

DSView[®] 3 Software Plug-In for the ACS Advanced Console Server

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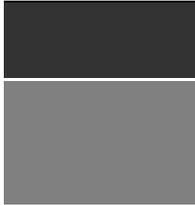
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DSView 3 Software Plug-in for the ACS Advanced Console Server

The DSView[®] 3 management software plug-in for the ACS console server enables access, configuration and management of the ACS console servers from within the DSView 3 software. The information provided here is supplemental to the DSView 3 help and the Cyclades[®] ACS Installation/Administration/User Guide. For detailed information on a particular functionality, please refer to the corresponding product manual.

Before You Begin

- The ACS console server plug-in is pre-installed in the DSView 3 software. A later version of the plug-in may be available; if necessary, follow the instructions in the DSView 3 help (keyword: plug-in) to install the updated plug-in. Make sure that the plug-in is installed on every hub and spoke server in your network.
- Starting with the ACS console server plug-in version 1.3.0, a single plug-in supports the 1 port, 4 port, 8 port, 16 port, 32 port and 48 port ACS console server models.
- DSView 3 software version 3.6.0.159 is required to operate the ACS console server plug-in 3.3.0. DSView 3 software version 3.7.1 is required to support Avocent PM 1000, 2000 and 3000 PDUs with 10 or 20 outlets.
- The ACS console server firmware version 3.0.0 or later is required for integration into the DSView 3 software. Firmware version 3.3.0 or later is recommended. If the console server needs to be upgraded, refer to the Cyclades ACS Installation/Administration/User Guide for instructions.
- You must have DSView 3 software administrator access rights to add or manage plug-ins.
- To perform any of the procedures in this document, select the appropriate ACS console server within the Units view in the DSView 3 management software. For some procedures, you will need to select the appropriate target device connected to the ACS console server.

NOTE: Most of the screens in the ACS console server plug-in include two buttons: Save and Flash Required. The Save button stores your configuration changes in the DSView 3 server database and in RAM on the ACS console server. The Flash Required button stores your changes permanently to the Flash memory card in the ACS console server.

Configuration Tools

The ACS console server plug-in is integrated with the DSView 3 management software tools to perform the tasks shown in the following table. You may access these tools from the Unit Overview page.

Table 1: Configuration Tools

Appliance / Tools	Description
Name	Rename an ACS console server. Use alphanumeric characters, hyphen (-) or underscore (_) only.
Type	Non-editable field. It displays the ACS console server type.
Reboot	Terminate all active sessions and reboot the console server.
Upgrade Firmware	Upgrade the firmware through the DSView 3 software server. A valid Flash file must exist in the DSView 3 server firmware repository.
Resync	Synchronize the configuration information in the ACS console server and connected target devices with the DSView 3 server database.
Manage Power Devices	Configure and manage power devices connected to the ACS console server and target devices.
Appliance Session	Launch a viewer with an SSH connection to the Linux command line of the ACS console server. You may specify the application to be used for serial sessions to target devices. Select <i>Profile - Applications - Serial Sessions</i> for the options.
Save Configuration	Back up the ACS console server configuration data to the DSView 3 server database. The DSView 3 server prompts you to enter a filename for the backup configuration file.
Restore Configuration	Restore a previously saved configuration. A valid configuration file must exist in the DSView 3 server configuration files repository.
Save Configuration to Flash	Save the ACS console server configuration data to Flash memory.

ACS Console Server Properties

You may modify the properties described in the following table from the Units Identification Properties page.

Table 2: Properties Configuration

Property	Description
Identity	Identification properties which may be used for asset management.
Location	Information on physical location of the console server.

Table 2: Properties Configuration (Continued)

Property	Description
Contacts	Primary and secondary contacts responsible for administering the console server, who should be notified when there is an issue with the unit.
Custom Fields	Three custom fields in which you may specify specific information to better identify an ACS console server on the network.
Notes	Any additional comments on the console server. For example, unit description or an associated accounting cost center.
Network	The ACS console server appliance static IP address and the DSView software server IP address.

To view or change properties:

1. From the Units tab, select the ACS console server you wish to configure.
2. Click *Properties* in the side navigation bar.
3. Change the desired property. Click *Save*, then *Close*.

Access Rights

The ACS console server plug-in is integrated with the DSView 3 software licensing feature to control access privileges. In addition to assigning access rights to managed devices, the DSView 3 server uses the ACS console server plug-in to control access to specific functionality of the console server. An administrator may control user or group access to the following tasks:

- View unit information
- Reboot appliance and disconnect sessions
- Flash upgrade the console server
- Configure unit settings
- Establish viewer sessions
- Control target device power
- View data logging

To configure access rights:

1. Click *Access Rights* in the side navigation bar.
2. Select a value from the User and User Groups window. The Access Right matrix displays the default values for each functionality.

If the desired user or user group is not shown, click *Edit List*. Add a user or user group from the Available dialog box to the List to Update window, then click *OK*.

3. Enable or disable an Access Right. The following options are available:

- Allow - The access right is allowed for the user/group.
- Deny - The access right is denied for the user/group.
- Inherit - The access right is propagated from the unit to which the selected user/group belongs. When *Inherit* is selected, the Allow and Deny checkboxes are grayed out.

If none of the checkboxes are checked, the access right is neither allowed nor denied.

Configuring the ACS Console Server

You may configure the following ACS console server settings using the DSView 3 software:

- Network parameters
- Authentication method and DSView 3 software authentication servers
- Enable or disable ACS console server web manager
- Configure SNMP traps, Syslog or system events
- Configure ACS console server ports
- Configure power devices and manage power on target servers
- Configure data logging

Network parameters

As a dual stack host, a single ACS console server can manage both servers configured for IPv4 and servers configured for IPv6.

NOTE: To configure IPv6 or DNS addresses, the ACS console server must have firmware version 3.2.0 or later.

To configure network parameters:

1. Select the ACS console server, then click *Appliance Settings - Network* in the side navigation bar.
2. (Optional) If you wish to enable and configure IPv4 for the appliance, select *IPv4 Configuration*.
 - a. Select *Enable IPv4*.

If you want to define the address, select *Static (User defined)*. Enter the IPv4 address, subnet mask and gateway in the fields provided.

-or-

If you want to acquire the values from the DHCP server, select *DHCP*. The address, subnet and gateway are populated for you.
 - b. Click *Save*.
3. (Optional) If you wish to enable and configure IPv6 for the appliance, select *IPv6 Configuration*.
 - a. Select *Enable IPv6*.

- b. If you want the plug-in to automatically configure the appliance, select *Stateless Configuration Only*.
-or-
If you want to define the address, select *Static (User defined)*. Enter the IPv6 address, prefix and gateway in the fields provided.
-or-
If you want to acquire the values from the DHCP server, select *DHCP*. The address, subnet and gateway are populated for you. If you want to acquire server names and/or domain names from the DHCP server, select *DNS* and/or *Domain*, respectively.
- c. Click *Save*.
4. (Optional) If you wish to configure two DNS servers for the ACS console server, select *DNS*.
 - a. If you want to define the server addresses, select *Static (User defined)*. Enter IPv4 or IPv6 addresses in the fields provided.
-or-
If you want to acquire the server addresses from the DHCP server, select *DHCP*. The addresses are populated for you.
 - b. Click *Save*.
5. Click *Flash Required* to save your changes to the ACS console server Flash memory.

If you made any changes to the ACS console server network settings, make sure to update the unit network properties by selecting *Units - Properties - Network*.

To push an IP address to a non-configured ACS console server:

When adding a new ACS console server, the Avocent Install and Discover Protocol (AIDP) allows the DSView 3 software to use DHCP or assign a static IPv4 or IPv6 address to an unconfigured appliance.

1. In the Add Appliance Wizard, after you have selected an appliance under *Select Appliance Type*, click *Next*.
2. If the ACS console server does not have an IP address, select *No, the ACS was not configured yet*, then click *Next*.
3. Select *IPv4* to assign the ACS console server an IPv4 address. Enter the IPv4 address and subnet mask in the fields provided. To define the address, select *Static* and optionally enter a gateway in the field provided; or to acquire the address from the DHCP server, select *DCHP*.
-or-
Select *IPv6* to assign the ACS console server an IPv6 address. From the menu, select the scope of where the multicast message will be sent. Select *Static* and enter the IPv6 address, prefix length and optionally enter a gateway in the fields provided; or to acquire the address from the DHCP server, select *DCHP*.
4. Follow the on-screen instructions to complete the Add Appliance Wizard.

Configuring dial-up connection

ACS plug-in version 1.2.1 allows you to configure dial-up access via modem or ISDN as a backup connection to the appliance. The appliance can be configured for dial-in, dial-back or dial-in with One-Time Password (OTP).

The dial-up connection feature is configured from the *Appliance Settings - Dial Up* node. From that node, two pages are available: *Settings* and *External Modem* (a sub-page available when *External* is selected as the modem type from the *Settings* page).

NOTE: To configure dial-up, you must have rights for *Configure Unit Settings*. Without those rights, you can only view the current settings.

The following table provides a summary of the fields on this screen.

NOTE: Dial-up can be configured only when the appliance is reachable using the primary network.

Table 3: Dial-up Configuration

Field	Control Type	Description
Enable Dial-up	Checkbox	Refers only to the modem. When enabled, DSView 3 software will use a modem or ISDN connection when the primary network is unavailable.
Modem Type	Radio buttons	Choices are ISDN PCMCIA, analog PCMCIA and analog external. NOTE: ISDN cannot be used with OTP. Analog external cannot be used with OTP and dial-back.
Secure Dial-in	Checkbox	Select this checkbox if you want the caller to be verified for incoming appliance calls. If selected, only those phone numbers listed in the Allowed Remote Numbers will be accepted by the appliance. If not selected, the appliance will accept incoming calls from any phone number.
Allowed Remote Numbers	Text	List of user-selected phone numbers that the appliance will allow when Secure Dial-in (checkbox) is enabled. Phone numbers are entered without spaces and a comma is required between each phone number added.
Serial Modem Port	Combo box	Port number on the appliance where the external modem is connected.
Appliance Phone Prefix	Read-only text	The appliance's phone number prefix (required to reach the appliance), set in System - DSView Server - Properties.
Appliance Phone Number	Text	Enter the phone number that the DSView 3 software uses to dial the appliance.
PPP User	Text	Enter the username of the modem or dial-back user.

Table 3: Dial-up Configuration (Continued)

Field	Control Type	Description
Change PPP Password	Checkbox	Check this field to be able to enter a password in the PPP password field, otherwise that field will be disabled.
PPP Password and Confirm PPP Password	Password	Use this password to authenticate the dial-back or dial-out user. When disabled, the plug-in will use the previously-set password.
PPP Auth Protocol	Combo box	Select the authentication method: PAP or CHAP.
PPP User Auth (PAM)	Combo box	This is the desired authentication method for PPP user. It is recommended that <i>Local</i> authentication is selected since the PPP user is created as a Local user in the console server. If another authentication method is desired, the PPP user must be created in the authentication server and the authentication server must be accessible even if there is no connection between the dialer in DSView 3 software and the console server. NOTE: For ACS console server firmware version 3.0.x using Modem Type ISDN PCMCIA or Analog PCMCIA, the PAM should be set to Same as unit authentication and the unit authentication should be set to Local, or, the authentication server can be set to allow the PPP user to log into the appliance.
PPP Local IP address	Display only	When first configured, these text areas will be blank and you will have to select the Set PPP IP addresses checkbox to assign the PPP Local IP address. If previously configured, the PPP Local IP address will be displayed here.
PPP Appliance IP address	Display only	When first configured, these text areas will be blank and you will have to select the Set PPP IP addresses checkbox to assign the PPP Appliance IP address. If previously configured, the PPP Appliance IP address will be displayed here.
Set PPP IP addresses	Checkbox	Select this checkbox if the PPP Local IP and PPP Appliance IP address fields are blank, or if you wish to assign new IP addresses for them. Selecting this checkbox will enable you to select one of the two radio buttons: Automatically or Choose Address Manually.
Choose address automatically	Radio button	Select this button to have the DSView 3 software assign the PPP IP addresses from the address range in the System - DSView Modem Sessions page.
Choose addresses manually	Radio button	Select this button to enter the PPP Local IP address and PPP Appliance IP address manually in the fields provided.
PPP Local IP address	Text	Enter the local IPv4 or IPv6 address for the PPP connection.

Table 3: Dial-up Configuration (Continued)

Field	Control Type	Description
PPP Appliance IP address	Text	Enter the appliance IPv4 or IPv6 address for the PPP connection.
Enable Dial-back	Checkbox	Select whether to enable or disable dial-back mode. Dial-back cannot be used with OTP or with an external modem. Can only be enabled when there is a dial-back phone number configured in the DSView 3 software.
Dial-back prefix	Text	Use this prefix for the remote appliance to dial back to the DSView 3 software. This field will be disabled when dial-back is not enabled.
Dial-back Analog Phone Number	Read only Text field	This field displays the phone number(s) of the analog line(s) in the DSView 3 software. The phone number is set in System - DSView Server - Properties.
Dial-back ISDN Phone Number	Read only Text field	This field displays the phone number(s) of the ISDN line(s) in the DSView 3 software. The phone number is set in System - DSView Server - Properties.
Enable OTP	Checkbox	Select whether to enable or disable OTP for the dial connection. Does not work with dial-back or ISDN. All OTP related fields will be disabled when this field is not checked.
OTP user	Text	User name used in OTP.
OTP sequence auto refresh	Radio button	Eliminates the need to manually refresh the OTP sequence periodically. This is necessary to let the DSView 3 software know how to answer when the console server asks if it should reset the sequence during PPP establishment.
OTP sequence manual	Radio button	Select when you want to reset the sequence manually.
Reset sequence now	Checkbox	The sequence will be reset when this checkbox is selected.
OTP Random pass phrase	Radio button	Use to generate a random pass phrase. This will disable the OTP pass phrase field. It causes the plug-in to generate a random pass phrase at that moment.
OTP set pass phrase	Radio button	Enter a pass phrase manually in the appropriate field.
Change OTP pass phrase	Checkbox	Check this box to be allowed to enter a password in the OTP pass phrase field.
OTP pass phrase and confirm OTP pass phrase	Password	This is the pass phrase used for OTP encryption.
External Modem (sub page)	Pulldowns	Select the appropriate values for Baud, Data Bit, Flow Control, Parity, Stop Bits and DCD to configure the ACS console server for dial-in connection using an external modem. An external modem cannot be configured for dial-back or OTP.

Configuring authentication

Using the ACS console server plug-in, you can configure two of the centralized authentication types available: the DSView 3 management software or the Radius authentication server.

DSView 3 management software configuration

To enable centralized authentication in the DSView 3 software, first select one of the three DSView 3 software authentication types: DSView, DSView/Local or DSViewDownLocal. When the DSView 3 software centralized authentication service is configured, the DSView 3 server is used to authenticate users accessing the ACS console server.

To select a DSView 3 software authentication type:

1. Click *Appliance Settings - Authentication Type* in the side navigation bar.
2. Select an Authentication Type from the drop-down list. Click *Save*.
3. Click *Flash Required* to save your changes to the ACS console server Flash memory.

You may use the *Appliance Authentication Servers - DSView* page to configure up to four DSView 3 software authentication servers for the DSView, DSViewLocal or DSViewDownLocal authentication methods.

NOTE: To configure IPv6 addresses, the ACS console server must have firmware version 3.2.0 or later.

To configure DSView 3 software authentication servers:

1. Click *Appliance Settings - Authentication Servers - DSView* in the side navigation bar.
2. Enter the IPv4 or IPv6 addresses of up to four DSView 3 software authentication servers on your network. Click *Save*.
3. Click *Flash Required* to save your changes to the ACS console server Flash memory.

Radius authentication server configuration

The ACS console server also supports the Radius authentication server. You may use the *Appliance Authentication Servers - Radius* page to configure up to four Radius authentication servers (up to two Radius authentication servers and up to two Radius accounting servers).

To configure Radius authentication servers:

1. Click *Appliance Settings - Authentication Servers - Radius* in the side navigation bar.
2. Enter the IPv4 or IPv6 addresses of up to four Radius authentication servers on your network (up to two authentication servers and up to two accounting servers).
3. In the Secret field, enter the secret configured in the Radius Server.
4. In the Timeout field, enter the amount of time in seconds that the ACS console server will wait for the Radius server to respond before trying again.
5. In the Retries field, enter the number of retries to attempt if the Radius server does not respond before trying the secondary server.

6. Select the *Enable Service-Type attribute checking* checkbox to authorize the ACS console server to retrieve the level of the user (admin or regular) based on the Service-Type attribute from the Radius server.
7. Click *Save*.
8. Click *Flash Required* to save your changes to the ACS console server Flash memory.

ACS console server web manager

You may use the Web Service page to enable or disable access to the ACS console server web manager. If direct access to the ACS console server is required, you need to enable the web service.

To enable or disable access to the ACS console server web manager:

1. Click *Appliance Settings - Web* in the side navigation bar.
2. Select the new state for the web manager from the drop-down list. Click *Save*.
3. Click *Flash Required* to save your changes to the ACS console server Flash memory.

Configuring SNMP

SNMP v1/v2 protocol is used to communicate management information between the DSView 3 server and the ACS console server. The following limitations apply when using the DSView 3 software to configure SNMP:

- The DSView 3 software may configure only one SNMP read and write community.
- SNMPv3 cannot be configured through the DSView 3 software.

To configure more than one SNMP community or to configure SNMPv3, enable and use the ACS console server web manager. See the ACS console server web manager section and the Cyclades ACS Installation/Administration/User Guide

The following settings appear under SNMP in the side navigation bar:

- System - Assign, enable or disable an SNMP server. When you enable SNMP, the managed appliance listens for incoming traps to log SNMP messages.
- Managers - Assign SNMP management stations. Up to four management station are allowed.
- Community - Define access environment to which the devices and management stations running SNMP belong.
- Destinations - Enter the IP addresses of hosts where SNMP traps are sent. Destination SNMP traps are enabled through the Events menu. See the Configuring system events section.

NOTE: To configure IPv6 addresses, the ACS console server must have firmware version 3.2.0 or later.

To configure ACS console server SNMP parameters:

1. Click *Appliance Settings - SNMP* in the side navigation bar.
2. Enable SNMP from the System menu. If desired, change the name and description of the managed appliance and enter a contact. Click *Save*.

3. Click *Managers* in the side navigation bar and enter the IPv4 or IPv6 address of up to four SNMP management stations. Click *Save*.
4. Click *Community* in the side navigation bar and enter the SNMP community names for read, write and trap. Click *Save*.
5. Click *Destinations* in the side navigation bar and enter the IPv4 or IPv6 address of up to four SNMP trap destinations. Click *Save*.

Configuring system events

SNMP traps and Syslog messages

The ACS console server may be configured to send notification for system events using the following modes of delivery:

- SNMP traps - System events are routed and logged in the DSView 3 software event database, and optionally in the SNMP management systems.
- Syslog - System events are logged in the DSView 3 software event database.

To configure SNMP traps and syslog:

1. Click *Appliance Settings - Events - Traps/Syslog* in the side navigation bar.
2. Activate the desired events and click the *Enable SNMP Trap* or *Enable Syslog* notification mode. You may use the Filter field to display events that contain your search string.
 - If you select Syslog notification mode, make sure you enable and save the Syslog server by selecting *System - Data Logging - SysLog Server*.
 - If you select SNMP trap notification mode, specify trap destinations under *Appliance Settings - SNMP - Destinations*.
3. Click *Flash Required* to save your changes to the ACS console server Flash memory.

Configuring appliance alerts

You may configure alert strings for defined events, and trigger an email notification when the system event containing the alert string occurs. You may enter up to 10 alert strings in the displayed fields.

To enable appliance alerts and email notification:

1. Click *Appliance Settings - Events - Appliance Alerts* in the side navigation bar.
2. Click *Enable Appliance Alert* and enter the desired text string(s) in the *Alert String* field(s).
3. Click *Flash Required* to save your changes to the ACS console server Flash memory.
4. Navigate to the Reports tab and click *Email Notifications* in the side navigation bar.
5. Click *Add* to start the Add Email Notification Wizard. Click *Next*.
6. Configure the email address properties. Click *Next*.
7. Select the events for which you want to trigger email notifications and add them to the Events To Notify window. Click *Next*.

8. Add one or more unit groups for which you want to trigger email notification. Click *Next*, then click *Finish*.

Configuring data logging

The ACS console server plug-in integrates with the DSView 3 management software to support data logging of console connections to console servers and connected target devices using the Syslog protocol. You can use the data logging feature to:

- Enable or disable data logging on the ACS console server or each individual serial port.
- Configure the DSView 3 server where the data logging messages should be sent.
- Configure Syslog server and SSH server ports.
- Configure SSH parameters on the ACS console server.

To enable or disable data logging:

1. Click *Appliance Settings - Data Logging - Configure* in the side navigation bar.
2. Select the connection to the console server or individual serial ports, and click the *Enable* or *Disable* button.
3. Click *Flash Required* to save your changes to the ACS console server Flash memory.

To configure the Syslog SSH server for data logging:

1. Click *Appliance Settings - Data Logging - Settings* in the side navigation bar.
2. Enter the IPv4 or IPv6 address of the DSView 3 server which belongs to the same hub and spoke system.
3. Enter the Syslog server and SSH server port numbers, and configure the ACS console server for SSH tunneling. The default SSH server port number is TCP 4122 and the Syslog server port number is TCP 4514.

NOTE: Make sure Syslog and SSH servers are both enabled for data logging. To verify, click *SSH Server* and *Data Logging - Server Settings* from the System tab.

4. If NFS data logging is used in any of the serial ports, enter the NFS destination in the field provided.
5. Click *Save* to store your changes in the DSView 3 server database.
6. Click *Flash Required* to save your changes to the ACS console server Flash memory.

To view the data logging files:

1. Click *Session Files* in the side navigation bar.
2. To modify the list of viewable columns, click the *Customize* button and add the desired fields from the Available Fields window.
3. Click *Save* or *Set as Default* and then click *Close*.

4. To view a file's content, click on a filename. A text file opens using the default text viewer in the DSView 3 software.

ACS console server firmware information

Navigate to *Appliance Settings - Versions* to display boot code and firmware versions of the ACS console server.

Configuring the ACS Console Server Serial Ports

You may perform the following tasks from the Ports page:

- Enable or disable serial ports.
- Rename serial ports and initiate a push or pull name operation.
- Configure serial ports authentication method.
- Configure serial ports connection protocol, break sequence and communication parameters.
- Configure serial ports for multiple users and sessions.
- Configure port alerts.
- Configure data logging.

Enable or disable a serial port

To enable or disable a serial port:

1. Click *Appliance Settings - Ports - Serial* in the side navigation bar. A list of serial ports appear.
2. Activate the checkbox next to a desired port and click the *Enable Port* or *Disable Port* button.
3. Click *Flash Required* to save your changes to the ACS console server Flash memory.

NOTE: You may view the status of all serial ports from this page. The Type (protocol) of each serial port is configurable through the ACS console server web manager. See the ACS console server web manager section, and the Cyclades ACS Installation/Administration/User Guide.

Serial ports general settings

To configure serial ports general settings:

1. Click *Appliance Settings - Ports - Serial* in the side navigation bar. A list of serial ports appears.
2. Click the desired port number. The General Info page appears.
3. To rename a serial port in the ACS console server, enter a desired name in the Name in Appliance field. This may be a target device name in the ACS console server.
4. Select an Authentication Type for the serial port from the drop-down list. The DSView software is the global authentication method.
5. Select the desired protocol for connecting to a target device.

NOTE: Only SSH and SSH/Telnet are supported by the serial viewer.

6. Enter a desired character string for sending a break sequence to the serial port. The default is **~break [Ctrl-b]**.
7. Select the linefeed suppression of *After a CR*, *None*, or *Null After a CR* from the menu.
8. Enter the idle time-out in minutes in the field provided.
9. From the menu, select the terminal type for the serial viewer session. If you want the serial viewer session to emulate a Windows EMS terminal, select *Windows EMS*.

The terminal type and Windows EMS selection only apply when the serial viewer is launched from the ACS console server; these settings do not apply when the serial viewer is launched from the DSView 3 software.

NOTE: To configure serial viewer settings, the ACS console server must have firmware version 3.2.0 or later.

10. Click *Save* to store your changes in the DSView 3 software database.
11. Click *Flash Required* to save your changes to the ACS console server Flash memory.

Configuring serial communication parameters

In addition to the communication options that are normally available to serial devices in the DSView 3 software, you can configure the following communication parameters on a serial port:

- Detect if a modem in use is still powered and active.
- Monitor a Data Carrier Detect (DCD) signal. By doing this, the system can generate an alarm if a serial console cable is removed from the console server or if a target device attached to the console server is powered down.

To configure serial communication parameters:

1. Click *Appliance Settings - Ports - Serial* in the side navigation bar.
2. Click the serial port you wish to configure.
3. Click *Communication* from the side navigation bar.
4. Configure the communication parameters and the DCD signal.

NOTE: Communication settings must match the settings in the target device.

5. Click *Save* to store your changes in the DSView 3 server database.
6. Click *Flash Required* to save your changes to the ACS console server Flash memory.

Configuring multiple users and sessions

The ACS console server allows multiple users to connect simultaneously to a single serial port.

To configure multiple users and sessions:

1. Click *Appliance Settings - Ports - Serial* in the side navigation bar.

2. Click the serial port you wish to configure.
3. Click *Multi-User* from the side navigation bar.
4. Activate the *Enable Multiple Sessions* checkbox.
5. Select an option from the Multiple Sessions Settings pull-down menu. The following table describe the available options.

Table 4: Multiple Session Settings

Multiple Session Setting	Description
No	Do not allow multiple sessions. Only two users can connect to the same port simultaneously. One shared session and one normal session are allowed.
Read/Write (show menu)	More than two simultaneous users can connect to the same serial port. A sniffer menu is presented, in which you can choose to: <ul style="list-style-type: none"> • Open a sniff session • Open a read/write session • Cancel a connection • Send a message to other users connected to the same serial port
Read/Write (do not show menu)	Read/write sessions are opened, and the sniffer menu won't be presented.
ReadOnly (do not show menu)	Read only sessions are opened, and the sniffer menu won't be presented.

6. In the Privileged Users field, enter the usernames or group names with access rights to a multiuser shared session.
7. In the Menu Hotkey field, enter the hotkey sequence for accessing the menu. The default is **^Z (Ctrl-Z)**.
8. Activate the Notify Users checkbox to inform users of session access.
9. Select an option from the Sniff Mode drop-down list to configure the type of data displayed on the monitor in a port-sharing session.
10. Click *Save* to store your changes in the DSView 3 server database.
11. Click *Flash Required* to save your changes to the ACS console server Flash memory.

To enable port alerts and email notification:

1. Click *Appliance Settings - Ports - Serial* in the side navigation bar.
2. Click the serial port you wish to configure.
3. Click *Alerts* from the side navigation bar.
4. Click *Enable Port Alert* and enter the desired text string(s) in the Alert String field(s).
5. Click *Save* to store your changes in the DSView 3 server database.
6. Click *Flash Required* to save your changes to the ACS console server Flash memory.

7. Navigate to the *Reports* tab and click the *Email Notifications* in the side navigation bar.
8. Click *Add* to start the Add Email Notification Wizard. Click *Next*.
9. Configure the email address properties. Click *Next*.
10. Select the events for which you want to trigger email notifications and add them to the Events To Notify window. Click *Next*.
11. Add one or more unit groups for which you want to trigger email notification. Click *Next*, then click *Finish*.

Serial ports data logging

The ACS console server supports the following methods of data logging. Only one of the data logging methods can be enabled at a time.

- DSView 3 server centralized data logging of the serial console sessions and direct SSH/Telnet sessions to the console server. See *Configuring data logging* on page 12.
- ACS console server local data logging where data is stored in circular format in a file or buffer. In a circular data logging format, data is written into a specified local data file until the maximum file size is reached then the data is overwritten sequentially as additional data log is stored. Circular buffering requires an administrator to set up a process to examine the data during the timeframe before the data logging file or buffer reach its maximum size.

To configure serial port data logging:

1. Click *Appliance Settings - Ports - Serial* in the side navigation bar.
 2. Click the serial port you wish to configure.
 3. Click *Data Logging* from the side navigation bar.
 4. To enable data logging on the DSView 3 server, select *Enabled DSView 3 Data Log*.
-or-
To enable data logging on the serial port, select *Enable appliance circular data log*. Select the *Buffer* or *File* mode from the menu and enter the file size limit in bytes the field provided.
-or-
To enable remote data logging using the Network File System (NFS), select *Enable Remote NFS Data Log*.
-
- NOTE:** To configure remote NFS data logging, the ACS console server must have firmware version 3.2.0 or later.
- or-
- To disable all data logging, select *Disable Data Log*.
5. (Optional) If you want the ACS console server to attempt to discover the hostname, select *Hostname Discovery* and enter the time-out value in seconds in the field provided. If the ACS console server cannot discover the hostname in the allotted time, the default target device name is used.
 6. Click *Save* to store your changes in the DSView 3 server database.
 7. Click *Flash Required* to save your changes to the ACS console server Flash memory.

Managing Power Devices

You may configure and manage the following power devices connected to an ACS console server through the DSView 3 software:

- Avocent 1000/2000/3000 Power Management Power Distribution Units (PM PDUs)
- Avocent SPC power control device
- Cyclades PM Intelligent Power Distribution Unit (IPDU)
- Server Technology Sentry™ Switched CDU, Smart CDU and PTXL models

NOTE: Configuration and management of Server Technology Sentry models should be handled through the DSView 3 software. The DSView 3 server enables the Server Technology Sentry licensing feature for the selected serial ports in the ACS console server.

Adding or removing power management devices

To add or remove power management devices:

1. Click *Appliance Settings - Ports - Power Devices*.
2. Click the *Manage* button to start the Power Management Wizard. Click *Next*.
3. Select the *Add Power Devices* or *Remove Power Devices* radio button. Click *Next*.
4. Select the ACS console server serial port number where a power device is attached.
5. If you are adding a power device, select a Power Device Type from the drop-down list; options are Avocent/Cyclades, Server Tech or SPC power device. Click *Next*. The DSView 3 management software adds the attached power device.
6. Click *Finish*.
7. Click *Flash Required* to save your changes to the ACS console server Flash memory.

Resetting HW overcurrent protection

If a PDU has overcurrent protection and an overcurrent situation happens, the Reset HW Overcurrent Protection will reactivate the circuits.

To reset HW overcurrent protection:

1. Click *Appliance Settings - Ports - Power Devices*.
2. Select the PDU where the circuit breaker was tripped.
3. Click *Reset HW Overcurrent Protection*.

Power device settings

Depending on the power device type, the configurable parameters may differ. The following tables describe the parameters viewable when an Avocent PM PDU, Cyclades PM IPDU, an Avocent SPC power control device or a Server Technology Sentry CDU or PTXL model is used.

Table 5: Avocent PM PDU and Cyclades PM IPDU Configuration Parameters

Parameter	Description
Name in Appliance	The name saved in the power device.
Name in DSView	The name assigned to the power device in the DSView 3 software.
Firmware Version	The power device's firmware version.
Number of Sockets	Total number of outlets in the power device.
Model	The power device's model name.
Syslog	Enable or disable Syslog messages.
Buzzer	Enable or disable the buzzer.
SW Overcurrent Protection	Enable or disable Software Overcurrent protection. If the current on the power device exceeds the user-defined current high critical threshold, this function prevents outlets from being turned on.
Poll Rate (milliseconds)	The time value that the power device is polled for status and data. The value should be set between 500 and 10,000.
Vendor Name	The name of the power device manufacturer.
Default Voltage (Cyclades PM IPDU only)	The nominal input voltage feeding the power device. NOTE: Some power devices do not have the capability to read the real input voltage using proper voltage sensors.
Power Factor (Cyclades PM IPDU only)	The ratio of the real power to the apparent power; a number between 0 and 1 that is frequently expressed as a percentage. Real power is the capacity of the circuit for performing work in a particular time. Apparent power is the product of the current and voltage of the circuit.
Cycle Interval	Number of seconds a socket's power stays off before it is turned back on.
Cold Start Delay	Number of seconds the socket's power stays off before the sockets are turned on during cold start of the PDU.
LED Display	The orientation (Normal or Inverted) set in the LED Display. The LED Display shows the Current (ampere). NOTE: Valid for models that support this configuration.
LED Display Refresh Period (seconds)	Number of seconds that the LED Display shows the Current of a phase or bank before switching to the next phase or bank. NOTE: Valid for models that support this configuration.

Table 6: Avocent SPC Power Control Device and Server Technology Sentry CDU and PTXL Models Configuration Parameters

Parameter	Description
Name in Appliance	Avocent SPC power control device or Server Technology Sentry CDU or PTXL model name saved in the power control device.
Name in DSView	The name assigned to the power device in the DSView 3 software.
Status	Status of the power device (enabled or disabled). NOTE: This parameter appears only if ACS console server firmware is lower than 3.3.0.
Version	Current firmware version.
Total Load (A)	Total current load on the power device. NOTE: This parameter appears only if ACS console server firmware is lower than 3.3.0.
Total Load Minimum (A)	Triggers an enabled trap when a drop in the current below the defined minimum current threshold is reached. This value should be set between 0 and 30. NOTE: This parameter appears only if ACS console server firmware is lower than 3.3.0.
Total Load Maximum (A)	Triggers an enabled trap when a reading above the defined maximum current threshold is reached. This value should be set between 0 and 30. NOTE: This parameter appears only if ACS console server firmware is lower than 3.3.0.
Number of Sockets	Total number of outlets in the power device.
Poll Rate (milliseconds)	The time value that the power device is polled for status and data. The value should be set between 500 and 10,000.
Vendor Name	The name of the power device manufacturer.
Input Feeds	Number of power inlets used by the power device.
Model	The power device model name.
Sequence Interval (Server Technology Sentry CDU and PTXL models only)	When turning on multiple sockets at the same time, this is the delay time (in seconds) between operations on each socket (valid only on master Server Technology Sentry CDU and PTXL models).
Reboot Delay or Cycle Interval	Number of seconds that a socket's power stays off before it is turned back on (valid only on master Server Technology Sentry CDU and PTXL models).
Default Voltage	The nominal input voltage feeding the power device. NOTE: Some power devices do not have the capability to read the real input voltage using proper voltage sensors.

Table 6: Avocent SPC Power Control Device and Server Technology Sentry CDU and PTXL Models Configuration Parameters (Continued)

Parameter	Description
Power Factor	The ratio of the real power to the apparent power; a number between 0 and 1 that is frequently expressed as a percentage. Real power is the capacity of the circuit for performing work in a particular time. Apparent power is the product of the current and voltage of the circuit.

To change power device settings:

1. Click *Appliance Settings - Ports - Power Devices* in the side navigation bar.
2. Select the power device you wish to configure. The Settings page appears.
3. Modify the power device parameters. For more information, see the Avocent PM PDU and Cyclades PM IPDU Configuration Parameters table, or the Avocent SPC Power Control Device and Server Technology Sentry CDU and PTXL Models Configuration Parameters table.
4. Click *Save* to store your changes in the DSView 3 software database.
5. Click *Flash Required* to save your changes to the ACS console server Flash memory.
6. Click *Close*.

Power device sockets

Use the Power Device Sockets page to perform the following operations on an individual or multiple power device sockets.

- Switch power sockets on or off.
- Lock a socket to prevent accidental power switch, or unlock a socket.
- Cycle power on an individual socket or on multiple sockets with a defined power up interval.
- Save configuration changes to Flash memory on the ACS console server.

NOTE: Depending on the power device type, the configurable parameters may differ.

To configure individual power device sockets:

1. Click *Appliance Settings - Ports - Power Devices* in the side navigation bar.
2. Select the power device you wish to configure.
3. Click *Sockets* from the side navigation bar.
4. Activate the checkbox next to single or multiple sockets to perform the following operations:
 - Click the *On* or *Off* button to switch the power on a socket.
 - Click on the *Cycle* button to briefly switch a socket off and on.
 - Click on the *Lock* button to prevent an accidental power switch, or click *Unlock* to unlock a socket.

- Click on *Save Status* to save changes made to the outlet.
5. Click on a single socket to modify the settings. See the Power Device Socket Parameters table.

Table 7: Power Device Socket Parameters

Setting	Description
Socket	View the number of the outlet in the power device.
Name	Assign or change the name of an outlet in the power device.
Post-On Delay	Delay (in seconds) for turning on subsequent outlets after an outlet has been turned on.
Post-Off Delay	Delay (in seconds) for turning off subsequent outlets after an outlet has been turned off.
Minimum On Time (Avocent SPC power control devices only)	Minimum time an outlet stays on before it is turned off. Valid values are 0s, 15s, 30s, 45s, 1m, 1m15s, 1m30s, 1m45s, 2m, 3m, 4m, 5m, 10m, 15m, 30m and 1h.
Minimum Off Time (Avocent SPC power control devices only)	Minimum time an outlet stays turned off before it is turned on. Valid values are 0s, 15s, 30s, 45s, 1m, 1m15s, 1m30s, 1m45s, 2m, 3m, 4m, 5m, 10m, 15m, 30m and 1h.
Wake-Up State	Outlet state after a cold boot. It can be set to on, off or the last saved state. NOTE: Wake-Up State is not applicable for ServerTech and SPC PDUs.

Power device current

Use the Current page to view and configure current information for the PDU, outlets, phases and banks. This page is present if the ACS console server firmware version is 3.3.0 or greater. The following table describes the parameters.

Table 8: Power Device Current Parameters

Parameter	Description
ID	The unique ID of the element.
Scope	The element type (PDU, phase, bank or outlet).
Name	Name of the element (PDU or outlets only).
Value (A)	The current value measured in amperes.
Max (A)	The maximum value recorded, measured in amperes. NOTE: The Max (A) value can be reset with the Reset Values button.
Min (A)	The minimum value recorded, measured in amperes. NOTE: The Min (A) value can be reset with the Reset Values button.

To change power device current parameters:

1. Click *Appliance Settings - Ports - Power Devices* in the side navigation bar.
2. Select the power device you wish to configure.
3. Click *Current* from the side navigation bar.
4. Select the Current you wish to configure.
5. Set the Current high and low critical and warning thresholds. You can set a trap to be sent when the high or low threshold is reached.
6. Click *Save* to store your changes.

Power device voltage

Use the Voltage page to view voltage information for the PDU, outlets, phases and banks. This page is present if the ACS console server firmware version is 3.3.0 or greater. The following table describes the parameters.

Table 9: Power Device Voltage Parameters

Setting	Description
ID	The unique ID of the element.
Scope	The element type (PDU, phase, bank or outlet).
Name	Name of the element (PDU or outlets only).
Value (V)	The current value measured in volts.
Max (V)	The maximum value recorded, measured in volts. NOTE: The Max (V) value can be reset with the Reset Values button.
Min (V)	The minimum value recorded, measured in volts. NOTE: The Min (V) value can be reset with the Reset Values button.
Measurement	The voltage can be measured if the PDU supports voltage detection or it can be estimated if the PDU requires the user to configure the Nominal Voltage.

Power device power consumption

Use the Power page to view power consumption information for the PDU, outlets, phases and banks. This page is present if the ACS console server firmware version is 3.3.0 or greater. The following table describes the parameters.

Table 10: Power Device Power Consumption Parameters

Setting	Description
ID	The unique ID of the element.
Scope	The element type (PDU, phase, bank or outlet).
Name	Name of the element (PDU or outlets only).
Value (W)	The current value measured in watts.
Max (W)	The maximum value recorded, measured in watts. NOTE: The Max (W) values can be reset with the Reset Values button.
Min (W)	The minimum value recorded, measured in watts. NOTE: The Min (W) values can be reset with the Reset Values button.
Measurement	The power consumption can be measured if the PDU supports voltage detection or it can be estimated if the PDU requires the user to configure the Nominal Voltage.
Power Factor	The ratio of the real power to the apparent power; a number between 0 and 1 that is frequently expressed as a percentage. Real power is the capacity of the circuit for performing work in a particular time. Apparent power is the product of the current and voltage of the circuit.

Power device environment

Use the Environment page to view environmental information for the PDU. This page is present if the ACS firmware version is 3.3.0 or greater. The following table describes the parameters.

Table 11: Power Device Environment Parameters

Setting	Description
Sensor	The sensor ID.
Name	The sensor name.
Type	The sensor type.
Value	The current value of the sensor.
Max	The maximum value recorded by the sensor. NOTE: The Max (W) values can be reset with the Reset Values button.
Min	The minimum value recorded by the sensor. NOTE: The Min (W) values can be reset with the Reset Values button.
Threshold	The threshold value that caused the Alarm.
Alarm	Active alarm with the highest priority. It indicates the sensor value reached one of the configured thresholds.

To change power device environment parameters:

1. Click *Appliance Settings - Ports - Power Devices* in the side navigation bar.
2. Select the power device you wish to configure.
3. Click *Environment* from the side navigation bar.
4. Select the sensor you wish to configure.
5. Set the sensor high and low critical and warning thresholds. You can set a trap to be sent when the high or low threshold is reached.
6. Click *Save* to store your changes.

Hostname Discovery

NOTE: To configure hostname discovery strings, the ACS console server must have firmware version 3.2.0 or later.

You can configure customized probe and answer strings to provide a framework for the ACS console server when it attempts to discover hostnames. If configured, these strings are valid for all serial ports. Probe and answer strings appear in lists that are used to probe the device connected to the serial port and to extract the hostname. For more information, see the Cyclades ACS Installation/Administration/User Guide and the Cyclades ACS Command Reference Guide.

NOTE: Using probe strings requires specific knowledge of C-like escape sequences. Using answer strings requires specific knowledge of POSIX extended regular expressions.

CAUTION: Hostnames longer than 31 characters will be truncated. Only the first 31 characters of a hostname will be assigned to the serial port alias.

To configure hostname discovery probe and answer strings:

1. Click *Appliance Settings - Ports - Hostname Discovery* in the side navigation bar.
2. In the Hostname Discovery Probe Strings field, enter the range of probe strings. Probe strings are sent to the device connected to the serial port.
3. In the Hostname Discovery Answer string field, enter the range of answer strings. Answer strings are received from the device connected to the serial port.
4. Click *Save*.

Configuring the TCP Ports

By default, The TCP port numbers start at 7001 for serial port 1 and increase incrementally by one (+1) up to the number of serial ports that your console server supports. For example, an ACS console server with eight serial ports has TCP ports 7001 through 7008. If these ports are already in use within your system, the default settings may duplicate and fail. If this occurs, change the default TCP base port for the serial port.

To change the default TCP base port number:

1. Click *Appliance Settings - Ports - TCP Port* in the side navigation bar.
2. Enter the new base port in the field.
3. Click *Save* to store your changes in the DSView 3 server database.
4. Click *Flash Required* to save your changes to the ACS console server Flash memory.

ACS console server TCP and UDP ports usage

The communication between the DSView 3 software plug-in and the ACS console server may be through a standard connection or through a proxy server. ACS console servers use a Secure Shell protocol (SSH). See ACS Console Server Communication Ports table for port usage information.

Table 12: ACS Console Server Communication Ports

Port ID	Description
TCP 3871	Avocent DS Authentication Protocol (ADSAP2). Used for session authorization.
TCP 1078	Avocent serial viewer port in proxy mode.
TCP 4122 (default)	SSH Server port.
TCP 4514 (default)	Data Logging Server port.
UDP 3211	Avocent Install and Discovery Protocol (AIDP). Used for IP configuration.
UDP 162	SNMP trap port. Used if ACS console server is configured to send SNMP traps to the DSView software server.

Configuring Sessions Settings

Using the Sessions menu, you can perform the following tasks:

- View the active sessions, who is logged into each target device and their connection duration.
- Terminate a user session and disconnect them from the target device.
- Set an idle time-out, the maximum time (in seconds) that a session may be idle before the user is logged off.
- Configure multiuser settings that will be valid to all serial ports.

To monitor active sessions or set an idle time-out:

1. Click *Appliance Settings - Sessions - Active* in the side navigation bar.
2. To terminate a user's session, activate the checkbox next to a target device and click the *Disconnect* button.
3. Click *Flash Required*.
4. To set an idle timeout, select *Sessions - Settings - Serial*.

5. In the Idle Timeout field, enter a value (in seconds).
6. Click *Save* to store your changes in the DSView 3 software database.
7. Click *Flash Required* to save your changes to the ACS console server Flash memory.

To configure multiuser settings:

1. Click *Appliance Settings - Sessions - Settings - Multi-User* in the side navigation bar.
2. Activate the *Enable Multiple Sessions* checkbox.
3. Select an option from the Multiple Sessions Settings pull-down menu. See Table 4 on page 15 for available options.
4. In the Privileged Users field, enter the usernames or group names with access rights to a multiuser shared session.
5. In the Menu Hotkey field, enter the hotkey sequence for accessing the menu. The default is **^Z (Ctrl-Z)**.
6. Activate the Notify Users checkbox to inform users of session access.
7. Select an option from the Sniff Mode drop-down list to configure the type of data displayed on the monitor in a port-sharing session.
8. Click *Save* to store your changes in the DSView 3 server database.
9. Click *Flash Required* to save your changes to the ACS console server Flash memory.

Renaming Connections to the ACS Console Server

You may use the Appliance Connections window to rename an ACS console server, a target server or a power management device that is part of a connection path.

To rename ACS console server connections:

1. Click *Connections* in the side navigation bar.
2. Click on a connection to open the Appliance Connections - Rename page.
3. Enter a new name for one or more devices in the connection chain. If you modify a name and the automatic name push feature is enabled, the new name is pushed to the ACS console server based on the configured push properties.
4. Click *Save* and then click *Close*.