window, click *Add*. The Add Department window will appear.

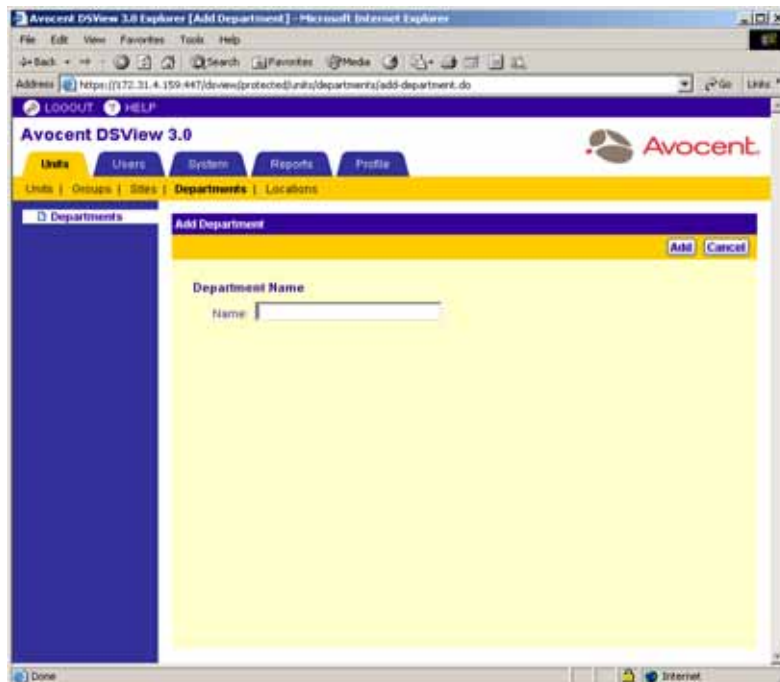


Figure 9.7: Add Department Window

2. Type a name for the department. Department names may be 1-64 characters long.
3. Click *Add*. The Departments window will appear including the newly added department.

To delete a department:

1. From the Departments window, click the checkbox to the left of the departments you wish to delete.
-or-
Click the checkbox to the left of Name at the top of the list to select all departments listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the departments.
-or-
Click *No* to cancel the action.

To change the name of a department:

1. From the Departments window, click on the name of a department. The side navigation bar will change to include the name of the department at the top.

2. Click *Name*. The Department Name window will appear.

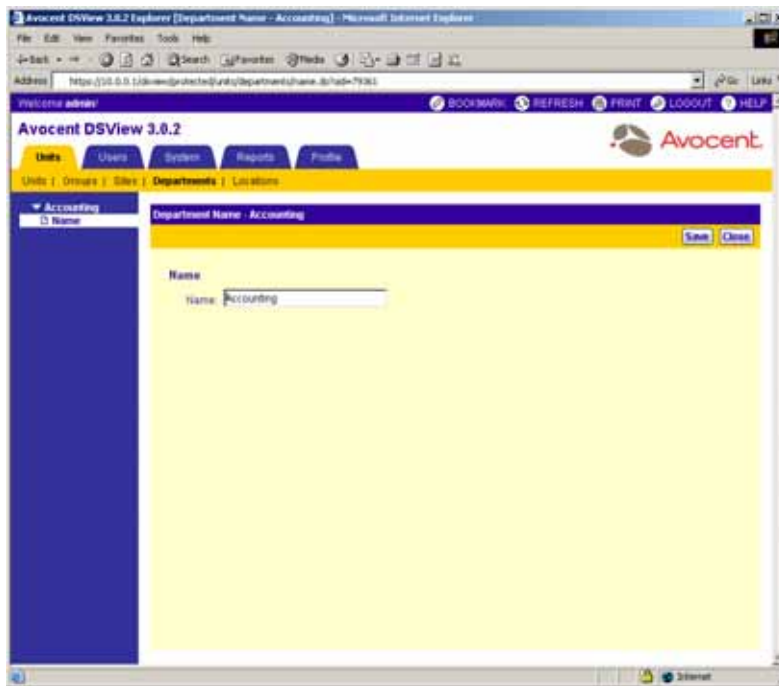


Figure 9.8: Department Name Window

3. Type a new name in the Name field. Names may be 1-64 characters long.
4. Click *Save* to save your changes.
5. Click *Close*. The Departments window will appear including the renamed department.

Associating, changing or removing the association of units with a department

Once you have created a department, you may associate units with it. If a unit is already associated with a department, it may be changed so that it will be associated with another department.

To associate or change the association of an existing unit to a department:

1. From the DSView 3.0.2 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. Click one of the links listed in Table 9.4 in the side navigation bar to display the corresponding window for the units you wish to associate, change or remove the association.

Table 9.4: Links for Adding, Changing or Removing Department Association

Link	Window	Changes Department Associations For...
A link under Target Devices	Target Devices window	Target devices only
A link under Appliances	Appliances window	Managed appliances only
Sites	Units in Site window	Units
Groups	Units in Group window	Units
A link under Custom Field	Units in Custom Fields window	Units
Recently Accessed	Recently Accessed Units window	Units
Topology	Topology window	Units

3. Click on the name of a unit. The Unit Overview window will appear.
4. From the side navigation bar, click *Properties*.
5. From the side navigation bar, click *Location*.
6. Using the drop-down menu, select the department to associate with the unit. If you do not wish to associate the unit with any department, choose the top (empty) item from the drop-down menu.
7. Click *Save*.
8. Click *Close*. The Department column will display the new department name.

Managing Units Using Locations

A location is a name that you provide which may be associated with a unit. A location may be named in any way you wish. For example, you may wish to assign location names such as Lab Room 101, System Administrator's Office and so on.

The location assigned to a unit will appear in the Location column of the windows listed in Table 9.5 when you click the *Units* tab bar, *Units* in the top navigation bar and the corresponding link in the side navigation bar.

Table 9.5: Windows Containing a Location Column

Window	Link Clicked in Side Navigation Bar
Units in Site window	Sites
target devices window	A link under target devices
Appliances window	A link under Appliances
Units in Group window	Groups
Units in Custom Fields window	A link under Custom Field
Recently Accessed Units window	Recently Accessed
Topology window	Topology

By default, the Location column is not displayed in any of the windows. You may display the Location column by clicking *Customize* and adding the field. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

To use a location:

1. Add the location to the DSView software system.
2. Associate units with the location.

Viewing, adding, modifying and deleting locations

You may view, add, delete or change the name of a location in the DSView software system using the Locations window.

NOTE: You may customize the number of locations that appear in the Locations window by clicking the *Customize* link. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information using the Customize link.

To display the Locations window and view locations:

1. From the DSView 3.0.2 Explorer, click *Units* in the tab bar.
2. From the top navigation bar, click *Locations*. *Locations* is automatically selected in the side navigation bar and the Locations window will appear.

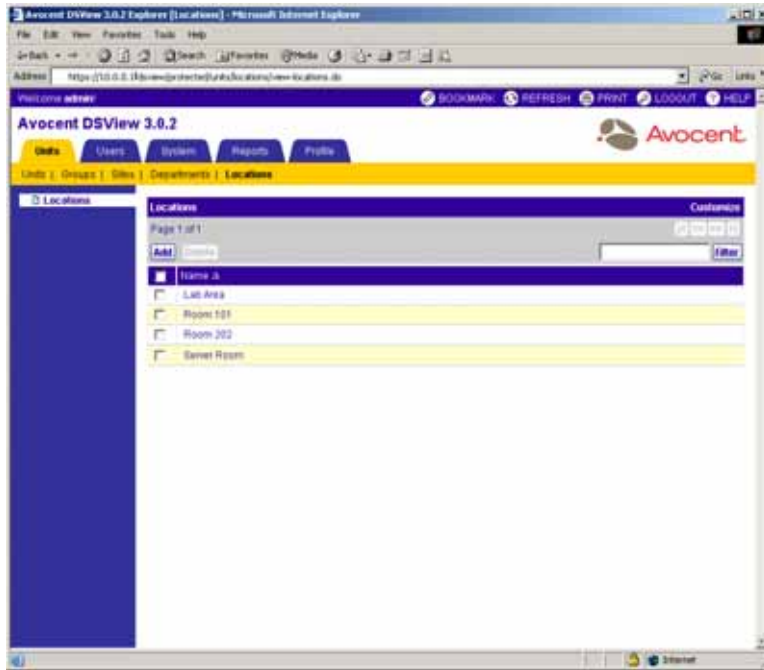


Figure 9.9: Locations Window

To add a location:

1. From the Locations window, click *Add*. The Add Location window will appear.

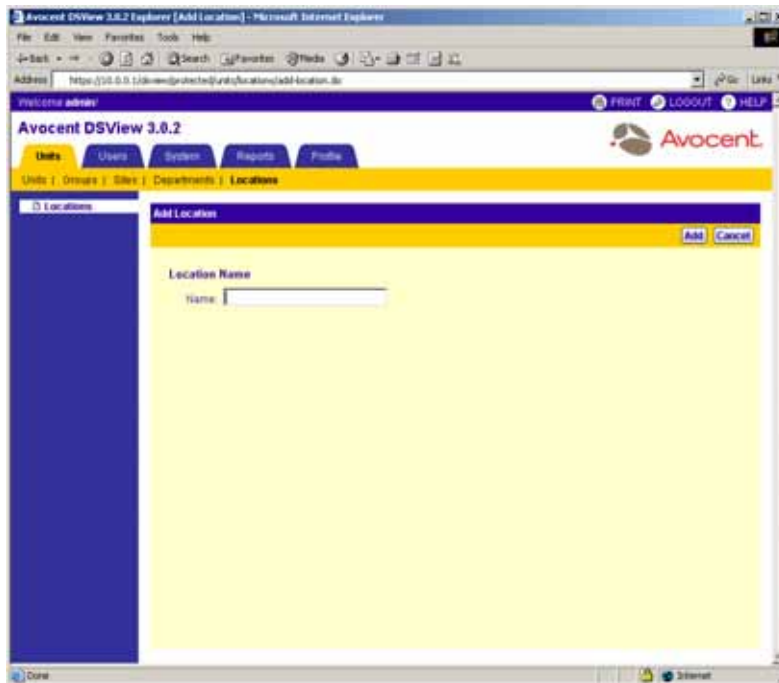


Figure 9.10: Add Location Window

2. Type a name for the location.
3. Click *Add*. The Locations window will appear including the newly added location.

To delete a location:

1. From the Locations window, click the checkbox to the left of the locations you wish to delete.
-or-
Click the checkbox to the left of Name at the top of the list to select all locations listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the departments.
-or-
Click *No* to cancel the action.

To change the name of a location:

1. From the Locations window, click on the name of a location. The side navigation bar will change to include the name of the location at the top.
2. Click *Name*. The Location Name window will appear.

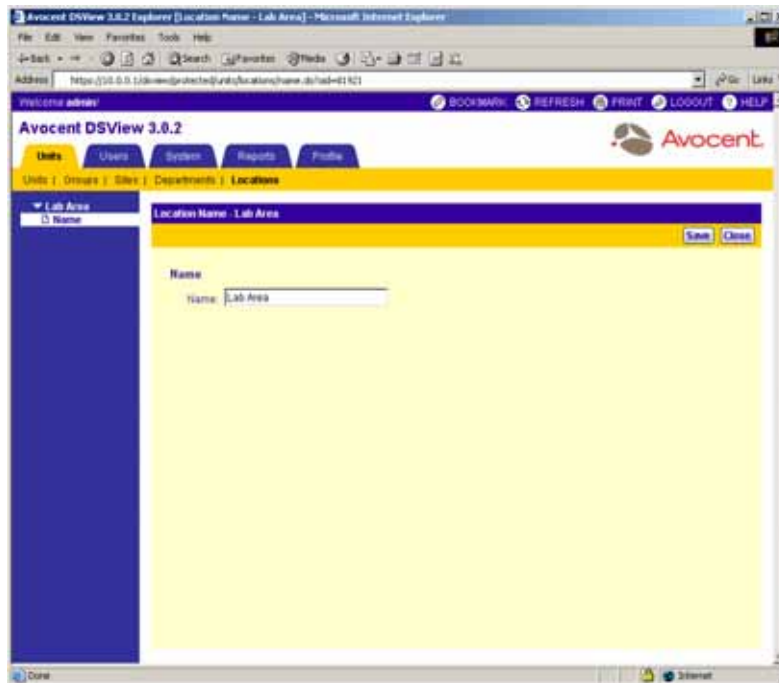


Figure 9.11: Location Name Window

3. Type a new name in the Name field. Names may be 1-64 characters long.
4. Click *Save* to save your changes.
5. Click *Close*. The Locations window will appear including the renamed location.

Associating, changing or removing the association of units with a location

Once you have created a location, you may associate units with it. If a unit is already associated with one location, it may be changed so that it will be associated with another location.

To associate or change the association of an existing unit to a location:

1. From the DSView 3.0.2 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. Click one of the following links in the side navigation bar to display the corresponding window for the units you wish to associate, change or remove the association.

Table 9.6: Links for Adding, Changing or Removing Location Association

Link	Window	Changes Location Associations For...
A link under Target Devices	Target Devices window	Target devices only
A link under Appliances	Appliances window	Managed appliances only
Sites	Units in Site window	Units
Groups	Units in Group window	Units
A link under Custom Field	Units in Custom Fields window	Units
Recently Accessed	Recently Accessed Units window	Units
Topology	Topology window	Units

3. Click on the name of a unit. The Unit Overview window will appear.
4. From the side navigation bar, click *Properties*.
5. From the side navigation bar, click *Location*.
6. Using the drop-down menu, select the location to associate with the unit. If you do not wish to associate the unit with any location, choose the top (empty) item from the drop-down menu.
7. Click *Save*.
8. Click *Close*. The Location column will display the new location name.

Managing Units Using Unit Groups

Unit groups may be used to organize the units in your DSView management software system. The following two types of unit groups are available in the DSView software:

- Personal - A personal unit group is only viewable by the DSView user who created the unit group. Up to 32 personal unit groups may be created by a DSView user.
- Global - A global unit group is viewable by any DSView software user logged in to the DSView management software.

Personal unit groups will appear in the Personal Unit Groups window and global unit groups will appear in the Global Unit Groups window. You may specify the number of unit groups that display per window by clicking the *Customize* link. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the *Customize* link.

Units may belong to multiple groups. For example, you may have a DSR1021 switch that belongs to two global groups and three personal groups.

To view unit groups:

1. From the DSView 3.0.2 Explorer, click *Units* in the tab bar.

- From the top navigation bar, click *Groups*. *Personal* is automatically selected in the side navigation bar and the Personal Unit Groups window will appear.

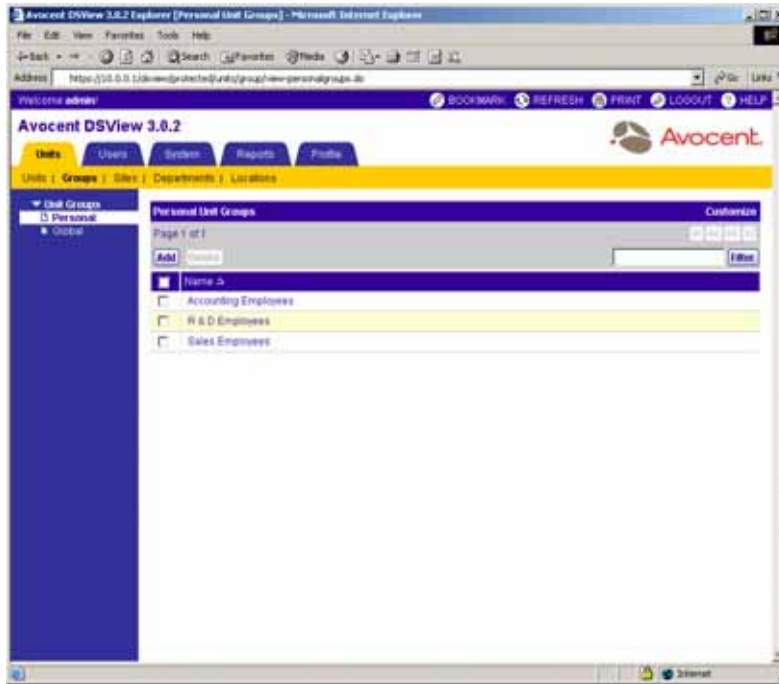


Figure 9.12: Personal Unit Groups Window

-or-

From the side navigation bar, click *Global*. The Global Unit Groups window will display.

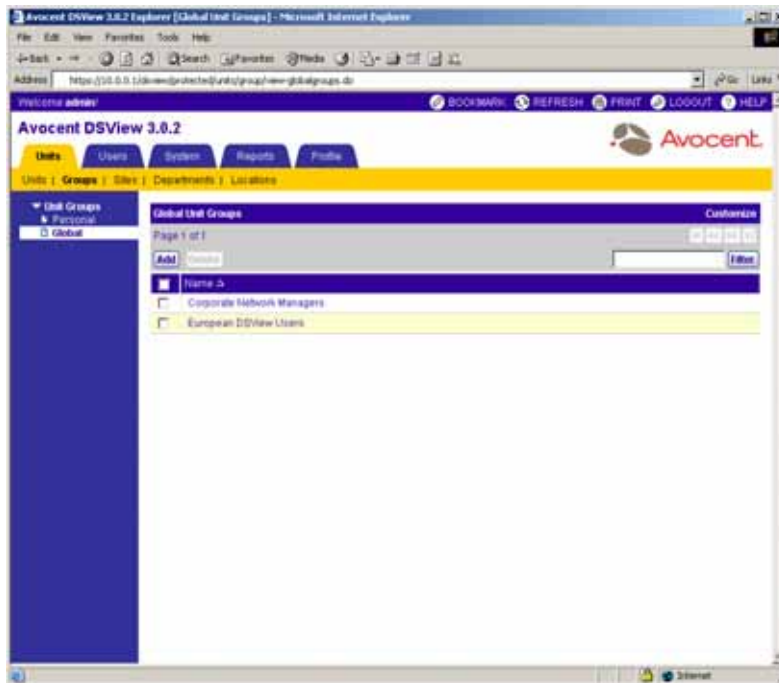


Figure 9.13: Global Unit Groups Window

Adding unit groups

You may add global and personal unit groups to the DSView software system.

NOTE: Global unit groups may only be created by DSView software users with DSView software administrator, user administrator or appliance administrator privileges.

To add a unit group:

1. From the Global Unit Groups or Personal Unit Groups window, click *Add*. The Welcome window of the Add Unit Group wizard will appear. Click *Next*.

If you are a member of the DSView software administrators, user administrators or appliance administrators built-in user groups, continue to step 2.

-or-

If you are a member of any other user group, go to step 3.

2. The Select Unit Group Type window will appear.

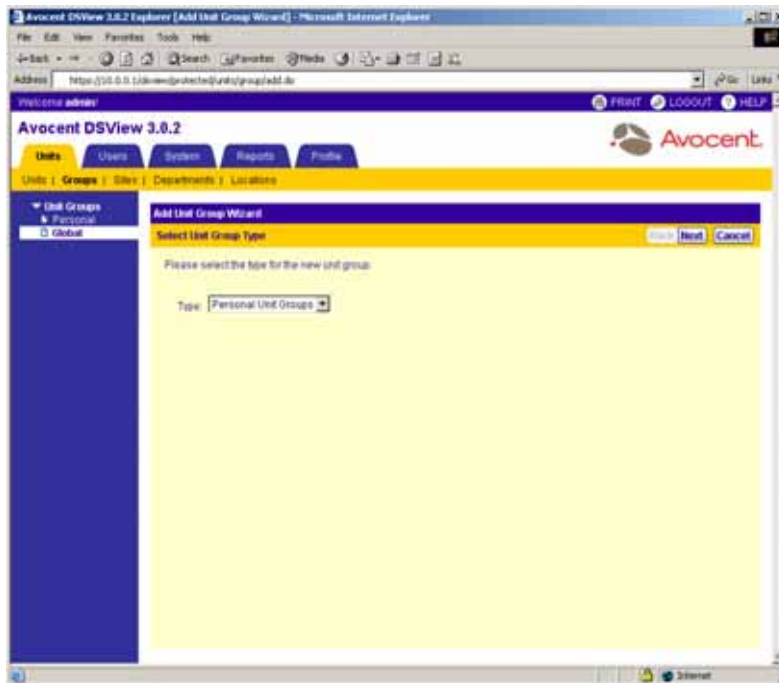


Figure 9.14: Add Unit Group Wizard - Select Unit Group Type Window

- a. Select *Personal Unit Groups* from the drop-down menu to create a personal unit group.
-or-
Select *Global Unit Groups* from the drop-down menu to create a global unit group.
 - b. Click *Next*.
3. The Type in Unit Group Name window will appear.

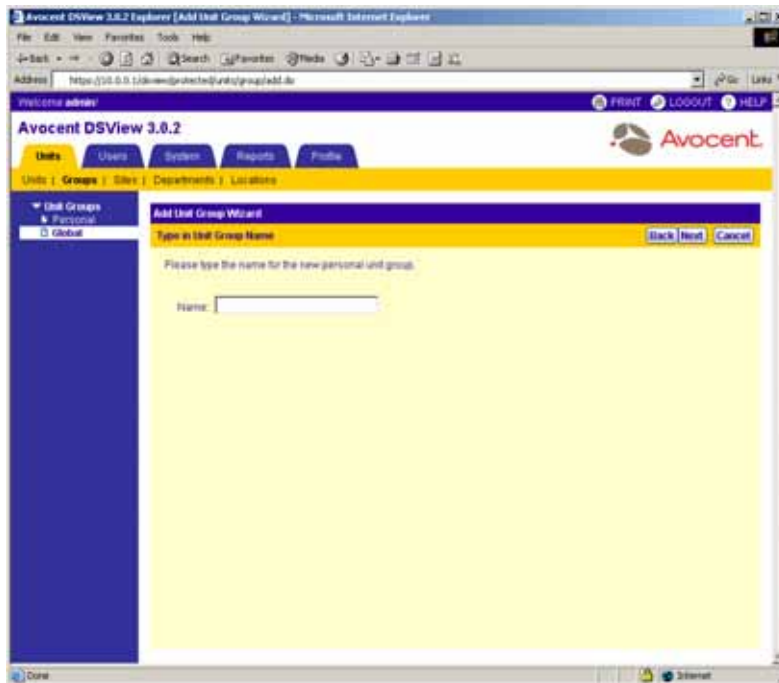


Figure 9.15: Add Unit Group Wizard - Type in Unit Group Name Window

- a. Type a name for the unit group.
 - b. Click *Next*.
4. The Completed Successful window will appear. Click *Finish*. The Personal Unit Groups (if creating personal unit groups) or Global Unit Groups (if creating global unit groups) window will appear including the newly added unit group.

Deleting unit groups

You may delete global or personal unit groups in the DSVIEW software system. Deleting a global or personal unit group deletes the group only. The units still exist on the DSVIEW software system.

NOTE: Global unit groups may only be deleted by DSVIEW software users with DSVIEW software administrator, user administrator or appliance administrator privileges.

To delete a unit group:

1. From the Global Unit Groups or Personal Unit Groups window, click the checkbox to the left of the unit groups you wish to delete.
-or-
Click the checkbox to the left of Name at the top of the list to select all unit groups listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the unit group(s).
-or-
Click *No* to cancel the action.

Viewing and modifying unit group members

Clicking on the name of a global or personal unit group allows you to do the following:

- Change the name of the unit group
- View, assign or remove unit group members

NOTE: Global unit group properties may only be modified by DSVIEW software users with administrator, user administrator or appliance administrator privileges.

To change the name of a unit group:

1. From the Global Unit Groups or Personal Unit Groups window, click on the name of a unit group. *Name* will be automatically selected in the side navigation bar and the Unit Group Name window will appear. The side navigation bar will include the name of the unit group at the top.

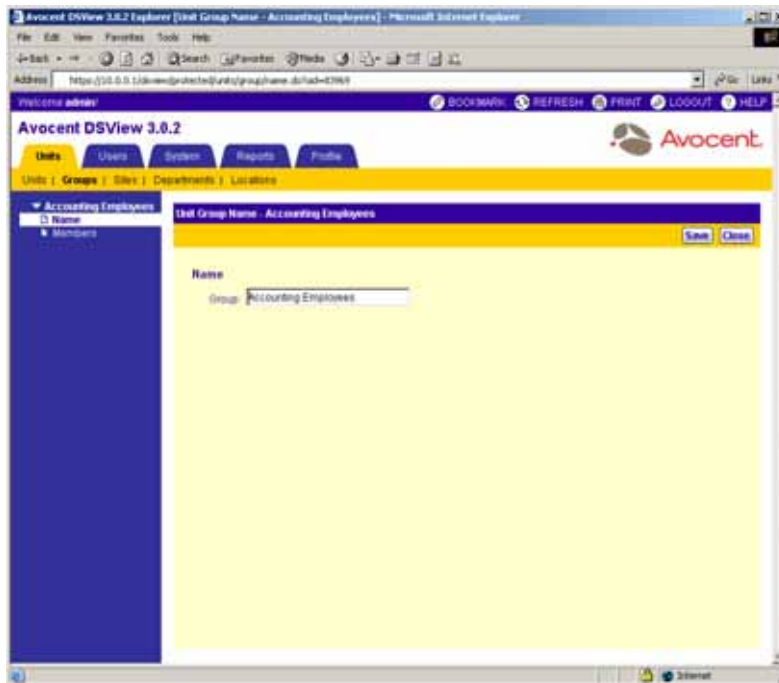


Figure 9.16: Unit Group Name Window

2. Type a new name in the Group field. Group names may be 1-64 characters long.
3. Click *Save* to save your changes.
4. Click *Close*. The Personal Unit Groups (if renaming a personal unit group) or Global Unit Groups (if renaming a global unit group) window will appear including the renamed unit group.

Adding and removing unit group members

You may add and remove units to and from global and personal unit groups. Removing a unit from a global or personal unit group does not delete the unit from the DSView software system or any other group to which it belongs.

NOTE: Members may only be added to global unit group properties by DSView software users with administrator, user administrator or appliance administrator privileges.

To add or remove unit group members:

1. From the Global Unit Groups or Personal Unit Groups window, click on the name of a unit group. *Name* will be automatically selected in the side navigation bar and the Unit Group Name window will appear. The side navigation bar will include the name of the unit group at the top.

- From the side navigation bar, click *Members*. The Unit Group Members - <Group Name> window displays a list of all units belonging to the unit group.

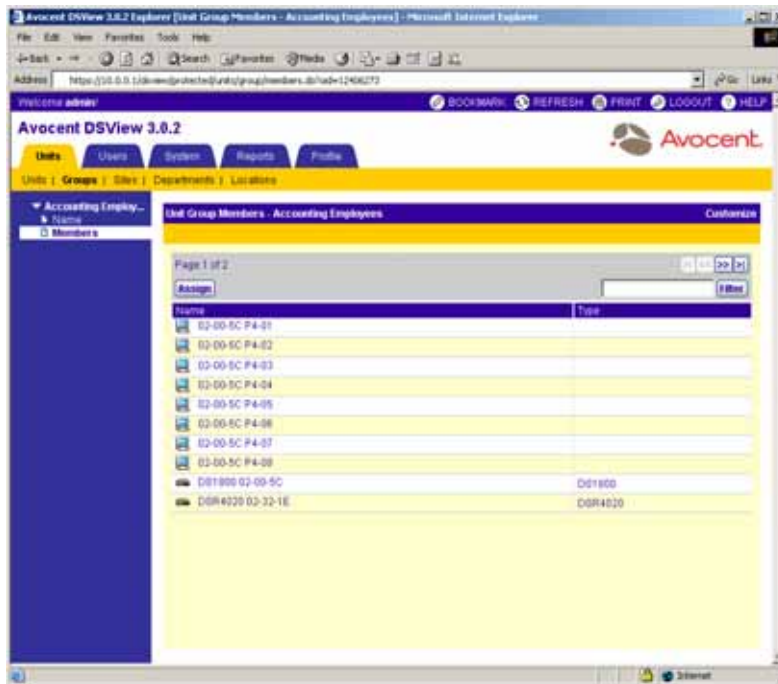


Figure 9.17: Unit Group Members Window

- Click *Assign*. The Assign Units to Unit Group window will appear.

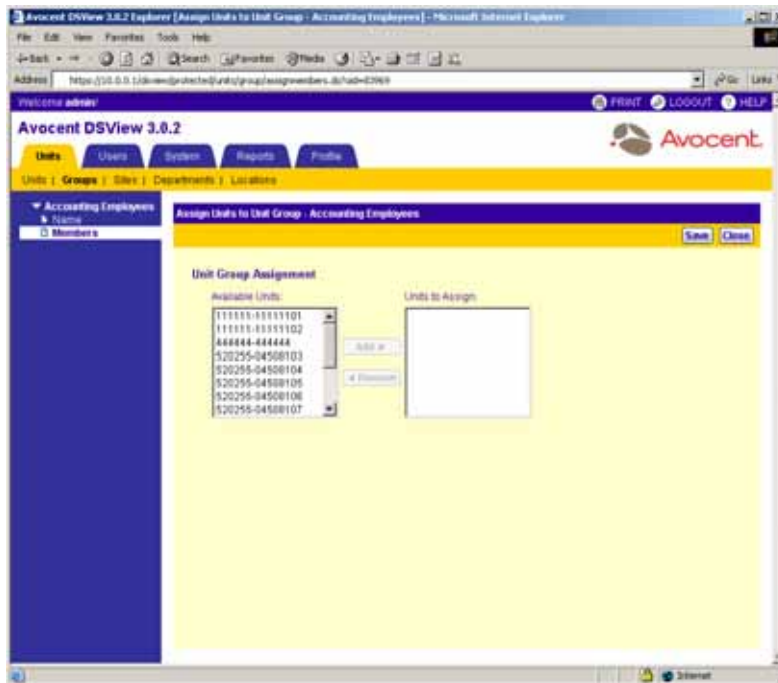


Figure 9.18: Assign Units to Unit Group Window

4. Add a unit to the unit group:
 - a. Select the unit you wish to add from the Available Units list. Multiple units may be selected by pressing **Ctrl** while clicking on the unit names.
 - b. Click *Add*. The units will be moved to the Units to Assign list.

-or-

Remove a unit already assigned to the unit group:

 - a. Select the unit you wish to remove from the Units to Assign list. Multiple units may be selected by pressing **Ctrl** while clicking on the unit names.
 - b. Click *Remove*. The units will be moved to the Available Units list.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Group Members window will appear including your additions or removals.
7. Click *Close*. The Personal Unit Groups (if adding or removing members to or from a personal unit group) or Global Unit Groups (if adding or removing members to or from a global unit group) window will appear.

Using groups to view and modify units

NOTE: You may customize the fields that display in the Units in Group window by clicking on the *Customize* link. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the *Customize* link.

The Units in Group window allows you to delete, scan and assign rights to all or specific units in a personal or global group.

All personal and global groups are listed in alphabetical order in the side navigation bar. To view the managed appliances belonging to a specific personal or global group, click the name of the group in the side navigation bar to display the Units in Group window.

NOTE: If a personal or global group does not contain at least one unit, the group will not display in the side navigation bar.

See *Adding unit groups* on page 369 for information on creating personal and global groups.

You may click on a target device to display links in the side navigation bar for modifying target device overview information, properties, access rights and connections. Clicking on a managed appliance displays links in the side navigation bar for modifying appliance overview information, properties, access rights, appliance settings (DS1800 digital switches, DSI5100 and CPS appliances and DSR switches) and connections (DS1800 digital switches, DSI5100 or CPS appliances or DSR switches). These side navigation bar links work identically to those selected from a Unit Views window. See *Managing Units* on page 164 for detailed information on using these links.

To display a personal or global group in the Units in Group window:

1. From the DSView 3.0.2 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. From the side navigation bar, click *Groups*. The Units in Group window will appear and automatically display the first alphabetically-listed personal or global group.
 - In Figure 9.19, for example, Accounting Employees is assigned as the group name. The window is named Units in Group - Accounting Employees and contains only those managed appliances that are assigned to the group.

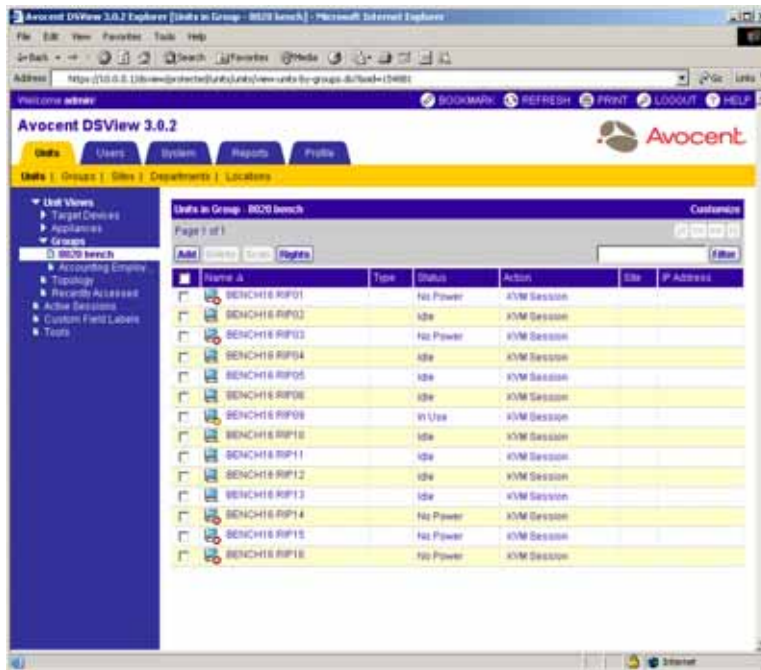


Figure 9.19: Units in Group Window

- From the side navigation bar, click on the name of the personal or global group you wish to view. A Units in Group window will appear containing only the units that have been added to the group.

Managing Units Using Custom Fields

Custom fields may be used within the DSView management software to organize units. Up to three custom fields may be used in your DSView software system. Three default custom field labels are defined in the DSView management software (Custom Field 1, Custom Field 2 and Custom Field 3). You may change the default labels if you wish and then associate units to the custom fields. The first system custom field and the first and second custom field names for units will appear in the side navigation bar once they have been assigned to a unit. Clicking on a first or second level custom field will display a Units in Custom Field area window containing the units associated with the custom field. The third custom field, as well as the first and second custom fields, may be displayed in the content area of an Appliances, Target Devices, Units in Site, Units in Custom Field, Topology or Recently Accessed Units window by clicking the *Customize* link and adding the fields. See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the *Customize* link.

Click *Customize* to display all three custom fields.

The Custom Field Labels listing is replaced by the defined name.

Click on a link in the side navigation bar to display the units associated with a custom field.

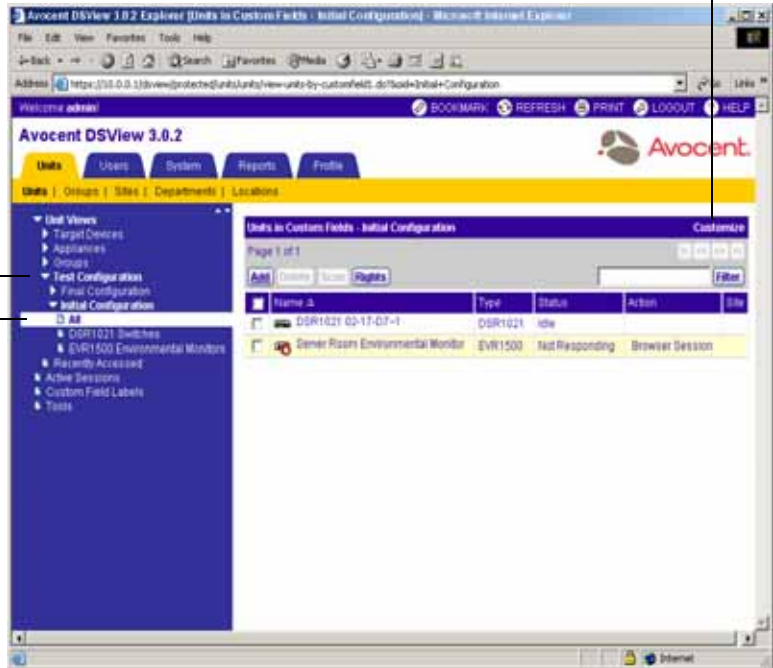


Figure 9.20: Units in Custom Field Window

To define custom fields:

NOTE: You must be a member of the DSView software administrators or appliance administrators built-in user groups to define custom fields.

1. From the DSView 3.0.2 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
2. From the side navigation bar, click *Custom Field Labels*. The Unit Custom Field Labels window will appear.

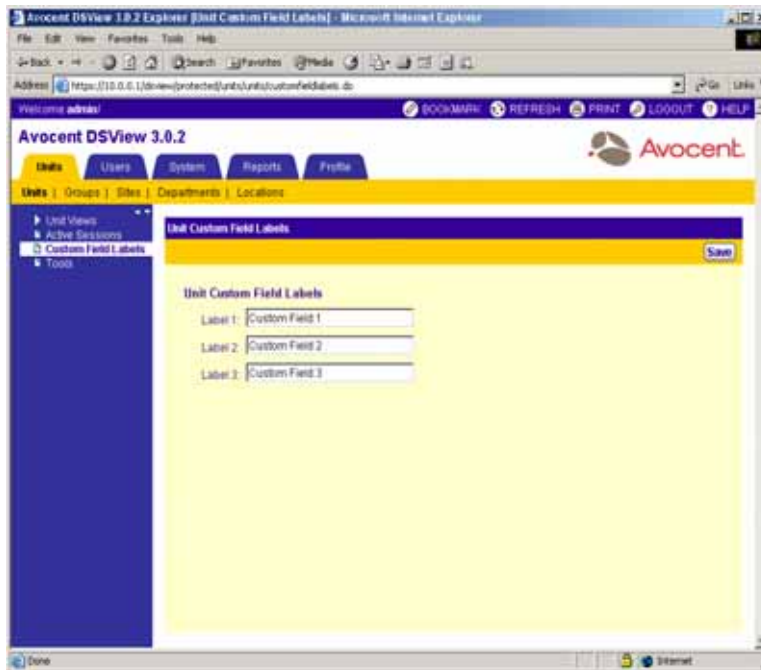


Figure 9.21: Unit Custom Field Labels Window

3. In Label 1, type the name you wish to define for the first custom field label (1-64 characters). All first-level custom fields for units will appear under this heading in the side navigation bar.
4. In Label 2, type the name you wish to define for the second custom field label (1-64 characters). All second-level custom fields for units will appear under this heading in the side navigation bar.
5. In Label 3, type the name you wish to define for the third custom field label (1-64 characters). This custom field will not appear in the side navigation bar, but may be displayed in the content area by clicking *Customize* and adding the field.
6. Click *Save* to save your changes.

Custom Field Labels will still appear in the side navigation bar, since you have not yet defined any custom fields for units.

To associate a custom label with a unit:

1. From the DSView 3.0.2 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
2. From the side navigation bar, click *Appliances*. The *Appliances - All* window will appear.
3. Click on a unit. The *Unit Overview* window will appear. The side navigation bar will include the name of the unit at the top and a list of links below it.

4. From the side navigation bar, click *Properties*.
5. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear, including the custom field names defined in the previous procedure.

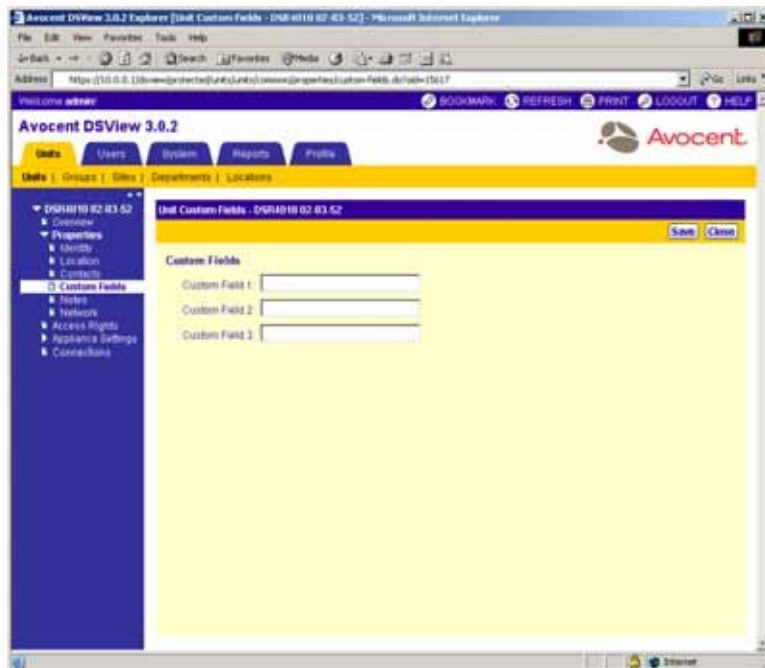


Figure 9.22: Unit Custom Fields Window

6. In the first field, type the name that you wish to associate with the first label defined for the DSView software system (0-64 characters). You may also leave the field blank.
7. In the second field, type the name that you wish to associate with the second label defined for the DSView software system (0-64 characters). You may also leave the field blank.
8. In the third field, type the name that you wish to associate with the third label defined for the DSView software system (0-64 characters). You may also leave the field blank.
9. Click *Save* to save your changes.
10. Click *Close*. The Appliance - All window will appear. The side navigation bar will now include the names of the first and second custom fields defined in steps 6 and 7 instead of the Custom Field Labels heading.

NOTE: The first, second and third custom fields may be displayed in the content area by clicking *Customize* and turning them on.

Custom fields example

In the following example, a DSView software administrator wishes to examine a test configuration of units. The units will be placed in one of two groups. Some units will be placed into an initial configuration group and others will be placed into a final configuration grouping. The DSView software administrator also wishes to identify the managers of the units. At the present time, the DSView software administrator has one DSR1021 switch and one EVR1500 environmental monitor to add to the test configuration group and one generic appliance to add to the final configuration group.

1. First, the DSView software administrator will need to define the DSView management software custom fields as follows:
 - a. From the DSView 3.0.2 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
 - b. From the side navigation bar, click *Custom Field Labels*. The Unit Custom Field Labels window will appear.
 - c. In Label 1, type **Test Configuration**. All first-level custom fields for units will appear under this heading in the side navigation bar.
 - d. In Label 2, type **Appliances and target devices**. All second-level custom fields for units will appear under this heading in the side navigation bar.
 - e. In Label 3, type **Manager**. This custom field will not appear in the side navigation bar, but may be displayed in the content area by clicking *Customize* and adding the field.
 - f. Click *Save* to save your changes.

Custom Field Labels will still appear in the side navigation bar since the DSView software administrator has not yet defined any custom fields for units.
2. A DSR1021 switch has been configured on the system, but will need to go into a group named Initial Configuration since it has not yet been verified for the final configuration. The DSView software administrator will associate the DSR1021 switch managed by John Smith to the custom fields as follows:
 - a. From the side navigation bar, click *Appliances*. The Appliances - All window will appear.
 - b. Click on a DSR1021 switch. The Unit Overview window will appear. The side navigation bar will include the name of the DSR1021 switch at the top and a list of items below it.
 - c. From the side navigation bar, click *Properties*.
 - d. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear, including the custom field names you defined in step 1.

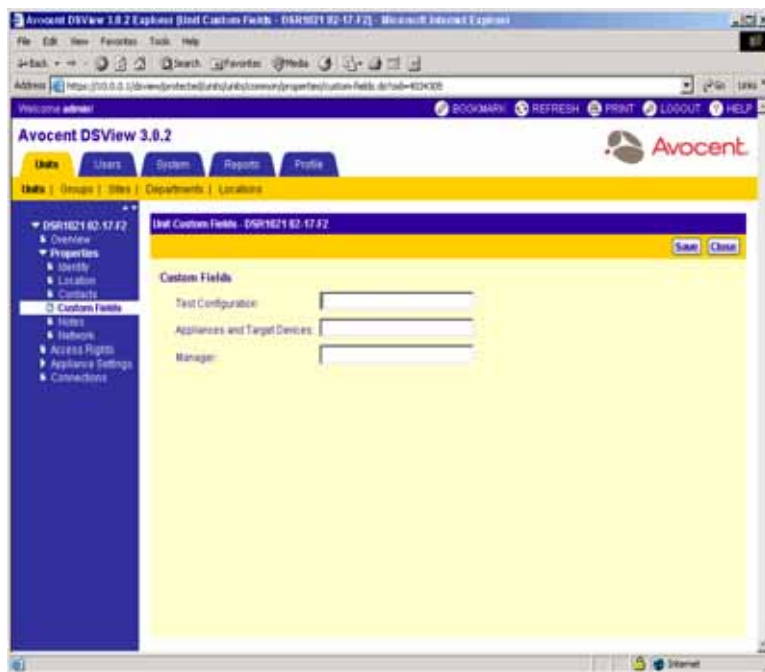


Figure 9.23: Custom Fields Example: Unit Custom Fields Window

- e. In the Test Configuration field, type **Initial Configuration**.
 - f. In the Appliances and target devices field, type **DSR1021 Switches**.
 - g. In the Manager field, type **John Smith**.
 - h. Click *Save* to save the changes.
 - i. Click *Close*. The Appliance - All window will appear. The side navigation bar will now include Test Configuration instead of Custom Field Labels.
3. The test configuration will also include an EVR1500 environmental monitor that is managed by Mary Jones. The EVR1500 environmental monitor has also not been verified for the final configuration, so the DSView software manager will include it in the Initial Configuration group.
 - a. From the Appliances - All window, click on an EVR1500 environmental monitor. The Unit Overview window will appear. The side navigation bar will include the name of the EVR1500 environmental monitor at the top and a list of items below it.
 - b. From the side navigation bar, click *Properties*.
 - c. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear, including the custom field names you defined in step 1.
 - d. In the Test Configuration field, type **Initial Configuration**.

- e. In the Appliances and target devices field, type **EVR1500 Environmental Monitors**.
 - f. In the Manager field, type **Mary Jones**.
 - g. Click *Save* to save the changes.
 - h. Click *Close*. The Appliance - All window will appear.
4. The configuration of a generic appliance has been verified, so the DSView software administrator now wishes to create a group named Final Configuration that will contain the final test units. The group will contain one generic appliance managed by Tim Brown.
 - a. From the Appliances - All window, click on a generic appliance. The Unit Overview window will appear. The side navigation bar will include the name of the generic appliance at the top and a list of items below it.
 - b. From the side navigation bar, click *Properties*.
 - c. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear, including the custom field names you defined in step 1.
 - d. In the Test Configuration field, type **Final Configuration**.
 - e. In the Appliances and target devices field, type **Generic Appliances**.
 - f. In the DSView software users field, type **Tim Brown**.
 - g. Click *Save* to save your changes.
 - h. Click *Close*. The Appliance - All window will appear.

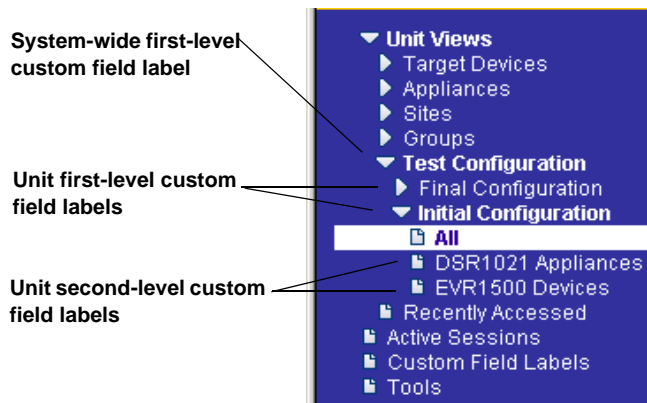


Figure 9.24: Custom Fields Example: Side Navigation Bar

Managing DSView Software Users Using User Groups

DSView software users that have been added to the DSView software system may be added to the following two types of user groups:

- Built-In - The DSView management software is delivered with six predefined user groups: Appliance Administrators, Auditors, DSView software administrators, Everyone, User

Administrators and Users. All DSView software users are automatically included in the Everyone user group when they are added to the DSView software system. DSView software users may be added to any of the other user groups. The privileges that a user has to perform tasks on the DSView software system is dependent on the built-in user group to which the user is a member.

- User-defined - You may also define your own custom groups, based on any criteria you wish. For example, you may want to define groups based on user administrators with read-only access, software developers at a specific location, global network infrastructure personnel based on job title and so on.

Built-in user groups will appear in the User Groups - Built-in window and user-defined user groups will appear in the User Groups - User Defined window. By default, the Preemption Level column will appear in the windows and display the preemption level of each user group. The views of the windows may be customized by clicking the *Customize* button to display the following columns:

- Authentication Server - Displays the authentication server assigned to the DSView software user. See *DSView Software Server* on page 71 for information on assigning an authentication server to a group.
- Role - The role of a user-defined user group, which may be None, User, Auditor, Appliance Administrator, User Administrator or DSView software administrator. The role column for a built-in user group or a user-defined user group with a role of None will be empty.
- Type - The type of user group, which will be Built-in or User Defined.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for more information on customizing windows.

To view user groups:

1. From the DSView 3.0.2 Explorer, click *Users* in the tab bar.
2. From the top navigation bar, click *Groups*. *Built-In* is automatically selected in the side navigation bar and the User Groups - Built-in window will appear.

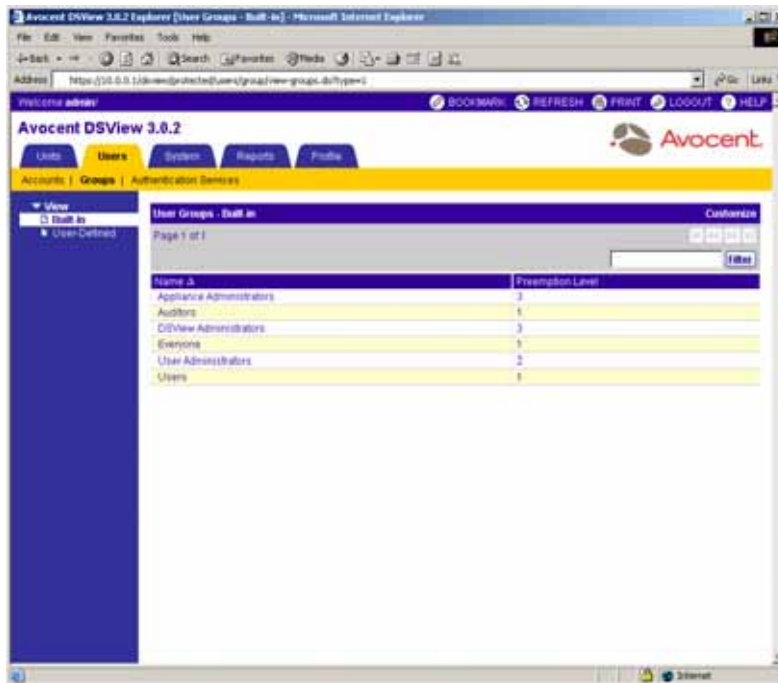


Figure 9.25: User Groups - Built-in Window

-or-

From the side navigation bar, click *User-Defined*. The User Groups - User Defined window will display.

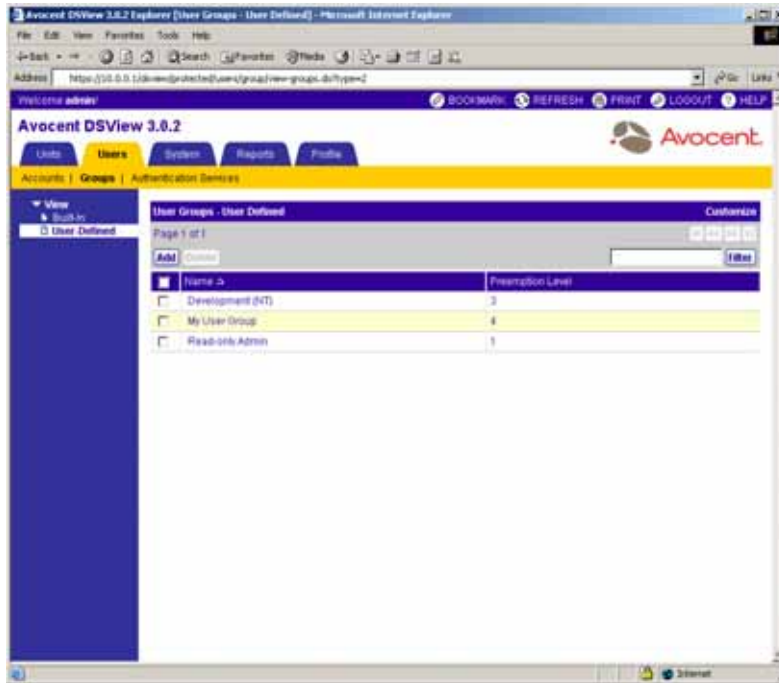


Figure 9.26: User Groups - User Defined Window

Adding user-defined user groups

If you are using DSView Internal authorization, you may add your own custom user-defined user groups. Once a user-defined user group is created, you may add other DSView software users that use DSView Internal authentication as members.

NOTE: External user-defined user groups may be added, but their membership is not controlled by the DSView management software.

When a user-defined user group is created, you specify the preemption level of members of the group. See *User Preemption Levels* on page 37 for information on preemption levels.

To add a user-defined user group:

NOTE: You must have DSView software administrator or user administrator rights to add or delete user-defined user groups.

1. From the User Groups - User Defined window, click *Add*. The Welcome window of the Add User Group wizard will appear. Click *Next*.
2. The Select Authentication Service window will appear.

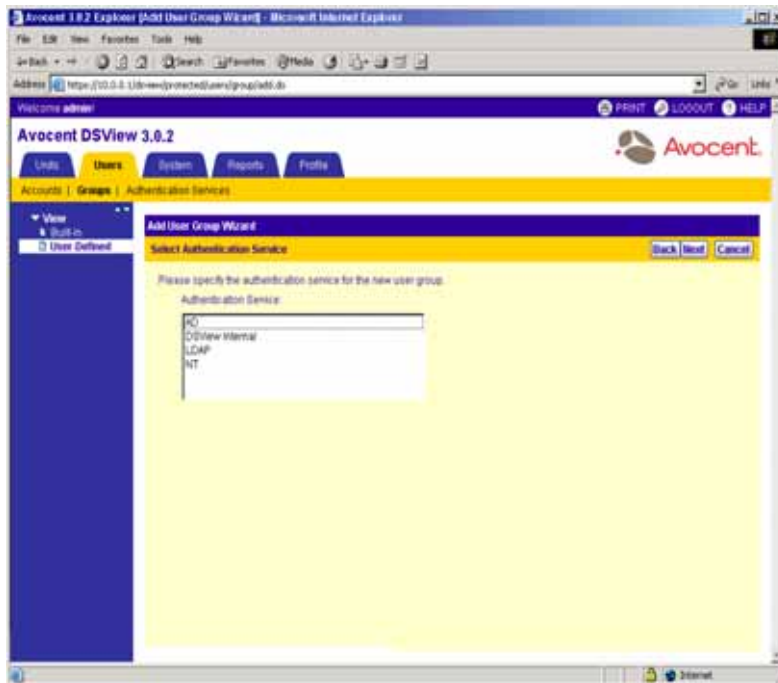


Figure 9.27: Add User Group Wizard - Select Authentication Service Window

The Select Authentication Service window will contain a list of the names of all authentication servers that may be used to authenticate the DSView software user group when the DSView software user logs in.

NOTE: If multiple external authentication services are configured in your system, they will appear in the Select Authentication Service window.

Authentication servers may be one of the following types:

- Active Directory - An external authentication service (purchased separately).
- DSView Internal - The internal DSView management software authentication service that validates users against database tables in the DSView management software host. The DSView Internal authentication service is always available.

NOTE: The DSView Internal authentication service is delivered with your DSView management software and does not have to be added to your system.

- LDAP - An external authentication service (purchased separately).
- NT - An external authentication service (purchased separately). The NT authentication service requires the Microsoft Win32 platform.

See *Adding an external authentication service* on page 89 for information on adding an authentication service.

- a. Click on the name of an authentication service.
- b. Click *Next*.

If you selected *DSView Internal* as the authentication service, continue to step 3.

If you selected any other type of authentication service, go to step 4.

3. The Type in Internal Group Name window will appear.

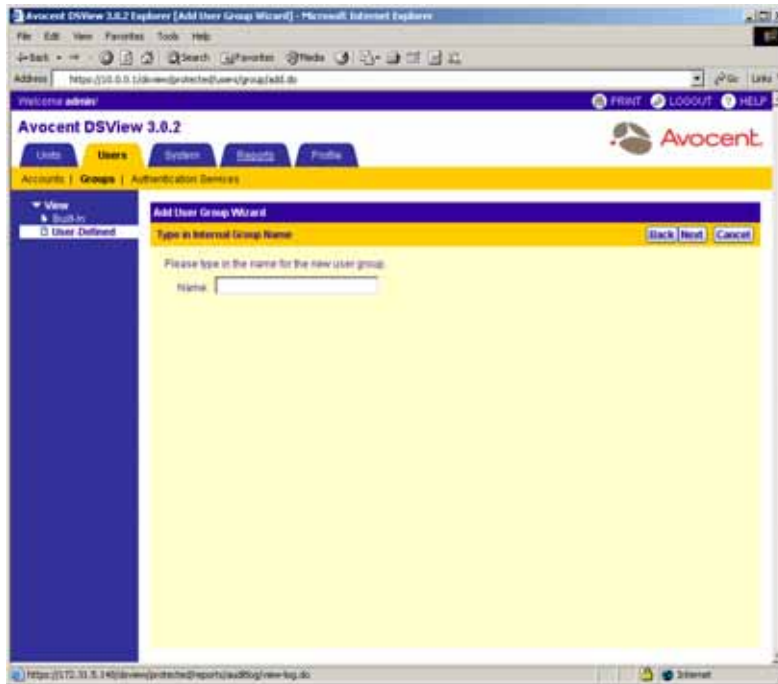


Figure 9.28: Add User Group Wizard - Type in Internal Group Name Window

- a. Type the name for the new user group you wish to create.

NOTE: User-defined user group names may be up to 64 non-case-sensitive characters long. User-defined user group names are case-preserving.

- b. Click *Next*.

Go to step 7.

4. The Specify External Group Name window will appear.

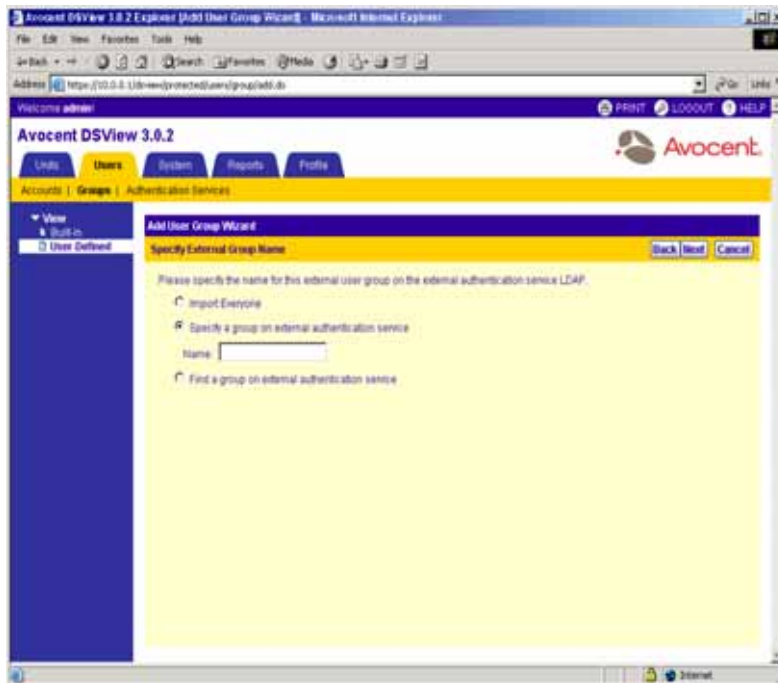


Figure 9.29: Add User Group Window - Specify External Group Name Window (LDAP and Active Directory)

- a. Click *Import Everyone* to consider any DSView software user on the external authentication server as a member of this user group.

-or-

Click *Specify a group on external authentication service* and type the name of the group in the field.

NOTE: User group names may be up to 64 non-case-sensitive characters long. User group names are case-preserving if the user group on the external authentication server is case-sensitive.

-or-

Click *Find a group on external authentication service* to browse a list of groups on the external authentication service.

- b. Click *Next*.

If you selected *Find a group on external authentication service*, continue to step 5.

-or-

If you selected *Specify a group on external authentication service*, go to step 6.

5. The Select Group from External Authentication Service window displays.

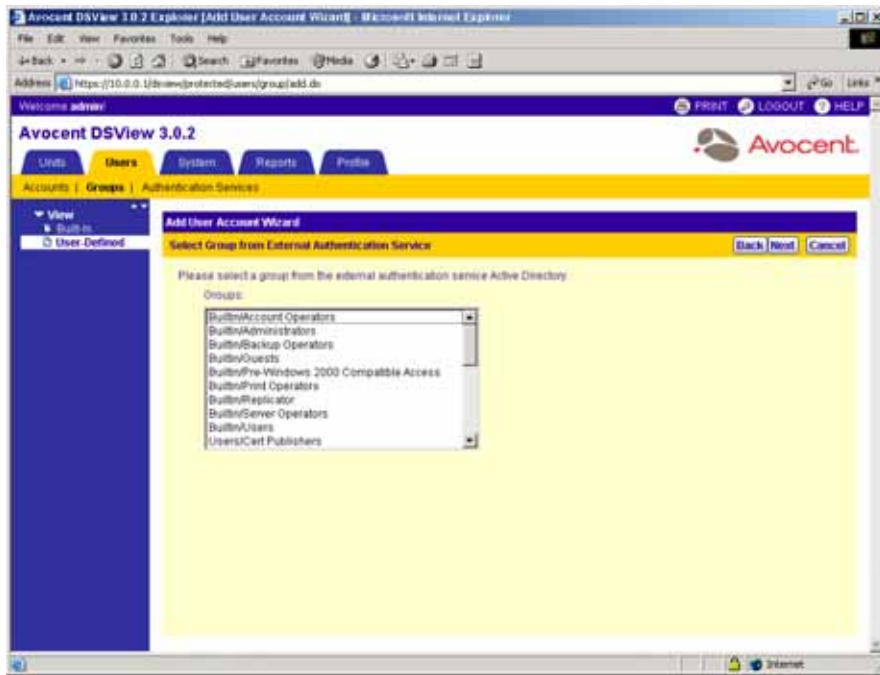


Figure 9.30: Add User Account Wizard - Select Group from External Authentication Service Window

- a. Select a group from the list.
 - b. Click *Next*.
6. The Select Role window will appear.

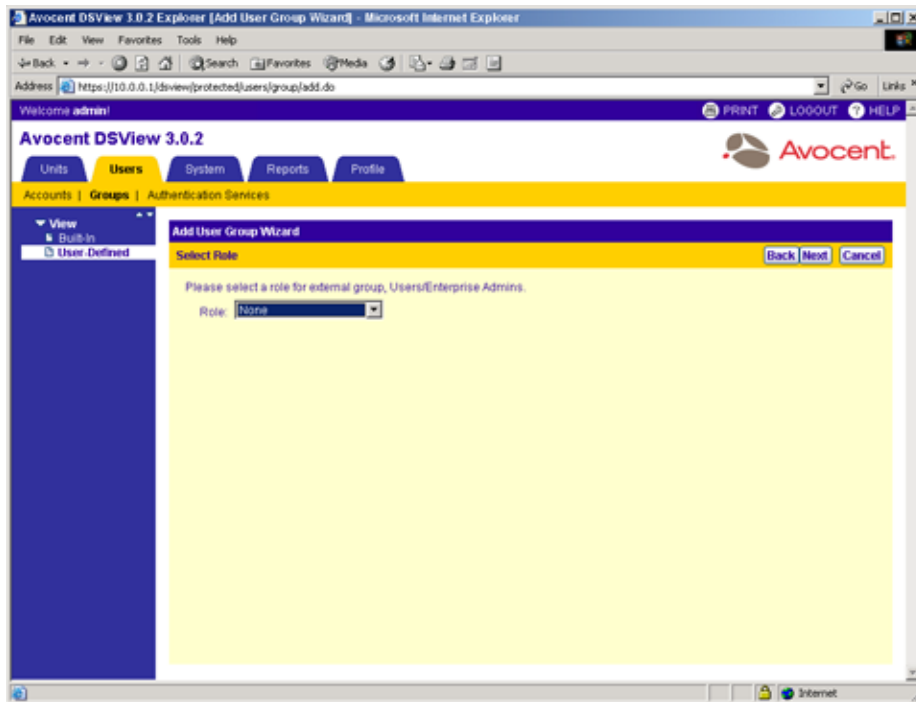


Figure 9.31: Add User Group Wizard - Select Role Window

a. Select one of the following roles for the user group:

- None
- User
- Auditor
- Appliance Administrator
- User Administrator
- DSView software administrator

See *User Groups* on page 35 for information on DSView software user roles.

b. Click *Next*.

7. The Select User Group Preemption Level window will appear.

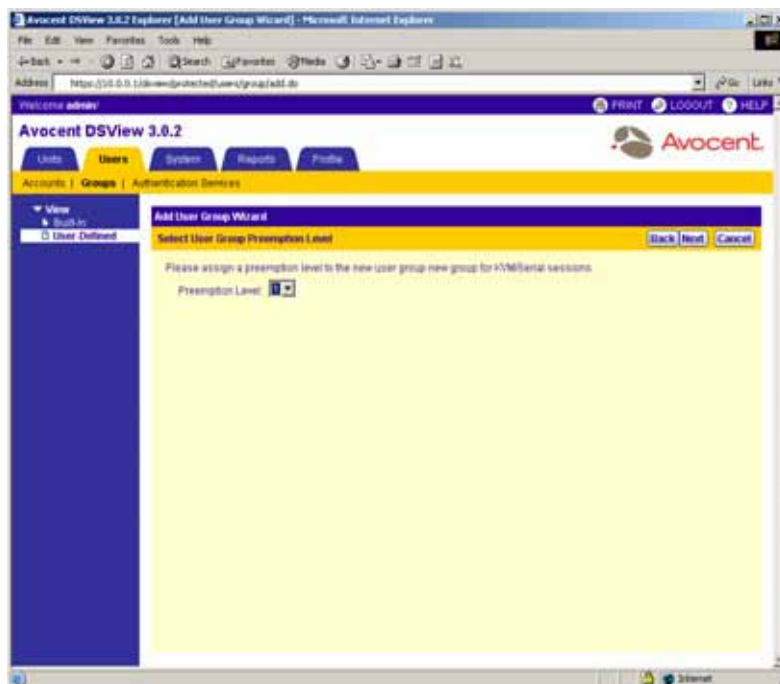


Figure 9.32: Add User Group Wizard - Select User Group Preemption Level Window

- a. Type a preemption level (from 1-4) in the field, or select it using the drop-down menu. See *User Preemption Levels* on page 37 for more information on preemption levels.
 - b. Click *Next*.
8. The Completed Successful window will appear. Click *Finish*. The user group has been added.

Deleting user-defined user groups

You may delete any user-defined user groups that have been created in the DSVIEW software system.

NOTE: You must have DSVIEW software administrator or user administrator rights to add or delete user-defined user groups.

To delete a user-defined user group:

1. From the User Groups - User Defined window, click the checkbox to the left of the user groups you wish to delete.
-or-
Click the checkbox to the left of Name at the top of the list to select all user groups listed in the window for deletion.

2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the DSView software user group(s).
-or-
Click *No* to cancel the action.

Viewing and modifying user group members

Clicking on the name of a built-in or user-defined user group allows you to do the following:

- View the properties of a built-in user group or view and modify the properties of user-defined user groups
- View, assign or remove user-defined user group members (DSView Internal authentication only)
- View the access rights of built-in and user-defined user group members

Viewing built-in user group properties

Each built-in user group contains the following read-only properties that you may view:

- Name - The name of the built-in user group.
- Type - The type of user group, which is always Built-in.
- Preemption Level - The preemption level assigned to the built-in user group. See *User Preemption Levels* on page 37 for information on preemption levels.

To view the properties of a built-in user group:

1. From the User Groups - Built-in window, click on a user group name. The User Group Properties window will appear.

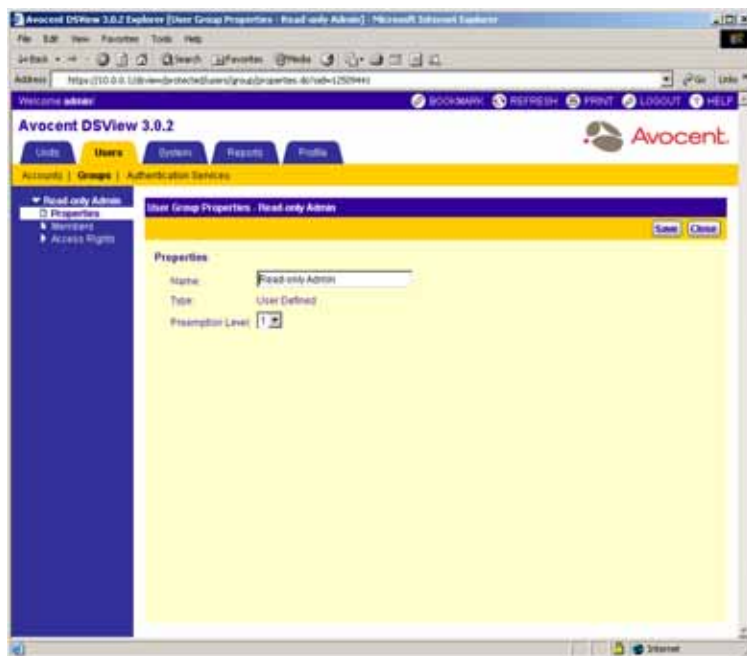


Figure 9.33: User Group Properties Window

2. Click *Close* when you are finished. The User Groups - Built-in window will appear.

Viewing and modifying user-defined user group properties

Each user-defined user group contains the following properties that you may view or modify:

- Name - The name of the user-defined user group.
- Type - The type of user group, which is always User Defined.
- Preemption Level - The preemption level assigned to the user-defined user group. See *User Preemption Levels* on page 37 for information on preemption levels.

To view the properties of a user-defined user group:

1. From the User Groups - User Defined window, click on the name of a user group. *Properties* will be automatically selected in the side navigation bar and the User Group Properties window will appear. The side navigation bar includes the name of the user group at the top.
2. Do any of the following:
 - To change the name of the user group, type a new name in the Name field.
 - To change the preemption level, type a number (from 1-4) in the Preemption Level field, or select it using the drop-down menu. The higher the number, the higher the preemption level. For example, a DSView software user with a preemption level of 4 can preempt

DSView software users assigned preemption levels of 1, 2 or 3. See *User Preemption Levels* on page 37 for more information on preemption levels.

- To change the role of the user group, select a role from the drop-down menu. If you do not wish to assign a role to the user group, select None.
3. Click *Save* to save your changes.
 4. Click *Close*. The User Groups - User Defined window will appear including any modifications of the name or preemption level.

Viewing, assigning and removing user group members

When a users are created, they may be assigned to one or more built-in or user-defined user groups. You may display the users assigned as members of the built-in and user-defined user groups or assign or remove users to or from the built-in and user-defined user groups.

NOTE: You may also remove a DSView software user from a built-in or user-defined user group by clicking on a DSView software username in a User Accounts window and modifying its user group membership. See *Changing user group membership* on page 258 for information on using this method to remove a user from a user group.

By default, the same fields in the User Accounts window are on by default and are available for display in the User Group Members window by clicking the *Customize* link. See *Using the Customize Link in DSView Management Software Windows* on page 30 for more information.

To view, assign or remove a built-in or user-defined user group member:

NOTE: Members may only be assigned to or removed from user groups defined on the Internal DSView authentication server.

1. From the User Groups - Built-in window, click on a built-in user group name.
-or-
From the User Groups - User Defined window, click on a user-defined user group name.
The User Group Properties window will appear.
2. From the side navigation bar, click *Members*. The User Group Members window will appear.

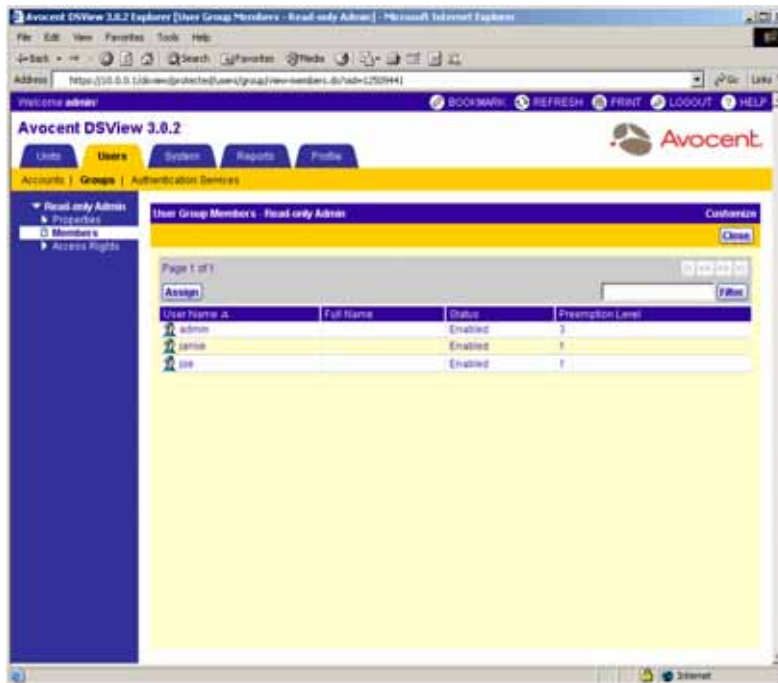


Figure 9.34: User Group Members Window

3. Click *Assign*. The Assign Users to User Group window will appear.

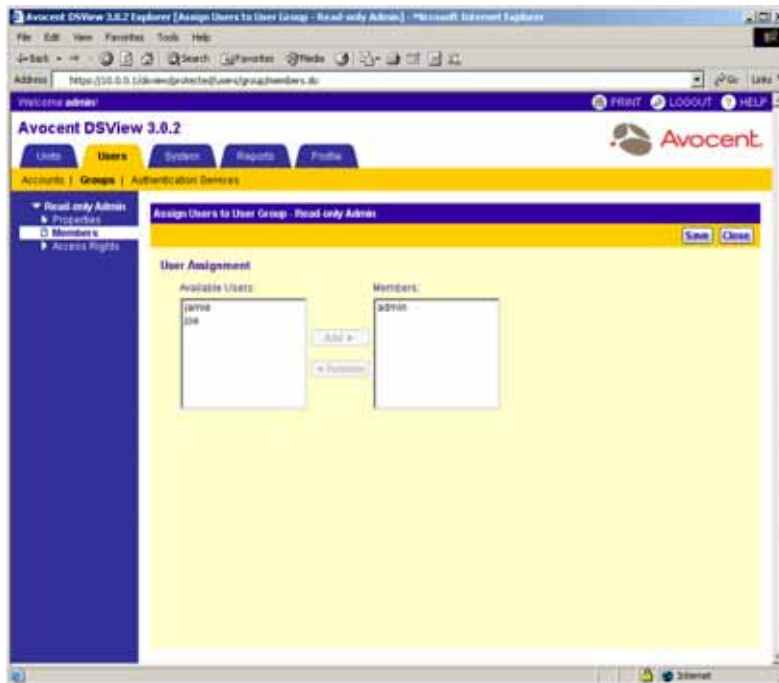


Figure 9.35: Assign Users to User Group Window

4. Add a user to the user group:
 - a. Select the user to add in the Available Users list. Multiple DSView software users may be selected by pressing **Ctrl** while clicking on the DSView software users.
 - b. Click *Add*. The users will be moved to the Members list.

-or-

Remove a user from the user group:

 - a. Select the DSView software user which you wish to remove in the Members list. Multiple users may be selected by pressing **Ctrl** while clicking on the DSView software users.
 - b. Click *Remove*. The users will be moved to the Available Users list.
5. Click *Save* to save your changes.
6. Click *Close*. The User Group Members window will appear including any modifications.
7. Click *Close*. The User Group - Built-In window will appear if you were viewing, assigning or removing built-in user group members. The User Group - User Defined window will appear if you were viewing, assigning or removing user-defined user group members.

Viewing the access rights of user group members

Different built-in and user-defined user groups provide different access rights for units. Access rights determine which actions you may or may not perform on a unit. You may view the units that belong to a built-in or user-defined user group and the access rights provided to each by the built-in or user-defined user group.

Target devices appear in the Target Device Access Rights window, while managed appliances appear in the Appliance Access Rights window.

Customizing the Target Device Access Rights and Appliance Access Rights windows

By default, the following columns display in the Target Device Access Rights window and may be removed by clicking the *Customize* link:

- Viewer Sessions - Displays whether or not a DSView software user may open a DSView software session with a Target Device using a Video Viewer window.
- Power Control - Displays whether or not a target device connected to an SPC device outlet may be powered up, powered down or have its power cycled.

By default, the following columns display in the Appliance Access Rights window and may be removed by clicking the *Customize* link:

- Reboot - Displays whether or not a DSView software user assigned to the built-in user group may reboot the DS1800 digital switch, DSI5100, CPS appliance or DSR switch.
- Flash Upgrade - Displays whether or not a DSView software user assigned to the built-in user group may FLASH upgrade the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.
- Settings - Displays whether or not a DSView software user assigned to the built-in user group may configure the settings of the managed appliance.
- Local Users - Displays whether or not a DSView software user assigned to the built-in user group may configure the local user account of a DS1800 digital switch, CPS appliance or DSR switch.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the *Customize* link.

A check (✓) will appear in the corresponding column if the access right is available for the unit. The column will be empty if the access right is not granted.

See *Modifying unit access rights* on page 182 for information on assigning and removing access rights to and from units.

To view the access rights of a target device in a user group:

1. From the User Groups - Built-in window, click on a user group name.
-or-
From the User Groups - User Defined window, click on a user group name.
The User Group Properties window will appear.
2. From the side navigation bar, click *Access Rights*. *target devices* is automatically selected in the side navigation bar and the Target Device Access Rights - Appliance Administrators window will appear.

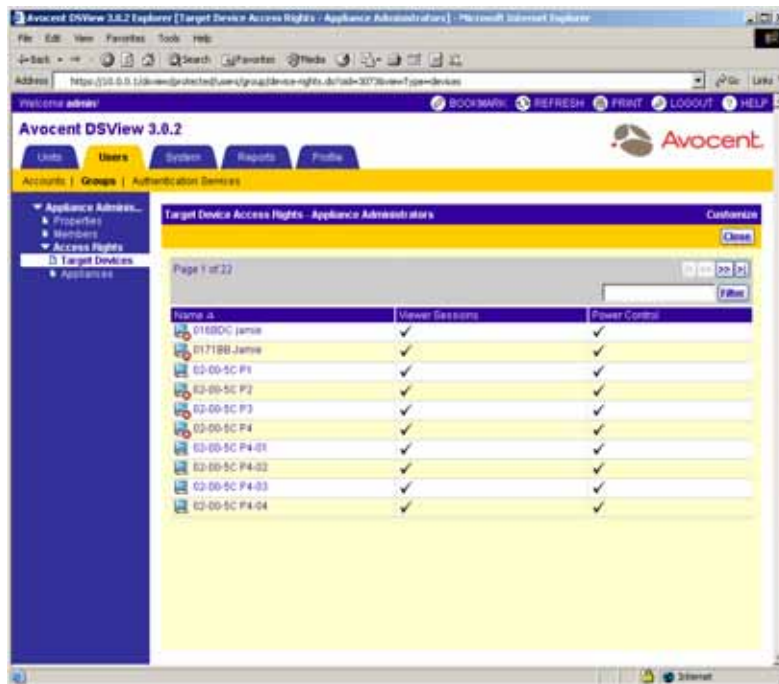


Figure 9.36: target devices Access Rights Window

3. Click *Close* when you are finished. The User Accounts - All window will appear.

To view the access rights of a managed appliance in a user group:

1. From the User Groups - Built-in window, click on a user group name.
-or-
From the User Groups - User Defined window, click on a user group name.
The User Group Properties window will appear.

- From the side navigation bar, click *Access Rights*. *target devices* is automatically selected in the side navigation bar and the Target Device Access Rights window will appear.
- From the side navigation bar, click *Appliances*. The Appliance Access Rights - Appliance Administrators window will appear.

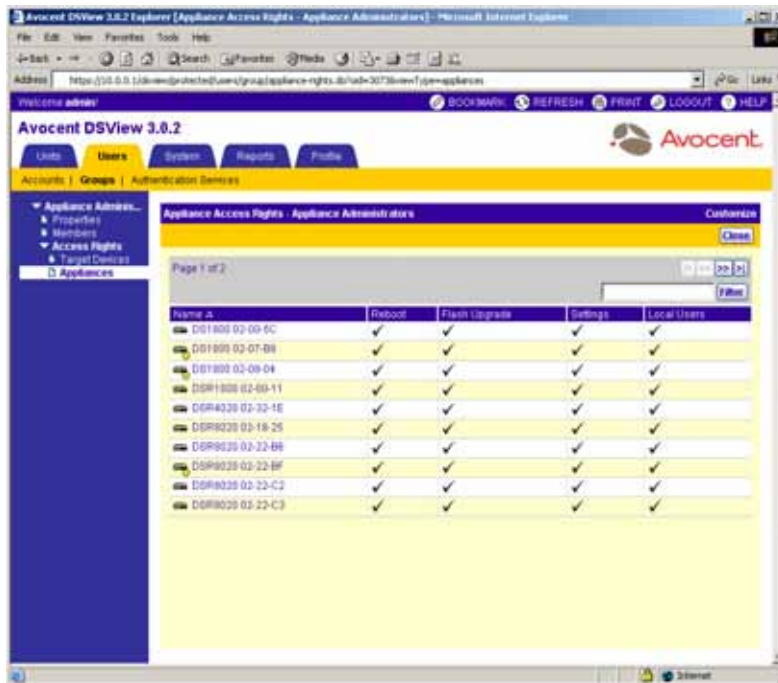


Figure 9.37: Appliance Access Rights Window

- Click *Close* when you are finished. The User Accounts - All window will appear.

Using DSView Management Software Tools

About Tools

The DSView management software contains tools that may be used to perform various actions on units, which include managed appliances (DS1800 digital switches, DSI5100 IPMI proxy appliances, DSR switches, CPS serial over IP appliances, EVR1500 environmental monitor and control appliances and generic appliances) and target devices.

Using Unit Tools

The Unit tools window contains tools that allow a user to:

- Export unit information into a .csv (comma separated value) file
- Export the access rights information for units in to .csv file
- Merge two or more target devices into a single target device
- Import a DSView 2.x software database into the DSView management software

To display the Units Tools window:

1. From the DSView 3.0.2 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
2. From the side navigation bar, click *Tools*. The Units Tools window will appear.

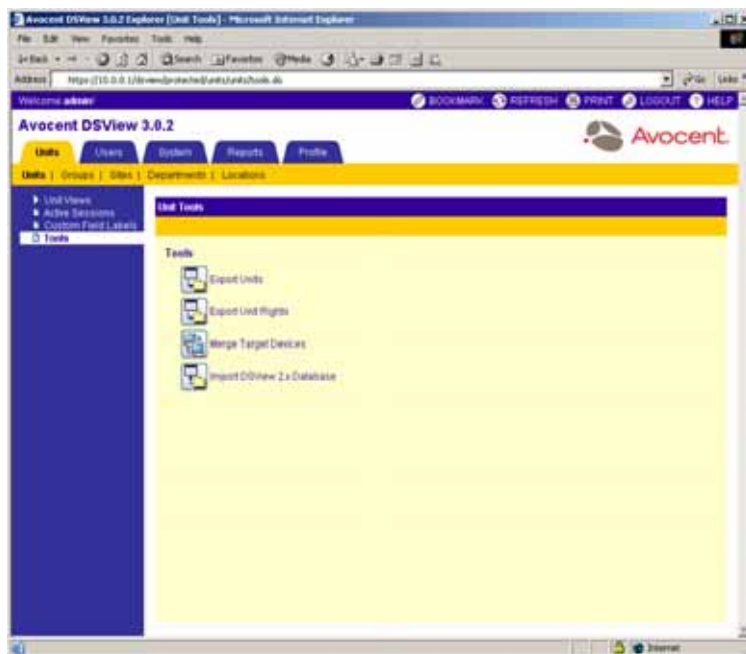


Figure 10.1: Units Tools Window

Exporting units

The Export Units tool will export information about units into a .csv file with the default name `unitproperties.csv`. You may change the name of the file when it is saved.

The following information may be selected for export:

- Name - The name of the unit. See *Modifying unit overview information* on page 164 for information on assigning a name to a unit.
- Action - The default action that may be performed on a target device, CPS appliance, EVR1500 environmental monitor or generic appliance. See *Customizing Unit Views windows* on page 143 for information on how the DSView management software specifies the default action.
- Browser URL - The web address of target devices, CPS appliances, EVR1500 environmental monitor or generic appliances.
- Custom Field 1-3 - The custom fields that have been assigned to units. By default, these names are Custom Field 1, Custom Field 2 and Custom Field 3, but may be changed. If you have changed the custom field names for units, the custom field names you defined will appear instead of Custom Field 1, Custom Field 2 and Custom Field 3. See *Modifying unit custom field properties* on page 176 and *Managing Units Using Custom Fields* on page 377 for information on custom fields.

- Department - The department name assigned to units. See *Modifying unit location properties* on page 174 for information on assigning a unit to a department.
- DSView Server - The name of the DSView software server associated with units. See *DSView Software Server* on page 71 for information on the DSView software server.
- IP Address - The IP address of units. See *Modifying unit network properties* on page 178 for information on changing the IP address.
- Location - The location (such as a room number) assigned to units. See *Modifying unit location properties* on page 174 for information on assigning a unit to a location.
- Model Number - The model numbers of units. See *Modifying unit identity properties* on page 172 for more information.
- Part Number - The part numbers of units. See *Modifying unit identity properties* on page 172 for more information.
- Primary Contact - The name of the primary person to contact who is responsible for a unit. See *Modifying unit contact properties* on page 175 for information on assigning a primary contact.
- Primary Contact Phone - The phone number of the primary contact. See *Modifying unit contact properties* on page 175 for information on assigning a primary contact phone number.
- Secondary Contact - The name of the secondary person to contact for a unit if the primary contact is unavailable. See *Modifying unit contact properties* on page 175 for information on assigning a secondary contact.
- Secondary Contact Phone - The phone number of the secondary contact. See *Modifying unit contact properties* on page 175 for information on assigning a secondary contact phone number.
- Serial Number - The serial numbers of units. See *Modifying unit identity properties* on page 172 for information on assigning a serial number.
- Site - The site to which a unit is assigned. See *Modifying unit location properties* on page 174 for information on assigning a site.
- Status - The status of the unit at the time the export was performed. See *Customizing Unit Views windows* on page 143 for information on the possible status of units.
- Telnet Port - The port number used for a Telnet connection to a target device by a DSView software client . See *Modifying unit network properties* on page 178 for specifying a Telnet port number.
- Type - The unit type property for the units.
- Visibility - The currently visible action for a unit. Show will appear if the unit is invisible and may be shown. Hide will appear the unit is visible and may be hidden. See *Showing and hiding units* on page 141 for information on showing and hiding.

The output .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.

To export units:

1. From the Units Tools window, click the *Export Units* icon or link. The Welcome page of the Export Units Wizard will appear. Click *Next*.
2. The Select Unit Properties to Export window will appear.

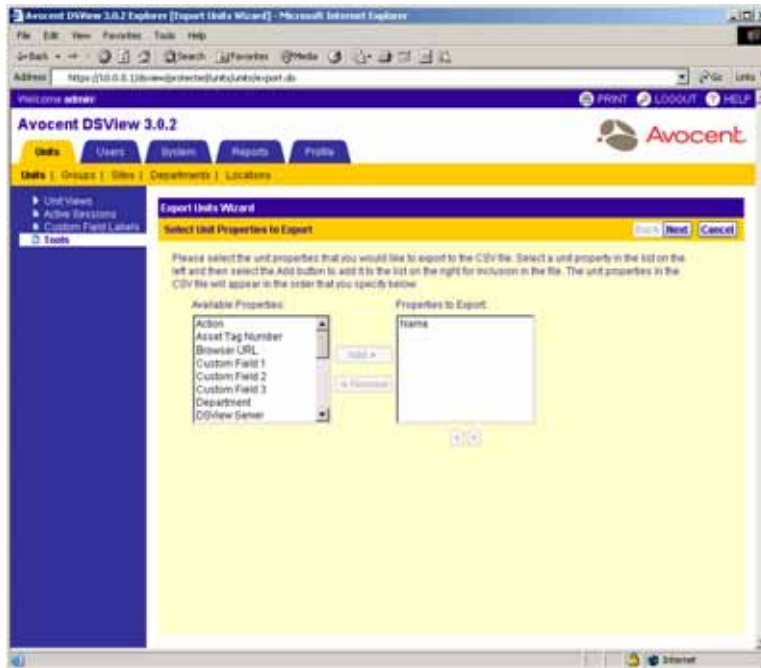


Figure 10.2: Export Units Wizard - Select Unit Properties to Export Window

3. Specify the properties you wish to export:
 - a. Select the properties in the Available Properties list. Multiple properties may be selected by pressing **Ctrl** or **Shift** while clicking on the property names.
 - b. Click *Add*. The properties will be moved to the Properties to Export list.

NOTE: To remove selected properties, select the property you wish to remove from the Properties to Export list (multiple properties may be selected by pressing **Ctrl** while clicking on the property names) and clicking *Remove*. The properties will be moved to the Available Properties list.

- c. To change the order in which properties are listed in the output .csv file, select the properties in the Properties to Export list and use the up and down arrows to move the selected properties up or down in the listing. Multiple properties may be selected by pressing **Ctrl** or **Shift** while clicking on the property names.
- d. Click *Next*.

4. The Save Process window will appear. Click *Next*.
5. The Completed Successful window will appear, along with a File Download dialog box. Click *Open*. The file will download and open. By default, .csv files are configured to open in Microsoft Excel. If Microsoft Excel is not installed on your computer, you will be prompted to select a text editor to use for opening the .csv file.

NOTE: The default filename of the .csv file is unitproperties.csv. Subsequent files that you export will be incremented (unitproperties[1].csv, unitproperties[2].csv and so on).

-or-

Click *Save*. The Save As dialog box will appear. Select a directory and filename and click *Save* to save the .csv file.

-or-

Click *Cancel* to cancel the action.

6. Click *Finish*. The Units Tools window will appear.

Exporting unit rights

The Export Unit Rights tool will export permission information about units from the DSView management software host. Managed appliance information will be exported into a .csv file with the default name appliance_rights.csv. Target device information will be exported into a .csv file with the default name target_device_rights.csv. You may change the names of the files when they are saved.

The following information will be exported for managed appliances:

- Appliance - The name of the managed appliance. See *Modifying unit overview information* on page 164 for information on assigning a name to a managed appliance.
- User/User Group - The DSView software user or user group to which the managed appliance has any or all rights for the unit. See *Managing DSView Software Users Using User Groups* on page 383 for information on user groups.
- Reboot - Specifies whether the DSView software user or user group has the right to perform a reboot on a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch. See *Modifying unit access rights* on page 182 for specifying rebooting of a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.
- Flash Upgrade - Specifies whether the DSView software user or user group has the right to perform a FLASH upgrade on a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch. See *Modifying unit access rights* on page 182 for specifying the FLASH upgrading of a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.
- Settings - Specifies whether the DSView software user or user group has the right to configure appliance settings, not including the right to manage local user accounts on the appliance. See *Modifying managed appliance settings* on page 186 for information on changing the system settings of a managed appliance.

- Local Users - Specifies whether the DSView software user or user group has the right to manage local users on the DS1800 digital switch, CPS appliance or DSR switch. See *Modifying local account settings on supported DSR switches and CPS appliances* on page 226 for information on specifying local users for a DS1800 digital switch, CPS appliance or DSR switch.

The following information will be exported for target devices:

- target device - The name of the target device. See *Modifying unit overview information* on page 164 for information on assigning a name to a managed appliance.
- User/User Group - The DSView software user or user group to which DS1800 digital switches, DSI5100 or CPS appliances or DSR switches have any or all rights for the target device. See *Managing DSView Software Users Using User Groups* on page 383 for information on user groups.
- Viewer Sessions - Specifies whether the DSView software user or user group has the right to launch a KVM or serial session with the target device. See *Launching a KVM Session* on page 266 for information on launching a KVM session.
- Power Control - Specifies whether the DSView software user or user group has the right to perform power control operations on the target device. See *Modifying unit access rights* on page 182 for information on specifying power control settings.

The output .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.

To export unit rights:

1. From the Units Tools window, click the *Export Unit Rights* icon or link. The Welcome page of the Export Unit Rights Wizard will appear. Click *Next*.
2. The Select Unit Type window will appear.

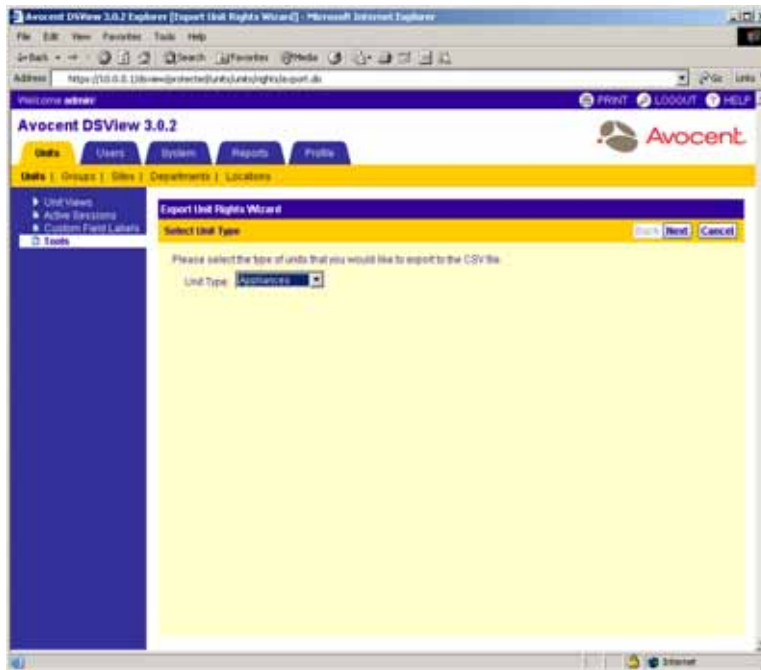


Figure 10.3: Export Unit Rights Wizard - Select Unit Type Window

- a. Select *Appliances* to export the rights for managed appliances in your DSView software system.
-or-
Select *Target Devices* to export the rights for target devices in your DSView software system.
- b. Click *Next*.
3. The Save Process window will appear. Click *Next*.
4. The Completed Successful window will appear, along with a File Download dialog box.
5. Click *Open*. The file will download and open. By default, .csv files are configured to open in Microsoft Excel. If Microsoft Excel is not installed on your computer, you will be prompted to select a text editor to use for opening the .csv file.

NOTE: The default filename of the .csv file is `appliance_rights.csv` if you are exporting DS1800 digital switch, DSI5100 and CPS appliance and DSR switch rights or `target_device_rights.csv` if you are exporting target device rights. Subsequent files that you export will be incremented (`target_device_rights[1].csv`, `target_device_rights[2].csv` and so on).

-or-

Click *Save*. The Save As dialog box will appear. Select a directory and filename and click *Save* to save the .csv file.

-or-

Click *Cancel* to cancel the action.

6. Click *Finish*. The Units Tools window will appear.

Merging target devices

Use the Merge Target Devices tool to merge two or more target devices into a single target device. Using the Merge Target Devices tool may be necessary if a target device is connected to one or more DS1800 digital switches, DSI5100 appliances, DSR switches and/or CPS appliances. For example, if a target device is connected to both a DS1800 digital switch, DSI5100 appliance or DSR switch and a CPS appliance, using the Merge Target Devices wizard will merge the target devices created when the DS1800 digital switch, DSI5100 appliance or DSR switch and CPS appliance were added into a single target device that contains all of the target actions.

To merge target devices:

1. From the Units Tools window, click the *Merge Target Devices* icon or link. The Welcome page of the Merge Target Devices Wizard will appear. Click *Next*.
2. The Select Target Devices to Merge window will appear.

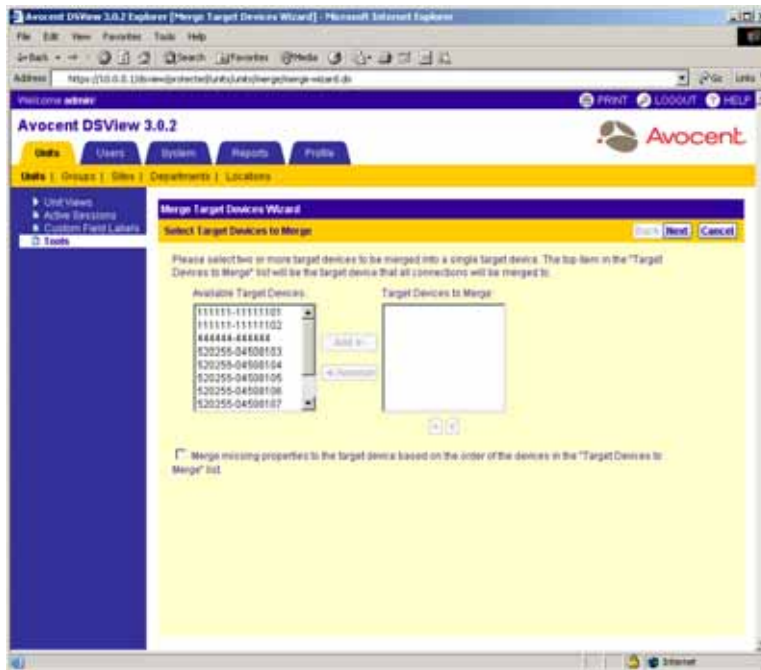


Figure 10.4: Merge Target Devices Wizard - Select Target Devices to Merge Window

3. Specify the target devices you wish to merge:
 - a. Select the target devices in the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** or **Shift** while clicking on the target device names.
 - b. Click *Add*. The target devices will be moved to the Target Devices to Merge list.

NOTE: To remove selected target devices, select the target device you wish to remove from the Target Devices to Merge list (multiple target devices may be selected by pressing **Ctrl** or **Shift** while clicking on the Target Device names) and clicking *Remove*. The target devices will be moved to the Available Target Devices list.

- c. To merge target devices in a particular order, select the Target Devices in the Target Devices to Merge list and use the up and down arrows to move the selected target devices up or down in the listing. Multiple target devices may be selected by pressing **Ctrl** or **Shift** while clicking on the target device names. Once the order has been specified, select *Merge missing properties to the target device based on the order of the devices in the "Target Devices to Merge" list*.

NOTE: The merged target devices will contain the name of the first target device in the Target Device to Merge list. For example, if you are merging two target devices named TD1 and TD2, and TD2 is listed before TD1, the merged target device will be named TD2.

- d. Click *Next*.

- The Confirm Target Device Merge window will appear.

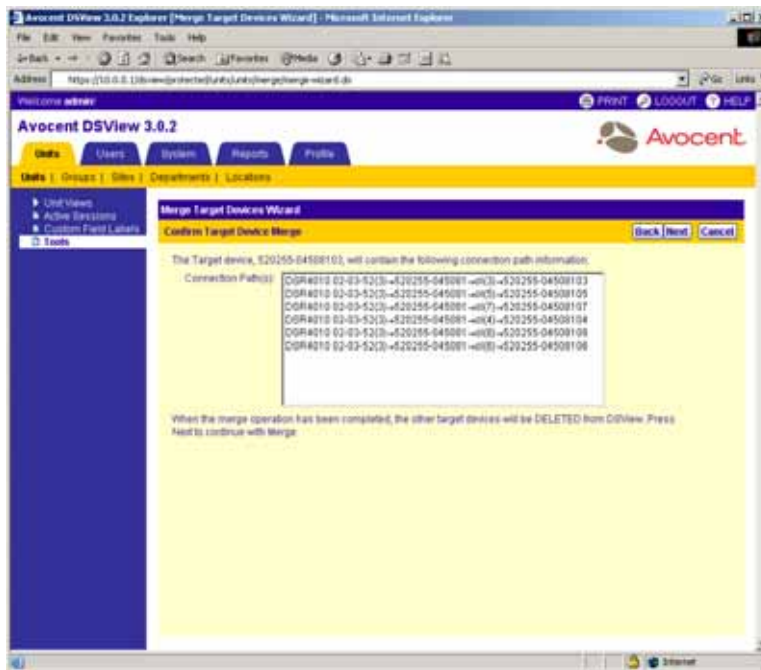


Figure 10.5: Merge Target Devices Wizard - Confirm Target Device Merge Window

Click *Next* to confirm merging the connection paths into the specified destination target device. See *Managing connections to units* on page 239 for information on connection paths.

- The Completed Successful window will appear.
- Click *Finish*. The Units Tools window will appear.

Importing DSView 2.x software databases

The Import DSView 2.x software database tool allows you to import an existing DSView 2.x software database into the DSView software system. When a database is imported, the following items will be imported:

- Units, including attached cascade switches, SPC devices and target devices
- Users and user groups with unit access rights
- Authentication services, including Windows NT domains, LDAP and local accounts
- System settings, including the ability to view connected users, connection sharing, status polling and delay rates and when the audit log is deleted

The following actions occur when a DSView 2.x software database is imported into the DSView software system:

- A global unit group is created in the system for each group found in the DSView 2.x software database. The DSView management software does not provide DSView 2.x software Topology unit group nesting. Unit group names added to the system are a concatenation of the hierarchical names found in the DSView 2.x software, including the truncation of names when necessary.
- If a DSView software user had “admin” rights in the DSView 2.x software for all nodes in the tree (including the Topology node), the DSView software user will be added as a member and inherit the access rights of a DSView software administrator user group member in the DSView management software.

If a DSView software user had “admin” rights in the DSView 2.x software for all nodes in the tree except for the Topology node, the DSView software user will be added as a member and inherit the access rights of an appliance administrator user group member in the DSView management software.

If a DSView software user had any other type rights in the DSView 2.x software, the DSView software user will be added as a member of the user group in the DSView management software. Access rights are set for units to which the user has access as follows:

- A user with “user” rights to a target device in the DSView 2.x software will be assigned the Establish Viewer Sessions access right in the DSView management software.
- A DSView software user with “admin” rights to a target device in the DSView 2.x software will be assigned the Configure Unit Settings, Establish Viewer Sessions and Control Target Device Power access rights in the DSView management software.
- A DSView software user with “user” rights to a DS1800 digital switch, CPS appliance or DSR switch in the DSView 2.x software will not be assigned any access rights in the DSView management software.
- A DSView software user with “admin” rights to a DS1800 digital switch, CPS appliance or DSR switch in the DSView 2.x software will be assigned the Reboot Appliance, Flash Upgrade Appliance and Configure Appliance Settings access rights in the DSView management software.
- Cascade switch types in the DSView 2.x software database cannot be determined during the import process and are added as Generic 1 x <n> switches, based on the number of found switch channels. After importing the DSView 2.x software database and running the Migrate DSView 2.X Units task, you may run the Resync Wizard on individual CPS appliances, DS1800 digital switches and DSR switches to specify switch types and merge multi-user switches. See *Resynchronizing DS1800 digital switches, DS15100 and CPS appliances and DSR switches* on page 424 for more information.
- Internal users and built-in user groups with DSView 2.x software permissions residing on the computer that ran the DSAuth server will be imported into your DSView software system. An external NT authentication service with the same name as the DSAuth server will be added to the DSView software system. The DSView 2.x software users and user groups will be associated with the authentication service added to the DSView software system.

- The DSView 2.x software Everyone user group cannot be imported into DSView software systems.

Before using the Import DSView 2.x Software Database tool

To use the Import DSView 2.x Software Database tool, you must create a backup of the database using the DSAuth Migration Utility. The database is saved as a .zip file which may then be imported into the DSView software system using the Import DSView 2.x Database tool.

NOTE: The DSAuth Migration Utility will shut down the DSView 2.x DSAuth service as it runs and will restart the service upon completion.

1. On the computer containing the DSView 2.x software database (that is, the DSAuth Server) that you wish to migrate, Insert the DSView 3.0 Software CD. An autorun file will display the DSView management software screen.



Figure 10.6: DSView Software Screen

2. Click *Run DSView 2.x Migration*.

-or-

If autorun is not enabled, type `<drive:>\Migration Utility\DSMigration.exe`, where `<drive:>` is the letter of your CD-ROM drive. The DSAuth Migration Utility dialog box will appear.

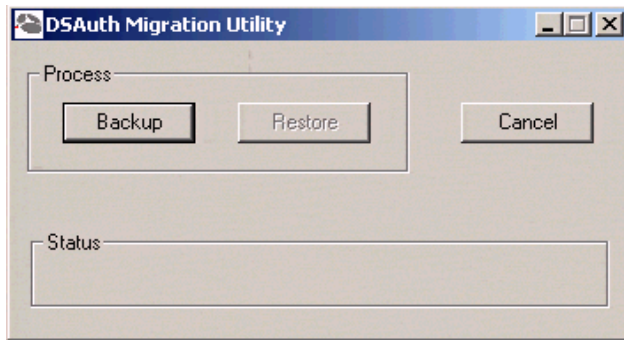


Figure 10.7: DSAuth Migration Utility

3. Click *Backup*. The Save As dialog box will appear.
4. Select a directory and filename and click *Save* to save the DSView 2.x software database backup. The Status area of the DSAuth Migration Utility dialog box will contain messages about the DSView 2.x software database backup as it is created. A Finished message box will appear when the backup is completed.
5. Click *OK* in the Finished message box.

To import DSView 2.x software databases:

1. From the Units Tools window, click the *Import DSView 2.x Database* icon or link. The Welcome page of the Import DSView 2.x Database Wizard will appear.

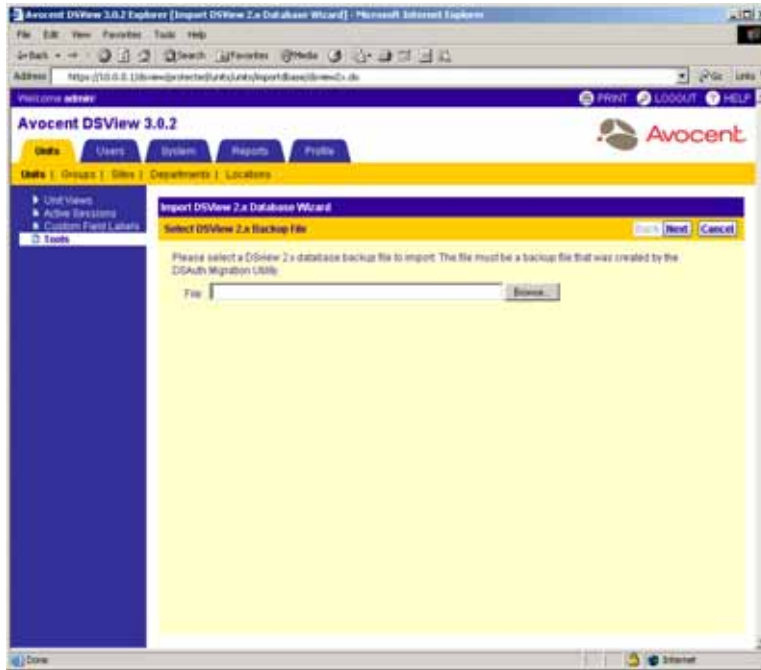


Figure 10.8: Import DSView 2.x Database Wizard - Select DSView 2.x Backup File Window

- a. Use the *Browse* button to locate the .zip backup file of the DSView 2.x software database that you created.
 - b. Click *Next*.
2. The Select Import Options window will appear.

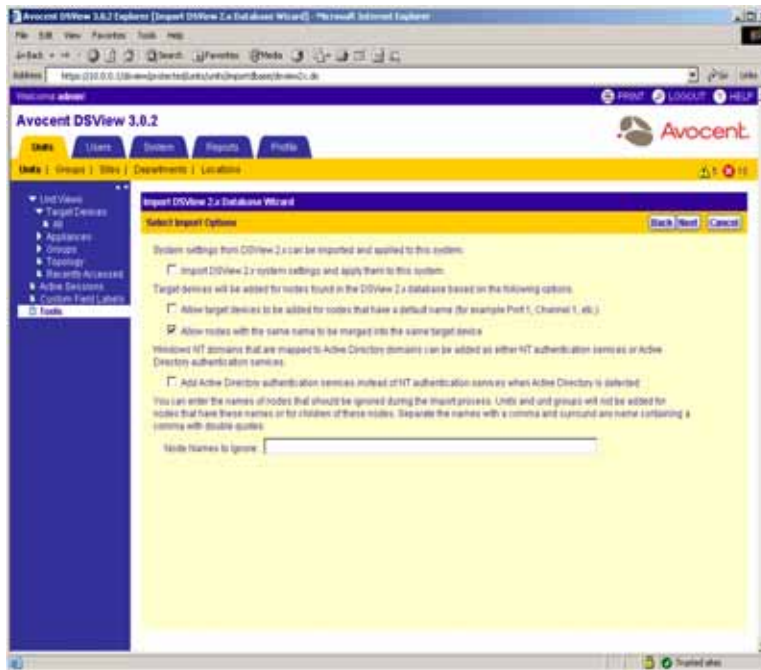


Figure 10.9: Import DSView 2.x Database Wizard - Select Import Options Window

- a. Select *Import DSView 2.x system settings and apply them to this system* to allow the following settings to be imported from the DSView 2.x software database migration file into your DSView software system:
 - Whether connected users may be viewed. See *Specifying Video Viewer Session Settings* on page 271 for more information.
 - Whether connections are automatically shared when a KVM session is started. See *Specifying Video Viewer Session Settings* on page 271 for more information.
 - Whether polling is enabled or disabled. See *To use unit status polling* on page 84 for more information.
 - The delay between polling cycles. See *To use unit status polling* on page 84 for more information.
 - The retention time of the audit log. See *Retaining the Audit Log* on page 494 for more information.
- b. Select *Allow Target Devices to be added for nodes that have a default name* to allow target devices to be added to your DSView software system for nodes in the DSView 2.x software migration file that have default names. In DSView 2.x software, a default name is considered to be a name such as Port 1, Channel 1 and Socket 1.

NOTE: All default names are adjusted when they are imported to include the name of each CPS appliance, DS1800 digital switch and DSR switch.

- c. Select *Allow nodes with the same name to be merged into the same target device* if you wish to merge a target device that has multiple connections into a single target device. For example, a target device may be connected to both a DSR switch and an SPC device.
- d. Select *Add Active Directory authentication services instead of NT authentication services when Active Directory is detected* to add an Active Directory service when an Active Directory domain is detected in the DSView 2.x software database migration file. If this option is not selected, the service will be added to the DSView software system as a Windows NT Domain service.
- e. Type the case-insensitive names of any DSView 2.x software database nodes that you do not wish to import, separated by commas (,), in the *Node Names to Ignore* field. Any children within the parent nodes listed in the field are also ignored (that is, not imported).

NOTE: You may import a node containing a comma on its name by enclosing the node name within quotation marks. For example, to import a node named node,two (containing a comma) and a node named nodeone, type "node,two",nodeone in the Node Names to Ignore field.

- f. Click *Next*.
3. The Import in Progress window will appear, updating to show the current step being performed, as the DSView 2.x software database is importing. The Completed Successful window will appear when the import has completed and will contain a summary of the import, including the following information:
 - Number of authentication services added
 - Number of users added
 - Number of user groups added
 - Number of units added
 - Number of unit groups added

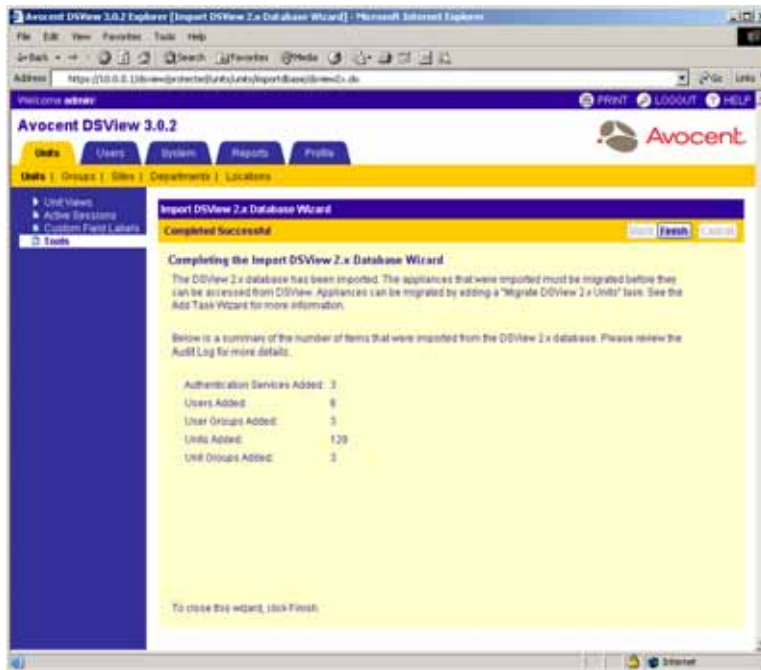
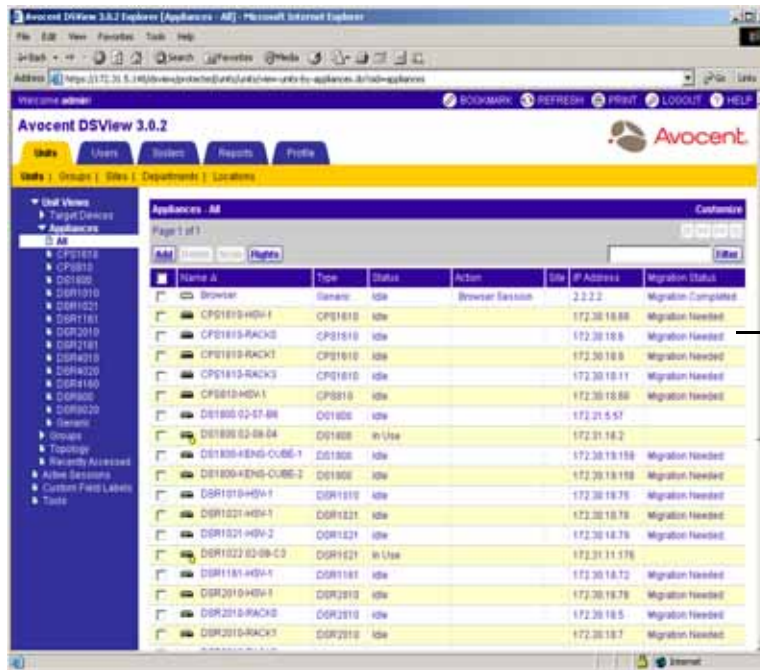


Figure 10.10: Import DSView 2.x Database Wizard - Completed Successful Window

4. Click *Finish*. The Units Tools window will appear.

After running the Import DSView 2.x Database tool

The Migration Status field is enabled and displays in Unit Views windows. Units requiring migration will contain Migration Needed in the Migration Status field.



Migration Needed appears for units requiring migration.

Figure 10.11: Units Views Window Containing Units Needing Migration

Although the DS1800 digital switches, CPS appliances and DSR switches have been imported from the DSView 2.x software database into the DSView software system, they are not yet compatible with the DSView management software. To complete the configuration and update the firmware on each type of DS1800 digital switch, CPS appliance and DSR switch, you must use the Migrate DSView 2.X Units task. See *To migrate DSView 2.x units to DSView management software compatible units:* on page 455 for more information.

Using DS1800 Digital Switch, DSI5100 and CPS Appliance and DSR Switch Tools

The DSView management software contains tools that allow you to perform the following actions on a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch:

- Reboot a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch
- Upgrade the firmware on a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch
- Resynchronize a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch so that it reflects the current DSView software system configuration

The following actions may be performed on a DS1800 digital switch, CPS appliance or DSR switch:

- Save or restore the configuration of a DS1800 digital switch, CPS appliance or DSR switch
- Save or restore the database of local users in a DS1800 digital switch, CPS appliance or DSR switch

These tools are accessed from the Unit Overview window, which is displayed when you click on the name of a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.

To display the Units Tools window:

1. From the DSView 3.0.2 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
2. From the side navigation bar, do one of the following:
 - Click *Appliances*. The Appliances - All window will appear. You may also click on a link below Appliances to display only specific types of DS1800 digital switches, DSR switches or CPS appliances in an Appliances window.
 - Click *Topology*. The Topology window will appear.
 - Click *Sites* and then click on a site link. A Units in Site window will appear.
 - Click a custom field label and then the appropriate label that you specified for the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch. The Units in Custom Fields window will appear.
 - If the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch has been recently accessed, click *Recently Accessed* to display the Recently Accessed Units window.
3. Click on the name of a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. The tools will appear in the Tools area of the window.

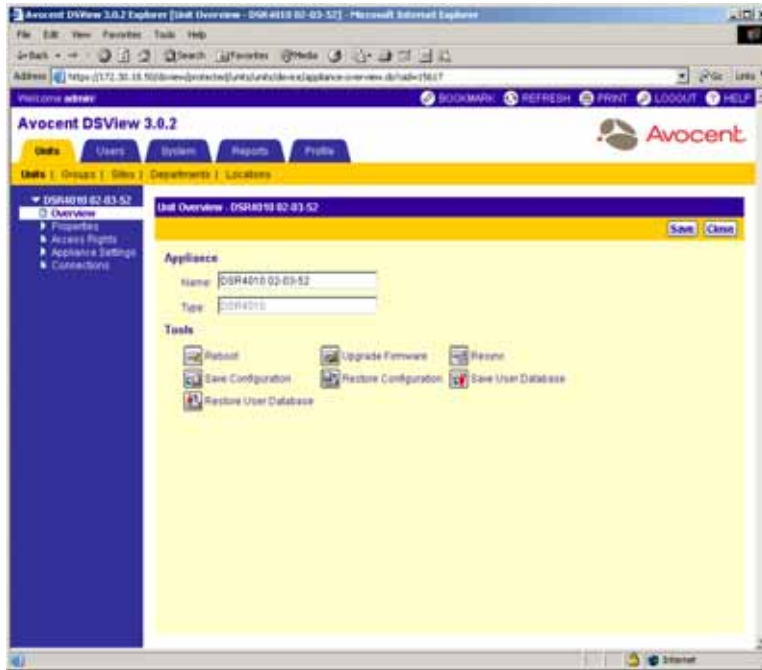


Figure 10.12: Unit Overview Window (DS1800 Digital Switches, CPS Appliances and DSR Switches)

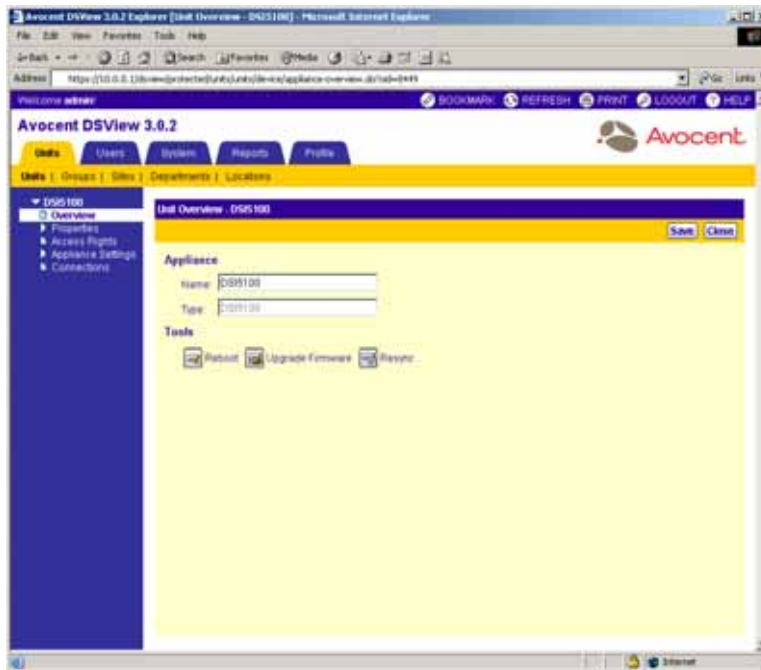


Figure 10.13: Unit Overview Window (DSI5100 Appliances)

Rebooting DS1800 digital switches, DSI5100 and CPS appliances and DSR switches

NOTE: To reboot a DSR switch or CPS appliance, you must have been granted Reboot Appliance access rights for the DSR switch or CPS appliance in the Access Rights window. By default, DSView software users who are members of the DSView software administrators, user administrators and appliance administrators built-in groups have this access right. See *Modifying unit access rights* on page 182 for more information.

You may reboot a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch using the Reboot tool in the Unit Overview window.

NOTE: When a DSR switch or CPS appliance is rebooted, all active sessions will be disconnected.

To reboot a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch:

1. Click the *Reboot* icon or link. A confirmation dialog box will appear.
 2. Click *Yes* to reboot the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.
- or-
- Click *No* to cancel the action.

Upgrading the firmware on DS1800 digital switches, DSI5100 and CPS appliances and DSR switches

You may manually upgrade the firmware on a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch using the Upgrade Firmware tool in the Unit Overview window.

NOTE: A valid FLASH file must exist in the DSView software server's firmware repository for the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch to use this command. Optionally, one or more DS1800 digital switches, DSI5100 or CPS appliances or DSR switches may be FLASH upgraded as a task. See *Managing Tasks* on page 433 for more information.

To upgrade the firmware on a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch:

1. Click the *Upgrade Firmware* icon or link. The welcome page of the Upgrade Appliance Firmware Wizard will appear. Click *Next*.
2. The Select Firmware Files window will appear.

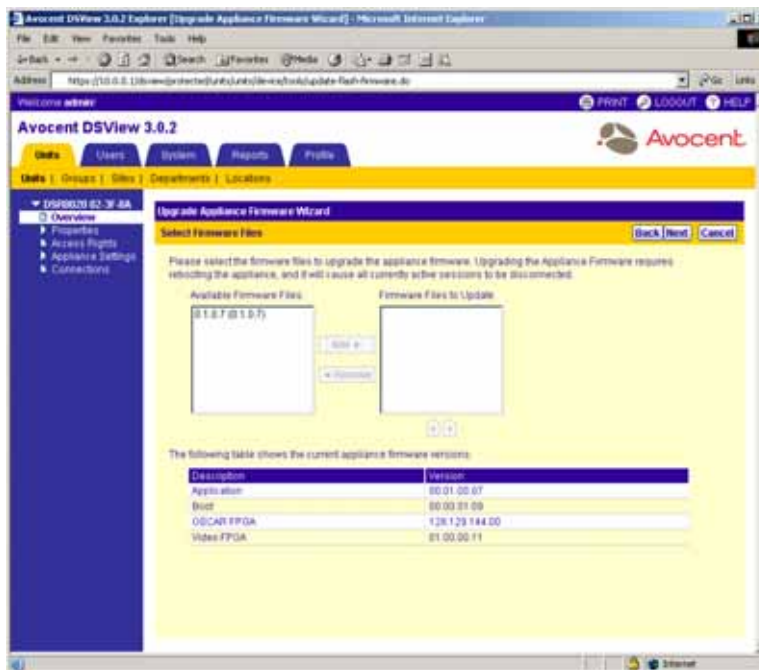


Figure 10.14: Upgrade Appliance Firmware Wizard - Select Firmware Files Window

Select the FLASH files to which you wish to upgrade the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch:

- a. Select the FLASH files in the Available Firmware Files list. Multiple firmware files may be selected by pressing **Ctrl** or **Shift** while clicking on the firmware file names.
- b. Click *Add*. The properties will be moved to the Firmware Files to Update list.

NOTE: To remove selected firmware files, select the firmware file you wish to remove from the Firmware Files to Update list (multiple firmware files may be selected by pressing **Ctrl** or **Shift** while clicking on the firmware file names) and clicking *Remove*. The firmware files will be moved to the Available Firmware Files list.

- c. To change the order in which firmware files are installed to the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch, select the firmware files in the Firmware Files to Update list and use the up and down arrows to move the selected firmware files up or down in the listing. Multiple firmware files may be selected by pressing **Ctrl** or **Shift** while clicking on the firmware file names.
- d. Click *Next*.

NOTE: When multiple firmware files are selected, the firmware on each DS1800 digital switch, DSI5100 or CPS appliance or DSR switch will be upgraded in the order shown in the Update list. A reboot will be automatically performed between each firmware update.

3. The Type in Task Name window will appear.

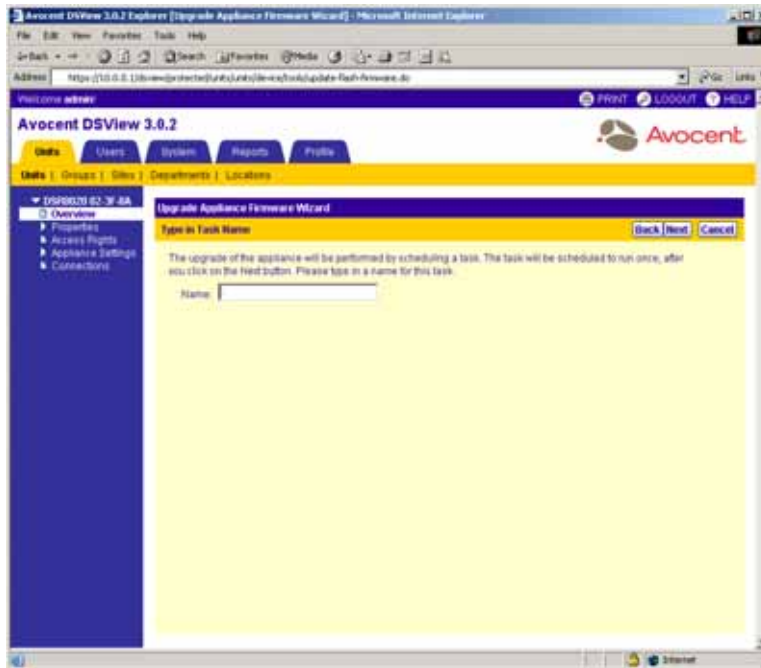


Figure 10.15: Upgrade Appliance Firmware Wizard - Type in Task Name Window

- a. Type a name for the upgrade firmware task (1-64 characters).

- b. Click *Next*.
4. The Completed Successful window will appear.
5. Click *Finish*. The Unit Overview window will appear.
6. The progress of the upgrade task can be checked by clicking the *System* tab and then clicking *Tasks* in the top navigation bar.

Resynchronizing DS1800 digital switches, DSI5100 and CPS appliances and DSR switches

When a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch changes, it may not be properly represented in the DSView software system. For example, a target device may be added, removed or moved. Resynchronizing will update these and other changes made to the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch within the DSView software system. You may resynchronize a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch using the Resync tool in the Unit Overview window.

Resynchronizing will force a check of the entire DSView software system. The process requires a large amount of time and network bandwidth and should only be performed when necessary.

To resync a DS1800 digital switch, DSI5100 or CPS appliance or DSR switch:

1. Click the *Resync* icon or link. The welcome page of the Resync Appliance Wizard will appear. Click *Next*.
2. The Select Resync Options window will appear.

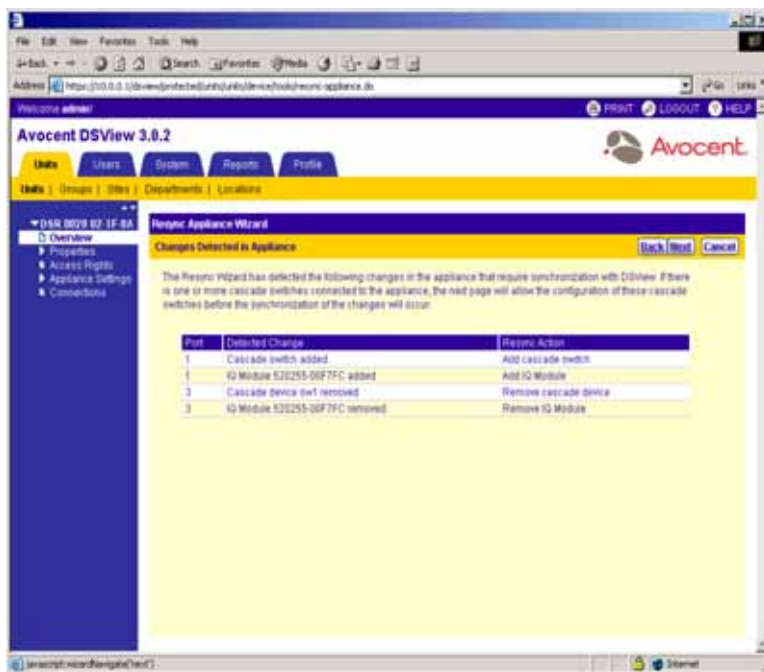


Figure 10.17: Resync Appliance Wizard - Changes Detected in Appliance Window

-or-

If one or more cascade switches are attached to the DS1800 digital switch, CPS appliance or DSR switch, the Cascade Switch Configuration window will appear. Continue to step 4.

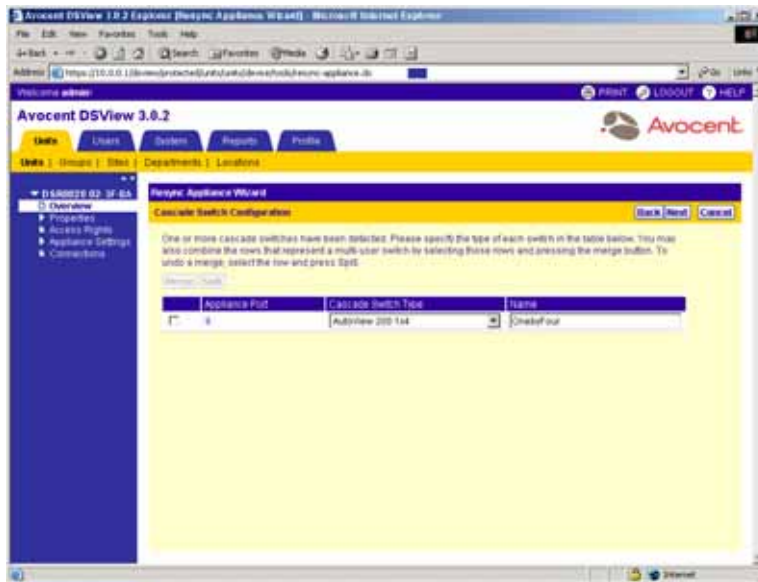


Figure 10.18: Resync Appliance Wizard - Cascade Switch Configuration Window

4. From the drop-down menu, select the type of each detected cascade switch. Available types are:
 - AutoView 2000
 - AutoView 200 1 x 4, 1 x 8, 2 x 4 or 2 x 8
 - AutoView 400 1 x 4, 1 x 8 or 2 x 8
 - AutoView 416 1 x 16, 2 x 16
 - AutoView 424 1 x 24, 2 x 24
 - Generic 1 x 4, 1 x 8, 1 x 16 or 1 x 24
 - Generic 2 x 4, 2 x 8, 2 x 16 or 2 x 24
 - OutLook 1160ES, 140ES, 180ES, 2160ES, 280ES or 4160ES
 - Unspecified
5. Type a name for each cascade switch.
6. If you wish, combine any multiuser cascade switches:
 - a. Click the checkboxes of the cascade switches that you wish to merge.
 - b. Click *Merge*.

NOTE: You may unmerge any cascade switches that you have merged by clicking the checkbox of the merged cascade switch and clicking *Split*.

7. Click *Next*. The Completed Successful window will appear.

8. Click *Finish*. The Unit Overview window will appear.

Saving the configuration of DS1800 digital switches, DSR switches and CPS appliances

You may save the configuration of a DS1800 digital switch, CPS appliance or DSR switch to a file using the Save Configuration tool in the Unit Overview window.

The configuration file will contain information about the DS1800 digital switch, CPS appliance or DSR switch, including the following:

- Global settings
- Port settings
- SNMP trap settings
- SNMP manager settings
- The names of connected target devices

For information on restoring a configuration file, see *Restoring the configuration of DS1800 digital switches, CPS appliances and DSR switches* on page 429.

To save the configuration of a DS1800 digital switch, CPS appliance or DSR switch to a file:

1. Click the *Save Configuration* icon or link. The welcome page of the Save Appliance Configuration Wizard will appear. Click *Next*.
2. The Type in File Description window will appear.

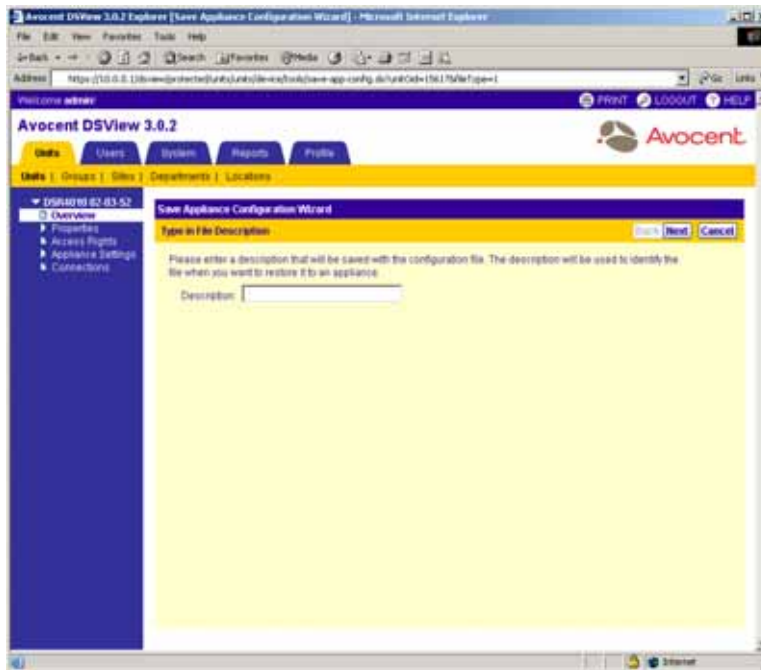


Figure 10.19: Save Appliance Configuration Wizard - Type in File Description Window

- a. Type a description of the configuration that will be saved and may be used if you wish to restore the configuration at a later time.
- b. Click *Next*.
3. The Completed Successful window will appear.
4. Click *Finish*. The Unit Overview window will appear.

Restoring the configuration of DS1800 digital switches, CPS appliances and DSR switches

NOTE: Appliance Configuration files are stored in the DSView software server appliance files repository. You may view the available configuration files by selecting the *System* tab, selecting *Appliance Files* in the top navigation bar and selecting *Configuration* in the side navigation bar.

You may restore the configuration of a DSR switch or CPS appliance using the Restore Configuration tool in the Unit Overview window. To restore the configuration, a previously-saved configuration file must exist. See *Saving the configuration of DS1800 digital switches, DSR switches and CPS appliances* on page 428 for more information.

NOTE: The DSR switch or CPS appliance must be rebooted to enable the restored configuration file.

To restore the configuration of a DS1800 digital switch, CPS appliance or DSR switch:

1. Click the *Restore Configuration* icon or link. The Welcome page of the Restore Appliance Configuration Wizard will appear. Click *Next*.
2. The Select Configuration to Restore window will appear.

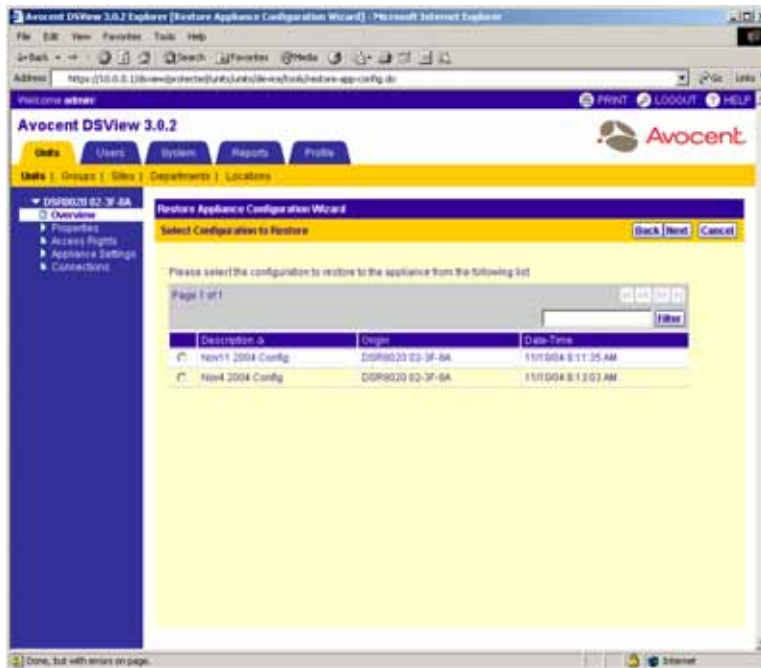


Figure 10.20: Restore Appliance Configuration Wizard - Select Configuration to Restore Window

- a. Click the radio button to the left of the file containing the configuration you wish to restore.
 - b. Click *Next*.
3. The Completed Successful window will appear.
 4. Click *Finish*. The Unit Overview window will appear.
 5. Reboot the DS1800 digital switch, CPS appliance or DSR switch to enable the configuration. See *Rebooting DS1800 digital switches, DS15100 and CPS appliances and DSR switches* on page 421 for more information.

Saving the user database of a DSR switch or CPS appliance

NOTE: You may not save the user database of a DS1800 digital switch or DSR1161, DSR2161, DSR4160, DSR800 switch.

You may save the local user database on a DSR switch or CPS appliance using the Save User Database tool in the Unit Overview window. For information on restoring a user database, see *Restoring the user database of a DS1800 digital switch, CPS appliance or DSR switch* on page 432.

To save the user database of a DSR switch or CPS appliance:

1. Click the *Save User Database* icon or link. The Welcome page of the Save Appliance User Database Wizard will appear. Click *Next*.
2. The Type in File Description window will appear.

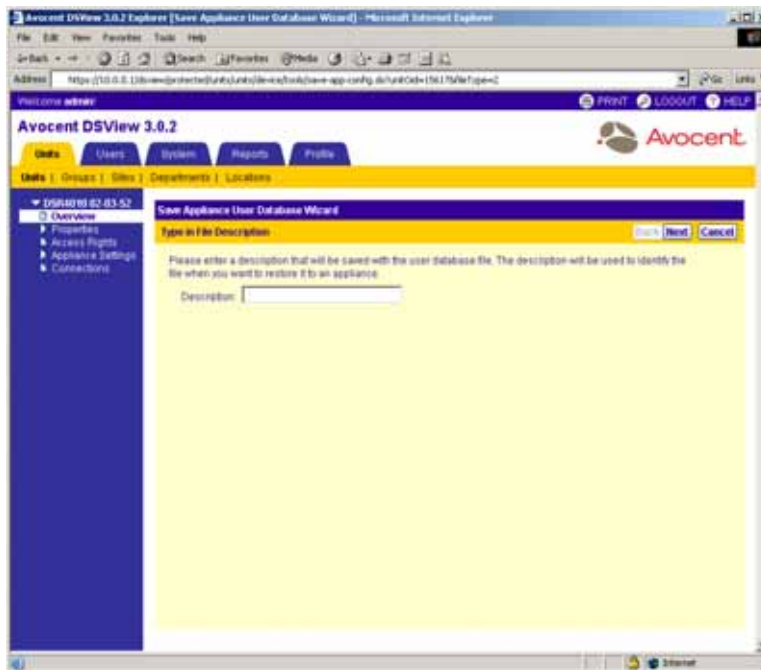


Figure 10.21: Save Appliance User Database Wizard - Type in File Description Window

- a. Type a description of the user database that will be saved and can be used if you wish to restore the database.
 - b. Click *Next*.
3. The Completed Successful window will appear.

4. Click *Finish*. The Unit Overview window will appear.

Restoring the user database of a DS1800 digital switch, CPS appliance or DSR switch

NOTE: You may not restore the user database of a DS1800 digital switch or DSR1161, DSR2161, DSR4160, DSR800 switch.

NOTE: Database files are stored in the DSView software server appliance files repository. You may view the available database files by selecting the *System* tab, selecting *Appliance Files* in the top navigation bar and selecting *User Database* in the side navigation bar.

You may restore the local user database of a DSR switch or CPS appliance using the Restore User Database tool in the Unit Overview window. To restore the user database, a previously saved user database file must exist. See *Saving the user database of a DSR switch or CPS appliance* on page 431 for more information.

NOTE: The DSR switch or CPS appliance must be rebooted to enable the restored user database file.

To restore the user database of a DSR switch or CPS appliance:

1. Click the *Restore User Database* icon or link. The Welcome page of the Restore Appliance User Database Wizard will appear. Click *Next*.
2. The Select User Database to Restore window will appear.

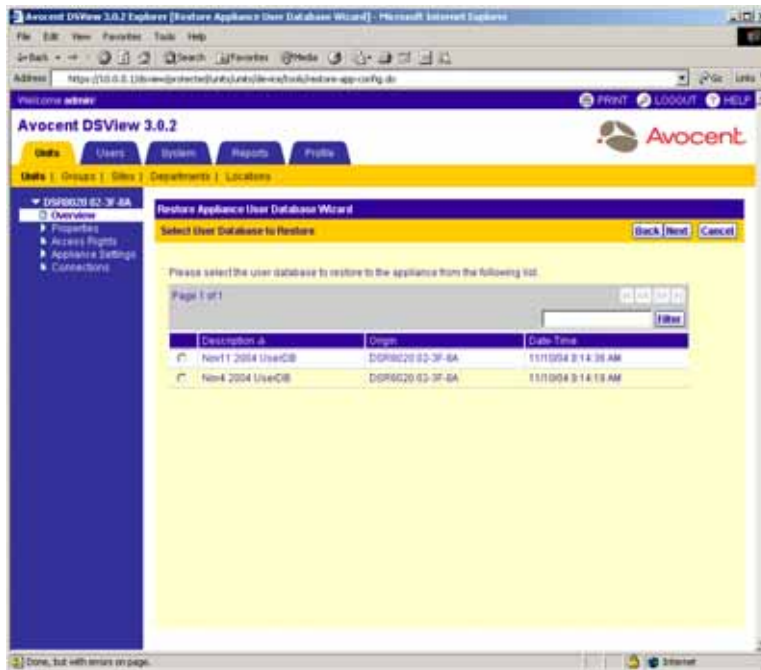


Figure 10.22: Restore Appliance User Database Wizard - Select User Database to Restore Window

- a. Click the radio button to the left of the DSR switch or CPS appliance user database you wish to restore.
- b. Click *Next*.
3. The Completed Successful window will appear.
4. Click *Finish*. The Unit Overview window will appear.
5. Reboot the DSR switch or CPS appliance to enable the user database. See *Rebooting DS1800 digital switches, DS15100 and CPS appliances and DSR switches* on page 421 for more information.

Managing Tasks

The Tasks window allows you to add, delete and modify tasks. The Tasks window lists all existing tasks configured in the DSView management software and allows you to manually run tasks.

To display the tasks window:

1. From the DSView 3.0.2 Explorer, click the *System* tab.
2. From the top navigation bar, click *Tasks*. The Tasks window will appear.

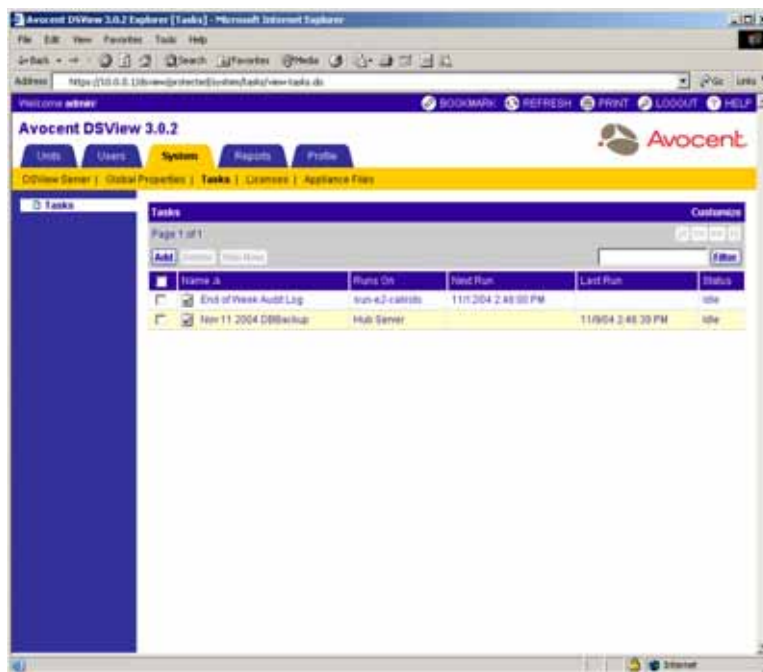


Figure 10.23: Tasks Window

Customizing the Tasks window

By default, the following fields display in the Tasks window:

NOTE: The Next Run and Last Run fields will be blank for a task scheduled on a remote DSView software server.

- Runs On - Displays the server(s) on which the task will run.
- Next Run - Displays the next date and time on which the task is scheduled to run.
- Last Run - Displays the date and time of the last run of the task.
- Status - The status of a task. An icon will also appear in the Name column that represents the status of the task.

Table 10.1 lists and describes the status icons that will appear in the Tasks window.

Table 10.1: Task Status Icons






Icon	Task
	Idle - A task that is not currently running

Table 10.1: Task Status Icons (Continued)

	Running - A task that is currently occurring
	Stopping - A task that has run but not completely stopped
	Disabled - A task that is prevented from executing
	Remote - A task that is scheduled on a remote DSView software server

The following field may be displayed in the Tasks window by clicking the *Customize* link:

- Schedule - Displays the how often and when the task is scheduled to run

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

Adding tasks

You can use the Add Task Wizard to create tasks. Click *Add* in the Tasks window to display the Welcome page of the Add Task Wizard. When you click *Next* in the Welcome page of the Add Task Wizard, the Select Task to Add window will appear.

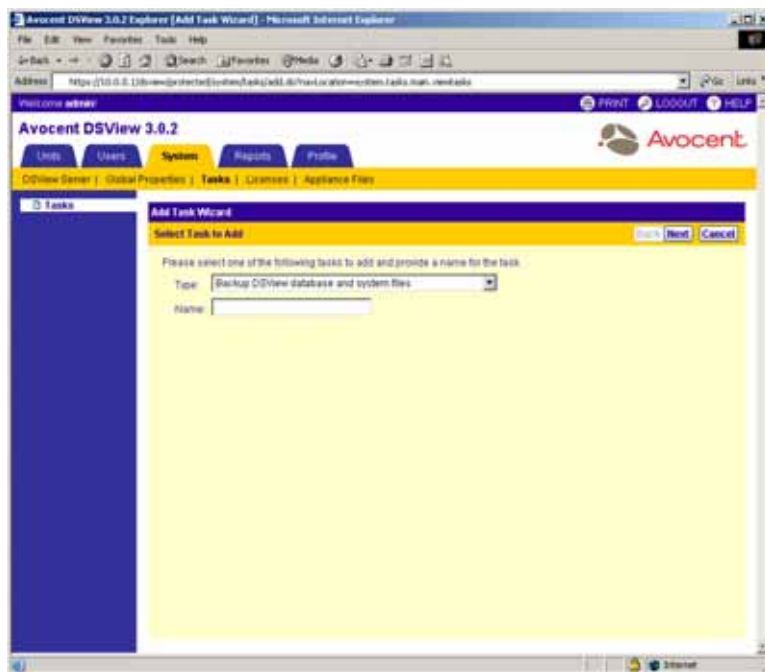


Figure 10.24: Select Task to Add Window

Use the Select Task to Add window to choose the type of task you wish to run and to name the task. Clicking *Next* will allow you to specify information on when and how often to run the task. Once you have specified the time and frequency for running the task, the wizard will prompt you for task-specific information required by the DSView management software for running the task.

You may choose to run the following tasks using the Select Task to Add window:

- Backup the DSView software database and system files - This task creates a compressed .zip file containing a backup of your DSView software system. The backup file contains everything necessary to fully restore the DSView software hub server, such as DSView software users, user groups, units, unit groups, properties, permissions, global settings, macros and so on. The system backup may be created as an encrypted or unencrypted file and may be stored on a local drive on the DSView software server or at a location specified using a Universal Naming Convention (UNC) path. The backup file is named `dsviewBackup.zip` by default, but you may also specify to append the date and time to the end of the backup filename.

NOTE: If a backup is restored to a server with a different IP address, managed appliances may not be able to authenticate until the new DSView software server IP address has been programmed into the managed appliances.

- Configure SNMP trap settings on appliance - This task turns SNMP traps on or off for one or more DS1800 digital switches, DS15100 or CPS appliances or DSR switches of a particular

type. First, select the unit groups containing the DS1800 digital switches, CPS appliances or DSR switches. Next, select the type of DS1800 digital switch, CPS appliance or DSR switch (CPS1610 appliance, DSR1021 switch, and so on), followed by the particular DS1800 digital switches, CPS appliances or DSR switches. Finally, specify which traps you wish to turn on and off on the selected DS1800 digital switches, CPS appliances or DSR switches. To specify SNMP trap settings for other types of DS1800 digital switches, CPS appliances or DSR switches, you must create additional tasks.

- Control power of target devices - This task powers up, powers down or cycles the power (power down and then power up) of one or more target devices. First, select the unit groups containing the target devices. Then, select the target devices found in the unit group. Finally, specify whether you wish to power up, power down or cycle the power of the selected target devices.
- Export audit log to comma separated values (.csv) file - This task exports selected fields from the DSView software system audit log to a .csv file. The exported audit log may be stored on a local or network drive. The audit log is named auditlog.csv by default, but you may also specify to append the date and time to the end of the audit log. The output .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.
- Migrate DSView 2.X Units - This task configures and upgrades DS1800 digital switches, CPS appliances or DSR switches within the unit group, or any DS1800 digital switches, CPS appliances or DSR switches using firmware compatible with DSView 2.x software to firmware that is compatible with the DSView management software.

NOTE: CPS appliances, DS1800 digital switches and DSR switches should not be FLASH upgraded from DSView 2.x firmware to DSView management software (version 3.0) firmware prior to using the Migrate DSView 2.X Units command. The recommended procedure is to first import the DSView 2.x software database to the new DSView software system using the Import DSView 2.x Database tool, followed by running the Migrate DSView 2.X Units task on each DS1800 digital switch and DSR switch. See *Importing DSView 2.x software databases* on page 410 for more information.

NOTE: A CPS appliance or DSR switch that has been migrated to DSView management software compatible firmware may be returned to DSView 2.x compatibility.

- Send IPMI chassis control command to Target Devices - This command powers up, powers down, cycles the power (power down and then power up), performs a gentle shutdown or resets one or more IPMI 1.5 target devices. First, select the unit groups containing the IPMI 1.5 target devices. Then, select the IPMI 1.5 target devices. Finally, specify whether you wish to power up, power down, cycle the power, perform a gentle shutdown or reset the selected IPMI 1.5 target devices.
- Upgrade firmware of selected appliances of the same type - This task upgrades the firmware of selected DS1800 digital switches, DSI5100 or CPS appliances or DSR switches. First, select the unit groups containing the DS1800 digital switches, DSI5100 and CPS appliances and DSR switches. Next, select the type of DS1800 digital switch, DSI5100 or CPS appliance or DSR switch (CPS1610, DSR1021 and so on), followed by the particular DS1800 digital switches, DSI5100 or CPS appliances or DSR switches. Next, select the firmware files to

upgrade the selected DS1800 digital switch, DSI5100 or CPS appliance or DSR switch. To upgrade other types of DS1800 digital switches, DSI5100 or CPS appliances or DSR switches, you must create additional tasks.

- Validate external authentication server user accounts - This task may be used to ensure that LDAP and Active Directory external authentication services contain accounts for DSView software users. Any DSView software user accounts not found on the external authentication server will be flagged as suspicious (a question mark icon will appear to the left of the DSView software user's name). Suspicious accounts are indicated in audit log files.

Specifying when to run tasks

After you have chosen to create a particular kind of task and clicked *Next* in the Select Task to Add window of the Add Task Wizard, the Select When to Run Task window will appear.

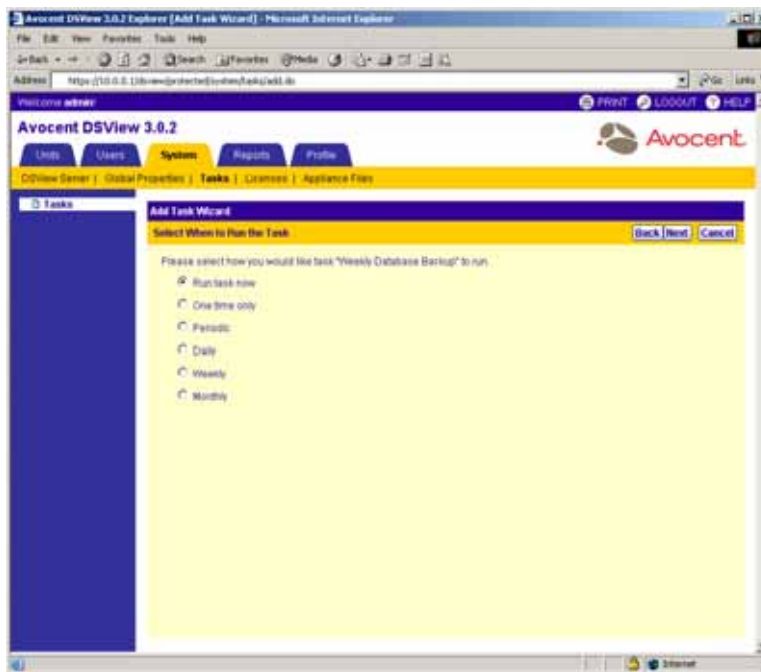


Figure 10.25: Add Task Wizard - Select When to Run the Task Window

Use the Select When to Run the Task window to choose when and how often you wish to run the task. Clicking *Next* will allow you to specify parameters for running the task if you choose any option other than Run task now.

You may choose to run tasks at the following times:

- **Run task now** - Choosing this option will run the task immediately after you click *Finish* when adding the task in the Add Task Wizard. The Status column will indicate Running and the running icon will appear to the left of the task name.
- **One time only** - Choosing this option will run the task once at a specific time on a specific date.
- **Periodic** - Choosing this option will run the task a certain number of times per hour or day, beginning at a specific time on a specific date.
- **Daily** - Choosing this option will run the task once every day, once Monday-Friday or regularly for a certain number of days (every 2 days, every 3 days and so on), beginning at a specific time on a specific date.
- **Weekly** - Choosing this option will run the task once each week or regularly over a certain number of weeks (every 2 weeks, every 3 weeks and so on), beginning at a specific time on a specific date. You may also specify which days you wish for the task to run.
- **Monthly** - Choosing this option will run the task once each month or regularly over a certain number of months (every 2 months, every 3 months and so on) beginning at a specific time on a specific date. You may also specify which months you wish for the task to run.

Once a task has been created, you may change when and how often it will run using the Task Scheduler window. To display the Task Scheduler window, click on the task name and then click the *Schedule* link in the side navigation bar. See *Modifying tasks* on page 470 for more information.

To run a task periodically:

1. From the Select When to Run the Task window, click *Periodic*. Click *Next*.
2. The Specify Periodic Schedule window will appear.

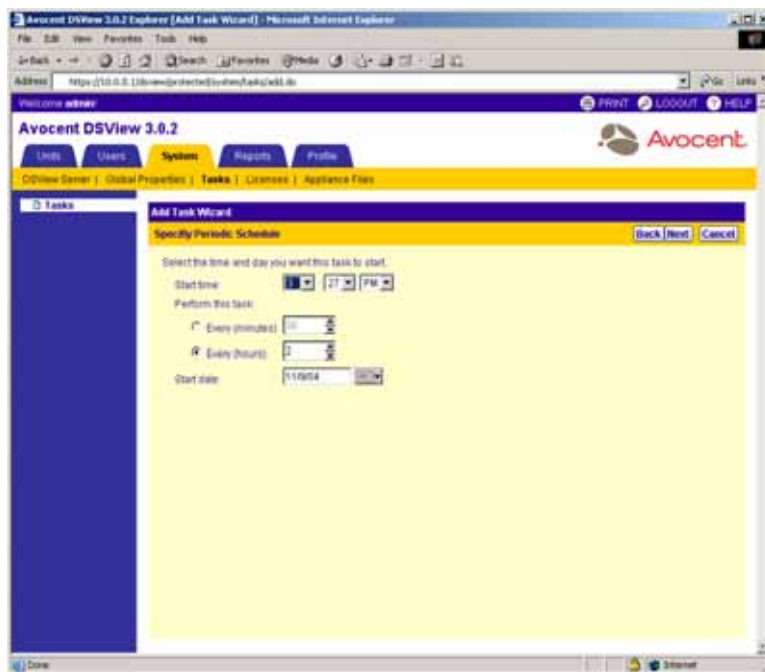


Figure 10.26: Add Task Wizard - Specify Periodic Schedule Window

- a. Select the hour, minute and AM or PM from the drop-down menus to select the time to begin running the task.
- b. Click *Every (minutes)* and select a number of minutes from the drop-down menu.
-or-
Click *Every (hours)* and select a number of hours from the drop-down menu.
- c. Click on the calendar button or the field to the left of the calendar button and select a date to begin running the task. To use the calendar:
 - Click on the year and select a year from the drop-down menu that will appear.
 - Click on the month name and select a month from the drop-down menu that will appear.-or-
Use the arrows at the top of the calendar to move forward and backward by month.
 - Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.

To run a task daily:

1. From the Select When to Run the Task window, click *Daily*. Click *Next*.

2. The Specify Daily Schedule window will appear.

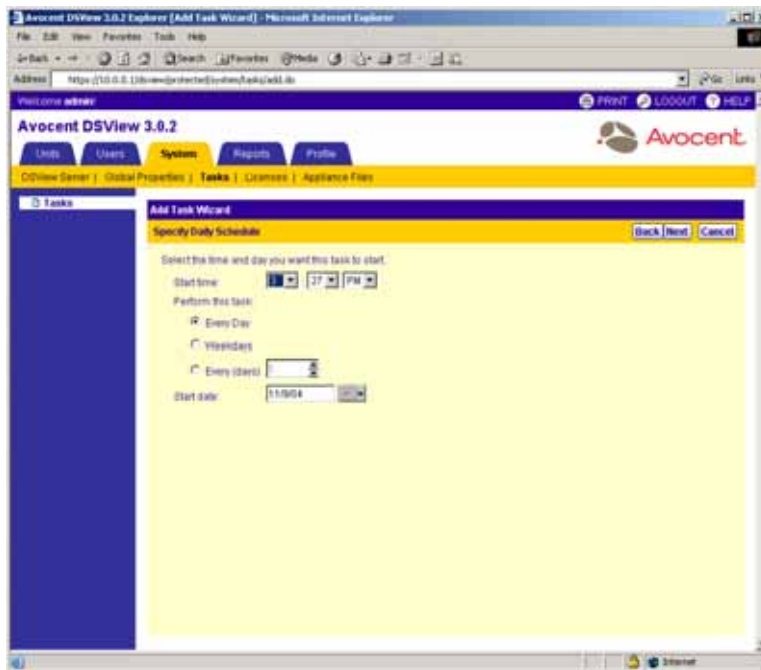


Figure 10.27: Add Task Wizard - Specify Daily Schedule Window

- a. Select the hour, minute and AM or PM from the drop-down menus to select the time to begin running the task.
- b. Click *Every Day* to run the task each day of the week (Sunday-Saturday).
-or-
Click *Weekdays* to run the task once each weekday (Monday-Friday).
-or-
Click *Every (days)* and select the number of consecutive days (1-365) from the drop-down menu.
- c. Click on the calendar button or the field to the left of the calendar button and select a date to begin running the task. To use the calendar:
 - Click on the year and select a year from the drop-down menu that will appear.
 - Click on the month name and select a month from the drop-down menu that will appear.-or-
Use the arrows at the top of the calendar to move forward and backward by month.

- Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.

To run a task weekly:

1. From the Select When to Run the Task window, click *Weekly*.
Click *Next*.
2. The Specify Weekly Schedule window will appear.

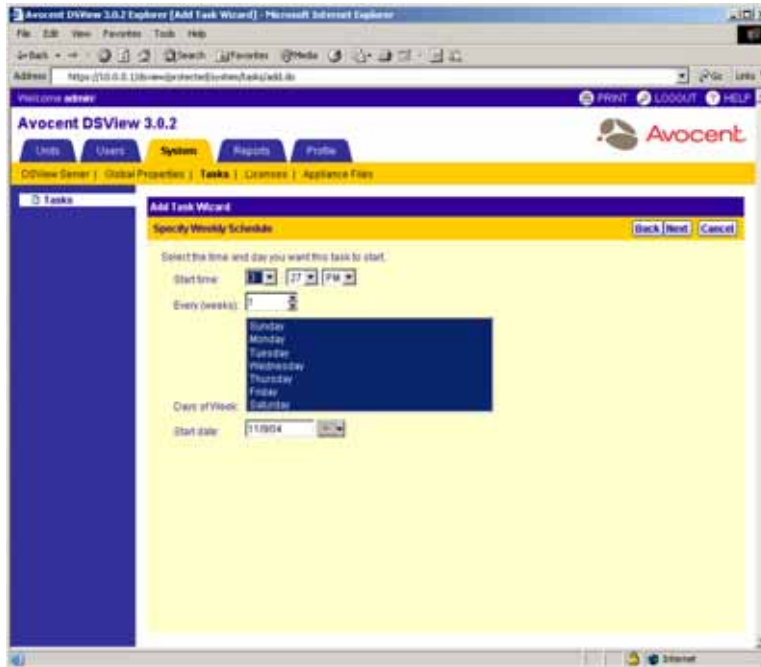


Figure 10.28: Add Task Wizard - Specify Weekly Schedule Window

- a. Select the hour, minute and AM or PM from the drop-down menus to select the time to begin running the task.
- b. Click *Every (weeks)* and select the number of consecutive weeks (1-52) from the drop-down menu.
- c. Select the day of week to run the task from the list box. Multiple days may be selected by pressing **Ctrl** while clicking on the days.
- d. Click on the calendar button or the field to the left of the calendar button and select a date to begin running the task. To use the calendar:
 - Click on the year and select a year from the drop-down menu that will appear.
 - Click on the month name and select a month from the drop-down menu that will appear.

-or-

Use the arrows at the top of the calendar to move forward and backward by month.

- Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.

To run a task monthly:

1. From the Select When to Run the Task window, click *Monthly*. Click *Next*.
2. The Specify Monthly Schedule window will appear.

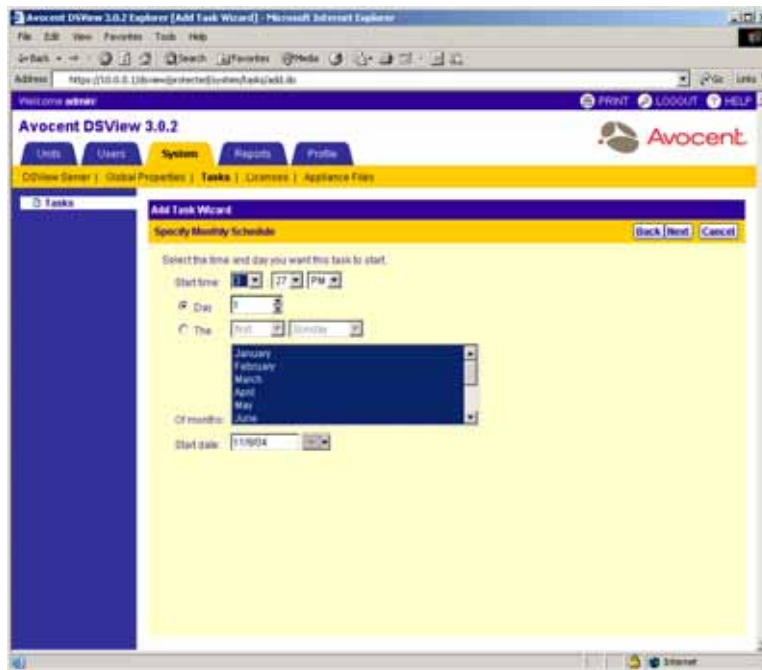


Figure 10.29: Add Task Wizard - Specify Monthly Schedule Window

- a. Select the hour, minute and AM or PM from the drop-down menus to select the time to begin running the task.
- b. Click *Day* and select the day of the month to run the task using the drop-down menu.

-or-

Click *The* and select a week and a day of the week to run the task using the drop-down menus. For example, if you wish to run the task each second Tuesday of the month, select *second* from the first drop-down menu and *Tuesday* from the second drop-down menu.

- c. Select the month to run the task from the list box. Multiple months may be selected by pressing **Ctrl** while clicking on the days.

- d. Click on the calendar button or the field to the left of the calendar button and select a date to begin running the task. To use the calendar:
 - Click on the year and select a year from the drop-down menu that will appear.
 - Click on the month name and select a month from the drop-down menu that will appear.
 - -or-
 - Use the arrows at the top of the calendar to move forward and backward by month.
 - Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.

Adding tasks using the Add Task Wizard

NOTE: Tasks may only be added by DSVIEW software administrators.

To add the Backup DSVIEW database and system files task:

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
 - a. Select *Backup DSVIEW database and system files* from the drop-down menu.
 - b. Type a 1-64 character name for the task.
 - c. Click *Next*.
3. The Select When to Run the Task window will appear.
 - a. Select a time to run the task. See *Specifying when to run tasks* on page 438 for information on specifying when and how often to run a task.
 - b. Click *Next*.
4. The Specify DSVIEW System Backup Properties dialog box will appear.

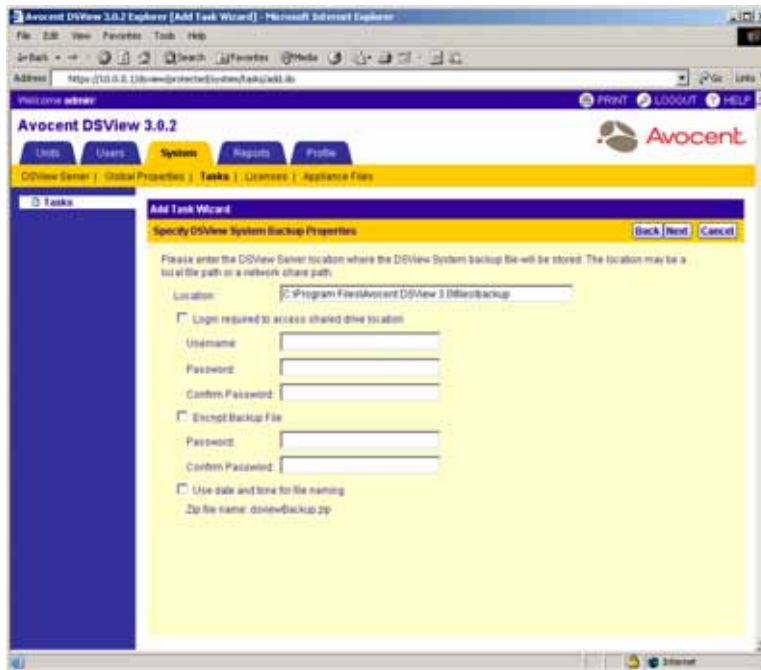


Figure 10.30: Add Task Wizard - Specify DSView System Backup Properties Window

- a. Type the directory location in which to create the system backup, which may be a local drive on the DSView software server or at a network location specified by a UNC path.

NOTE: The directory name must be entered in case-sensitive text if your operating system supports case-sensitive filenames.

- b. Click *Login required to access shared drive location* if the location specified is a network path that requires a log in. Then, type the username and password and confirm the password of a user account that has read/write access to the network share location.

NOTE: The Location field cannot be set to a mapped network drive. It must be set to either a physical local drive or a shared network location specified as a UNC path.

- c. Click *Encrypt Backup File* to encrypt the created system backup file and type a password used to lock and unlock the encrypted file.
- d. Click *Use date and time for file naming* to append the date and time (in military time) to the end of the system backup filename. For example, if you are creating the backup file on October 1, 2004 at 10:04 pm, the file created will be named dsviewBackup1001042204.zip.

NOTE: If a system backup file already exists in the specified directory and this option is not used, the existing backup file will be overwritten when the new backup file is created.

5. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To configure SNMP trap settings on a DS1800 digital switch, CPS appliance or DSR switch:

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
 - a. Select *Configure SNMP trap settings on appliance* from the drop-down menu.
 - b. Type a 1-64 character name for the task.
 - c. Click *Next*.
3. The Select When to Run the Task window will appear.
 - a. Select a time to run the task. See *Specifying when to run tasks* on page 438 for information on specifying when and how often to run a task.
 - b. Click *Next*.
4. The Select Unit Group window will appear.

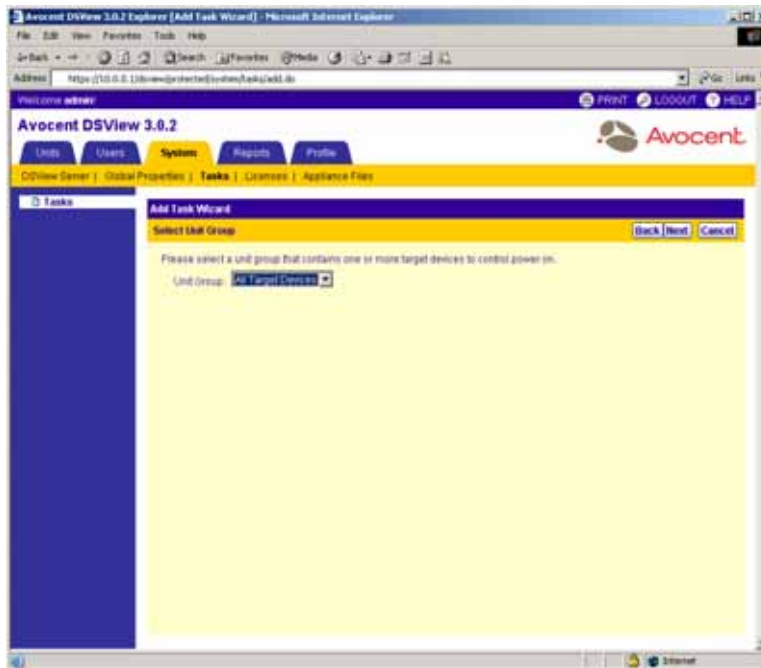


Figure 10.31: Add Task Wizard - Select Unit Group Window

- a. Select *All Appliances*.

-or-

Select a unit group.

b. Click *Next*.

5. The Select Appliance Type window will appear.

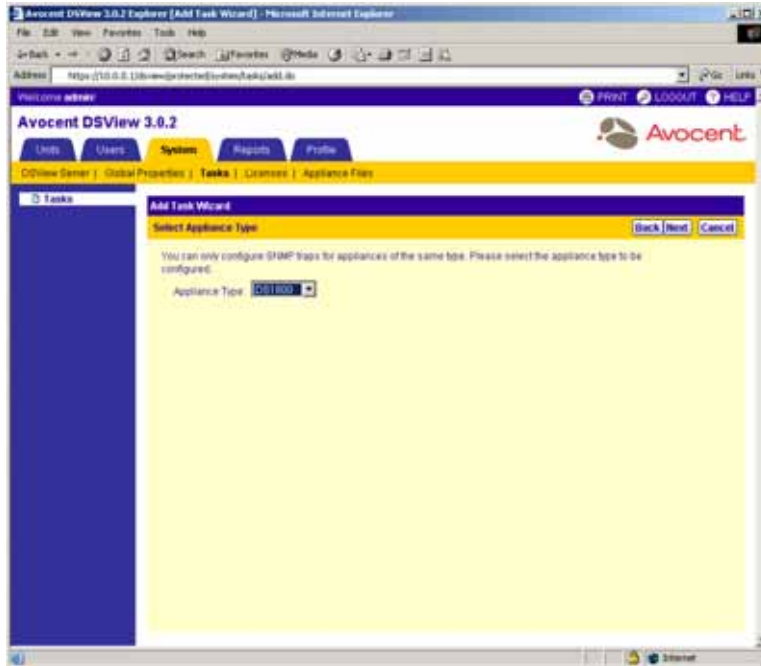


Figure 10.32: Add Task Wizard - Select Appliance Type Window

- a. Select the type of DS1800 digital switch, CPS appliance or DSR switch for which to configure SNMP traps.
 - b. Click *Next*.
6. The Select Appliances window will appear. Depending on the selections made in step 4, the Available Appliances list will contain all DS1800 digital switches, CPS appliances or DSR switches available from the unit group specified or all DS1800 digital switches, CPS appliances or DSR switches.

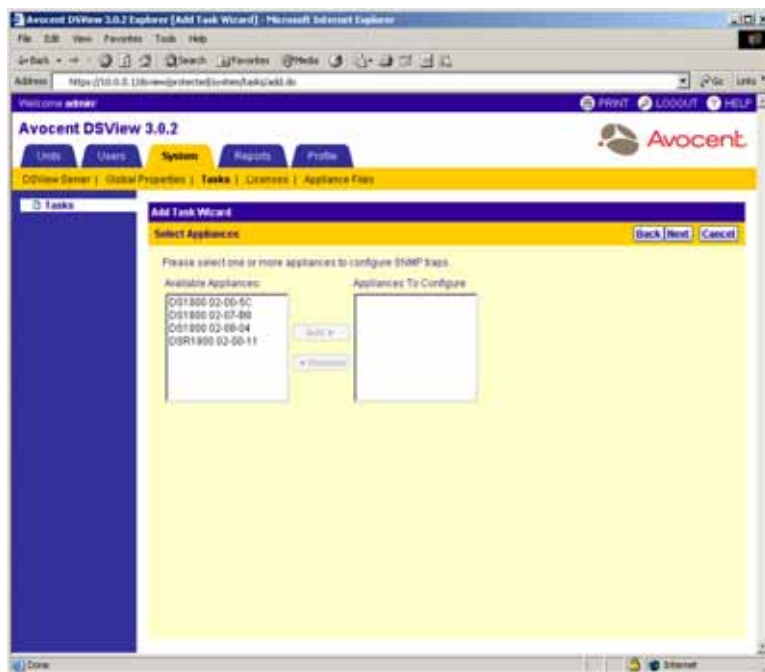


Figure 10.33: Add Task Wizard - Select Appliances Window

- a. Select the specific DS1800 digital switches, CPS appliances or DSR switches for which to configure SNMP traps:
 - Select the DS1800 digital switch, CPS appliance or DSR switch you wish to add from the Available Appliances list. Multiple DS1800 digital switches, CPS appliances or DSR switches may be selected by pressing **Ctrl** or **Shift** while clicking on the DS1800 digital switch, CPS appliance or DSR switch names.
 - Click *Add*. The unit(s) will be moved to the Appliances to Configure list.
 - b. Click *Next*.
7. The Configure SNMP Traps window will appear.

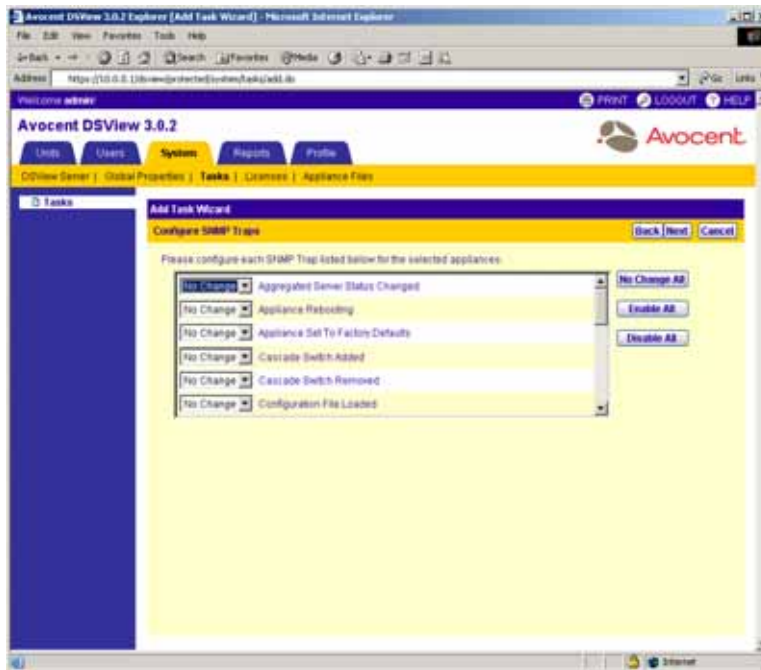


Figure 10.34: Add Task Wizard - Configure SNMP Traps Window

- a. Modify the state of each SNMP trap by selecting one of the following from the trap's drop-down menu:
 - Select *No Change* if you wish to leave the trap on/off state to the state already configured in the DS1800 digital switch, CPS appliance or DSR switch.
 - Select *Enable* to turn the trap on.
 - Select *Disable* to turn the trap off.

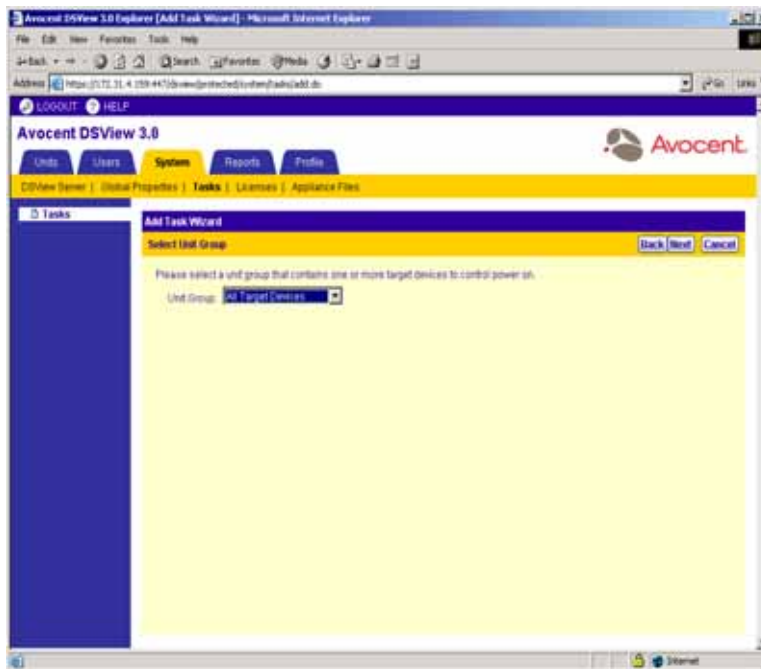
-or-

Click one of the following buttons:

 - Click *No Change All* to use the on/off states already configured in the DS1800 digital switch, CPS appliance or DSR switch for all traps.
 - Click *Enable All* to turn all traps on.
 - Click *Disable All* to turn all traps off.
 - b. Click *Next*.
8. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To perform target device power control operations:

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
 - a. Select *Control power of Target Devices* from the drop-down menu.
 - b. Type a 1-64 character name for the task.
 - c. Click *Next*.
3. The Select When to Run the Task window will appear.
 - a. Select a time to run the task. See *Specifying when to run tasks* on page 438 for information on specifying when and how often to run a task.
 - b. Click *Next*.
4. The Select Unit Group window will appear.

**Figure 10.35: Add Task Wizard - Select Unit Group Window**

- a. Select *All Target Devices* from the drop-down menu to configure the power control settings on all target devices.

-or-

Select a particular unit group to configure from the drop-down menu. See *Managing Units Using Unit Groups* on page 367 for information on creating unit groups.

- b. Click *Next*.
5. The Select Target Devices window will appear. The Available Target Devices list will contain all target devices available in the unit group specified in the previous step.

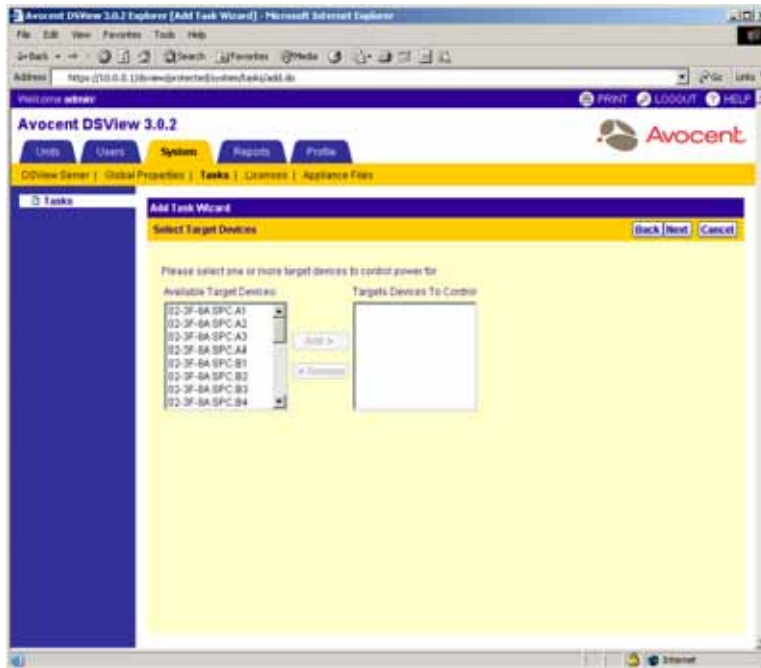


Figure 10.36: Add Task Wizard - Select Target Devices Window

- a. Select the specific target devices for which to configure power settings:
 - Select the target device you wish to add from the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** or **Shift** while clicking on the target device names.
 - Click *Add*. The target device(s) will be moved to the Target Devices to Control list.
- b. Click *Next*.
6. The Select Power Control Function window will appear.

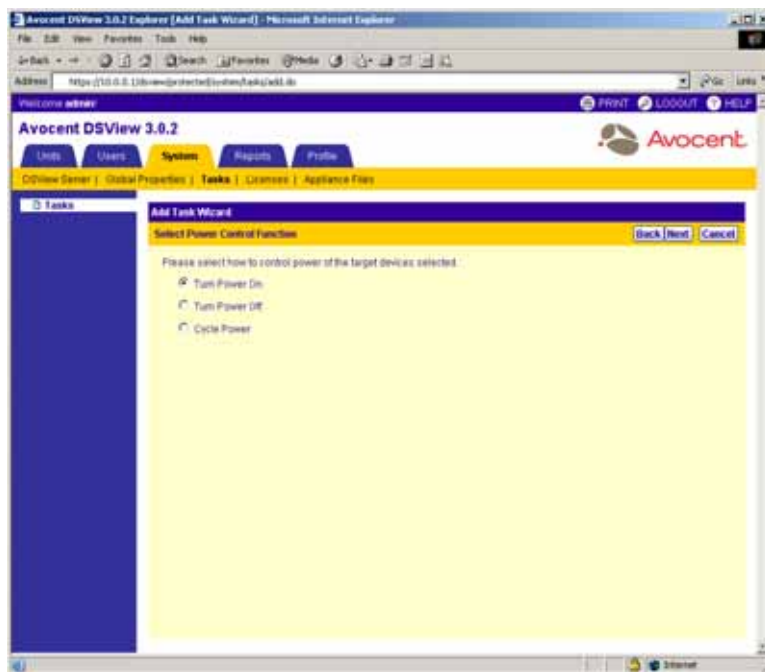


Figure 10.37: Add Task Wizard - Select Power Control Function Window

- a. Specify the power control function you wish to perform on the target devices:
 - Select *Turn Power On* to power up the specified target devices.
 - Select *Turn Power Off* to power down the specified target devices.
 - Select *Cycle Power* to power down and then power up the specified target devices.
 - b. Click *Next*.
7. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To export an auditlog .csv file:

NOTE: You may also save an audit log using the Export Audit Log tool. See *Using the Audit Log Tool* on page 501 for more information.

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
 - a. Select *Export audit log to a comma separated values (.CSV) file* from the drop-down menu.
 - b. Type a 1-64 character name for the task.

- c. Click *Next*.
 3. The Select When to Run the Task window will appear.
 - a. Select a time to run the task. See *Specifying when to run tasks* on page 438 for information on specifying when and how often to run a task.
 - b. Click *Next*.
 4. The Specify Export Audit Log Properties window will appear.

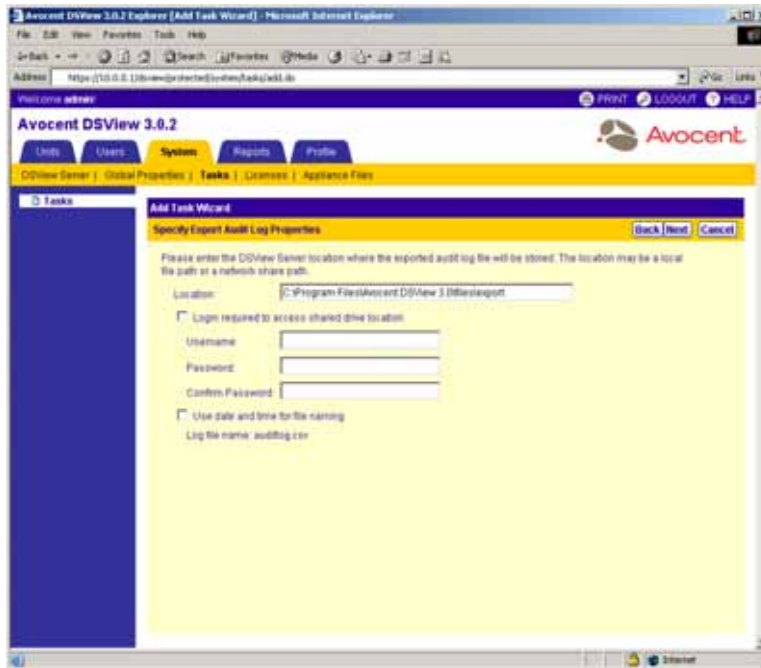


Figure 10.38: Add Task Wizard - Specify Export Audit Log Properties Window

- a. Type the directory in which to create the audit log, which may be a local drive on the DSView software server or at a location specified by a UNC path.

NOTE: The directory name must be entered in case-sensitive text if your operating system supports case-sensitive filenames.

- b. Click *Login required to access shared drive location* if the location specified is a network drive that requires a log in. Then, type the username and password and confirm the password of a user account that has read/write access to the network share location.

NOTE: The Location field cannot be set to a mapped network drive. It must be set to either a physical local drive or a shared network location specified as a UNC path.

- c. Click *Use date and time for file naming* to append the date and time (in military time) to the end of the audit log file. For example, if you are creating the audit log file on October 1, 2004 at 10:04 pm, the file created will be named `auditlog1001042204.csv`.

NOTE: If an audit log exists in the specified directory and you do not use this option, it will be overwritten when the new audit log is created.

- d. Click *Next*.
5. The Select Audit Log Columns to Export window will appear.

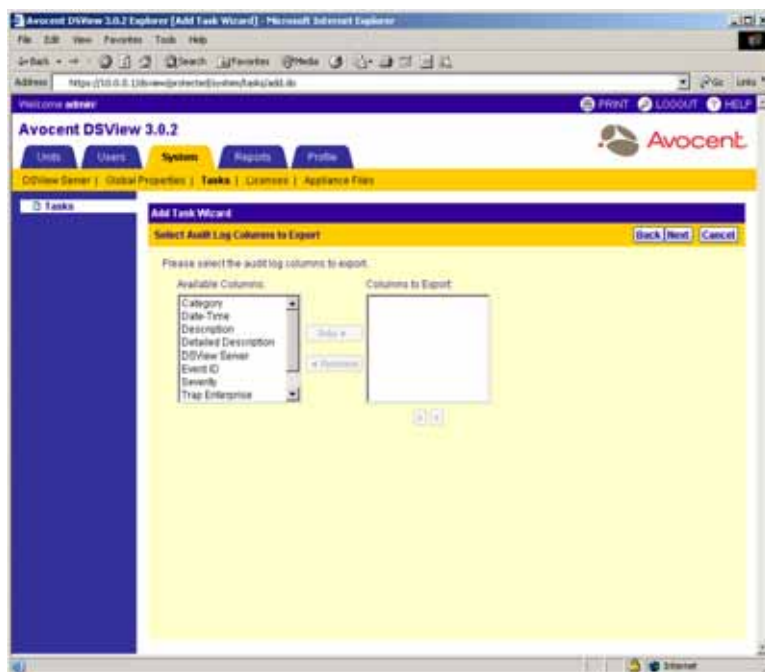


Figure 10.39: Add Tasks Window - Select Audit Log Columns to Export Window

- a. Add or remove the columns of information that you wish to export. See *Customizing the Audit Log window* on page 480 for more information on the types of information that may be exported.

To add a column of information:

- Select the column you wish to export from the Available Columns list. Multiple columns may be selected by pressing **Ctrl** or **Shift** while clicking on the column names.
- Click *Add*. The column(s) will be moved to the Columns to Export list.

To remove a column of information:

- Select the column you wish to remove from the Columns to Export list. Multiple columns may be selected by pressing **Ctrl** or **Shift** while clicking on the column names.
 - Click *Remove*. The column(s) will be moved to the Available Columns list.
 - b. To change the order in which exported columns are listed in the output .csv file, select the columns in the Columns to Export list and use the up and down arrows to move the selected columns up or down in the listing. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.
 - c. Click *Next*.
6. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To migrate DSView 2.x units to DSView management software compatible units:

NOTE: To use this task, you must first create a migration file of the DSView 2.x software database and then use the DSView 2.x Database Import tool to import unit information into your DSView software system. See *Importing DSView 2.x software databases* on page 410 for detailed information.

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
 - a. Select *Migrate DSView 2.X Units* from the drop-down menu.
 - b. Type a 1-64 character name for the task.
 - c. Click *Next*.
3. The Select When to Run the Task window will appear.
 - a. Select a time to run the task. See *Specifying when to run tasks* on page 438 for information on specifying when and how often to run a task.
 - b. Click *Next*.
4. The Select Unit Group window will appear.

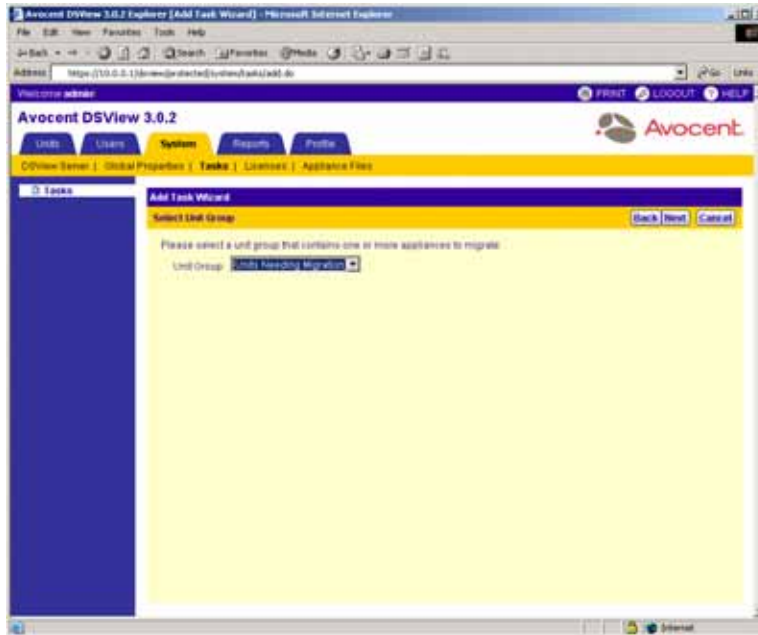


Figure 10.40: Add Task Wizard - Select Unit Group Window

- a. Select *Units Needing Migration* from the drop-down menu.
-or-
Select a particular unit group from the drop-down menu.
 - b. Click *Next*.
5. The Select Appliance Type window will appear.

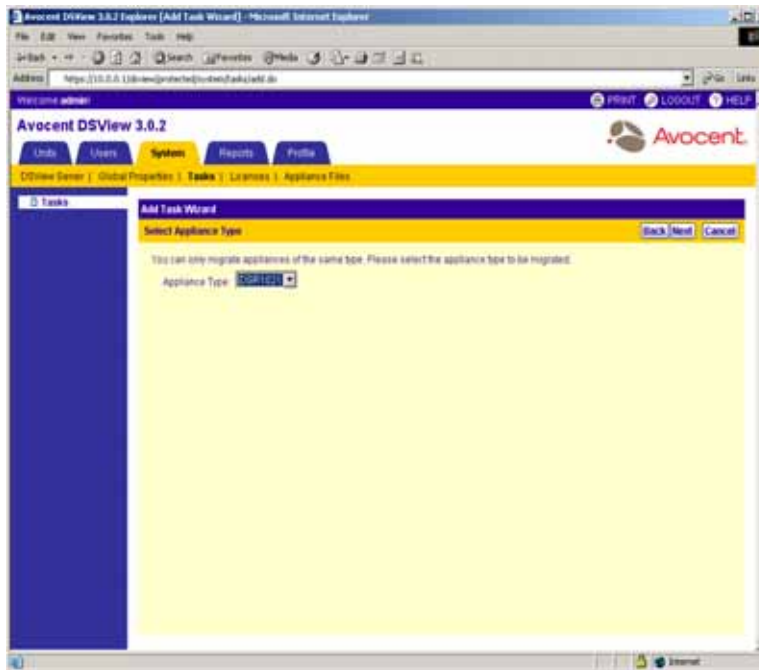


Figure 10.41: Add Task Wizard - Select Appliance Type Window

- a. Select the type of DS1800 digital switch, CPS appliance or DSR switch that you wish to migrate.

NOTE: You must create a separate task for each type of DS1800 digital switch, CPS appliance or DSR switch you wish to migrate. For example, if you wish to migrate DSR1021, DSR2010 and DSR2010 switches and CPS1610 appliances, you must create four Migrate DSView 2.X Units tasks.

- b. Click *Next*.
6. The Select Appliances window will appear. The Available Appliances list will contain only units with a status or Migration Needed that match the selected type found in the unit group specified in the previous step.

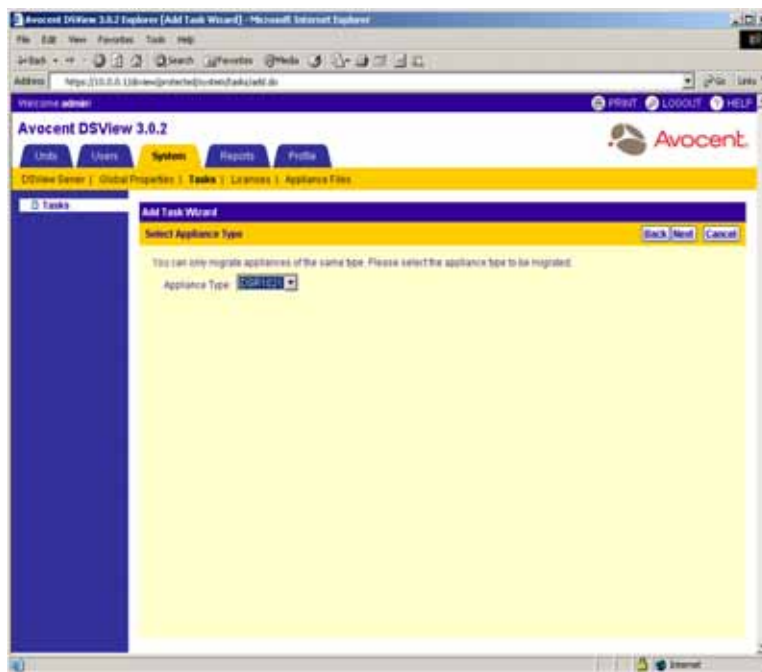


Figure 10.42: Add Task Wizard - Select Appliances Window

- a. Select the specific DS1800 digital switch, CPS appliance or DSR switch that you wish to migrate:
 - Select the DS1800 digital switch, CPS appliance or DSR switch you wish to add from the Available Appliances list. Multiple DS1800 digital switches, CPS appliances or DSR switches may be selected by pressing **Ctrl** while clicking on the DS1800 digital switch, CPS appliance or DSR switch names.
 - Click *Add*. The DS1800 digital switches, CPS appliances or DSR switches will be moved to the Appliances to Configure list.
 - b. Click *Next*.
7. The Select Options for Migration window will appear.

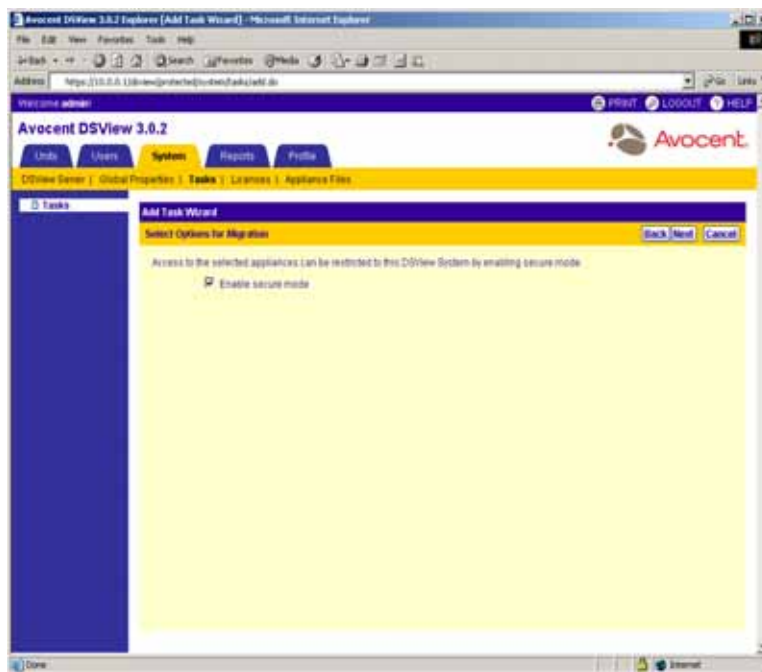


Figure 10.43: Add Task Wizard - Select Options for Migration Window

- a. Select *Enable secure mode* if you wish for all DS1800 digital switches, CPS appliances or DSR switches you are migrating to only be accessible by this DSView software system.
-or-
Uncheck *Enable secure mode* if you wish for all DS1800 digital switches, CPS appliances or DSR switches you are migrating to be accessible by any DSView software system.
 - b. Click *Next*.
8. The Select Firmware Files for Migration window will appear.

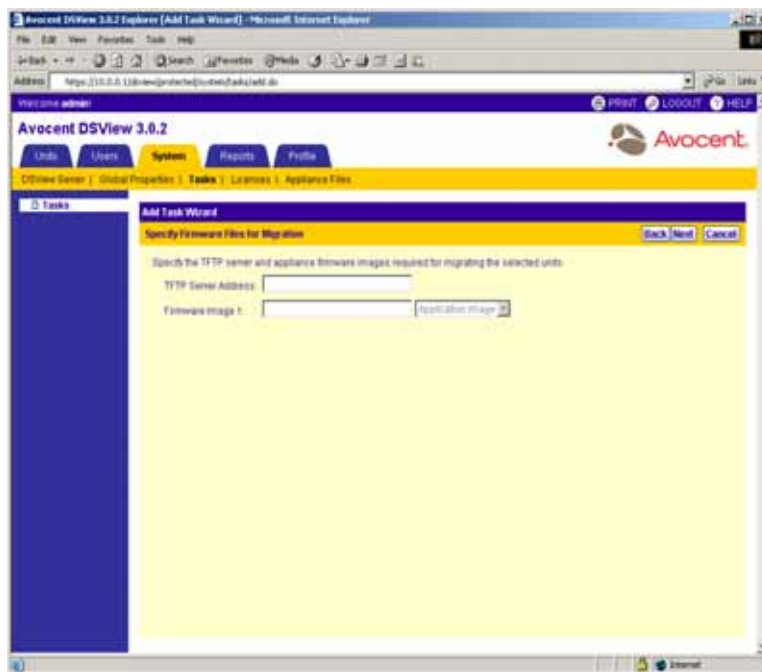


Figure 10.44: Add Task Wizard - Select Firmware Files for Migration Window

- a. Type the host name or the address of the TFTP server, in standard dot notation (xx.xx.xx.xx) containing the DS1800 digital switch, CPS appliance or DSR switch firmware files required for migration to DSView management software compatibility.
 - b. Type the name of each firmware image.
 - c. Click *Next*.
9. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

NOTE: You may view the current progress of the Migrate DSView 2.X Units task as it is running using the Task Results window. To display the Task Results window, click on the name of the task in the Tasks window.

10. Repeat steps 1-9 for each type of DS1800 digital switch, CPS appliance and DSR switch that you wish to migrate.

Units successfully migrated into your DSView software system will appear in Unit Views windows and the Migration Status field for these units will contain Migration Completed.

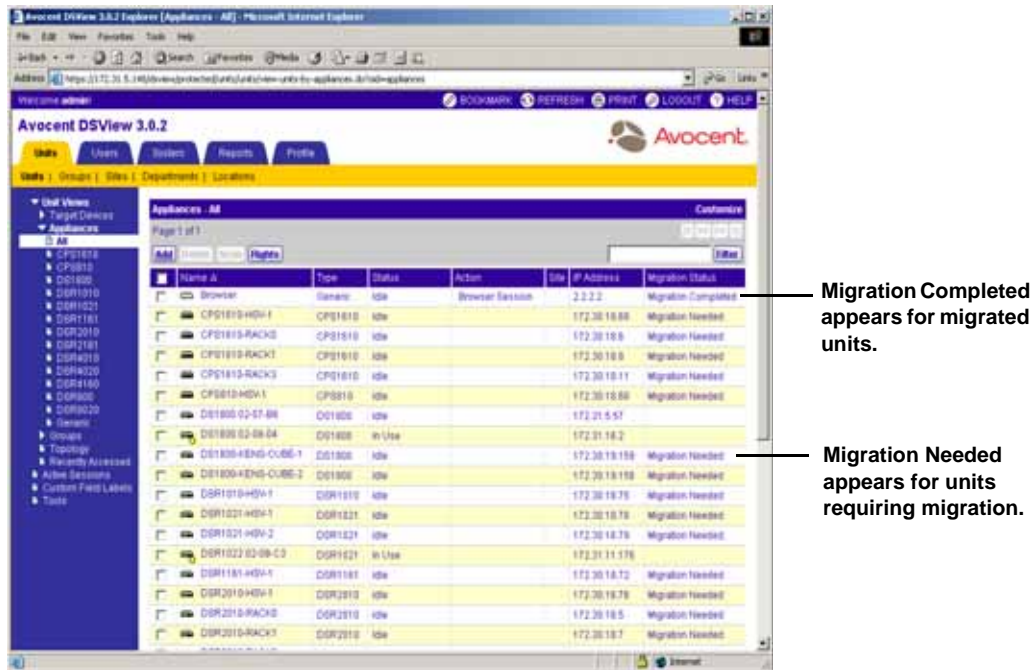


Figure 10.45: Migration Completed and Migration Needed

To send an IPMI chassis control command to target devices:

NOTE: You must have Control Target Device Power rights to send an IPMI chassis control command to IPMI 1.5 target devices. See *Modifying unit access rights* on page 182 for more information.

- From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
- The Select Task to Add window will appear.
 - Select *Send IPMI chassis control command to target devices* from the drop-down menu.
 - Type a 1-64 character name for the task.
 - Click *Next*.
- The Select When to Run the Task window will appear.
 - Select a time to run the task. See *Specifying when to run tasks* on page 438 for information on specifying when and how often to run a task.
 - Click *Next*.
- The Select Unit Group window will appear.

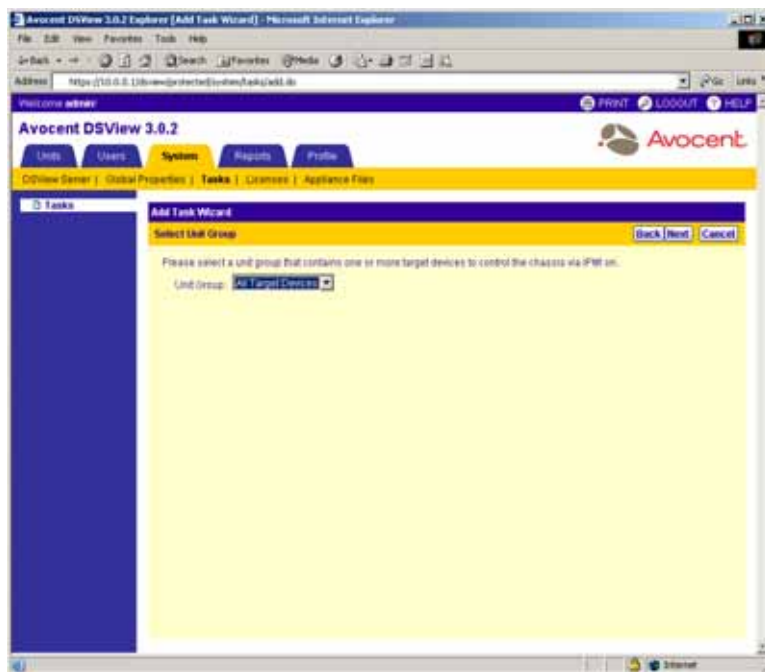


Figure 10.46: Add Task Wizard - Select Unit Group Window

- a. Select *All Target Devices* from the drop-down menu to configure the IPMI chassis control on all target devices.
-or-
Select a particular unit group to configure from the drop-down menu. See *Managing Units Using Unit Groups* on page 367 for information on creating unit groups.
 - b. Click *Next*.
5. The Select Target Devices window will appear. The Available Target Devices list will contain all IPMI 1.5 target devices available in the unit group specified in the previous step.

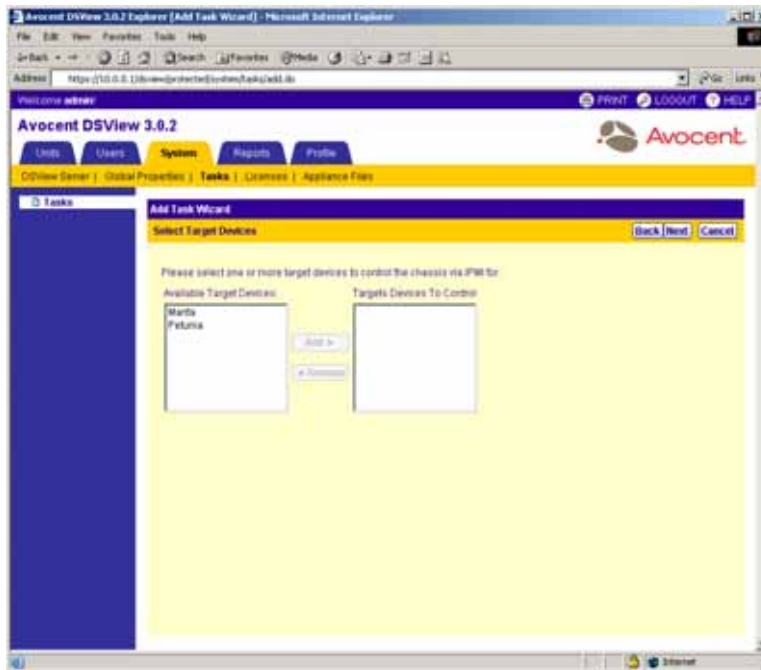


Figure 10.47: Add Task Wizard - Select Target Devices Window

- a. Select the specific IPMI 1.5 target devices to chassis control:
 - Select the IPMI 1.5 target device you wish to add from the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** or **Shift** while clicking on the target device names.
 - Click *Add*. The IPMI 1.5 target devices will be moved to the Target Devices to Control list.
 - b. Click *Next*.
6. The Select IPMI Control Function window will appear.

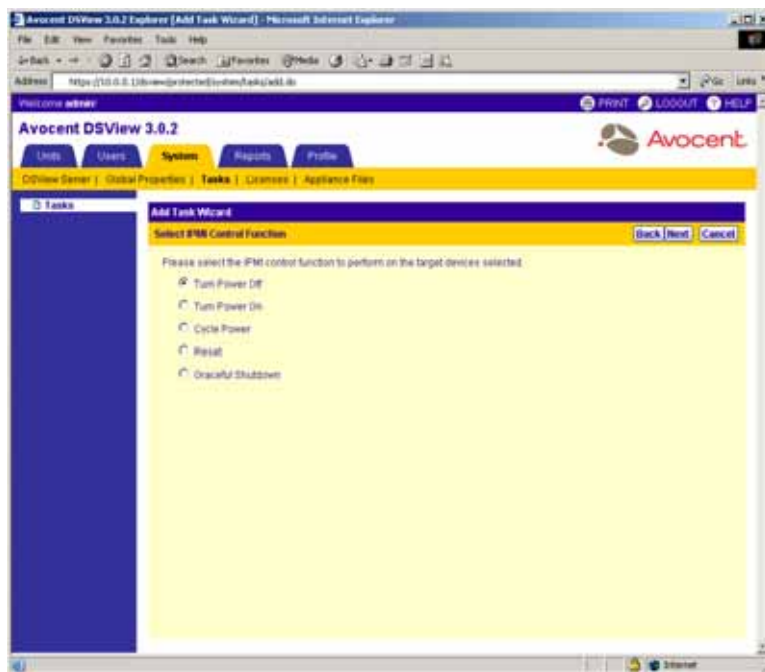


Figure 10.48: Add Task Wizard - Select IPMI Control Function Window

- a. Specify the power control function you wish to perform on the IPMI 1.5 target devices:
 - Select *Turn Power On* to power up the specified IPMI 1.5 target devices.
 - Select *Turn Power Off* to power down the specified IPMI 1.5 target devices.
 - Select *Cycle Power* to power down and then power up the specified IPMI 1.5 target devices.
 - Select *Reset* to perform a hard reset of the specified IPMI 1.5 target devices.
 - Select *Graceful Shutdown* to perform a graceful shutdown of the specified IPMI 1.5 target devices.

NOTE: The availability of the Cycle Power and Graceful Shutdown options is dependent on the BMC implementation. If one of these options is selected for a task but the BMC implementation does not support the option, the task will fail when run and be reported in the Task Results window.

- b. Click *Next*.
7. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To update the firmware of specific appliances of a specific type to DSView software compatibility:

NOTE: Firmware must be available before using this command. See *Firmware Management* on page 471 for more information.

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
 - a. Select *Update firmware of selected appliances of the same type* from the drop-down menu.
 - b. Type a 1-64 character name for the task.
 - c. Click *Next*.
3. The Select When to Run the Task window will appear.
 - a. Select a time to run the task. See *Specifying when to run tasks* on page 438 for information on specifying when and how often to run a task.
 - b. Click *Next*.
4. The Select Unit Group window will appear.

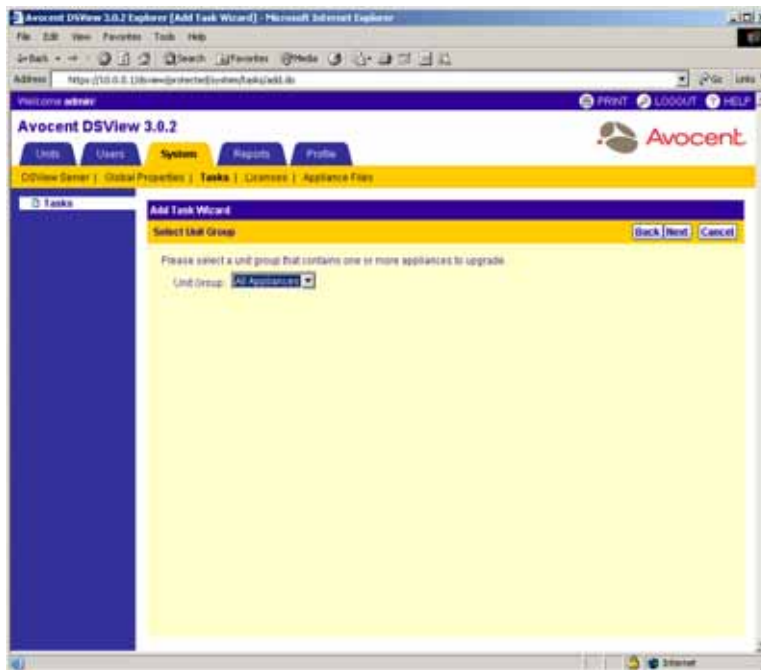


Figure 10.49: Add Task Wizard - Select Unit Group Window

- a. Select *All Appliances* from the drop-down menu to upgrade all units.
-or-
Select a particular unit group to upgrade from the drop-down menu. See *Managing Units Using Unit Groups* on page 367 for information on creating unit groups.
 - b. Click *Next*.
5. The Select Appliance Type window will appear.

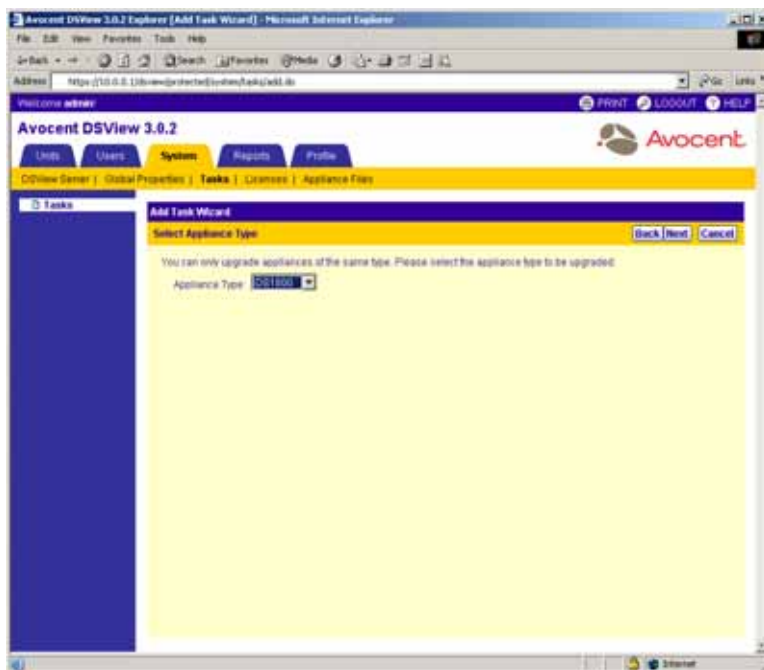


Figure 10.50: Add Task Wizard - Select Appliance Type Window

- a. Select the type of DS1800 digital switch, DSI5100 or CPS appliance or DSR switch that you wish to upgrade.
 - b. Click *Next*.
6. The Select Appliances list will contain all DS1800 digital switches, DSI5100 and CPS appliances and DSR switches available in the unit group specified in the previous step.

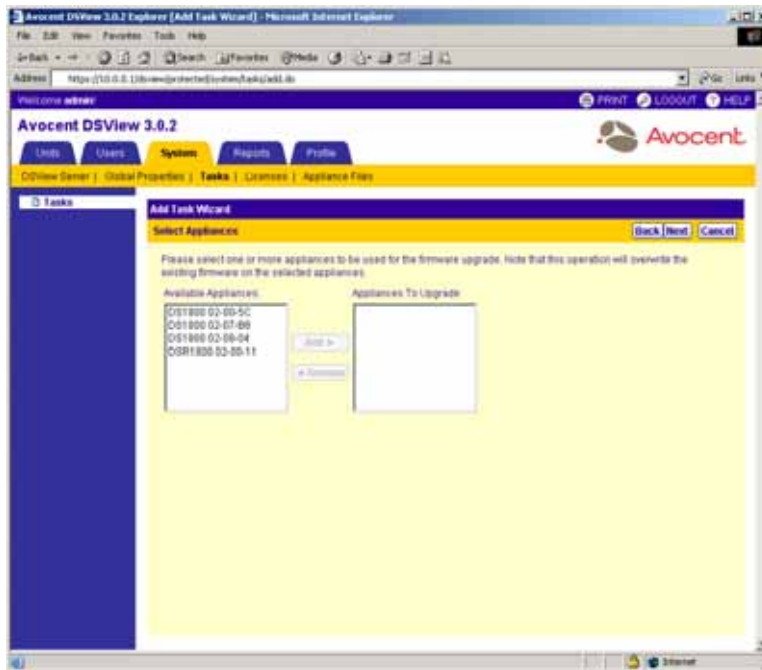


Figure 10.51: Add Task Wizard - Select Appliances Window

- a. Select the specific DS1800 digital switches, DSI5100 or CPS appliances or DSR switches that you wish to upgrade:
 - Select the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch you wish to add from the Available Appliances list. Multiple DS1800 digital switches, DSR switches or CPS appliances may be selected by pressing **Ctrl** or **Shift** while clicking on the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch names.
 - Click *Add*. The unit(s) will be moved to the Appliances to Configure list.
 - b. Click *Next*.
7. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To validate DSView software user accounts on an external authentication server:

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
 - a. Select *Validate external authentication server user accounts* from the drop-down menu.
 - b. Type a 1-64 character name for the task.
 - c. Click *Next*.

3. The Select When to Run the Task window will appear.
 - a. Select a time to run the task. See *Specifying when to run tasks* on page 438 for information on specifying when and how often to run a task.
 - b. Click *Next*.
4. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

Running tasks manually

Although tasks are scheduled to run at particular times using the Add Task Wizard, you may run an existing task at any time you wish.

To manually run tasks:

1. From the Tasks window, click the checkbox to the left of the task(s) you wish to run.
-or-
Click the checkbox to the left of Name column at the top of the list to select all tasks listed in the window.

NOTE: Remote tasks, which are scheduled on another DSView software Server, may not be run from the DSView software server to which you are logged in. To run a remote task, you must log in to the DSView software server on which the task was created.

2. Click *Run Now*. The icon to the left of the task name will change to the running icon and the status of the task will change to Running.

Viewing task results

The Task Results window displays the status of the most current run of tasks, including successful and unsuccessful runs and information on each run.

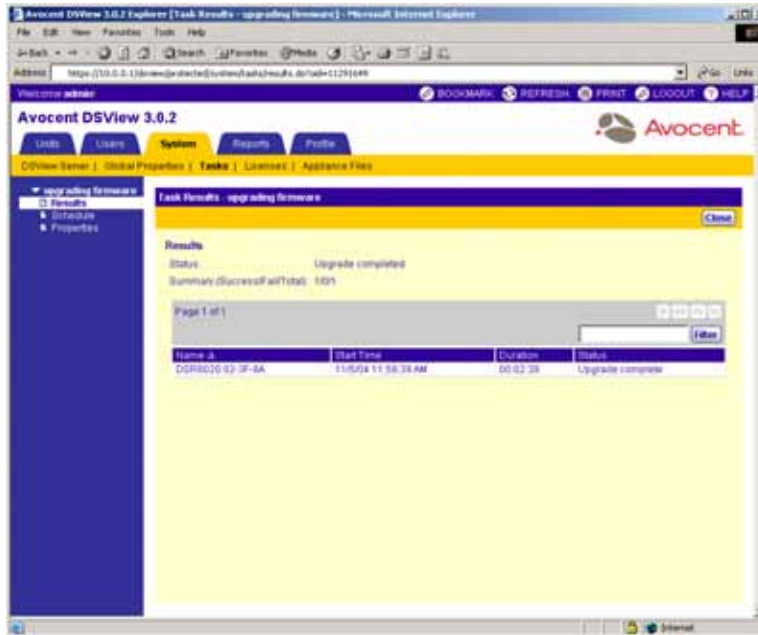


Figure 10.52: Task Results Window

The following fields display in the Task Results window for the Configure SNMP trap settings on appliance, Control power of target devices, Migrate DSView 2.X Units, Send IPMI chassis control command to target devices and Upgrade firmware of selected appliances of the same type commands:

- Name - Displays the names of the DS1800 digital switch, DS15100 or CPS appliance, DSR switch or IPMI 1.5 target device on which the task is running or has been run
- Start Time - Displays the exact time at which each task run occurred
- Duration - Displays the date and time of the task run
- Status - Displays the result of the task run

To view the results of a task:

From the Tasks window, click the name of the task for which you wish to view the results. *Results* will automatically be selected in the side navigation bar and the Task Results window will display, containing information about the task run. The side navigation bar will include the name of the task that you are viewing.

Deleting tasks

To delete a task:

1. From the Tasks window, click the checkbox to the left of the task(s) you wish to delete.

-or-

Click the checkbox to the left of Name column at the top of the list to select all tasks listed in the window for deletion.

NOTE: Remote tasks, which are scheduled on another DSView software server, may not be deleted from the DSView software server to which you are logged in. To delete a remote task, you must log in to the DSView software server on which the task was created.

2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the task(s)

-or-

Click *Cancel* to cancel the action.

Modifying tasks

NOTE: Remote tasks, which are scheduled on another DSView software server, may not be modified from the DSView software server to which you are logged in. To modify a remote task, you must log in to the DSView software server on which the task was created.

You may modify the following for existing tasks:

- **Schedule** - When and how often to run the task and frequency that the task is scheduled to run.
- **Properties** - The task-specific information required to run the task. All properties available for editing will appear in a single window.

NOTE: The Validate external authentication server user accounts task does not contain properties.

To modify a task schedule:

1. From the Tasks window, click the name of the task you wish to modify. The side navigation bar will include the name of the task that you are modifying.
2. From the side navigation bar, click *Schedule*. The Task Schedule window will appear.

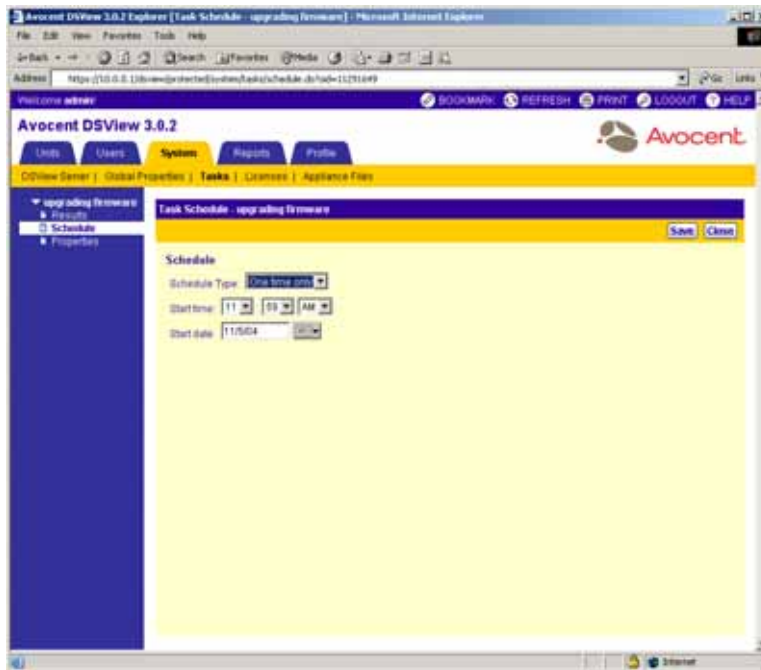


Figure 10.53: Task Schedule Window

- a. Select the type of task you wish to schedule and complete the information. See *Specifying when to run tasks* on page 438 for information on scheduling each type of task.

To modify the properties of a task:

1. From the Tasks window, click the name of the task you wish to modify. The side navigation bar will include the name of the task that you are modifying.
2. From the side navigation bar, click *Properties*. A Task Properties window will appear.
3. Modify the properties of the task. See the operating sequence for the task type in *Adding tasks using the Add Task Wizard* on page 444 for information on modifying the task.

Firmware Management

The FLASH firmware files for DS1800 digital switches, DSI5100 and CPS appliances and DSR switches may be added, viewed and deleted using the Appliance Firmware Files window. Once a FLASH firmware file(s) has been added, you may use the file(s) to upgrade the DS1800 digital switch, DSI5100 or CPS appliance or DSR switch.

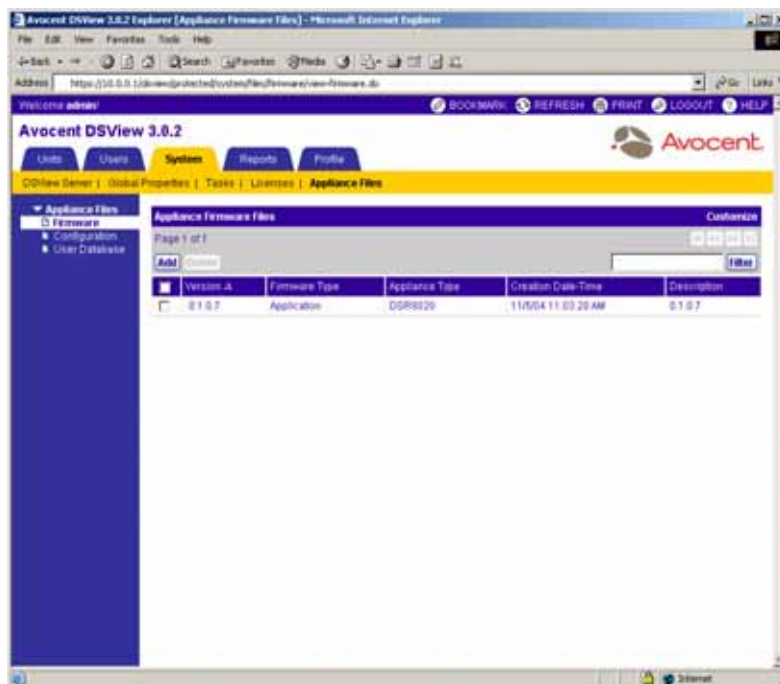


Figure 10.54: Appliance Firmware Files Window

To display the Appliance Firmware Files Window:

1. From the DSView 3.0.2 Explorer, click the *System* tab.
2. From the top navigation bar, click *Appliance Files*. *Appliance Files - Firmware* is automatically selected in the side navigation bar and the Appliance Firmware Files window will appear.

Customizing the Appliance Firmware Files window

By default, the following field displays in the Appliance Firmware Files window:

- **Version** - Displays the version of the firmware
- **Firmware Type** - Displays the type of firmware (Boot or Application)
- **Appliance Type** - Displays the family of DS1800 digital switch, DSI5100 switch or CPS appliance or DSR switch the firmware supports
- **Creation Date-Time** - Displays the time the firmware was created
- **Description** - Displays the description provided when the firmware was added to the DSView software system

The following fields may be displayed in the Appliance Firmware Files window by clicking the *Customize* link:

- Language - Displays the language of the firmware.
- Country - Displays the country of the firmware.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

Adding firmware

To add a firmware file:

1. From the Appliance Firmware Files window, click *Add*. The Welcome page of the Add Firmware File Wizard window will appear. Click *Next*.
2. The Select Firmware File to Import window will appear.

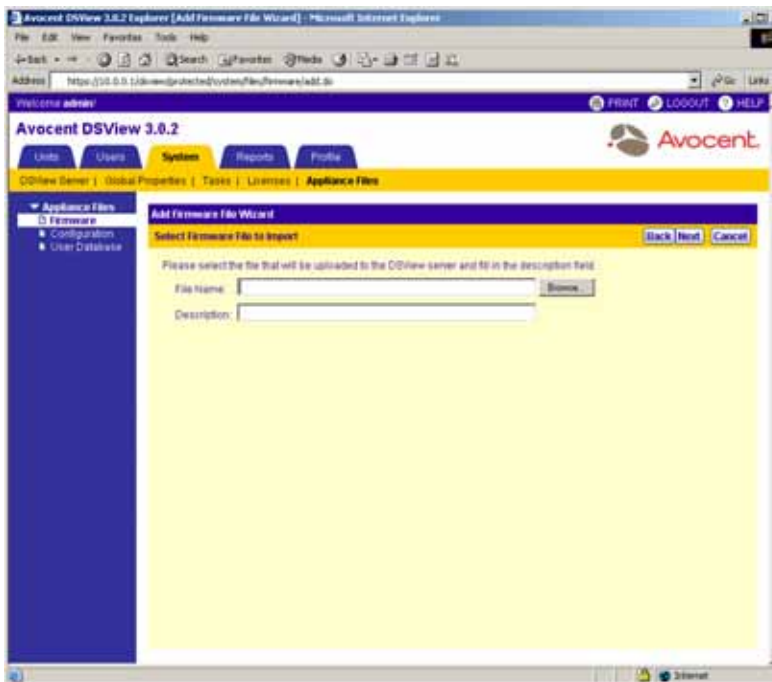


Figure 10.55: Add Firmware File Wizard- Select Firmware File to Import Window

3. Enter the directory and filename of the firmware file you want to add to the DSView management software appliance files repository. Alternately, you may browse for the file by clicking the *Browse* button.
4. Type a description of the firmware file in the Description field.
5. Click *Next*. The firmware is added and the Completed Successful window appears.

6. Click *Finish*. The Appliance Firmware Files window will appear including the added firmware file.

NOTE: Once the file is uploaded, it is no longer needed on the DSView software client from which it was uploaded.

Displaying or modifying firmware information

You may display information about firmware available for upgrading DS1800 digital switches, DSI5100 and CPS appliances and DSR switches. The information will appear in the Appliance Firmware File Properties window and includes the following:

- The firmware version
- The type of appliance to which the firmware may be installed
- The creation date of the firmware
- The country and language of the firmware

You may modify the description of the firmware file.

The information in the Firmware File Properties window facilitates system troubleshooting and support. For optimum performance, keep your firmware current.

To display firmware information:

1. From the Appliance Firmware Files window, click on the version of a firmware file. The Firmware File Properties window will appear.

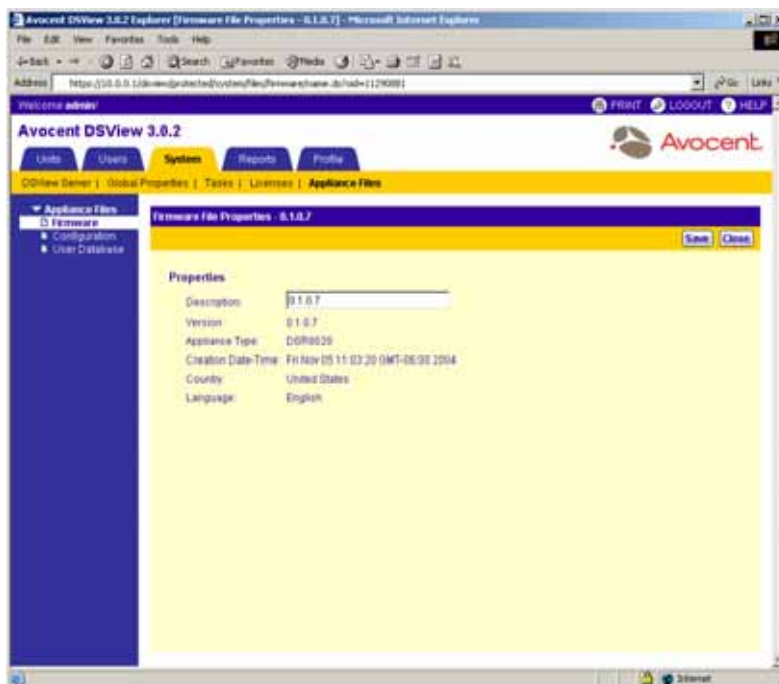


Figure 10.56: Firmware File Properties Window

2. If you wish, you may change the description of the firmware file in the Description field.
3. Click *Save*.
4. Click *Close*. The Appliance Firmware - All window will appear and contain the firmware information if you saved the changes.

Deleting firmware

FLASH firmware may be deleted from the DSView management software file repository.

To delete firmware:

1. From the Appliance Firmware Files window, select the checkbox(es) of any firmware you wish to delete.
2. Click the *Delete* button. A confirmation dialog box will appear.
3. Click *Yes* to delete the firmware files.

-or-

Click *No* to cancel the action.

Working with Audit Logs

About Audit Logs

Whenever an event occurs in the DSView software system, the event is saved in the audit log. Examples of events that may be logged include changes in the state of a managed appliance (DS1800 digital switch, DSR switch, DSI5100 IPMI proxy appliance, CPS serial over IP network appliance, EVR1500 environmental monitor or generic appliance), an unsuccessful login to the DSView management software, the completion of run tasks and logouts.

The types of audit log entries are predefined in the DSView management software. See *DSView management software events* on page 481 for a complete description of audit log events.

To view audit log entries, click *Reports* in the tab bar. *Audit Log* is automatically selected in the top navigation bar, *Audit Log Views - All* is automatically selected in the side navigation bar and the Audit Log-All window will appear. The Audit Log - All window contains a listing of all audit log events that have occurred on the DSView software system.

Non-recoverable, critical or non-critical events may be viewed by DSView software users who are members of the administrators or auditors user group by clicking one of the icons which appears in the top navigation bar of the DSView 3.0.2 Explorer window. The number of the specific type of event appears to the right of the icon.

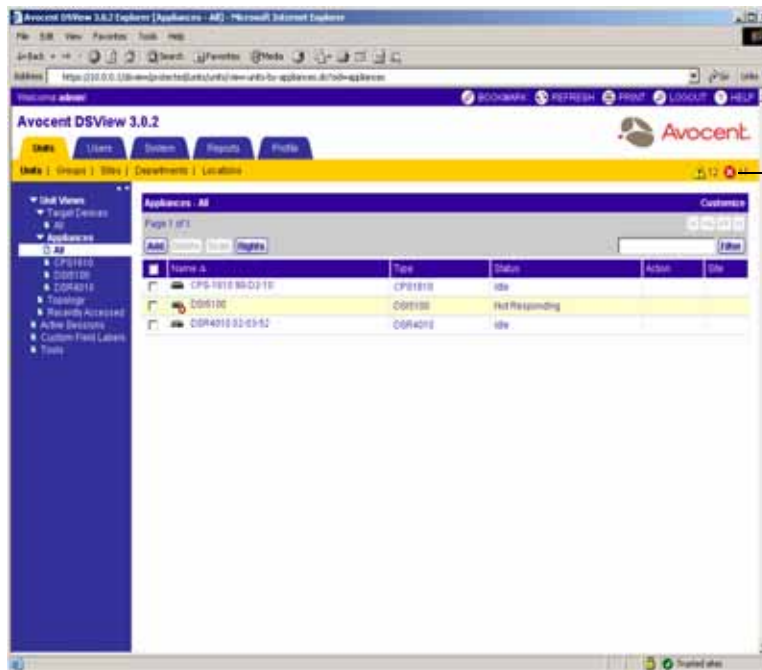


Figure 11.1: Example DSView 3.0.2 Explorer Window with Audit Log Icons

Audit log data may be exported from the DSView management software into a comma separated value (.csv) file. The .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.

DSView software users may specify how long audit information is retained in the DSView software database by using the Audit Log Retention Time window.

NOTE: Audit log information is stored in the DSView software database and is replicated. Increasing the audit log retention time may impact the performance of your DSView software system. It is recommended that old audit log entries be archived to .csv files by scheduling tasks. See *Managing Tasks* on page 433 for more information.

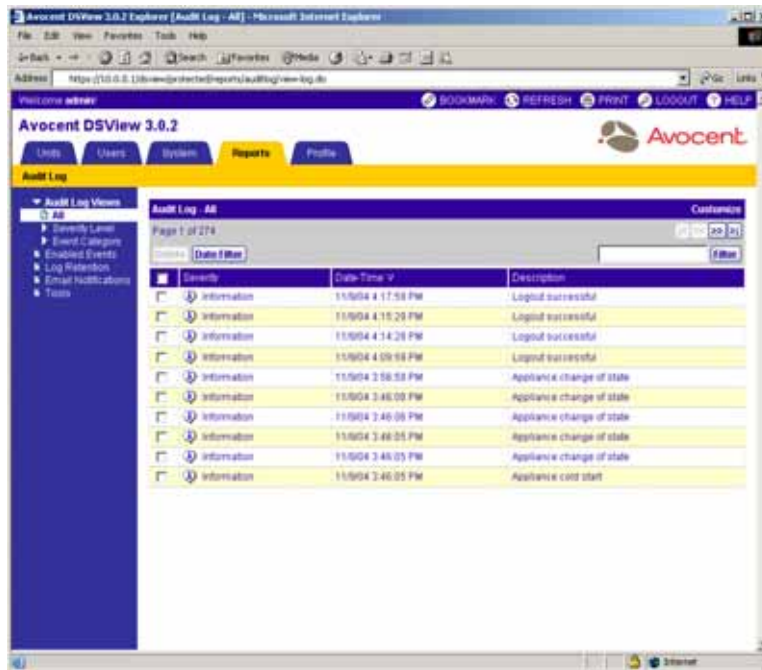


Figure 11.2: Audit Log - All Window

Clicking on the following links beneath Audit Log Views in the side navigation bar will expand the link and display additional sub links:

- **Severity Level** - Displays links that may be clicked to view audit log entries of a particular severity level (Monitor, Information, OK, Non-Critical, Critical or Non-Recoverable).
- **Event Category** - Displays links that may be clicked to view audit log entries in a particular event category (System, Authentication, Users, Units, Tasks, Unit Status, Access Control or Sessions).

Clicking on a link beneath Severity Level or Event Category in the side navigation bar will display a window containing a listing of all audit log events in the DSView software system that belong to that particular type.

Additional commands are available in the side navigation bar to disable currently enabled events, specify how long the audit log should be retained, specify who should be notified by email when an audit log event occurs and to export the audit log to a .csv file.







Detailed information about an audit log event may be viewed by clicking on its name in the Severity column.

Customizing the Audit Log window

The following columns are always displayed in the Audit Log window:

- **Severity** - Displays information about an audit log entry. Clicking on an audit log entry in this column will display the Audit Log Event Information window, which contains detailed information about the entry. An icon will also appear to the left of the item name. Table 11.1 lists the icons that will appear for various severity levels.

Table 11.1: Audit Log Severity Icons

Icon	Description
	Monitor event
	Information event
	OK event
	Non-critical event
	Critical event
	Non-recoverable event

- **Date/Time** - Displays the date and time of an audit event in the client computer's time zone.

By default, the following column displays in an Audit Log window and may be removed by clicking the *Customize* link:

- **Description** - Displays a short description of an audit event. See *DSView management software events* on page 481 for a list of events.

By default, the following columns do not display in the Audit Log window and may be added by clicking the *Customize* link:

- **Category** - Displays the category of an audit log entry.

Available categories include:

- Appliance
- System
- Authentication
- Users
- Units

- Tasks
- Unit Status
- Access Control
- Sessions
- Target Device
- Detailed Description - Displays detailed information about an audit event. Detailed descriptions may include items such as the name of a target device, DSView software server, DSView software user and so on. For example, an MIB-II interface link up trap would contain *Appliance change of state* in the Description column, while the Detailed Description column would contain *Generic link up interface 1*.
- DSView Server - Displays the name of the DSView software server where the event was logged.
- Event ID - Displays a unique identifier for an audit event. The Event ID column is useful for filtering and sorting displays based on a specific event type.
- Trap Enterprise - Displays the enterprise object identifier for a received SNMP trap. See *Modifying DS1800 digital switch, CPS appliance or DSR switch SNMP settings* on page 190 for more information.
- Unit - Displays the name of a managed appliance for an audit event.
- User - Displays the DSView software user associated with an event. For example, this column shows the name of the DSView software user who deleted a unit when a Unit Deleted event is detected.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the Customize link.

DSView management software events

Table 11.2 through Table 11.10 lists the events that may occur within a DSView software system.

Table 11.2: DSView Management Software Appliance Events

Appliance Events			
Event ID	Description	Event ID	Description
1:0	An unrecognized event was received	1:11	Appliance upgrade result
1:1	Appliance cold start	1:12	Appliance authentication failure
1:2	Appliance warm start	1:13	Appliance diagnostic information
1:3	Appliance viewer session started	1:14	Appliance user logged in

Table 11.2: DSView Management Software Appliance Events (Continued)

Event ID	Description	Event ID	Description
1:4	Appliance viewer session stopped	1:15	Appliance user logged out
1:5	Appliance viewer session terminated	1:16	Appliance alert from attached server
1:6	Appliance component added	1:17	Appliance configuration changed
1:7	Appliance component is removed	1:18	Appliance command issued
1:8	Appliance component is restarted	1:19	Appliance incorrect state detected
1:9	Appliance change of state	1:20	Appliance threshold exceeded
1:10	Appliance upgrade started		

Table 11.3: DSView Management Software System Events

System Events			
Event ID	Description	Event ID	Description
2:1	DSView software server <server name> started successfully	2:66	DSView software server added
2:2	DSView software server <server name> started with errors	2:80	Too many SNMP traps are being received
2:3	The <server name> service failed to start	2:81	Too many SNMP traps were received
2:4	DSView software server <server name> stopped	2:96	Backup server <server name> successfully registered
2:16	Too many audit events are being received	2:97	Backup server <server name> registration failed
2:17	Too many audit events were received	2:98	DSView software server <server name> is now configured as a primary server
2:32	System disabled due to a license violation (duplicate key)	2:99	DSView software server <server name> failed to become a primary server

Table 11.3: DSView Management Software System Events (Continued)

Event ID	Description	Event ID	Description
2:33	A license violation was detected (duplicate key)	2:100	Server <server name> failed to register with the new primary
2:34	A client license violation was detected (first warning)	2:112	Due to naming conflicts <device names> were renamed
2:35	A client license violation was detected (second warning)	2:115	A database snapshot of the hub was required
2:36	A client license violation was detected (third warning)	2:128	Database backup successful
2:37	A client license violation was detected (final)	2:129	Database backup failed, {0}
2:48	SSL server certificate updated	2:130	Database restore successful
2:64	DSView software server configuration was updated	2:131	Database restore failed
2:65	DSView software server deleted		

Table 11.4: DSView Management Software Authentication Events

Authentication Events			
Event ID	Description	Event ID	Description
3:1	Authentication successful	3:6	An authentication server was added
3:2	Logout successful	3:7	An authentication server was modified
3:3	Authentication failure	3:8	An authentication server was deleted
3:4	External AuthServer authentication failed	3:16	An LDAP search returned a bad continuation reference
3:5	Server authentication failure		

Table 11.5: DSView Management Software User and User Group Events

User and User Group Events			
Event ID	Description	Event ID	Description
4:1	User account locked	4:5	User account deleted
4:2	User account unlocked	4:6	User group added
4:3	User account added	4:7	User group modified
4:4	User account modified	4:8	User group deleted

Table 11.6: DSView Management Software Unit Events

Unit Events			
Event ID	Description	Event ID	Description
5:1	Unit group added	5:19	Unit custom fields modified
5:2	Unit group deleted	5:20	Target devices merged
5:3	Unit group modified	5:21	Appliance configuration file added
5:4	Site added	5:22	Appliance configuration file modified
5:5	Site modified	5:23	Appliance configuration file deleted
5:6	Site deleted	5:24	User database file added
5:7	Location added	5:25	User database file modified
5:8	Location modified	5:26	User database file deleted
5:9	Location deleted	5:28	Power on command issued
5:10	Department added	5:29	Power off command issued
5:11	Department modified	5:30	Power cycle command issued for <device>
5:12	Department deleted	5:31	Unit <unit name> rebooted
5:13	Firmware file added	5:32	Unit reset
5:14	Firmware file modified	5:33	Unit identity light turned on

Table 11.6: DSView Management Software Unit Events (Continued)

Event ID	Description	Event ID	Description
5:15	Firmware file deleted	5:34	Unit gracefully powered off
5:16	Unit added	5:35	System event log (SEL) cleared
5:17	Unit modified	5:36	Unit identity light turned off
5:18	Unit deleted		

Table 11.7: DSView Management Software Task Events

Task Events			
Event ID	Description	Event ID	Description
6:1	Task started	6:6	Task added
6:2	Task completed successfully	6:7	Task modified
6:3	Task started manually	6:8	Task deleted
6:4	Scheduled task failed	6:9	Task failed
6:5	Scheduled task failed		

Table 11.8: DSView Management Software Unit Status Events

Task Events			
Event ID	Description	Event ID	Description
7:1	Loss of communication (LCM)	7:2	Regained communication (RCM)

Table 11.9: DSView Management Software Access Control Events

Task Events			
Event ID	Description	Event ID	Description
8:1	Access rights modified		

Table 11.10: DSView Management Software Session Events

Session Events			
Event ID	Description	Event ID	Description
9:1	Session started	9:11	Global modified
9:2	Session stopped	9:12	Global macro deleted
9:3	Session terminated	9:20	Global macro group added
9:4	Session preempted	9:21	Global macro group modified
9:10	Global macro group added	9:22	Global macro group deleted

Viewing Audit Logs

NOTE: The 5000 most recent audit log events may be viewed in one of the Audit Log windows using the side navigation bar links. To use the side navigation bar links to view older events in Audit Log windows, you must use the date filter. See *Using the Date Filter* on page 489 for more information.

To view a specific type of audit log entry using the side navigation bar:

From the side navigation bar under Audit Log Views, click *All* to view a list of all available audit logs in the DSView management software. The Audit Log - All window will appear.

-or-

Click *Severity Level* to display a list of audit log entries that match a given severity level and then click on one of the following:

- *Monitor* - Displays the Audit Log - Monitor Events window, which displays events that are periodic and expected.

- *Information* - Displays the Audit Log - Information Events window, which displays events that are neither periodic nor problematic.
- *OK* - Displays the Audit Log - OK Level Events window, which displays events that are in a normal or cleared state. This value typically appears at event start up or after leaving a previous event state.
- *Non-Critical* - Displays the Audit Log - Non-Critical Events window, which displays abnormal events that require correcting at a later time.
- *Critical* - Displays the Audit Log - Critical Events window, which displays abnormal events of a more serious nature that may require quicker action, such as the failure of a scheduled task or loss of communication.
- *Non-Recoverable* - Displays the Audit Log - Non-Recoverable Events window, which displays severe abnormal events impacting your DSView management software session and requires immediate corrective action.

-or-

Click *Event Category* to display a list of audit logs belonging to a specific category in the side navigation bar and then click on one of the following:




- *Appliance* - Displays the Audit Log - Appliance Events window, which displays events related to managed appliances.
- *System* - Displays the Audit Log - System Events window, which displays events related to the DSView management software host server, global settings, licenses, tasks or firmware.
- *Authentication* - Displays the Audit Log - Authentication Events window, which displays events related to DSView software user login and authentication.
- *Users* - Displays the Audit Log - User Events window, which displays events relating to DSView software users.
- *Units* - Displays the Audit Log - Unit Events window, which displays events related to units (managed appliances and target devices), unit groups, sites, departments or locations.
- *Tasks* - Displays the Audit Log - Task Events window, which displays events related to the starting or stopping of an audit event.
- *Unit Status* - Displays the Audit Log - Unit Status Events window, which displays events related to the loss of or regaining of communication with a managed appliance.
- *Access Control* - Displays the Audit Log - Access Control Events window, which displays events related to a DSView software user's privileges for working with specific managed appliances.
- *Sessions* - Displays the Audit Log - Session Events window, which displays events related to serial and KVM (Video Viewer) sessions.

See *DSView management software events* on page 481 for a list of all possible audit log descriptions.

To view non-recoverable, critical or non-critical audit log entries using the top navigation bar (administrator and auditor user groups only):

Click one of the icons in table Table 11.11 to view the specific type of event.

Table 11.11: Top Navigation Bar Audit Log Icons (Administrator and Auditors User Groups)

Icon	Description
	This icon indicates non-recoverable events. Clicking it displays the Audit Log - Non-Recoverable Events window.
	This icon indicates critical events. Clicking it displays the Audit Log - Critical Events window.
	This icon indicates non-critical events. Clicking it displays the Audit Log - Non-Critical Events window.

Using the Date Filter

When viewing audit log entries, an additional filter is available that allows you to view either all events of a particular type or a series of events between two specific periods.

The audit log retains all events occurring in the DSView software system for the specified retention time. The 5000 most recent events may be displayed using the side navigation bar links beneath the Audit Log Views heading in an unfiltered Audit Log window. To use the side navigation bar links to view older events in an Audit Log window, you may specify a range for when the events you wish to view occurred. The older events will then appear in Audit Log windows when you select the side navigation bar links.

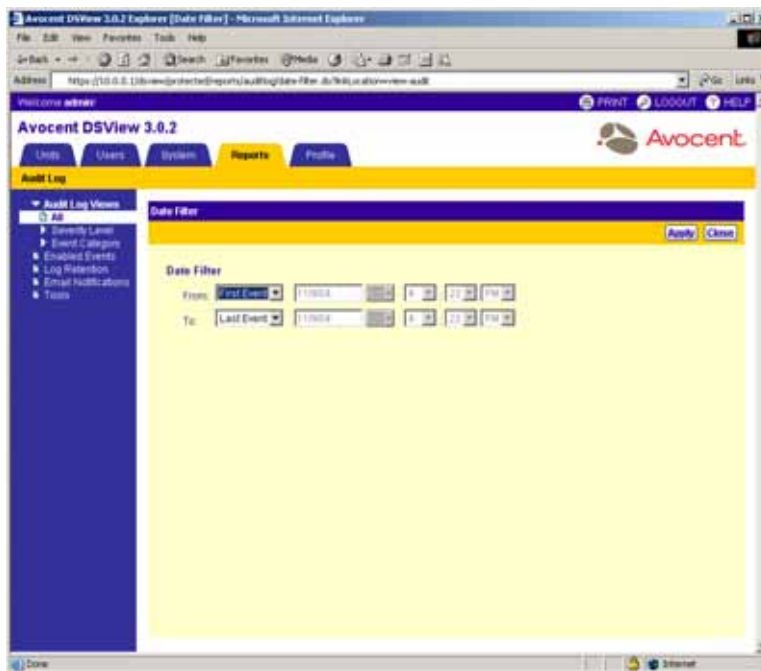


Figure 11.3: Date Filter Window

To view all events of a particular type:

1. From an Audit Log window, click *Date Filter*. The Date Filter window will appear.
2. In the first drop-down menu in the From line, select *First Event*.
3. In the first drop-down menu in the To line, select *Last Event*.
4. Click *Apply*. The previous audit log view window will appear including all events.

To view audit log entries between two specific periods using the date filter:

1. From an Audit Log window, click *Date Filter*. The Date Filter window will appear.
2. In the first drop-down menu in the From line, select *Events On* to pick the start date and time for audit log events you wish to view.
3. Click on the calendar button or the field to the left of the calendar button and select a start date. To use the calendar:
 - a. Click on the year and select a year from the drop-down menu that will appear.
 - b. Click on the month name and select a month from the drop-down menu that will appear.
 - or-
 - Use the arrows at the top of the calendar to move forward and backward by month.
 - c. Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.
4. Select an hour, minute and which half of the day for the start date.
5. In the first drop-down menu in the To line, select *Events On* to pick the end date and time for audit log events you wish to view.
6. Repeat steps 3 and 4 to specify the end date period.
7. Click *Apply*. The previous audit log view window will appear with the event range specified in the Filter Date window. The Clear Date Filter button will appear in the audit log view window. Clicking the button will display all events available for the event type and the button will no longer be available in the window.

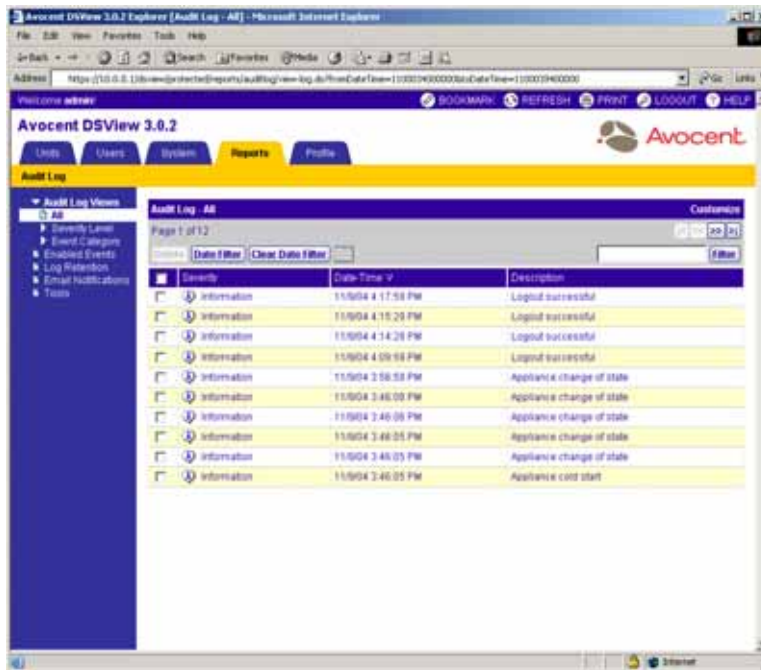


Figure 11.4: Audit Log - All Window with Clear Date Filter Button

Viewing the Details of Audit Log Events

You may view all logged information about a specific audit log event.

To view the details of an event in the audit log:

1. From an Audit Log window, click on the link in the Severity column for which you wish to view details. The Audit Log Event Information window will appear and contain information about the audit log entry.

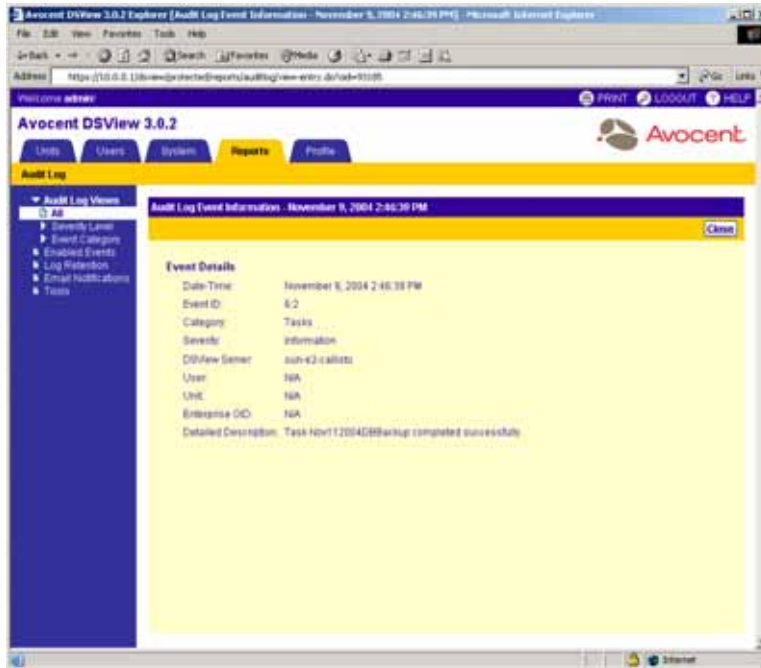


Figure 11.5: Audit Log Event Information Window

NOTE: Trap Enterprise in the Audit Log-All window is named Enterprise OID in the Audit Log Event Information window.

2. Click *Close*. The Audit Log window will appear.

Deleting Audit Log Events

To delete an event from the audit log:

1. From an Audit Log window, click the checkbox to the left of the event(s) you wish to delete.
-or-
Click the checkbox to the left of Severity at the top of the list to select all events listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the event(s).
-or-
Click *Cancel* to cancel the action.

Enabling and Disabling Audit Log Events

Events occurring on your DSView software system may be disabled using the Enabled Audit Log Events window. When an event is disabled, its state will appear as *Disabled* and the event will not be logged until it is reenabled. An event may be reenabled by selecting it and clicking *Enable*.

You may change the number of items that display in the Enabled Audit Log Events window by clicking the *Customize* link. See *Using the Customize Link in DSView Management Software Windows* on page 30 for more information.

To enable or disable an event in the audit log:

1. From the side navigation bar, click *Enabled Events*. The Enabled Audit Log Events window will appear and display a listing of all enabled and disabled audit log events.

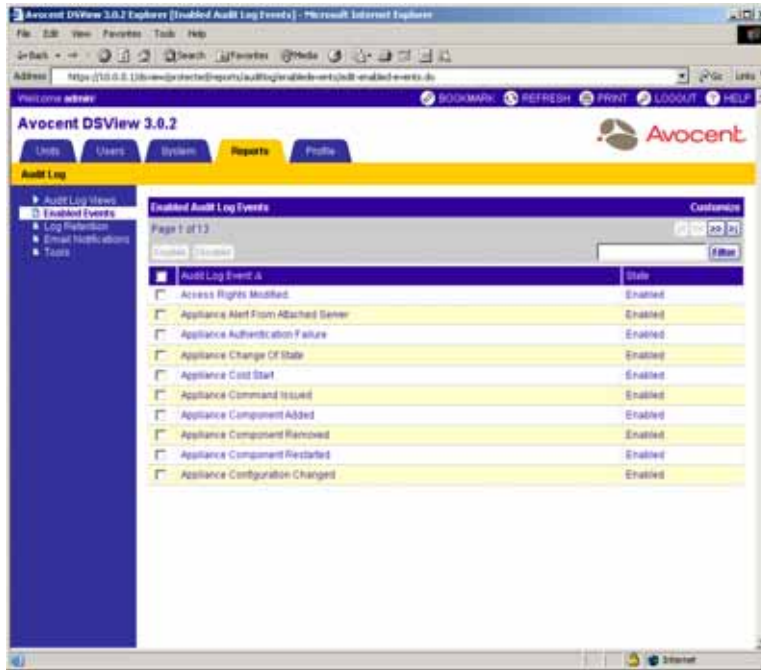


Figure 11.6: Enabled Audit Log Events Window

2. Click the checkbox to the left of an enabled event you wish to disable or a disabled event you wish to enable.

-or-

Click the checkbox to the left of Audit Log Event at the top of the list to select all events listed in the window.

NOTE: Events may not be enabled unless they are already disabled.

3. Click *Enable* to enable the selected events.

-or-

Click *Disable* to disable the selected events.

The Enabled Audit Log Events window will re-appear including the updated status of the listed events.

Retaining the Audit Log

By default, an audit log is retained for one week. However, you may specify a retention time of up to one year.

NOTE: Audit log information is stored in the DSView software database and is replicated. Increasing the audit log retention time may impact the performance of your DSView software system. It is recommended that old audit log entries be archived to .csv files by scheduling tasks. See *Managing Tasks* on page 433 for more information.

To specify an audit log retention time:

1. From the side navigation bar, click *Log Retention*. The Audit Log Retention Time window will appear.

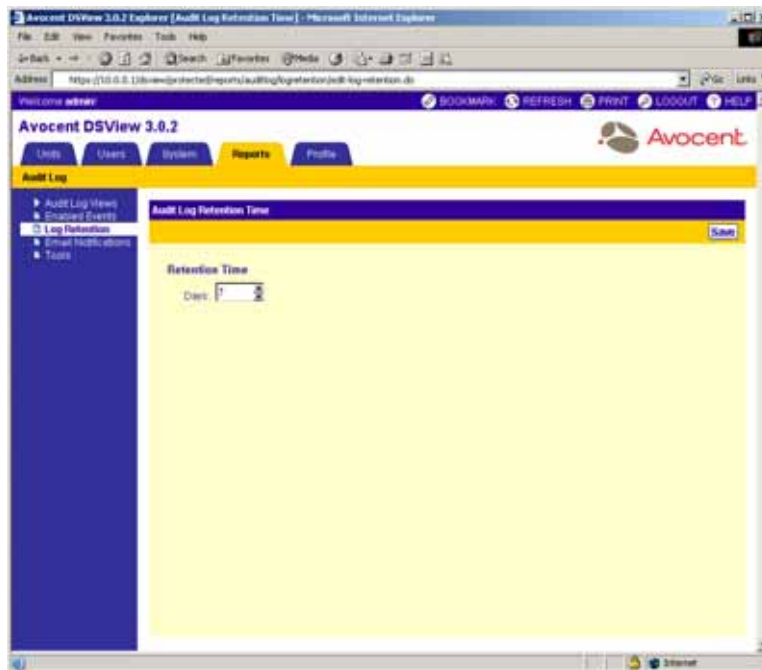


Figure 11.7: Audit Log Retention Time Window

2. Type a number of days (from 1-365) in the Days field, or select it using the drop-down menu.
3. Click *Save* to save your changes.

Configuring Email Notifications

NOTE: The Simple Mail Transfer Protocol (SMTP) must be configured to receive email notifications about audit events.

The DSView management software may be configured to send one or more users email notifications when events occur. All configured email notifications will appear in the Email Notifications window. The Email Notifications window is displayed by clicking *Email Notifications* in the side navigation bar.

Email notifications may be added by clicking *Add*, which accesses the Add Email Notification Wizard. Multiple events may be configured so that an email is sent to the defined users any time one of the specified events occurs. See *DSView management software events* on page 481 for a list of events.

Once an email notification has been defined, you may click on its name in the Email Subject field to modify the sender, recipients and events that trigger the sending of an email.

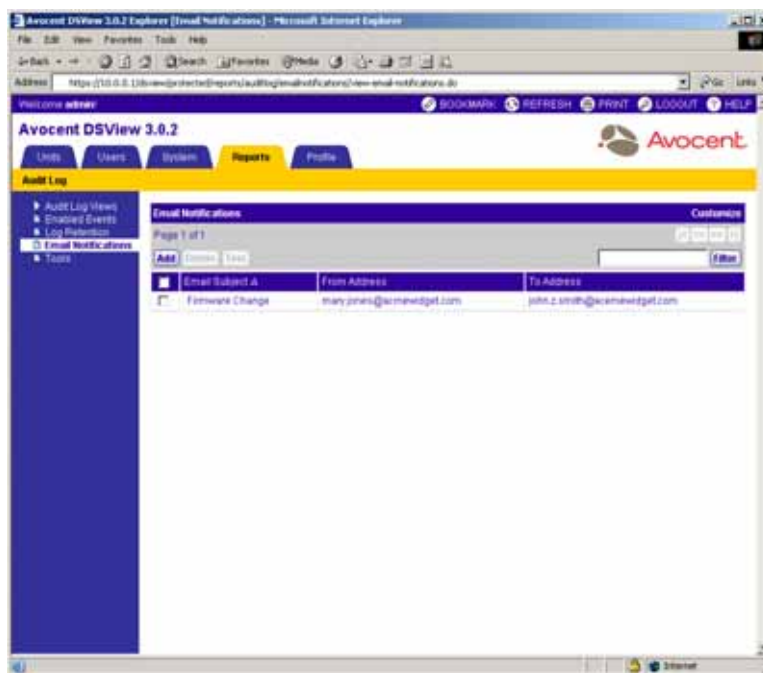


Figure 11.8: Email Notifications Window

Customizing the Email Notifications Window

The following column is always displayed in the Email Notifications window:

- Email Subject - Displays the subject line of a notification.

The following columns are displayed in the Email Notifications window and may be turned off by clicking the *Customize* link:

- From Address - Displays the email address of the notification sender.
- To Address - Displays the email addresses of the notification recipients.

See *Using the Customize Link in DSView Management Software Windows* on page 30 for information on using the *Customize* link.

To configure an email notification:

1. From the side navigation bar, click *Email Notifications*. The Email Notifications window will appear.
2. Click *Add*. The welcome page of the Add Email Notification Wizard will appear. Click *Next*.
3. The Specify Email Properties window will appear.

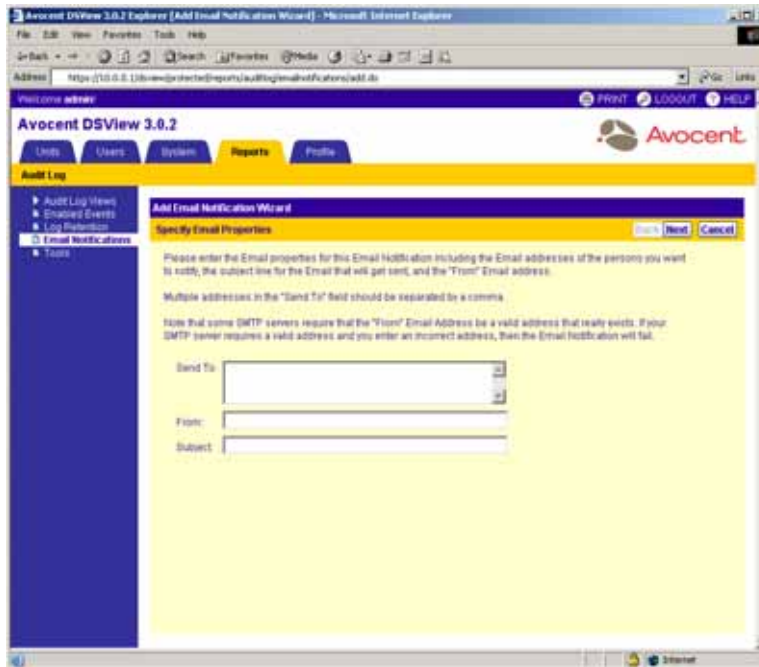


Figure 11.9: Add Email Notification Wizard - Specify Email Properties Window

- a. Type the names of all individuals that you wish to receive a notification in the Send To field. Multiple users may be added by separating each email address with a comma (,).

NOTE: The Send To field has a maximum limit of 1024 characters.

- b. Type the email address of the person you wish to designate as the sender of the notification in the From field.

NOTE: The From field has a maximum limit of 64 characters.

- c. Type a subject heading for the notification in the Subject field.

NOTE: The Subject field has a maximum limit of 64 characters.

- d. Click *Next*.

4. The Select Events to Trigger Email Notification window will appear.

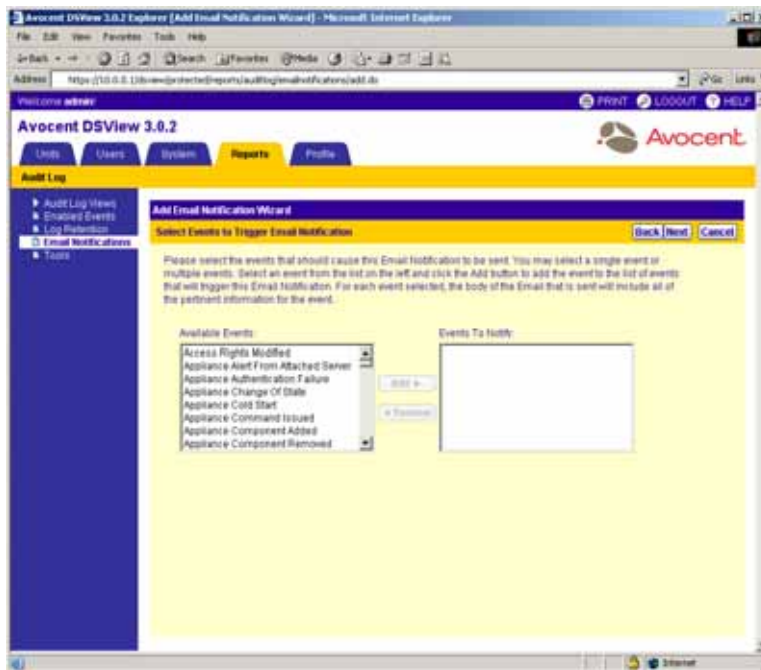


Figure 11.10: Select Events to Trigger Email Notification Window

- a. Add or remove events that will cause an email to be sent to the specified individuals.

To add an event:

- Select the event you wish to add to the notification from the Available Events list. Multiple events may be selected by pressing **Ctrl** while clicking on the event names.
- Click *Add*. The event(s) will be moved to the Events To Notify list.

To remove an event already assigned to the notification:

- Select the event you wish to remove from the Events To Notify list. Multiple events may be selected by pressing **Ctrl** while clicking on the event names.
 - Click *Remove*. The events will be moved to the Available Events list.
- b. Click *Next*.
5. The Completed Successful window will appear. Click *Finish*.

Modifying email notifications

To modify an email notification:

1. From the side navigation bar, click *Email Notifications*. The Email Notifications window will appear.
2. Click on the email subject of the notification you wish to modify. The Email Notification Properties window will appear.

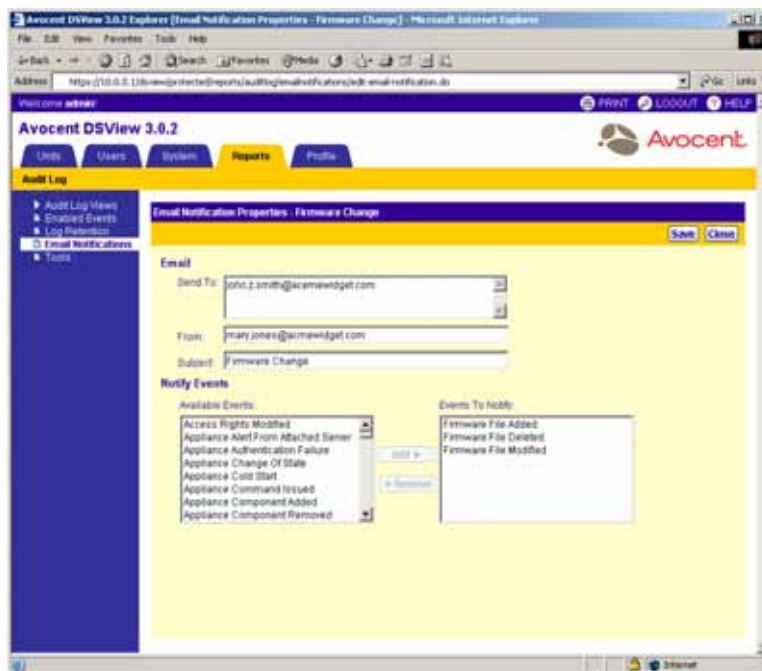


Figure 11.11: Email Notification Properties Window

3. Modify the notification:
 - a. Type the names of (or remove) any individuals that you wish to receive the notification in the Send To field. Multiple users may be added by separating each email address with a comma (,).

NOTE: The Send To field has a maximum limit of 1024 characters.

- b. Modify the email address of the person you wish to designate as the sender of the notification in the From field.

NOTE: The From field has a maximum limit of 64 characters.

- c. Modify the subject heading for the notification in the Subject field.

NOTE: The Subject field has a maximum limit of 64 characters.

- d. Add or remove events that will cause an email to be sent to the specified individual(s).

To add an event:

- Select the event you wish to add to the notification from the Available Events list. Multiple events may be selected by pressing **Ctrl** while clicking on the event names.
- Click *Add*. The events will be moved to the Events To Notify list.

To remove an event already assigned to the notification:

- Select the event you wish to remove from the Events To Notify list. Multiple events may be selected by pressing **Ctrl** while clicking on the event names.
- Click *Remove*. The events will be moved to the Available Events list.

NOTE: See *DSView management software events* on page 481 for a listing of all possible events.

4. Click *Save* to save your changes.
5. Click *Close*. The Email Notifications window will appear including the renamed notification.

Deleting email notifications

To delete an email notification:

1. From the side navigation bar, select *Email Notifications*. The Email Notifications window will appear.

2. Click the checkbox to the left of the notifications you wish to delete.

-or-

Click the checkbox to the left of Email Subject at the top of the list to select all notifications listed in the window for deletion.

3. Click *Delete*. A confirmation dialog box will appear.

4. Click *OK* to delete the notifications.

-or-

Click *Cancel* to cancel the action.

Testing email notifications

Once an email notification has been created, you may send a test message to ensure that the notification is delivered to the specified recipients.

To test an email notification:

1. From the side navigation bar, select *Email Notifications*. The Email Notifications window will appear.
2. Click the checkbox to the left of the notification(s) you wish to test.

-or-

Click the checkbox to the left of Email Subject at the top of the list to select all notifications listed in the window for testing.

3. Click *Test*. A confirmation dialog box will appear.
4. Click *OK* to send the test notification(s).

-or-

Click *Cancel* to cancel the action.

Using the Audit Log Tool

All or selected columns of the audit log can be exported as a comma separated values (.csv) file. The output audit log file is named *auditlog.csv* by default, but you may change the name when it is saved.

The fields that may be exported correspond with those that appear in the Audit Log windows. See *Customizing the Audit Log window* on page 480 for more information.

The .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.

NOTE: The audit log may also be exported to a .csv file by creating a task. See *Managing Tasks* on page 433 for more information.

To create an auditlog.csv file:

1. From the side navigation bar, select *Tools*. The Audit Log Tools window will appear.

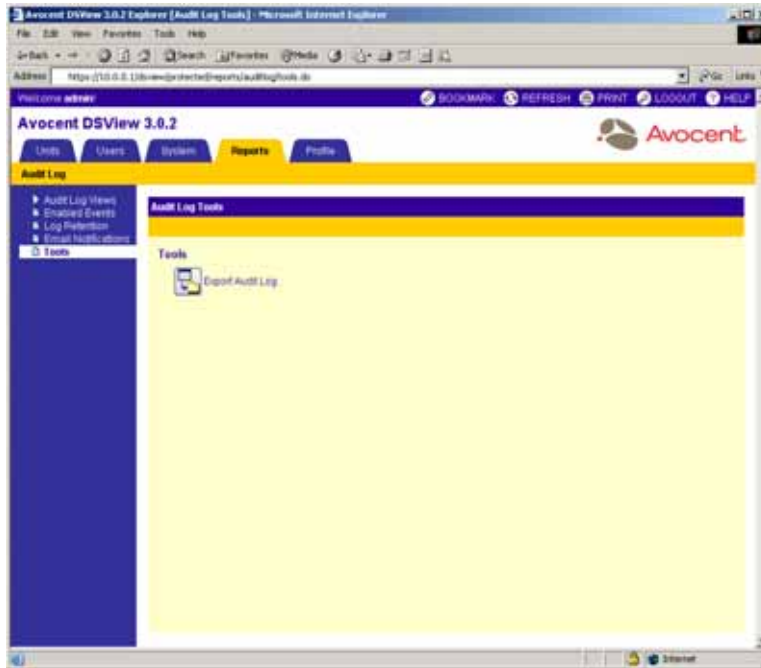


Figure 11.12: Audit Log Tools Window

2. Click the *Export Audit Log* icon or text. The welcome page of the Export Audit Log Wizard will appear.
3. Click *Next*.
4. The Select Columns to Export window will appear.

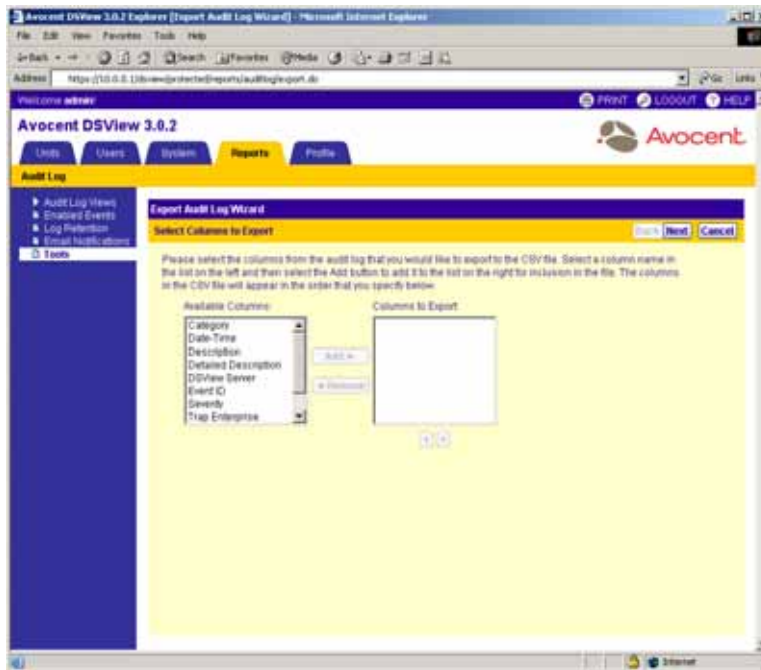


Figure 11.13: Export Audit Log Wizard - Select Columns to Export Window

5. Add or remove the columns of information that you wish to export.

To add a column of information:

 - a. Select the column you wish to export from the Available Columns list. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.
 - b. Click *Add*. The columns will be moved to the Columns to Export list.

To remove a column of information:

 - a. Select the column you wish to remove from the Columns to Export list. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.
 - b. Click *Remove*. The columns will be moved to the Available Columns list.
6. To change the order in which exported columns are listed in the output .csv file, select the columns in the Columns to Export list and use the up and down arrows to move the selected columns up or down in the listing. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.
7. Click *Next*.
8. The Save Process window will appear explaining how the file will be saved. Click *Next*.
9. The Completed Successful window will appear, along with a File Download dialog box.

10. From the File Download dialog box, click *Open*. The file will be downloaded and will open on the DSView software client. By default, .csv files are configured to open in Microsoft Excel. If Microsoft Excel is not installed on your computer, you will be prompted to select a text editor to open the .csv file.

-or-

From the File Download dialog box, click *Save*. The Save As dialog box will appear. Select a directory and filename and click *Save* to save the .csv file.

-or-

Click *Cancel* to cancel the action.

11. Click *Finish*. The Audit Log Tools window will appear.

Appendix A: Technical Support

Our Technical Support staff is ready to assist you with any installation or operating issues you encounter with your Avocent product. If an issue should develop, follow the steps below for the fastest possible service:

1. Check the pertinent section of the manual to see if the issue may be resolved by following the procedures outlined.
2. Check our web site at www.avocent.com/support to search the knowledge base or use the on-line service request.
3. Call the Avocent Technical Support location nearest you.

Appendix B: TCP Ports

The DSView software client accesses the server and performs commands using a standard web browser. The communication protocol used between the client web browser and the server is the HTTPS protocol. By default, TCP/IP port 443 is used for HTTPS connections, but you may change the port using the DSView Server Network Properties window.

NOTE: The port used for the HTTPS connection may be changed using the DSView Server Network Properties window. The HTTPS port must be specified in the web browser URL if changed from the default (port 443). See *DSView Software Hub Server Properties* on page 72 for more information.

DSView software clients may communicate with the DSView software server through a standard connection or using a proxy server. By default, TCP/IP port 1078 is used for proxied connections. If a proxy connection has not been created, TCP ports 22, 2068 and 8192 must be configured as open on your firewall.

DS1800 digital switch and DSR switch ports

A DSView software user may initiate a KVM session with a target device on a DS1800 digital switch or DSR switch by clicking *KVM Session* for the appropriate target device or by clicking the *KVM Session* icon or text from a Unit Overview window.

The client contacts the DSView software server, which checks the permissions of the target device. If the logged in DSView software user has permissions to establish Video Viewer sessions to the selected target device, the server will establish a connection to the DS1800 digital switch or DSR switch using TCP/IP port 3871 to authorize the session. The KVM data is sent to the DS1800 digital switch or DSR switch using ports 8192 and 3871. Port 8192 contains the video portion of the KVM data. Port 2068 contains the keyboard and mouse portion of the KVM data.

In a non-proxied connection, the video data from port 8192 and the keyboard and mouse data from port 2068 are sent directly from the client to the DS1800 digital switch or DSR switch. Figure B.1 illustrates the ports used with a non-proxied DS1800 digital switch or DSR switch connection.

UDP port 3211 is used by the DSView software server to initialize the IP configuration of DS1800 digital switches and DSR switches. TCP/IP port 3211 is also used by the DSView software server to perform management functions on DS1800 digital switches and DSR switches, such as configuring settings.

NOTE: When using a non-proxied connection, video performance over a slower network connection may be less than optimal. Since certain color settings (such as Gray Scale) use less network bandwidth than others (such as Best Color), changing the color settings may increase video performance. For optimal video performance over a slower network connection, a color setting such as Gray Scale/Best Compression or Low Color/High Compression is recommended. See *Adjusting color depth* on page 275 for more information.

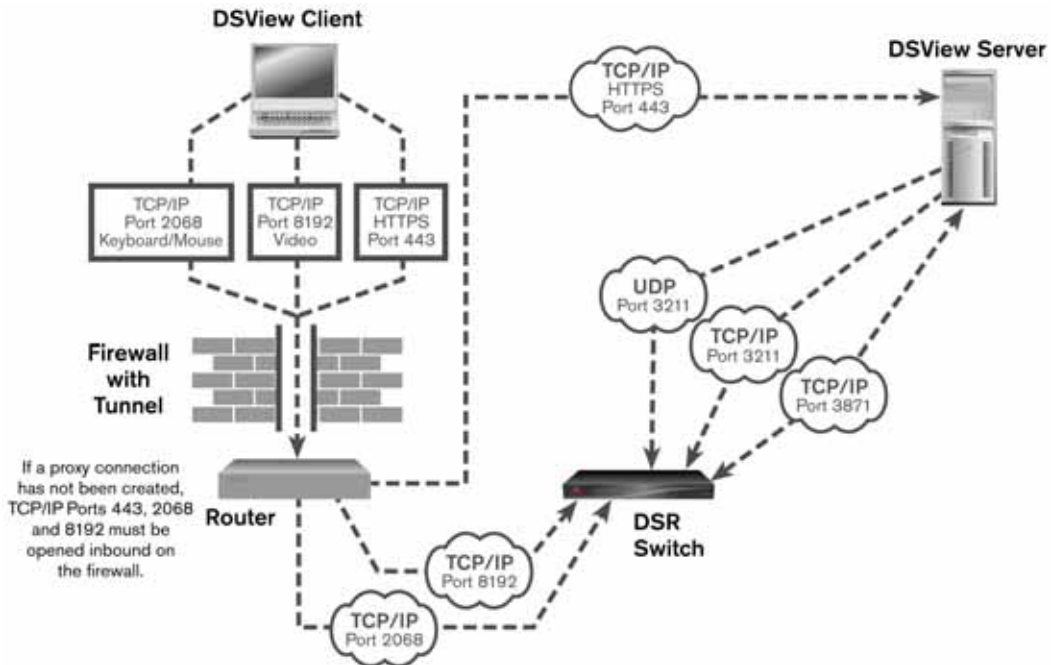


Figure B.1: Ports Used with a DS1800 Digital Switch or DSR Switch Connection (KVM) Without Proxy

In a proxied connection, communication with TCP/IP ports 8192 and 2068 occurs between the server and the DS1800 digital switch or DSR switch instead of directly between the client and the DS1800 digital switch or DSR switch. The client receives information by communicating back and forth with the server using port 1078. Figure B.2 illustrates the ports used with a proxied DS1800 digital switch or DSR switch connection.

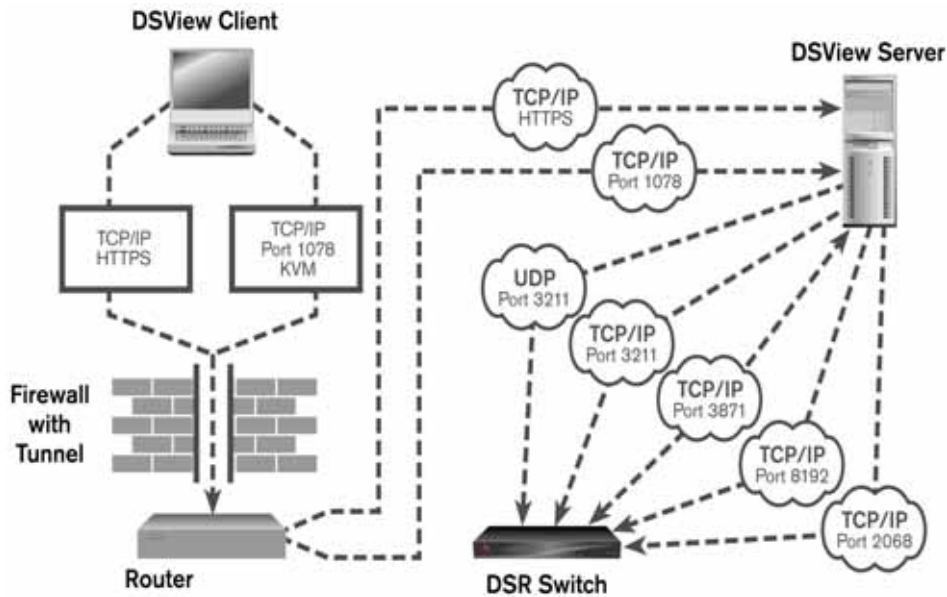


Figure B.2: Ports Used with a DS1800 Digital Switch or DSR Switch Proxy Server Connection (KVM)

If the DSView software user wishes to establish a session with another port on the DS1800 digital switch or DSR switch, the same process is used.

For debugging purposes, connection details may be seen by using the console port to place the DS1800 digital switch or DSR switch into Debug mode.

CPS appliance ports

Like a DS1800 digital switch or DSR switch, a CPS appliance may use a non-proxied or a proxied connection. CPS appliances use a Secure Shell Protocol (SSH).

The client contacts the server, which checks the permissions of the target device. If the logged in DSView software user has permissions to establish sessions to the selected target device, the server will establish a connection to the CPS appliance using TCP/IP port 3871 to authorize the session.

In a non-proxied SSH connection, the client communicates directly with the CPS appliance using port 22. Figure B.3 illustrates the ports used with a non-proxied CPS appliance connection.

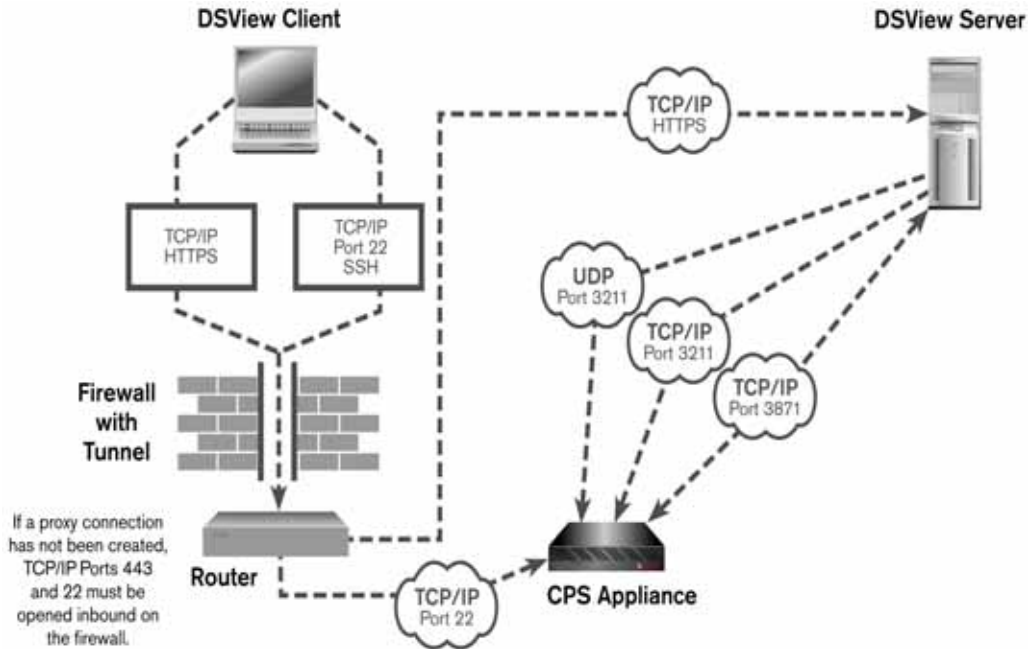


Figure B.3: Ports Used with A CPS Appliance Connection (Serial) Without Proxy

In a proxied connection, communication between the DSView software server and CPS appliance occurs over port 22. The SSH connection between the client and the DSView software server is tunneled over port 1078. Figure B.4 illustrates the ports used with a proxied CPS appliance connection.

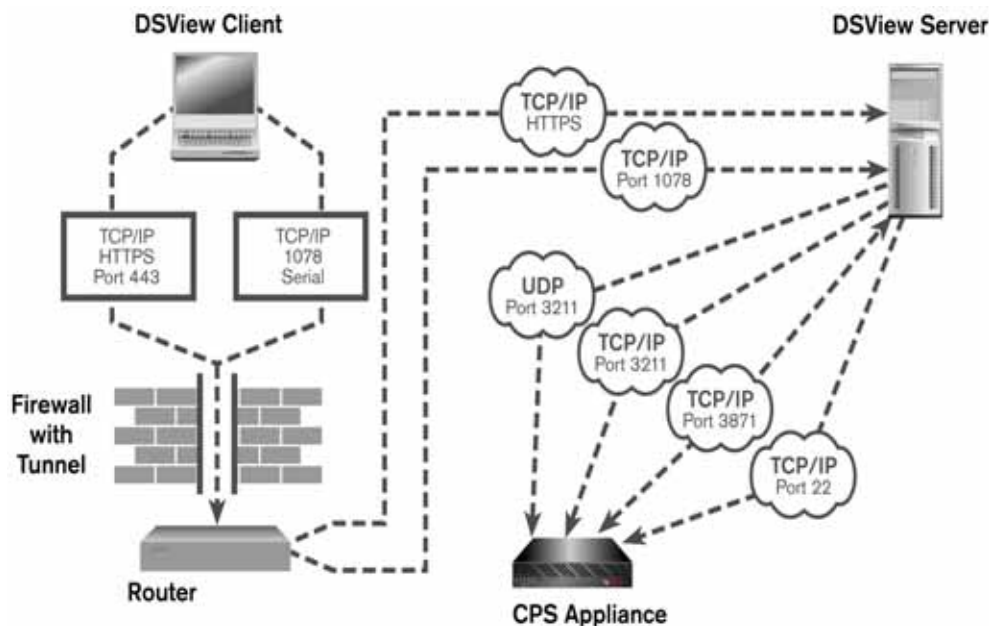


Figure B.4: Ports Used with A CPS Appliance Proxy Server Connection (Serial)

DSView software server ports

The DSView software server uses the HTTPS port for communication with clients and spoke servers. Changes made to the browse list through the DSView management software are transmitted back to the DSView software server host, which refreshes its browse list view over the TCP/IP port 443 connection. Changes to the DSView management software are also copied to and from the DSView software hub server over the specified HTTPS port.

Generic appliance ports

If you are using a generic appliance in your DSView software system, you may use a Telnet connection through TCP/IP port 23, or an HTTP connection through TCP/IP port 80. The connection is made directly between the client and the generic appliance.

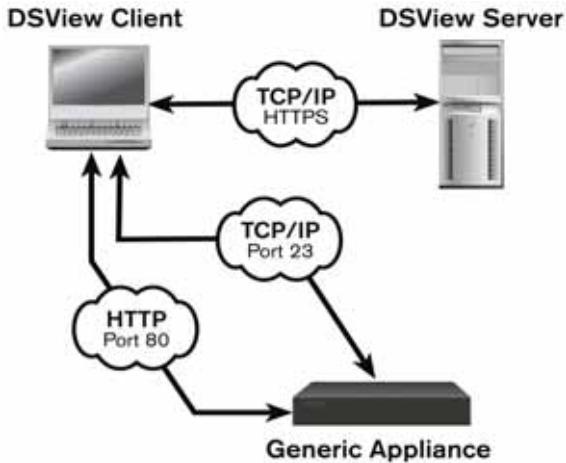


Figure B.5: Generic Appliance Session Ports

If Active Directory or LDAP external authentication is being used within your DSView software system, TCP/IP ports 389 and 636 are used for connections between the DSView software server and the external authentication server. Port 389 is typically used for non-SSL connections and port 636 is used for SSL connections. You may configure the ports used by an Active Directory or LDAP external authentication server using the Authentication Service Connection Settings window. See *Modifying LDAP external authentication services* on page 111 for more information.

External authentication ports

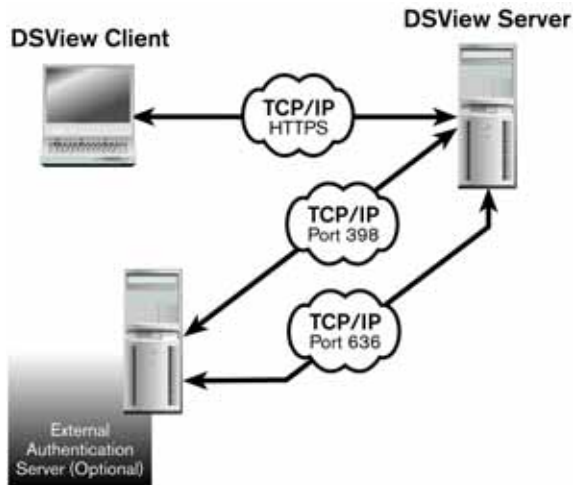


Figure B.6: External Authentication Server Ports

SNMP ports

A DS1800 digital switch, DSR switch or CPS appliance may be configured to send SNMP traps to the DSView software server in addition to an external SNMP manager.

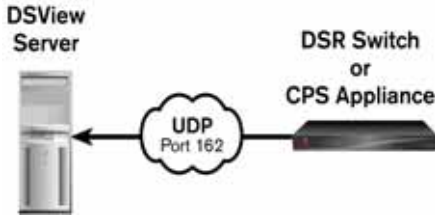


Figure B.7: Ports Used by SNMP (No External SNMP Manager)

If an external SNMP manager has been added to your DSView software system, communication occurs between the SNMP manager and the DS1800 digital switch, DSR switch or CPS appliance, as shown in Figure B.8.

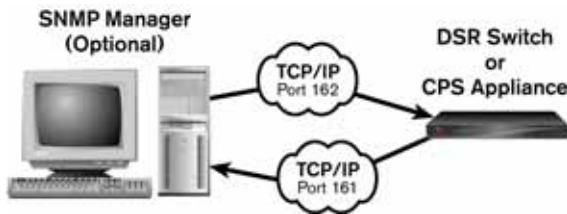


Figure B.8: Ports Used by SNMP (with External SNMP Manager)

DSI5100 IPMI proxy appliance ports

If a DSI5100 appliance is being used within your DSView software system, TCP/IP ports 3871 and 3502 are used for connections between the DSView software server and the DSI5100 proxy appliance. Port 3871 is used for certificate exchanges and port 3502 is used for data exchanges. UDP port 623 is used for communications between the DSI5100 proxy appliance and any configured BMCs. When a BMC is selected for viewing in the DSView management software using the IPMI Viewer window, TCP/IP port 443 is used for communication between the DSView management software and the server.

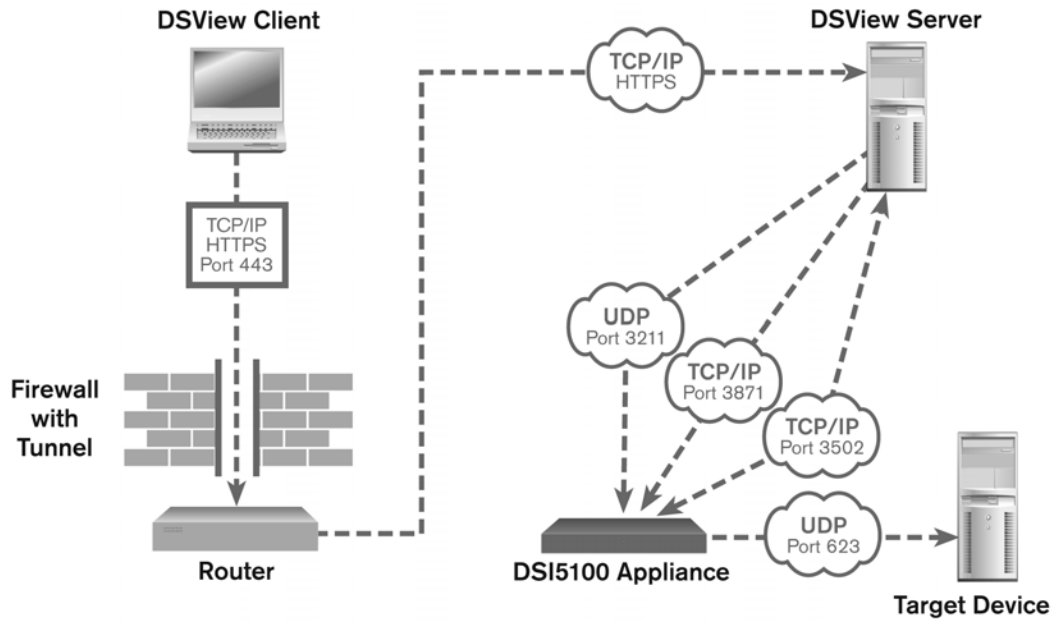


Figure B.9: Ports Used by DSI5100 Appliances

Appendix C: DSR Remote Operations Software (Supported DSR Switches Only)

The DSR remote operations software provides a subset of DSView management software functionality that allows access to a supported DSR switch when an Ethernet connection is not available. For example, if you are in a branch office and your Ethernet network is down, you may still access your remote server network by attaching a v.34, v.90 or v.92-compatible modem to the modem port on a supported DSR switch for KVM access, administration and flexible server management control from anywhere in the world.

The following DSView management software operations are supported:

- Establishing a KVM session to a target device connected to the switch
- Controlling the power sockets of an SPC device attached to the DSR switch power port
- Rebooting the switch
- Retrieving and displaying the switch version

All other DSView management software options are not available when using the DSR remote operations software.

The following Video Viewer window commands are not available when using the DSR remote operations software:

- Viewing connected users
- Creating, editing, copying and deleting macros

NOTE: Only the default Windows and Sun macro groups are available when using the remote operations software.

- Background refresh

An external modem may be attached to the PPP modem interface of the following DSR switch models to use the DSR remote operations software:

- DSR1021 switch
- DSR1022 switch
- DSR1024 switch
- DSR1020, 2020 and 4020 switch
- DSR8020 switch

A modem/PPP dial-up connection must be established before the DSR remote operations software may be started, run or executed. The dial-up connection options should be set to 115200 baud, 8 bits, 1 stop bit, no parity and enabled hardware flow control. The remote operations application must be started within the authentication time-out specified in the Terminal Applications menu of the DSR switch or the PPP (modem) link will be disconnected. See the DSR Switch Installer/User Guide for more information about setting the authentication time-out.

Once a modem dial-up connection is established with the switch, select *Start - Programs - Avocent DSView 3.0 - DSR Remote Operations* on a client computer containing the software.

Log in using a valid username and password to establish a DSR remote operations software session with the DSR switch over the modem link.

The DSR remote operations software uses an SSL-based connection to the DSR switch to authenticate the DSView software user.

If the DSView software server is unreachable, the switch will use its internal database to perform remote authentication. If the internal database of the DSR switch fails to authenticate the DSView software user when a login is attempted, or the user does not log in before the specified time-out of the DSR switch, the modem connection will be disconnected.

NOTE: DSView software users may be managed within the internal database of the DSR switch using the PPP Configuration menu. See the installer/user guide for your DSR switch for more information.

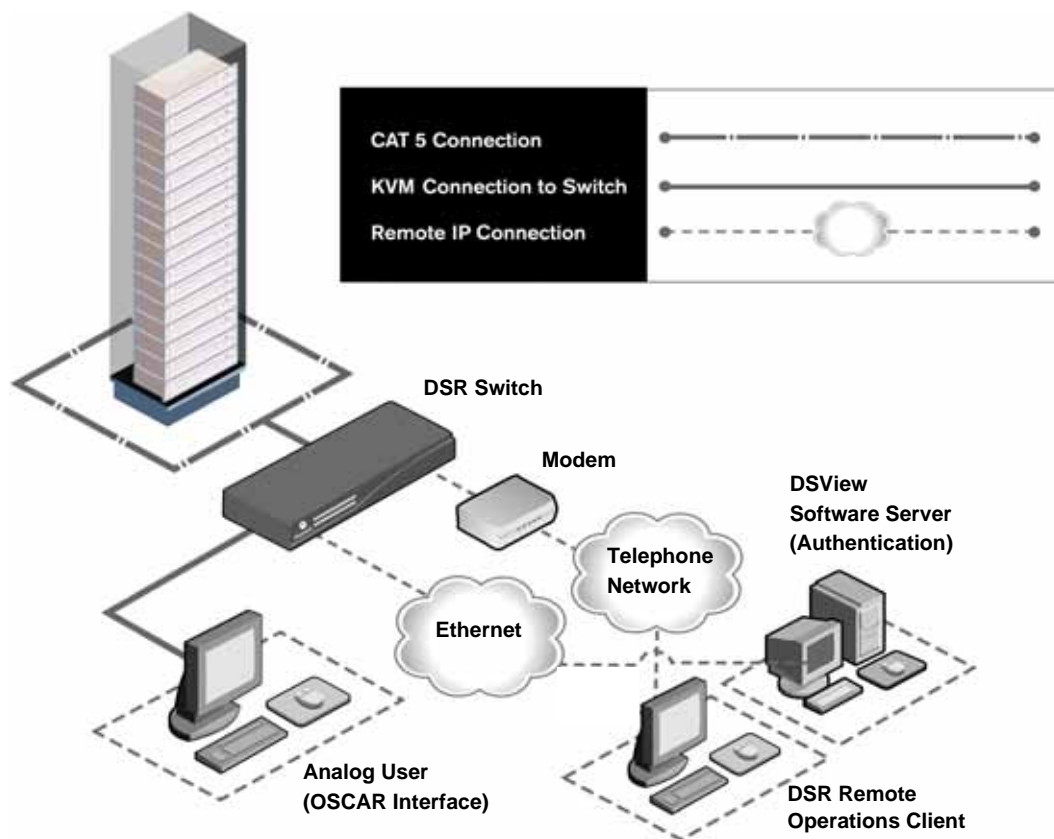


Figure C.1: Using the DSR Remote Operations Software with a DSR Switch

See *Installing the DSR Remote Operations Software (Optional)* on page 59 for installation information.

Window features

When you have launched the software and successfully logged in, the DSR Remote Operations window will display the list of DSView software servers connected to the DSR switch. Figure C.2 shows the DSR Remote Operations window areas, and descriptions follow in Table C.1.

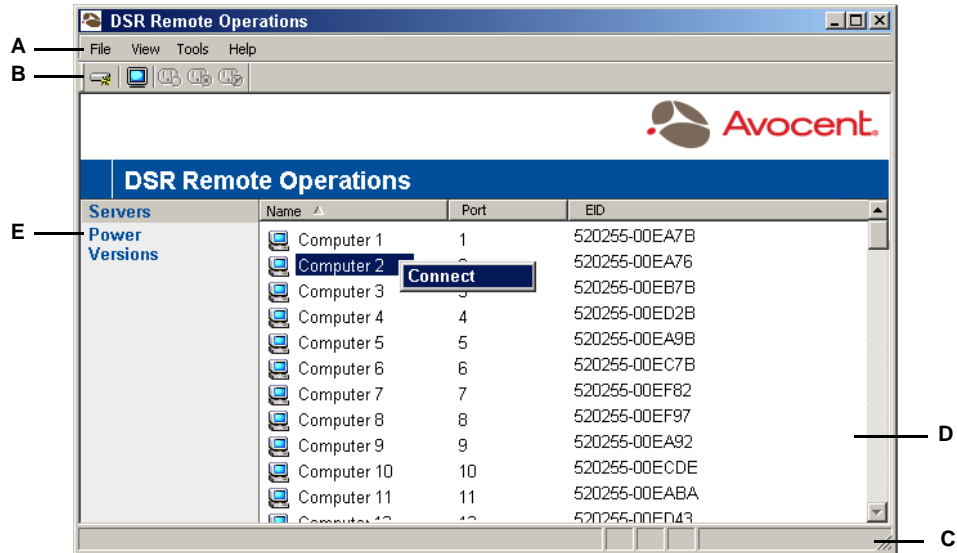


Figure C.2: DSR Remote Operations Window

Table C.1: DSR Remote Operations Descriptions

Letter	Description
A	Menu bar: Allows you to access many of the features in the DSR Remote Operations window.
B	Toolbar: Provides shortcut buttons for quickly accessing commands in the Tools menu.
C	Status Bar: Displays the tips for selected menu items and the progress of operations.
D	Content Area: Use this area to display information from the DSR switch and control and start DSView software sessions to the DSR switch.
E	Side Navigation Bar: Displays the DSR switching system information you wish to access, which displays in the Content Area.

Content area views

The items displayed in the content area of the DSR Remote Operations window will vary, depending on which link has been selected in the side navigation bar.

Servers view

When *Servers* is selected, a list of servers attached to the switch will appear. The following items for each server will appear in the content area:

- Name - The name of the server
- Port - The switch port to which the server is attached
- EID - The Electronic ID (EID) number of the DSRIQ module attached to the server

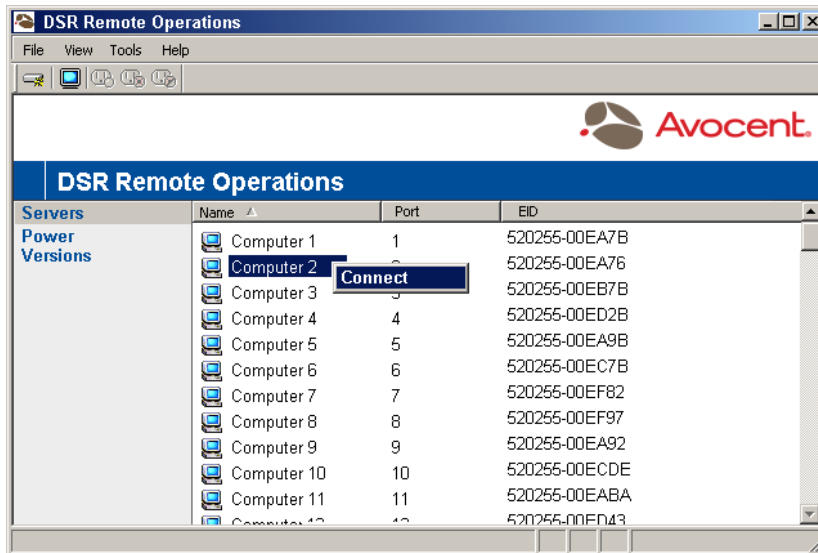






Figure C.3: DSR Remote Operations Window (Servers View)

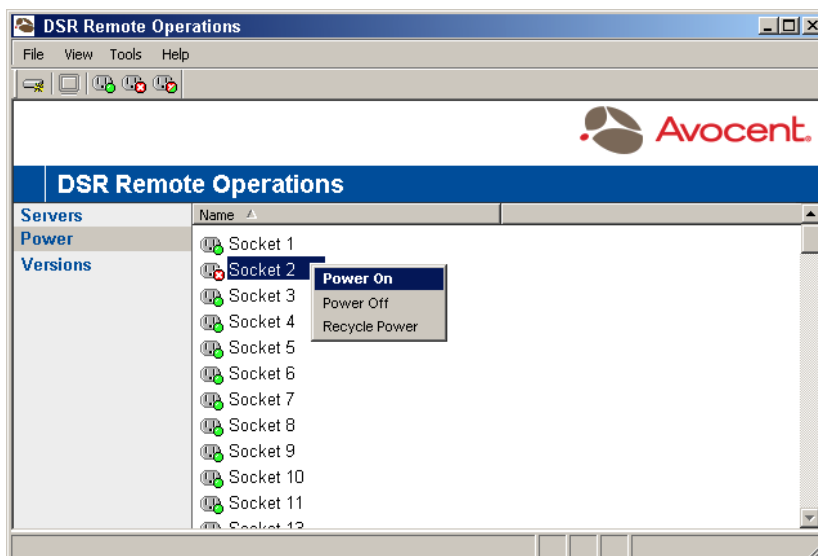
Specific icons also appear in the Server view. These icons are outlined in Table C.2.

Table C.2: DSR Remote Operations Content Area Icons (Servers View)

Icon	Description
	A target device that is powered up and has no established KVM Video Viewer sessions.
	A target device that has an active KVM Video Viewer session
	A target device that is not powered up
	A target device that is powered up but cannot establish a KVM connection because the path to the target device is blocked (for example, a cascade switch has only one user port and that port is already connected to another target device)



Power view

Selecting *Power* in the side navigation bar of the DSR Remote Operations window will display a list of SPC device sockets attached to the switch and their powered up or powered down status.

**Figure C.4: DSR Remote Operations Window (Power View)**

Specific icons also appear in the Power view. These icons are outlined in Table C.3.

Table C.3: DSR Remote Operations Content Area Icons (Power View)

Icon	Description
	The SPC device socket is powered up
	The SPC device socket is powered down

Version view

Selecting *Version* in the side navigation bar of the DSR Remote Operations window will display version information for the switch.

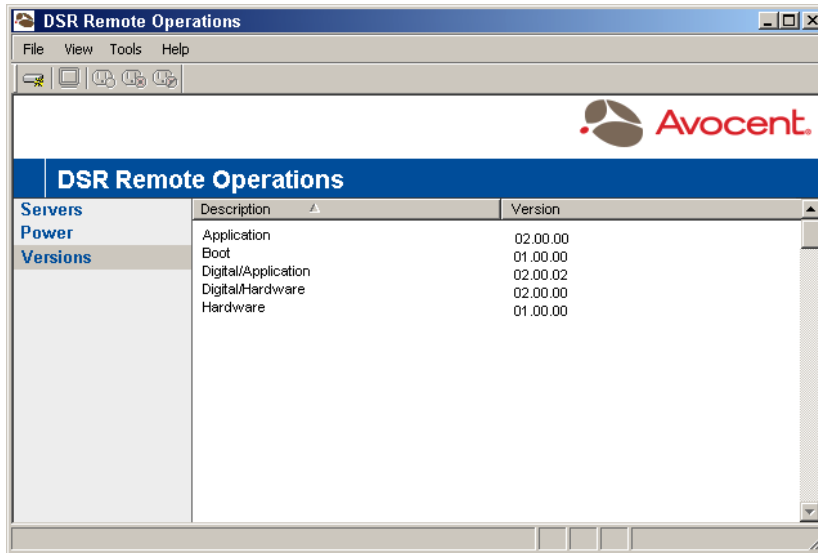


Figure C.5: DSR Remote Operations Window (Versions View)

Before you begin

The following actions should be performed before using the DSR Remote Operations command:

- Ensure that the switch is configured. See the installer/user guide for the DSR switch for more information.
- Ensure that DSView software users have been added to the internal database of the DSR switch. If the DSView software server is not available, the appliance database is used for appliance authentication. If neither are available, authentication cannot be performed for the switch

and an error will be displayed by the DSR remote operations software. See the installer/user guide for the DSR switch for more information.

- Ensure that an external modem is attached to the modem port of the DSR switch. The modem port should have auto-answer turned off (typically a modem's default setting).
- Ensure that the PC containing the client interface has dial-up software and that the software is configured properly. See your operating system documentation for more information.
- Ensure that you are using one of the following supported operating systems: Windows NT 4.0 Workstation or Server with Service Pack 6a or later; Windows 2000 Workstation or Server with Service Pack 2 or later; or Windows XP Home Edition or Professional.

To use the DSR Remote Operations command:

1. Establish a dial-up connection to the switch from the PC containing the DSR remote operations software.

NOTE: Windows displays a dialog box that prompts the DSView software user for a username and password when a dial-up connection is established. It is not necessary to enter a username or password in the dialog box. When this dialog box appears, click *OK* to dismiss the dialog box.

2. Once the connection has been established, select *Start - Programs - Avocent DSView 3.0 - DSR Remote Operations* to start the DSR remote operations software on the PC. The Login dialog box will appear.

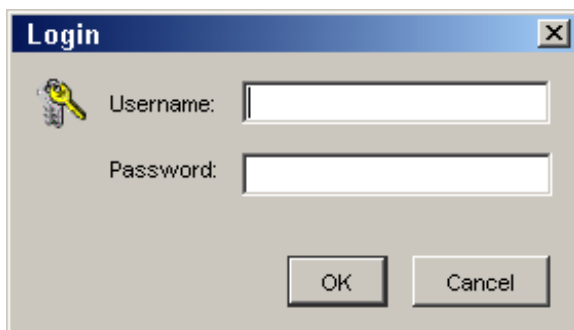


Figure C.6: Login Dialog Box

The switch will disconnect the modem connection if a DSView software user does not log in within the time period specified by the authentication time-out value. The default authentication time-out value (120 seconds) may be changed using the Terminal Applications menu. See the installer/user guide for the DSR switch for more information.

The DSR switch will attempt to contact the DSView software server to authenticate the user. If the DSView software server is unavailable, the switch will use its internal database to authenticate the user.

3. Type the username and password to which you wish to connect and then click *OK*. If authentication is successful, the DSR Remote Operations window will appear.

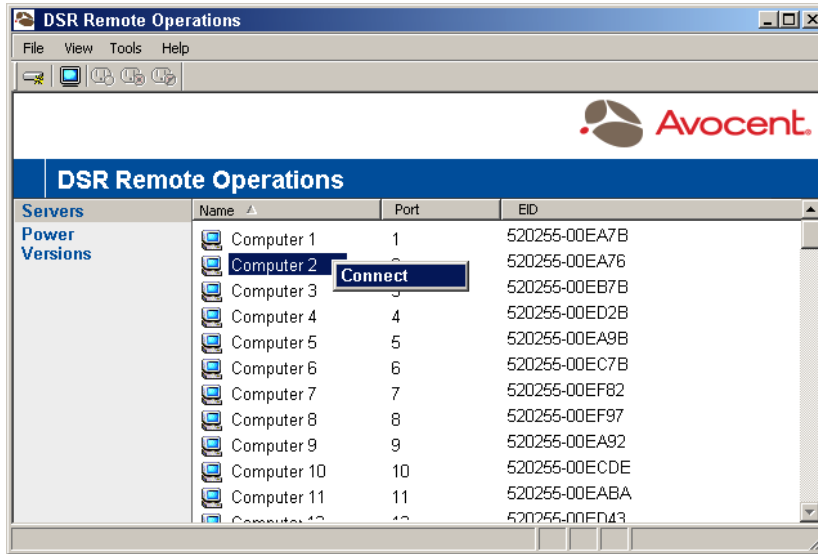


Figure C.7: DSR Remote Operations Window

NOTE: The switch will disconnect the modem connection if there is no activity on the modem connection for the time period specified by the inactivity time-out value. The default inactivity time-out value (15 minutes) may be changed using the Terminal Applications menu. See the installer/user guide for the DSR switch for more information.

Rebooting a switch

NOTE: DSView software users with a User level account may not reboot a switch. See *User Groups* on page 35 for information on user access levels.

To reboot the switch:

1. From the menu bar, select *Tools - Reboot Appliance*. A confirmation dialog box will appear.
2. Click *Yes* to reboot the switch.

-or-

Click *No* to cancel the operation.

Managing servers

Use the Servers view to manage servers attached to the switch. See *Servers view* on page 517 for more information.

To display the Servers view:

From the menu bar, select *View - Servers*.

-or-

From the side navigation bar, click *Servers*.

To refresh the Server view:

From the menu bar when the Servers view is displayed, select *View - Refresh*.

To connect to a server:

NOTE: DSView software users with a User level account may connect to a server only when given access to a switch. See *User Groups* on page 35 for more information.

From the Servers view, select a server and select *Tools - Connect* from the menu bar.

-or-

Select a server and click the *Connect* toolbar button.

-or-

Right-click on a server and select *Connect* from the shortcut menu.

A Video Viewer window will open. See *Using the Video Viewer Window* on page 265 for more information on the Video Viewer.

The following operations are unavailable when using the DSR Remote Operations command:

- Sharing (see *Connecting to an existing KVM session* on page 267)
- Stealth connections (see *Connecting to an existing KVM session* on page 267)
- Scan Mode (enabled when two or more Video Viewer windows are open)
- Macro Creation (Macros - Configure from the Video Viewer window menu bar)
- View Connected Users (View - Connected Users from the Video Viewer window menu bar)

Managing SPC device sockets

DSView software users with User level account privileges cannot modify the power state of SPC device sockets. See *User Groups* on page 35 for more information on user privileges.

Use the Power view to manage SPC device sockets attached to the switch. See *Power view* on page 518 for more information on the Power view.

To display the Power view:

From the menu bar, select *View - Power*.

-or-

From the side navigation bar, click *Power*.

To refresh the Power view:

Select *View - Refresh* from the menu bar when the Power view is displayed.

To power up an SPC device socket:

1. From the side navigation bar, select *Power*. A list of SPC device sockets attached to the switch will appear in the content area.
2. Select an SPC device socket that has not been powered up and select *Tools - Power On* from the menu bar.

-or-

Select an SPC device socket that has not been powered up and click the *Power On* toolbar button.

-or-

Right-click on an SPC device socket that has not been powered up and select *Power On* from the shortcut menu.

The SPC device socket will power up and the icon for the SPC device socket in the content area will change.

To power down an SPC device socket:

1. From the side navigation bar, select *Power*. A list of SPC device sockets attached to the switch will appear in the content area.
2. Select an SPC device socket that has not been powered down and select *Tools - Power Off* from the menu bar.

-or-

Select an SPC device socket that has not been powered down and click the *Power Off* toolbar button.

-or-

Right-click on an SPC device socket that has not been powered down and select *Power Off* from the shortcut menu.

The SPC device socket will power down and the icon for the SPC device socket in the content area will change.

To cycle the power of an SPC device socket:

1. From the side navigation bar, select *Power*. A list of SPC device sockets attached to the switch will appear in the content area.
2. Select an SPC device socket that is powered up and select *Tools - Cycle Power* from the menu bar.
-or-
Select an SPC device socket that is powered up and click the *Cycle Power* toolbar button.
-or-
Right-click on an SPC device socket that is powered up and select *Cycle Power* from the shortcut menu.
The SPC device socket is powered down, then powered up and the icon for the SPC device socket in the content area will change accordingly.

Displaying switch version information**To display switch version information:**

From the menu bar, select *View - Versions*.

-or-

From the side navigation bar, click *Version*. The versions of the following items will appear in the content area:

- Application
- Boot
- Digital/Application
- Digital/Hardware
- Hardware

To refresh the Versions view:

From the menu bar when the Versions view is displayed, select *View - Refresh*.

Exiting DSR Remote Operations**To exit DSR remote operations:**

From the menu bar, select *File - Exit*.

Appendix D: Terminal Emulation

This appendix contains information about the keys, sequences, encoding and decoding for the DSView management software Terminal Emulation modes when using the Telnet/SSH applet window. Encode refers to how the client interface processes typed keys. Decode refers to how the client interface processes data coming from the target device.

The Terminal Emulation mode may be set by selecting *Options - Session Properties* in the Telnet/SSH applet window and then using the Terminal Emulation drop-down menu in the Session Properties dialog box. See *Changing the Terminal Emulation mode* on page 303 for more information.

VT terminal emulation

The following table lists the VT key and keypad numeric codes. Avocent encodes all applicable keys as numeric; decoding is not supported.

Table D.1: VT Key and Keypad Numeric Codes

Key	Keypad Numeric Code
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
- (dash)	- (dash)
, (comma)	, (comma)
. (period)	. (period)
Enter	Same as Return key

VT100+ terminal emulation

The VT100+ emulation provides compatibility with the Microsoft headless server EMS serial port interface. The DSView management software Telnet/SSH applet VT100+ terminal emulation works identically to VT100, with the exception of support for the function keys listed in the following table.

Table D.2: VT100+ Function Key Support

Function	Sequence	Function	Sequence
Home	<Esc> h	F4 **	<Esc> 4
End	<Esc> k	F5	<Esc> 5
Insert	<Esc> +	F6	<Esc> 6
Delete *	<Esc> -	F7	<Esc> 7
Page Up	<Esc> ?	F8	<Esc> 8
Page Down	<Esc> /	F9	<Esc> 9
F1 **	<Esc> 1	F10	<Esc> 0
F2 **	<Esc> 2	F11	<Esc> !
F3 **	<Esc> 3	F12	<Esc> @

* ASCII, VT52, VT100, VT102, VT220 and VT320 modes send hex 7F when the **Delete** key is pressed.

** VT100, VT102, VT220 and VT320 modes map the **F1-F4** keys to the **PF1-PF4** keys.

VT102 terminal emulation

VT102 terminal emulation works identically to VT100 with additional support for decoding receive codes as described in the following table.

Table D.3: VT102 Receive Codes

VT102 Receive Code	Action
Delete Character (DHC)	Deletes n characters starting with the character at the current cursor position, and moves all remaining characters left n positions. n spaces are inserted at the right margin.
Insert Line (IL)	Inserts n lines at the line where the cursor is currently positioned. Lines displayed below the cursor position move down. Lines moved past the bottom margin are lost.
Delete Line (DL)	Deletes n lines starting with the line where the cursor is currently positioned. As lines are deleted, lines below the cursor position move up.

VT100 terminal emulation

The following table lists the VT100 special key and control (**Ctrl**) key combinations and indicates Avocent encoding/decoding support, where Yes = supported and No = not supported.

Table D.4: VT100 Special Keys and Control Keys

Keys	Hex Code	Function Mnemonic	Encode/Decode
Return	0D	CR	Yes/Yes
Linefeed	0A	LF	Yes/Yes
Backspace	08	BS	Yes/Yes
Tab	09	HT	Yes/Yes
Spacebar	20	(SP)	Yes/Yes
Esc	1B	Esc	Yes/No
Ctrl+Spacebar	00	NUL	Yes/No
Ctrl+A	01	SOH	Yes/No
Ctrl+B	02	STX	Yes/No
Ctrl+C	03	ETX	Yes/No
Ctrl+D	04	EOT	Yes/No
Ctrl+E	05	ENO	Yes/No
Ctrl+F	06	ACK	Yes/No
Ctrl+G	07	BELL	Yes/Yes
Ctrl+H	08	BS	Yes/Yes
Ctrl+I	09	HT	Yes/Yes
Ctrl+J	0A	LF	Yes/Yes
Ctrl+K	0B	VT	Yes/No
Ctrl+L	0C	FF	Yes/No
Ctrl+M	0D	CR	Yes/No
Ctrl+N	0E	SO	Yes/No
Ctrl+O	0F	SI	Yes/No
Ctrl+P	10	DLE	Yes/No
Ctrl+Q	11	DC1 or XON	Yes/No
Ctrl+R	12	DC2	Yes/No
Ctrl+S	13	DC3 or XOFF	Yes/No
Ctrl+T	14	DO4	Yes/No
Ctrl+U	15	NAK	Yes/No
Ctrl+V	16	SYN	Yes/No
Ctrl+W	17	ETB	Yes/No

Table D.4: VT100 Special Keys and Control Keys (Continued)

Keys	Hex Code	Function Mnemonic	Encode/Decode
Ctrl+X	18	CAN	Yes/No
Ctrl+Y	19	EM	Yes/No
Ctrl+Z	1A	SUB	Yes/No
Ctrl+[1B	Esc	Yes/No
Ctrl+\	1C	FS	Yes/No
Ctrl+]	1D	GS	Yes/No
Ctrl+^	1E	RS	Yes/No
Ctrl+_	1F	US	Yes/No

The following table lists the VT100 ANSI mode and cursor keys for set and reset modes. Encoding and decoding is supported for all the cursor keys listed.

Table D.5: VT100 ANSI Set and Reset Mode Cursor Keys

Cursor Key	Mode Reset	Mode Set
Up	Esc [A	Esc O A
Down	Esc [B	Esc O B
Right	Esc [C	Esc O C
Left	Esc [D	Esc O D

The following table lists the VT100 PF1-PF4 key definitions. Encoding of each listed key is supported; decoding is not applicable.

Table D.6: VT100 PF1-PF4 Key Definitions

Key	Code Sequence
F1	Esc [O P
F2	Esc [O Q
F3	Esc [O R
F4	Esc [O S

The following table lists the ANSI mode control sequences for VT100 terminal emulation and indicates Avocent encoding/decoding support, where Yes = supported and No = not supported.

Table D.7: VT100 ANSI Mode Control Sequences

Control Sequence	Definition	Encode/Decode
Esc [Pn; Pn R	Cursor Position Report	No/No
Esc [Pn D	Cursor Backward	No/Yes
Esc [Pn B	Cursor Down	No/Yes

Table D.7: VT100 ANSI Mode Control Sequences (Continued)

Control Sequence	Definition	Encode/Decode
Esc [Pn C	Cursor Forward	No/Yes
Esc [Pn; Pn H	Cursor Position	No/Yes
Esc [Pn A	Cursor Up	No/Yes
Esc [Pn c	Device Attributes	No/No
Esc # 8	Screen Alignment Display	No/Yes
Esc # 3	Double Height Line - Top Half	No/No
Esc # 4	Double Height Line - Bottom Half	No/No
Esc # 6	Double Width Line	No/No
Esc Z	Identify Terminal	No/No
Esc =	Keypad Application Mode	No/No
Esc >	Keypad Numeric Mode	No/No
Esc [Ps q	Load LEDs	No/No
Esc 8	Restore Cursor	No/Yes
Esc [<sol>; <par>;	Report Terminal Parameters <nbits>; <xspeed>; <rspeed>; <clkmul>; <flags>x	No/No
Esc [<sol> x	Request Terminal Parameters	No/No
Esc 7	Save Cursor	No/Yes
Esc [Pn; Pn r	Set Top and Bottom Margins	No/No
Esc # 5	Single Width Line	No/No
Esc [2; Ps y	Invoke Confidence Test	No/No
Esc [Ps n	Device Status Report	No/Yes
Esc [Ps J	Erase in Display	No/Yes
Esc [Ps K	Erase in Line	No/Yes
Esc H	Horizontal Tabulation Set	Yes/Yes
Esc [Pn; Pn f	Horizontal and Vertical Position	No/Yes
Esc D	Index	No/Yes
Esc E	Next Line	No/Yes
Esc M	Reverse Index	No/Yes
Esc c	Reset to Initial State	No/No
Esc [Ps; Ps;...;Ps 1	Reset Mode	No/No
Esc (A	Select Character Set G0 U.K.	No/No
Esc) A	Select Character Set G1 U.K.	No/No
Esc (B	Select Character Set G0 ASCII	Yes/Yes
Esc) B	Select Character Set G1 ASCII	Yes/Yes (Limited Support)
Esc (0	Select Character Set G0 Spec. Graphics	Yes/Yes (Limited Support)
Esc) 0	Select Character Set G1 Spec. Graphics	Yes/Yes (Limited Support)

Table D.7: VT100 ANSI Mode Control Sequences (Continued)

Control Sequence	Definition	Encode/Decode
Esc (1	Select Character Set GØ Alt. Character ROM Standard Character Set	No/No
Esc) 1	Select Character Set G1 Alt. Character ROM Standard Character Set	No/No
Esc (2	Select Character Set GØ Alt. Character ROM Special Graphics	No/No
Esc) 2	Select Character Set G1 Alt. Character ROM Special Graphics	No/No
Esc [Ps;...; Ps m	Select Graphic Rendition	No/No
Esc Ps;...;Ps h	Set Mode	No/No
Esc [Ps g	Tabulation Clear	No/No
Esc [Ps;Ps;...; Ps m	Character Attributes 7 - Reverse Video On	No/Reverse Video only
Esc [K or Esc [0 K	Erase from cursor to end of line	No/Yes
Esc [1 K	Erase from beginning of line to cursor	No/No
Esc [2 K	Erase entire line containing cursor	No/No
Esc [J or Esc [0 J	Erase from cursor to end of screen	No/Yes
Esc [1 J	Erase from beginning of screen to cursor	No/No
Esc [2 J	Erase entire screen	No/No
Esc [Ps;Ps;...;Ps q	Programmable LEDs	No/No
Esc [Pt; Pb r	Scrolling Region	No/No
Esc [g or Esc [0 g	Clear tab at current column	Yes/Yes
Esc [3 g	Clear all tabs	Yes/Yes
Esc [2 0 h	Modes to Set - New Line - Only supports Linefeed/New Line Column mode wraparound	No/Yes
Esc [2 0 l	Modes to Reset - Linefeed - Only supports Linefeed/New Line Column mode wraparound	No/Yes
Esc [? 1 h	Modes to Set - Cursor Key Mode Appl.	No/No
Esc [? 1 l	Modes to Reset - Cursor Key Mode Cursor	No/No
Esc [? 2 l	Modes to Reset VT52	No/No
Esc [? 3 h	Modes to Set - 132 columns	No/No
Esc [? 3 l	Modes to Reset - 8Ø columns	No/No
Esc [? 4 h	Modes to Set - Smooth Scroll	No/No
Esc [? 4 l	Modes to Reset - Jump Scroll	No/No

Table D.7: VT100 ANSI Mode Control Sequences (Continued)

Control Sequence	Definition	Encode/Decode
Esc [? 5 h	Modes to Set - Reverse Screen Mode	No/No
Esc [? 5 l	Modes to Reset - Normal Screen Mode	No/No
Esc [? 6 h	Modes to Set - Relative Origin Mode	No/No
Esc [? 6 l	Modes to Reset - Absolute Origin Mode	No/No
Esc [? 7 h	Modes to Set - Wraparound On	No/No
Esc [? 7 l	Modes to Reset - Wraparound Off	No/No
Esc [? 8 h	Modes to Set - Auto Repeat On	No/No
Esc [? 8 l	Modes to Reset - Auto Repeat Off	No/No
Esc [? 9 h	Modes to Set - Interlace On	No/No
Esc [? 9 l	Modes to Reset - Interlace Off	No/No
Esc [6 n	Report Cursor Position - Invoked by	No/No
Esc [P1; Pc R	Report Cursor Position - Response is	No/No
Esc [5 n	Status Report - Invoked by	No/No
Esc [0 n	Status Report - Response is terminal OK	No/No
Esc [3 n	Status Rpt - Response is terminal not OK	No/No
Esc [x or Esc [0 c	What are you? Invoked by	No/Yes
Esc [? 1; Ps c	What are you? Response is	No/Yes
Esc c	Reset	No/No
Esc # 8	Fill screen with Es	No/Yes
Esc [2; Ps y	Invoke Test(s)	No/No

VT220 terminal emulation

The following table lists the keystroke mapping (encoding) for VT220 emulation.

Table D.8: VT220 Encoding

VT220 Keyboard	PC Keyboard	VT220 Keyboard Byte Sequence
Delete	Delete	Øx7F
Left Arrow	Left Arrow	Esc [D
Right Arrow	Right Arrow	Esc [C
Up Arrow	Up Arrow	Esc [A
Down Arrow	Down Arrow	Esc [B
Keypad /	Keypad /	/
Keypad *	Keypad *	*
Keypad -	Keypad -	-
Keypad +	Keypad +	+
Keypad .	Keypad .	.
Keypad 0..9	Keypad 0..9	0..9
F1	F1	Esc O P
F2	F2	Esc O Q
F3	F3	Esc O R
F4	F4	Esc O S
F6	F6	Esc [1 7 ~
F7	F7	Esc [1 8 ~
F8	F8	Esc [1 9 ~
F9	F9	Esc [2 0 ~
F10	F10	Esc [2 1 ~
F11	F11	Esc [2 3 ~
F12	F12	Esc [2 4 ~
F13	Ctrl - F5	Esc [2 5 ~
F14	Ctrl - F6	Esc [2 6 ~
F15	Ctrl - F7	Esc [2 8 ~
F16	Ctrl - F8	Esc [2 9 ~
F17	Ctrl - F9	Esc [3 1 ~
F18	Ctrl - F10	Esc [3 2 ~
F19	Ctrl - F11	Esc [3 3 ~
F20	Ctrl - F12	Esc [3 4 ~

The following table lists the DSView management software decoding for VT220 terminal emulation.

Table D.9: VT220 Decoding

VT220 Keyboard Function	VT220 Keyboard Byte Sequence
Index	Esc D
New Line	Esc E
Reverse Index	Esc M
Escape	Esc O
Save cursor and attributes	Esc 7
Restore cursor and attributes	Esc 8
Up Arrow	Esc [A
Down Arrow	Esc [B
Right Arrow	Esc [C
Left Arrow	Esc [D
Set cursor to home position	Esc [H
Set cursor to home position	Esc [f
Character attributes	Esc [m
Erase from cursor to end of line	Esc [K
Erase from cursor to end of screen	Esc [j
Programmable LEDs	Esc [q
What are You?	Esc [c
Set Mode	Esc [?
Delete 1 Character	Esc [P
Insert 1 Line	Esc [L
Delete 1 Line	Esc [M
Up Arrow	Esc [O A
Down Arrow	Esc [O B
Right Arrow	Esc [O C
Left Arrow	Esc [O D
Fill Screen with Es	Esc # 8
Up Arrow amount specified by Pn	Esc [Pn A
Down Arrow amount specified by Pn	Esc [Pn B
Right Arrow amount specified by Pn	Esc [Pn C
Left Arrow amount specified by Pn	Esc [Pn D
Erase parts of current line	Esc [Pn K
Erase parts of current screen	Esc [Pn J
Direct Cursor Addressing	Esc [Pn H
Direct Cursor Addressing	Esc [Pn f
Programmable LEDs	Esc [Pn q
Scrolling Region	Esc [Pn r

Table D.9: VT220 Decoding (Continued)

VT220 Keyboard Function	VT220 Keyboard Byte Sequence
Clear tabs	Esc [Pn g
Device status report	Esc [Pn n
What are you?	Esc [Pn c
Sat Mode	Esc [Pn h
Delete Pn Characters	Esc [Pn P
Insert Pn Characters	Esc [Pn L
Delete Pn Lines	Esc [Pn M
Insert Character	Esc [Pn @
Erase Pn Characters	Esc [Pn X

VT52 terminal emulation

The following table lists the DSView management software keystroke mapping (encoding) for VT52 terminal emulation.

Table D.10: VT52 Encoding

VT52 Keyboard	PC Character Sequence	VT52 Keyboard Byte Sequence
Delete	Delete	0x7F
Up Arrow	Up Arrow	Esc A
Down Arrow	Down Arrow	Esc B
Right Arrow	Right Arrow	Esc C
Left Arrow	Left Arrow	Esc D
Shift-F1	PF1	Esc P
Shift-F2	PF2	Esc Q
Shift-F3	PF3	Esc R
Shift-F4	PF4	Esc S

The following table lists the DView Management Software decoding for VT52 terminal emulation.

Table D.11: VT52 Decoding

VT52 Keyboard Function	VT52 Keyboard Byte Sequence
Cursor Up	Esc A
Cursor Down	Esc B
Cursor Right	Esc C
Cursor Left	Esc D
Cursor Home	Esc H
Reverse Linefeed	Esc I

Table D.11: VT52 Decoding (Continued)

VT52 Keyboard Function	VT52 Keyboard Byte Sequence
Erase to end of screen	Esc J
Erase to end of line	Esc K

The following table lists the VT52 and ANSI auxiliary keypad definitions. Encoding of each listed keypad key is supported; decoding is not applicable.

Table D.12: VT52 ANSI Mode Auxiliary Keypad Definitions

Keys	Keypad Numeric Code	VT52 Keypad	ANSI Keyboard
0	0	Esc ? p	Esc O p
1	1	Esc ? q	Esc O q
2	2	Esc ? r	Esc O r
3	3	Esc ? s	Esc O s
4	4	Esc ? t	Esc O t
5	5	Esc ? u	Esc O u
6	6	Esc ? v	Esc O v
7	7	Esc ? w	Esc O w
8	8	Esc ? x	Esc O x
9	9	Esc ? y	Esc O y
- (dash)	- (dash)	Esc ? m	Esc O m
, (comma)	, (comma)	Esc ? l	Esc O l
. (period)	. (period)	Esc ? n	Esc O n
Enter	Same as Return key	Esc ? m	Esc O m

VT320 terminal emulation

The following table lists the DSView management software keystroke mapping (encoding) for VT320 terminal emulation.

Table D.13: VT320 Encoding

VT320 Keyboard	PC Character Sequence	VT320 Keyboard Byte Sequence
Escape Key (Esc)	Esc	0x1B
F1	F1	Esc O P
F2	F2	Esc O Q
F3	F3	Esc O R
F4	F4	Esc O S

Table D.13: VT320 Encoding (Continued)

VT320 Keyboard	PC Character Sequence	VT320 Keyboard Byte Sequence
F6	F6	Esc [1 7 ~
F7	F7	Esc [1 8 ~
F8	F8	Esc [1 9 ~
F9	F9	Esc [2 0 ~
F10	F10	Esc [2 1 ~
F11	F11	Esc [2 3 ~
F12	F12	Esc [2 4 ~
F13	Ctrl - F5	Esc [2 5 ~
F14	Ctrl - F6	Esc [2 6 ~
F15	Ctrl - F7	Esc [2 8 ~
F16	Ctrl - F8	Esc [2 9 ~
F17	Ctrl - F9	Esc [3 1 ~
F18	Ctrl - F10	Esc [3 2 ~
F19	Ctrl - F11	Esc [3 3 ~
F20	Ctrl - F12	Esc [3 4 ~
Insert	Insert	Esc [1 ~
Home	Home	Esc [2 ~
Delete	Delete	Hex 7 F
End	End	Esc [5 ~
Up Arrow	Up Arrow	Esc [A
Down Arrow	Down Arrow	Esc [B
Left Arrow	Left Arrow	Esc [D
Right Arrow	Right Arrow	Esc [C

The following table lists the DSView management software decoding for VT320 terminal emulation.

Table D.14: VT320 Decoding

VT320 Keyboard Function	VT320 Keyboard Byte Sequence
Index	Esc D
New Line	Esc E
Reverse Index	Esc M
Escape O	Esc O
Save cursor and attributes	Esc 7
Restore cursor and attributes	Esc 8

Table D.14: VT320 Decoding (Continued)

VT320 Keyboard Function	VT320 Keyboard Byte Sequence
Up Arrow	Esc [A
Down Arrow	Esc [B
Right Arrow	Esc [C
Left Arrow	Esc [D
Set cursor to home position	Esc [H
Set cursor to home position	Esc [f
Character Attributes	Esc [m
Erase from cursor to end of line	Esc [K
Erase from cursor to end of screen	Esc [J
Programmable LEDs	Esc [q
What are You?	Esc [c
Set Mode	Esc [?
Delete 1 Character	Esc [P
Insert 1 Line	Esc [L
Delete 1 Line	Esc [M
Up Arrow	Esc O A
Down Arrow	Esc O B
Right Arrow	Esc O C
Left Arrow	Esc O D
Fill Screen with Es	Esc # 8
Up Arrow amount specified by Pn	Esc [Pn A
Down Arrow amount specified by Pn	Esc [Pn B
Right Arrow amount specified by Pn	Esc [Pn C
Left Down Arrow amount specified by Pn	Esc [Pn D
Erase parts of current line	Esc [Pn K
Erase parts of current screen	Esc [Pn J
Direct Cursor Addressing	Esc [Pn H
Direct Cursor Addressing	Esc [Pn f
Programmable LEDs	Esc [Pn q
Scrolling Region	Esc [Pn r
Clear tabs	Esc [Pn g
Device status report	Esc [Pn n
What are you?	Esc [Pn c
Sat Mode	Esc [Pn h
Delete Pn Characters	Esc [Pn P
Insert Pn Lines	Esc [Pn L
Delete Pn Lines	Esc [Pn M

Table D.14: VT320 Decoding (Continued)

VT320 Keyboard Function	VT320 Keyboard Byte Sequence
Insert Character	Esc [Pn @
Erase Pn Characters	Esc [Pn X

Appendix E: Keyboard Commands

In addition to using your mouse, certain keyboard commands may be used to select and modify items in DSView 3.0.2 Explorer pages, as described in the following sections.

General keyboard commands

Table E.1 lists general keyboard commands that may be used in DSView 3.0.2 Explorer windows.

Table E.1: General Keyboard Commands

Key	Description
Tab	Transfers focus to the next control in the DSView 3.0.2 Explorer window page, including the calendar
Shift-Tab	Transfers focus to the previous HTML control

Calendar keyboard commands

Table E.2 lists the keyboard commands that may be used in DSView 3.0.2 Explorer windows when a calendar is enabled and has focus.

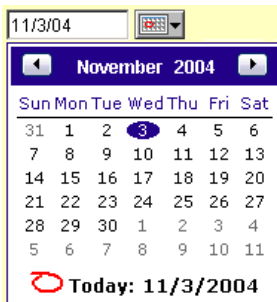


Figure E.1: Example Calendar

Table E.2: Calendar Keyboard Commands

Key	Description
Enter- OR -Space	Displays or closes the calendar.
Esc	Closes the calendar when the calendar is enabled and has focus.
Page Up	Decrements the month by one month and selects the first day of the month.
Page Down	Increases the month by one month and selects the first day of the month.
Right Arrow	Increments the day by one day. If the last day of the month is selected and the Right Arrow key is pressed, the month is incremented to the next month.

Table E.2: Calendar Keyboard Commands (Continued)

Left Arrow	Decrements the day by one day. If the first day of the month is selected and the Right Arrow key is pressed, the month is decremented to the previous month.
Up Arrow	Decrements the weekday by one week. If the first weekday type of the month is selected and the Up Arrow key is pressed, the month is decremented to the previous month.
Down Arrow	Increments the weekday by one week. If the last weekday type of the month is selected and the Down Arrow key is pressed, the month is incremented to the previous month.

Spinner keyboard commands

Table E.3 lists the keyboard commands that may be used in DSView 3.0.2 Explorer windows when a spinner is enabled and has focus.

**Figure E.2: Example Spinner****Table E.3: Spinner Keyboard Commands**

Key	Description
Up Arrow	Increments the spinner number by one
Down Arrow	Decrements the spinner number by one

Appendix F: Regaining Access to a DSView Software System

Access to a DSView software system may be lost due to reasons such as:

- Being locked out by the DSView management software
- Deleting the last DSView software administrator
- Forgetting the DSView software administrator password

To regain access to a DSView software system:

1. Contact Avocent Technical Support. You will be provided with the `resetpassword.zip` archive file.
2. Extract the `resetpassword.zip` archive file into the `<DSView Installation Directory>\bin` directory on the DSView software hub server using a third party product.
3. From the Control Panel, select *Administrative Tools - Services* and stop the Avocent DSView software service.
4. Open a terminal window, change directories to the `<DSView Installation Directory>/bin` directory and enter **`resetpassword.bat`**. A code successfully generated message will appear in the terminal window, along with a request code in the same format as the following:

```
341D3DAD-E71A15B1-66D77BBD-E655BB6C
```

NOTE: Request codes are only valid for 4 hours.

5. Contact Avocent Technical Support and provide the generated request code.
6. Avocent Technical Support will provide you with a reset code.
7. In a terminal window, enter **`resetpassword.bat <reset code>`**. A *Message reset performed successfully* message will appear in the terminal window, along with the Administrator user-name and password for the DSView management software.
8. From the Control Panel, select *Administrative Tools - Services* and restart the Avocent DSView software service.
9. You may now log into the DSView management software.

Glossary

Access control

Access control refers to mechanisms and policies that restrict access to computer resources.

Active Directory

Active Directory is the directory service included with Microsoft Windows 2000 and later versions of Windows operating systems. It extends the features of previous Windows-based directory services and contains new features that ease the navigation and management of large amounts of information, which may generate savings for both administrators and end users. Active Directory is secure, distributed, partitioned and replicated. It is designed to work well in any size installation, from a single server with a few hundred objects to thousands of servers and millions of objects.

ADSAP (Avocent DS Authentication Protocol)

ADSAP is a protocol used for authentication and authorization of DS1800 digital switches, DSR switches and CPS serial over IP appliance target device sessions in the DSView management software. This is an SSL based protocol that uses X.509 certificates.

AIDP (Avocent Install and Discover Protocol)

AIDP is a protocol used to install out-of-box appliances that do not have an IP address assigned and used to discover existing appliances that have an address assigned. This UDP-based protocol is not encrypted and only public information is passed over this link. AIDP uses UDP port 3211.

NOTE: Port 3211 is non-configurable.

Applet

A program written in the Java language that runs within a web browser.

ASMP (Avocent Secure Management Protocol)

ASMP is a protocol used to securely configure managed appliance settings. This TCP-based protocol uses an SSL encrypted communications link. AMSP uses TCP port 3211.

NOTE: Port 3211 is non-configurable.

Auditing

Auditing is the process of tracking DSView software user activities by recording selected types of events in the audit log of the DSView software server.

Authentication server

An authentication server is a network device that provides authentication services.

Authentication

Authentication is the validation of DSView software user login information. Authentication is used to enforce selective permission to access resources or to perform an operation.

Authorization

Authorization is the process of granting or denying access to a resource. Most computer security systems are based on a two-step process. The first stage is authentication, which ensures that users are who they claim to be. The second stage is authorization, which allows the user access to various resources based on the user's identity.

AVSP (Avocent Video Session Protocol)

A protocol used to transfer keyboard, video and mouse information between a DS1800 digital switch or DSR switch and a remote Video Viewer. AVSP operates over SSL encrypted TCP links. TCP/IP ports 8192 and 2068 are used by default, but may be configured to different port numbers.

Browser session

A type of target device session in which the target device contains a web server. The DSView software client connects directly to the target device using a web browser. No DS1800 digital switches, DS15100 or CPS appliances or DSR switches are used for browser sessions.

Cascade device

A device that connects between a DS1800 digital switch, DSR switch or CPS appliance and a target device, or connects to a DS1800 digital switch, DSR switch or CPS appliance and is not, in itself, a target device. Examples of cascade devices include a cascade switch and an SPC power control device.

Cascade switch

A cascade switch is an analog KVM switch connected to a DS1800 digital switch or DSR switch port or DSRIQ module. A cascade switch expands the number of connections allowed on a DS1800 digital switch or DSR switch if the switch supports the cascade protocol.

Certificate authentication

Certificate authentication is the process of authenticating with a digital certificate.

CPS appliance

A CPS appliance is an Avocent managed appliance that provides a Telnet server for accessing serially attached devices over a standard TCP/IP connection. Model numbers include the CPS800, CPS1600, CPS810 and CPS1610 appliances.

Database replication

Database replication is the process of distributing and keeping in sync the same database to all DSView software servers in a DSView software system. Database replication ensures that all database changes made at the hub server or spoke servers are replicated to all DSView software servers in the DSView software system.

NOTE: The DSView management software versions of the spoke server and hub server must match in order to register the spoke server. For example, you may not register a spoke server running DSView management software version 3.0 with a hub server running DSView management software version 3.0.2.

DHCP (Dynamic Host Configuration Protocol)

DHCP is an Internet protocol used to automate the configuration of computers using TCP/IP. DHCP can be used to do the following:

- Assign IP addresses automatically
- Deliver TCP/IP stack configuration parameters, such as the subnet mask and default router

Provide other configuration information, such as printer addresses

Digital Certificate

A digital certificate is an attachment to an electronic message used for security purposes. The most common use of a digital certificate is to verify that users sending a message are who they claim to be, and to provide the receiver with the means to encode a reply.

An individual wishing to send an encrypted message applies for a digital certificate from a Certificate Authority (CA). The CA issues an encrypted digital certificate containing the applicant's public key and a variety of other identification information. The CA makes its own public key readily available through print publicity or perhaps on the Internet.

The recipient of an encrypted message uses the CA's public key to decode the digital certificate attached to the message, verifies it as issued by the CA and then obtains the sender's public key and

identification information held within the certificate. With this information, the recipient can send an encrypted reply.

The most widely used standard for digital certificates is X.509.

DSR switch

The DSR switch is part of the Avocent digital KVM switch series of products that allows KVM signals to be transmitted over a standard TCP/IP connection.

DSRIQ module

A DSRIQ smart module uses CAT 5 cabling to attach a target device to a DS1800 digital switch or DSR switch. The DSRIQ module significantly reduces cable bulk in the rack and is well suited for high-density installations.

DSView management software

The DSView management software is an Avocent software component installed on a PC. The DSView management software provides the IP-based centralized services required for management of managed appliances and target devices, including centralized authentication, access control, auditing, monitoring, license management and so on. DSView software clients interact with the software using the DSView 3.0.2 Explorer.

DSView software client

The DSView software client is a customer provided PC with an installed web browser. The web browser accesses the DSView software server and provides the user interface (that is, the DSView 3.0.2 Explorer) for the DSView software system. The DSView 3.0.2 Explorer enables DSView software users to access and administer the server, managed appliances and target devices.

DSView software client session

The DSView software client session is a single HTML session between the client web browser and the server. For each DSView software client session, the user must log into the DSView software server. Multiple DSView software client sessions can exist between a given DSView software client PC and the DSView software server. This occurs when the DSView software user launches another web browser window and connects to the same DSView software server.

NOTE: A DSView software client session may contain multiple target device sessions.

DSView software hub server

A DSView software hub server is responsible for maintaining the master copy of the DSView software system database. Only one server in a DSView software system can be configured as the hub server. Spoke servers in a DSView software system perform database replication with the hub server. The DSView software hub server acts as the traffic cop for database replication between itself and all of the other servers in a DSView software system.

NOTE: The DSView software hub server and a spoke server offer the same software functionality to a DSView software user. The distinction of "hub" or "spoke" only has to do with the database replication role the server plays and not with the software functionality the server offers to the DSView software user.

NOTE: The DSView management software versions of the spoke server and hub server must match in order to register the spoke server. For example, you may not register a spoke server running DSView management software version 3.0 with a DSView software hub server running DSView management software version 3.0.2.

DSView software spoke server

A DSView software spoke server is responsible for initiating database replication with the hub server. A spoke server sends its database changes to the hub server and receives database changes from it.

NOTE: The DSView software hub server and a spoke server offer the same software functionality to a DSView software user. The distinction of "hub" or "spoke" only has to do with the database replication role the server plays and not with the software functionality the server offers to the DSView software user.

NOTE: The DSView management software versions of the spoke server and hub server must match in order to register the spoke server. For example, you may not register a spoke server running DSView management software version 3.0 with a DSView software hub server running DSView management software version 3.0.2.

DSView software server

A DSView software server is a customer provided PC on which the DSView management software is installed.

DSView software system

All components required to provide DSView software functionality, including the DSView software server, DSView software client, managed appliances and target devices.

NOTE: An SNMP manager and external authentication servers, which are optional components and outside the DSView software system, may also be added to provide additional functionality.

Encryption

Encryption is the translation of data into a secret code. Encryption is the most effective way to achieve data security. To read an encrypted file, you must have access to a secret key or password that enables you to decrypt the file. Unencrypted data is called plain text. Encrypted data is referred to as cipher text.

There are two main types of encryption:

- Asymmetric encryption (also called public-key encryption)
- Symmetric encryption

External authentication server

The external authentication server is an optional component(s) outside of the DSView software system that enables you to select an authentication method. The DSView software server brokers authentication requests (LDAP, RADIUS and so on).

FLASH

FLASH is a special type of EEPROM that can be erased and reprogrammed in blocks instead of one byte at a time. The BIOS and applications of many modern applications are stored on a FLASH memory chip so that it may easily be updated (if necessary).

FRU (Field Replaceable Unit)

An FRU is a module or component which is typically completely replaced as part of a field service repair operation.

Graceful shutdown

A graceful shutdown is identical to a shutdown performed by selecting *Start - Shutdown* and then selecting *Shut down* in the Shut Down Window dialog box. In the DSView management software, a graceful shutdown may be performed on IPMI 1.5 target devices managed by a DS15100 appliance.

Hotkey

A hotkey is a keystroke that may be assigned and used to cause a specific action or set of actions to occur within a user interface. By assigning the action(s), the keystroke's normal operation (for example, pressing **F1** to open help) is superseded.

HTML (Hypertext Markup Language)

HTML is a markup language used to create hypertext documents that are portable from one platform to another on the World Wide Web (WWW). HTML files are ASCII text files with embedded codes (markup tags) to indicate formatting and hypertext links. Web browsers interpret and display HTML documents.

HTTP (Hypertext Transfer Protocol)

HTTP is the underlying protocol by which WWW clients and servers communicate. HTTP is an application-level, generic, stateless, object-oriented protocol for distributed, collaborative, hypermedia information systems. A feature of HTTP is the typing and negotiation of data representation, allowing systems to be built independently of the data being transferred.

HTTPS (Secure Hypertext Transfer Protocol)

HTTPS is an extension to the HTTP protocol that supports sending data securely over the WWW.

Integrated windows authentication

Previously known as Windows NT Challenge/Response (NT/CR) or NT LAN Manager (NTLM), Integrated Windows Authentication is a secure form of web browser authentication using either the Kerberos V5 authentication protocol or its own challenge/response authentication protocol.

This authentication method works best in an intranet environment where the types of web browsers that your network DSView software users access may be controlled. If you are already logged on to Windows, Integrated Windows Authentication uses your logon information for authentication, so it will not prompt for a username and password [known as Single Sign-On (SSO)].

Integrated Windows Authentication only works with Internet Explorer and does not work with an HTTP proxy. Integrated Windows Authentication must be explicitly enabled under the Advance Internet Options dialog box of Internet Explorer version 6.0 SP1 and above.

Java

Java is an environment for developing and deploying distributed, scalable, enterprise-level applications designed to run on networks, the Internet, and the WWW. The Java platform consists of a set of services, Application Program Interfaces (APIs) and protocols that provide functionality for developing multitiered, web-based applications.

KVM

KVM is an abbreviation for Keyboard, Video, Mouse.

KVM session

A KVM session is a type of target device session in which the target device contains a KVM connection (typically a server). KVM sessions are connected through a DS1800 digital switch or DSR switch. Tiered analog switches may also be part of the connection. A KVM Video Viewer connection exists between the DSView software client and the target device.

LDAP (Lightweight Directory Access Protocol)

LDAP is a set of protocols for accessing information directories. LDAP is based on standards contained in the X.500 standard, but is significantly simpler. Unlike X.500, LDAP supports TCP/IP, which is necessary for Internet access. Because LDAP is a simpler version of X.500, it is sometimes called X.500-lite.

Local port

The local port is the physical connection through which a DS1800 digital switch, DSR switch or CPS appliance can be accessed without accessing a network connection.

For a DS1800 digital switch or DSR switch, the local port is typically the KVM connection at which a keyboard, mouse and monitor can be connected directly to the switch. An onscreen display may be invoked to control the DS1800 digital switch or DSR switch and access switched KVM ports.

For a CPS appliance, the local port is typically the serial connection at which a terminal can be connected directly to the appliance. A command line interface (CLI) is used to control the CPS appliance and access switched serial ports.

Managed appliance

Managed appliances include DS1800 digital switches, DSI5100 IPMI proxy appliances, DSR switches, CPS appliances, EVR1500 environmental monitor and control appliances and generic appliances (such as routers).

MIB (Management Information Base)

MIB is a database of objects that can be monitored by a network management system (NMS). SNMP uses standardized MIB formats that allow any SNMP tools to monitor any device defined by an MIB.

NAT (Network Address Translation)

NAT is an Internet standard that enables a local-area network (LAN) to use one set of IP addresses for internal traffic and a second set of addresses for external traffic. A NAT box located between the LAN and Internet makes all necessary IP address translations.

NAT serves three main purposes:

- Provides a type of firewall by hiding internal IP addresses.
- Enables a company to use more internal IP addresses. Since they're used internally only, there's no possibility of conflict with IP addresses used by other companies and organizations.
- Allows a company to combine multiple ISDN connections into a single Internet connection.

NAT device

A NAT device is a network address translation (NAT) device enables the use of more internal IP addresses than the number that are assigned. A NAT device provides IP addresses that are not exposed outside of the device. The DSView management software will not support network configuration where the DSView software server and CPS appliances, DS1800 digital switches or DSR switches are separated by a NAT device.

Negative hysteresis

Negative hysteresis is the unsigned number of counts added to the raw threshold value, which creates the re-arm point for all sensor thresholds that are less than zero (0). A negative hysteresis value of 0 indicates that any thresholds less than zero do not contain hysteresis.

OSCAR interface

The OSCAR interface is a tool that is built in to Avocent appliances and allows a DSView software user connected to the local KVM port to view and change settings in a DS1800 digital switch, CPS appliance or DSR switch. OSCAR also allows a local user to connect to target devices.

PPP (Point to Point Protocol)

PPP is a set of industry-standard framing and authentication protocols included with Windows NT Remote Access Service to ensure interoperability with third party remote access software. PPP negotiates configuration parameters for multiple layers of the OSI (Open Systems Interconnection) model.

Positive hysteresis

Positive hysteresis is the unsigned number of counts subtracted from the raw threshold value, which creates the re-arm point for all sensor thresholds that are greater than zero (0). A positive hysteresis value of 0 indicates that any thresholds greater than zero do not contain hysteresis.

SDR repository device

An SDR repository device is the logical management device that provides a sensor data records (SDR) system interface, which in turn, provides a set of SDR storage and retrieval commands.

Serial session

A serial session is a type of target device session in which the target device contains a serial connection (typically a Linux server TTY port or a router) and is connected through a CPS appliance. A Telnet/SSH applet connection exists between the DSView software client and the CPS appliance. The CPS appliance converts the Telnet information to serial information.

Server

A server is a computer or device on a network that manages network resources. For example:

- A file server is a computer and storage device dedicated to storing files. Any user on the network can store files on the server.
- A print server is a computer that manages one or more printers.
- A network server is a computer that manages network traffic.
- A database server is a computer system that processes database queries.

Servers are often dedicated, meaning that they perform no other tasks besides their server tasks. However, on multiprocessing operating systems, a single computer can execute several programs at once. In this case, a server may refer to the program that is managing resources rather than the entire computer.

Session

When used alone, a session refers to a target device session. See the definition of a target device session for details.

Site

A site is a location that contains a managed appliance, DSView software server or both.

SNMP (Simple Network Management Protocol)

SNMP is a set of protocols for managing complex networks. SNMP works by sending messages to different parts of a network. SNMP-compliant devices, called agents, store data about themselves in MIBs and return this data to the SNMP requesters.

SNMP manager

The SNMP manager is an optional component (outside of the DSView software system) that enables the monitoring of many cross-platform devices using SNMP information. SNMP managers are also called network management systems (NMS).

SNAP trap

A SNAP trap is an automatically generated alert containing information or error explanations.

SPC power control device

The SPC power control device is an Avocent cascade device that allows the remote controlling of target device power using a serial connection.

SSL (Secure Sockets Layer)

SSL is a protocol that supplies secure data communication through data encryption and decryption. SSL enables private communications over networks by using a combination of public key cryptography and bulk data encryption.

Target device

A target device includes a wide range of data center components such as servers and routers that an administrator is able to virtually manage through the DSView management software.

Target device session

A target device session is a connection through a KVM, serial, Telnet or web browser. Target device sessions do not include power management functionality.

TCP/IP (Transmission Control Protocol)

TCP is one of the main protocols in TCP/IP networks. The IP protocol deals only with packets. TCP enables two hosts to establish a connection and exchange streams of data. TCP guarantees delivery of data and that packets will be delivered in the same order in which they were sent.

Telnet

Telnet is a terminal emulation program for TCP/IP networks, such as the Internet, that is commonly used to remotely control web servers. The Telnet program runs on your PC and connects it to a server on the network. Commands may then be entered through the Telnet program and will be executed as if being entered directly on the server console, which enables you to control the server and communicate with other servers on the network. To start a Telnet session, you must log in to a server by entering a valid username and password.

Telnet session

A telnet session is a type of target device session in which the target device supports Telnet and the DSView software client connects directly to the target device using Telnet. A generic appliance is used for Telnet sessions. DS1800 digital switches, DS15100 or CPS appliances or DSR switches is not used for Telnet sessions.

Telnet/SSH applet

This applet is a software component that provides the user interface needed to display a remote target device through serial over IP sessions.

Tiered Switch

A tiered switch is also known as a cascade switch. See the definition of Cascade switch.

Unit

Unit is a generic term that refers to either a target device or a managed appliance. For example, the Unit List may contain both target devices and managed appliances.

UDP (User Datagram Protocol)

UDP is a connectionless protocol that runs on top of IP networks like TCP. Unlike TCP/IP, UDP/IP provides very few error recovery services, offering instead a direct way to send and receive datagrams over an IP network. UDP is primarily used for broadcasting messages over a network.

Video Viewer

The Video Viewer is a software component that provides the user interface needed to display a remote target device through KVM over IP sessions.

VPN (Virtual Private Network)

VPN is a means of implementing a private network on a public network such as the Internet. By encrypting data and assigning addresses, the impression is given to networks at each end of the VPN that they are connected by a private physical network instead of across a public network.

(WAN) Wide Area Network

WAN typically refers to a network that is distributed at multiple sites and connected by a relatively slow link between the sites. The WAN is frequently implemented using a VPN on the Internet.

(WAS) Web Application Server

WAS is software that runs on a server that is capable of executing web applications. The WAS software typically contains or works with a web (HTTP) server.

(Webapp) Web Application

Webapps are groups of server-side Web resources that make up an interactive online application. The web resources include Java servlets, JavaServer Pages™ (JSPs), static documents (such as HTML documents), and applets that can be deployed in a DSView software client web browser. Web applications must run in the context of a web application server such as the DSView software server.

Web server

A web server is a computer equipped with server software to respond to HTTP requests, such as requests from a web browser. A web server uses the HTTP protocol to communicate with clients on a TCP/IP network.

X.509

X.509 is the most widely used standard for defining digital certificates. X.509 is an International Telecommunications Union (ITU) recommendation, which means that the standard has not yet been officially defined or approved. As a result, companies have implemented the standard in different ways. For example, both Netscape and Microsoft use X.509 certificates to implement SSL in their web servers and web browsers. However, an X.509 certificate generated by Netscape may not be readable by Microsoft products, and vice versa.

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