Server Technology

Solutions for the Data Center Equipment Cabinet

Sentry

Enterprise View PDU Manager

Installation and Operations Manual

Server Technology

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Introduction

Enterprise View PDU Manager is an enterprise-level device monitoring, control and inventory application from Server Technology. This web-based application allows users to monitor and control up to one thousand devices from a single console. Features include:

- Real-time monitoring without screen refresh.
- Support for up to 5 layers of nested groups.
- Configurable hierarchy structure to allow you to group devices by location, type or function.
- Extensive reporting capability.
- Processing of SNMP traps from any Server Technology product.
- Centralized event logging.
- Device auto-discovery.
- Iconic view of groups and devices with user-selected background images.

Requirements

Operating System

Enterprise View PDU Manager runs on the following operating systems:

- Windows 2000 (service pack 4 or higher)
- Windows XP Professional (service Pack 1 or higher)
- Windows 2003 Server Enterprise Edition

NOTE: Special Requirements for Windows XP Service Pack 2

Follow these steps to open up the necessary ports in the Windows Firewall for Enterprise to work properly.

- Go to Start Menu --> Control Panel and open Network Connections.
- Right click on the connection that is being used and click on Properties.
- Click the Advanced tab and press the Settings... button to bring up the Firewall dialogue.
- Click the Exceptions tab and press the Add Port button.
- Enter Enterprise in the Name field and 80 (or the port that was entered at installation) for Port Number field.
- Press the OK button. Enterprise View PDU Manager will now be accessible through the XP Firewall.

Disabling the Windows Firewall is not recommended by Microsoft.

Browser

- Internet Explorer 6.0 (Service Pack 1)
- Macromedia Flash 7.0

Database

- MSDE 2000 database with Service Pack 3 (included with Enterprise View PDU Manager).

Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8:30 AM to 5:00 PM, Monday-Friday, Pacific Time.

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Installation

Insert the Enterprise View PDU Manager CD-ROM into the CD-ROM drive of the host computer. The installation should start automatically; if Autoplay has been disabled, double-click Setup.exe.

At the Configuration screen, Secure Socket Layer (SSL) may be enabled to enhance data security.

NOTE: Using SSL may affect the overall performance of the application but provides a layer of security above the username/password protection already provided.

The default access ports may also be changed (port 80 for standard web, HTTP and port 443 for secure web, HTTPS). In most cases the default ports will not need to be changed. However if a web server is already running on the host computer, the access ports will need to be changed to avoid conflicts.

The host computer must be restarted after the installation has finished.

NOTE: The SNMP service must be enabled.

Using Enterprise View PDU Manager

Configuration

There are three basic steps required to configure Enterprise View PDU Manager:

- Configure devices to communicate with Enterprise View PDU Manager (refer to Making Connections for details on how to configure and connect each supported device).
- Use Enterprise View PDU Manager's autodiscovery feature to discover supported devices (see Device Discovery).
- Use device setup to configure individual devices (see Device Setup).

Groups of devices may also be defined (see Device Groups) as well as the layout the devices to represent their physical location (see Edit Device Layout).

Interface

The Enterprise View PDU Manager has four main components: Home, Logs & Reports, Setup and Help.

Each component may be accessed by clicking on the appropriate tab.

The Device Summary widget will always be displayed. This widget provides an overall view of the health of all devices. Devices may be in one of four states: Critical, Warning, Unreachable or Normal

If there are additional application messages, an additional text box will appear above the Device Summary widget.

Discovery In Progress...	
Device Summary	
⊗ Critical	0
△ Warning	0
? Unreachable	0
✓ Normal	11

Home

Enterprise View PDU Manager provides three different views of the devices being monitored: Devices by State, Devices by Type and Device Layout.

Select a device to display more detailed information about the device. The information for the selected device will be displayed in a panel at the bottom of the page. Displayed information includes the following:

- Device Name — Name of the device (see Device Setup).
- Device Type — Type of device; this information is returned by the device and is not configurable by the user.
- IP Address — IP address of the device or computer running software that is communicating with the device
- Group — Group to which device has been assigned (see Device Groups for information on defining groups and Device Setup for information on assigning a device to a group).
- Contact Information — Contact information (see Contact Information).
- Current Status — Information on current alarms and recommended actions to take. If multiple alarms exist for a device, the most severe alarm will be presented first. Click **Next** or **Prev** to navigate among the alarms.

Server Technology devices support multiple connection methods. See Device Setup for information on selecting the interface to use when connecting to the device. To connect to the device, double-click on the device or select the device and then click the **Connect to Device** button. The connection to a device may occur in one of three ways:

- Web Interface — The web browser will be used to bring up a new browser window that will open the appropriate URL for the device. This connection may or may not use SSL encryption depending on whether or not the device supports SSL and whether or Enterprise View PDU Manager has been configured to use SSL.
- Telnet — A Telnet session will be initiated with the IP address for the device. The Telnet session will use the default port (23) for the connection.
- SNMP — A Macromedia Flash widget will display selected variables obtained from the device using SNMP.

Devices by State

Click the **Devices by State** menu option to view the list of devices sorted by their current state. Devices will be divided into groups by their current state: Critical, Warning, Unreachable or Normal.

Groups may be collapsed (or expanded) by clicking on the group label.

Click **Expand All** to expand all groups.

Click **Collapse All** to collapse all groups.

Devices by Type

Click the Devices by Type menu option to view the list of devices.

Device Layout

Click the **Device Layout** menu option to display an icon view of the devices. The groups are user-defined (see Device Groups).

The most severe condition for each group will be propagated up through its parent to the top level group.

If a device has not been assigned to a group the device will be placed into the top level group. See Device Groups for information on defining groups. See Device Setup for information on assigning devices to a group.
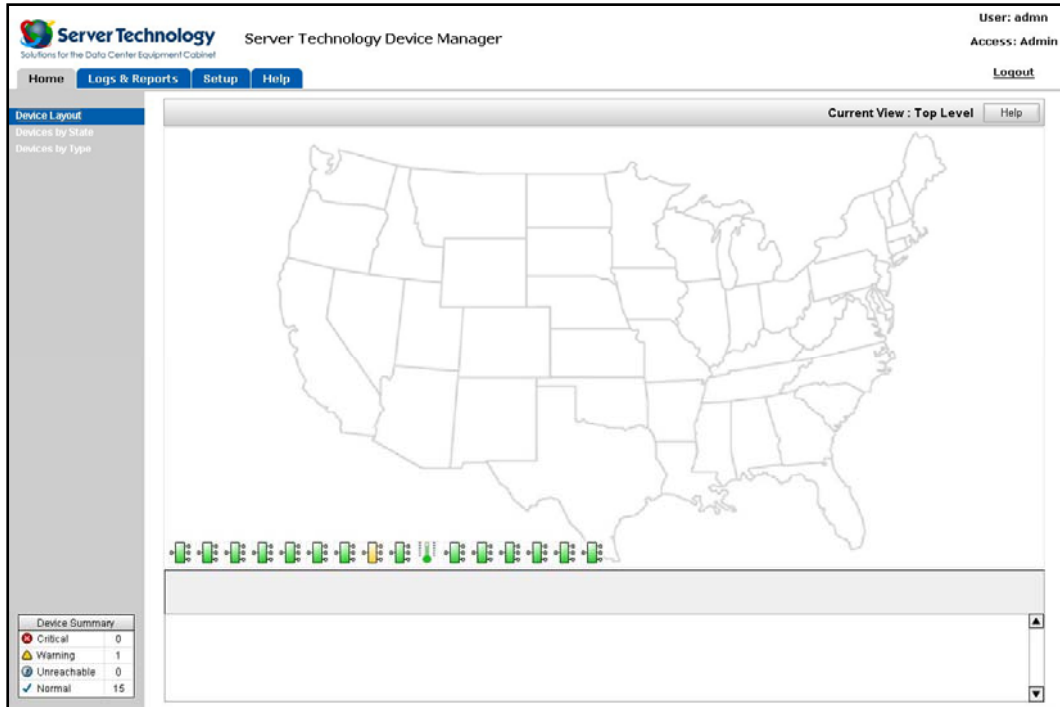
Click on a device to display more detailed information about the device. The information for the selected device will be displayed in a panel at the bottom of the page.

To connect to a device, double-click on the device icon or select the device and click the **Connect to Device** button.

Click on a group to display a summary of all alarms for the selected group. To drill down into the group, double-click on the group. Each time you drill down into a group, the name of the group that is currently being displayed will appear on the top frame. A button for each parent group up to the top level will also be displayed on the top frame; click any of these buttons to move up one or more groups.

Logs & Reports

The Logs & Reports page allows you to display or print device reports as well as managing the various log files. The following logs and reports are available:

- Event Summary
- Detailed Event Log
- Contact Information
- Device Detail
- Device Summary
- Discovery Results
- Application Log
- Custom Report

Reports may be printed by clicking the **Print Report** button.

Log files may be cleared by clicking the **Clear Logs** button.

To refresh to the most current data, click the **Refresh Page** button.

If the device has a link associated with it, connect to the device from this page by clicking on the link.

Event Summary:

The Event Summary report is applicable to all devices. The report provides a summary of all events that have occurred during the selected time period. The time period may be selected by clicking the appropriate button:

- Last 24 Hours
- Last Week
- Last Month
- Last Year

Detailed Event Log:

The **Detailed Event Log** report is applicable to all devices. The report provides a detailed view of all events that have occurred during the selected time period. The time period may be selected by clicking the appropriate button:

- Last 24 Hours
- Last Week
- Last Month
- Last Year

Contact Information:

The **Contact Information** report is applicable to all devices. The report provides contact information (Name, Phone and Email) for each device. See Setup -> Contact Information for setting up contacting information.

Device Detail:

The **Device Detail** report is applicable to all devices. The report provides inventory information for each device. The devices are displayed by group (see Device Setup for information on assigning devices to a group).

The following information is displayed for each device:

- IP Address
- Model
- Software Version
- Contact (Name, Phone and Email)

Device Summary:

The **Device Summary** report is applicable to all devices. The report provides summarized inventory information.

Discovery Results:

The **Discovery Results** report provides on the last discovery process. Information displayed includes the following:

- Last Discovery Started   Date and time discovery process was started
- Last Discovery Ended   Date and time discovery process ended (or **In Progress** if discovery has not completed)
- IP Addresses Searched   List of Host Names, IP Addresses and IP Address Ranges searched
- Devices Found   List of ports found for each IP address
- Connect To Methods   List of connection methods for each device

The report may be printed by clicking the **Print Report** button. Click the **Refresh Page** button to get the latest data. Click the **Device Discovery…** button to display the device discovery page. See [Device Discovery](#) for information on how to discover devices.

Application Log:

The **Application Log** report provides application event information. Application event information includes user logins, application started, device modifications. This report will also report actions taken by a user (example: changing an outlet state).

Custom Report:

The **Custom Report** pages provides the ability to generate custom reports based on specific needs. To create a custom report:

- Select the filters from the applicable dropdown lists. Multiple selections may be chosen for each filter by using the control and/or shift keys.
- Choose the columns to be displayed in the report from the **Available Columns** dropdown list.
- To group the devices, select one of the fields in the **Group By** dropdown list.
- To sort the devices, select one of the fields in the **Sort By** dropdown list.
- Click the **Query** button to run the report.

Once a report has been run, the report format may be saved by entering a report name and clicking the **Save Report Setup** button.

To run a saved report, click one of the report names in the **Saved Reports** dropdown list; the report criteria for the saved report will be displayed. Click the **Query** button to run the report.

To delete a saved report, click one of the report names in the **Saved Reports** dropdown list and click the **Delete Saved Report** button.

My Account

NOTE: If administrator privileges have not been granted, only the My Account option will be available.

The **My Account** page allows users to change their password.

Enter the new password in the appropriate edit box, verify the password in the verification edit box and then click the Save Settings button.

User Accounts

The User Accounts page allows an administrator to manage user accounts.

To add a user account:

- Enter the login name in the **Name** field. The login name is case sensitive.
- Enter the password in the **Password** field. The password is case sensitive.
- Enter the password again in the **Verify Password** field.
- To enable administrator privileges, select the **Administrator** checkbox.
- Click **Save Changes** to save the new user account information.

To modify a user account:

- To change the login name, enter the new login name in the Name field.
  Login names are case sensitive.
- To change the password, enter the new password in the Password and Verify Password fields.
  Passwords are case sensitive.
- To add or remove administrator privileges, select or deselect the Administrator checkbox.
- Click Save Changes to save the new user account information.

To delete a user account:

- Select the Delete checkbox for the user account(s) to be removed.
- Click Delete Selected Users to delete the user account(s).

NOTE: You may not delete the currently active account.

Device Discovery

The **Device Discovery** page allows administrators to define the device discovery parameters. There are three steps to set up device discovery:

- Select a discovery schedule (optional).
- Select the SNMP community strings to use in discovering SNMP devices.
- Select the IP addresses to use for discovery.

To perform an immediate device discovery, click the **Execute Discovery Now** button. To view the results of the device discovery, click the **View Results…** button. The **Discovery Results** report page will be displayed.

Scheduling Device Discovery

Device discovery may be done immediately or on a scheduled basis.

To schedule device discovery, click the **Enable Scheduled Discovery** checkbox, select the appropriate values for discovery frequency and click the **Save Scheduled Settings** button. Discovery may be scheduled to be run daily or on a particular day of the week.

Selecting the SNMP Community Strings

In order to discover SNMP Devices, a list of one or more SNMP community strings to be used during discovery must be entered. If more than one community string is to be used, separate each community string with a comma.

Selecting IP Addresses for Discovery

To select the IP addresses to use for discovery, click the checkbox to the left of each IP address range to use during discovery. To add or delete IP addresses, click the **Add/Delete IP Addresses…** button.

IP addresses may be added in one of four ways:

- Host name   Click **Single Hostname** and enter host name
- Single IP address   Click **Single IP Address** and enter IP address
- Subnet mask   Click **Subnet Mask** and enter subnet mask (discovery will search for all IP addresses matching subnet mask)
- Range of IP address   Click **IP Range** and enter beginning and ending IP addresses (discovery will search for all IP addresses in range from beginning IP address to ending IP address)

Add more IP address ranges or click the **Return to Device Discovery…** button to return to the device discovery page.

To delete an IP address range, click the Delete checkbox in front of each range to be deleted and then click the **Delete Selected IP Address Ranges** button.

Searching for Devices on Non-Standard Ports

By default, Enterprise View PDU Manager will determine which connection methods are available for discovered devices by checking the following standard ports:

- Web Server (HTTP)   Port 80
- Secure Web Server (HTTPS)   Port 443
- Telnet   Port 23

Some devices may use non-standard ports; Enterprise View PDU Manager allows you to add additional ports into the search list. To add a port:

- Click the **Add/Delete Device Connect Options…** button.
- Select the connection type from the dropdown list.
- Enter the new port in the **Port** edit box.
- Click the **Save Settings** button to add the new port into the search list.

To delete a port, click the **Delete** checkbox for one or more ports and then click the **Delete Connection Option** button.

To return to the device discovery page, click the **Return to Device Discovery…** button.

Device Groups

The **Device Groups** page provides a means to add or delete device groups. Types of groups might include:

- Locations   Region, Building, Data Center, Room, Closet, Rack
- Work Breakdown   Division, Group, Functional Area (Sales, Marketing, etc.)
- Network   Subnet, IP address range

Enterprise View PDU Manager will allow up to 5 levels of group nesting. To add a group:

- Enter the name of the new group in the **Group Name** edit box.
- Select a parent group from the **Parent Group** dropdown list.
- Click the **Save Settings** button.

To delete a group, click the Delete checkbox in front of each group to be deleted and then click the **Delete Selected Groups** button.

See Device Setup for information on assigning a device to a group.

Device Setup

The **Device Setup** page allows configuration of individual devices. All devices found during the discovery process will be grouped by category. To modify one or more devices click the link for the device type.

- To manage a device, check the **Managed** checkbox in front of each device to be managed.
- To remove a device from the list of managed devices, uncheck the **Managed** checkbox.
- To set the name for the device, enter the name in the **Device Name** edit box.
- To assign the device to a group, select the group from the **Device Groups** drop-down list. See Device Groups for information on defining groups.
- Select the connection method from the **Connect via** drop-down list.
- To save changes, click the **Save Settings** button.

Edit Device Layout

The **Edit Device Layout** menu option allows configuration the icon view of the groups and devices.
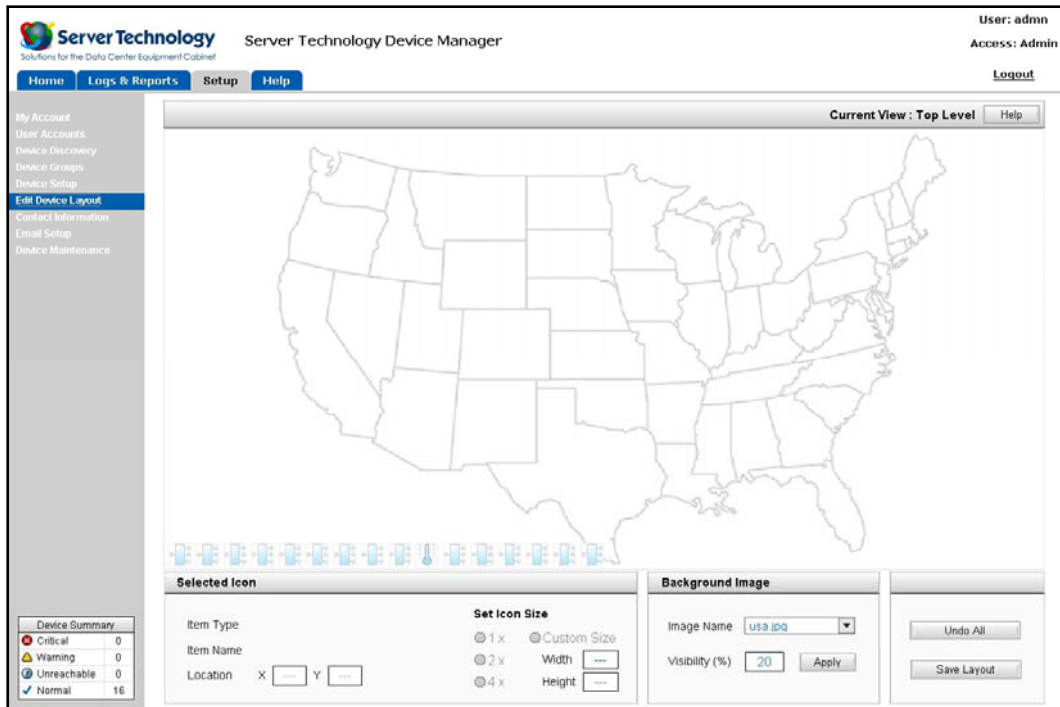
To set the background image for a group:

- Select an available image from the **Background Image** dropdown list or select **None** to clear the background image.
- Set the **Visibility %** from 0 (invisible) to 100 (full visibility).
- Click the **Apply** button to set the background image.

Enterprise View PDU Manager installs a set of background images into the **Maps** subdirectory during installation. To add your own custom images, simply copy your image to the **Maps** subdirectory. Images must be in jpeg format using standard encoding; Images should be 800 pixels wide by 400 pixels high.

To set the icon size:

Select the icon and then click the radio button for the icon size. The available choices are:

- 1x   20 x 20 pixels (default size)
- 2x   40 x 40 pixels
- 4x   80 x 80 pixels
- Custom   User selectable width and height (in pixels)

To drill down into the group, double-click on the group; the name of the group that is currently being displayed will appear on the top frame. A button for each parent group will be displayed on the top frame. Click any of these buttons to move up one or more groups

Contact Information

The **Contact Information** page allows you to set contact information for one or more devices. The following contact information may be set:

- Contact Name   Name of person to contact for this device
- Contact Email   Email address of contact person
- Contact Phone   Phone number of contact person

Enter the appropriate information for each field. Select one or more devices to which the contact information should apply. Click the **Save Changes** button to save the contact information.

Email Setup

The **Email Setup** page allows you to configure Enterprise View PDU Manager to send an email or alphanumeric page to one or more recipients. Enterprise View PDU Manager may be in one of four possible states. These are, in order of criticality, as follows:

- Critical   One or more devices in a critical state
- Warning   One or more devices in a warning state
- Unreachable   One or more devices is unreachable
- Normal   All devices are reachable and in a normal state

An email will be sent whenever Enterprise View PDU Manager moves from one state to another. The email will display a summary of device states (similar to the Device Summary widget) and will contain a link to Enterprise View PDU Manager.

To set up email:

- Enter the IP address or host name of the mail server on your network in the **SMTP Server** edit box.
- Enter a valid email address for the mail server in the **SMTP From Address** edit box; up to nine different email addresses may be entered. This email address is used by the mail server to validate Enterprise View PDU Manager's request to send an email message.
- Click the **Enabled** check box.
- Click the **Save Changes** button to save the changes.

To verify your email setup, click the **Send Test Email** button. A test email will be sent to all configured recipients. If you do not receive the test email, verify the mail server address and the email address in the **From Address** edit box.

Device Maintenance

The **Device Maintenance** page allow you to place discovered devices or defined groups into a maintenance mode to temporary disable alarms during scheduled maintenance windows.

To place devices into maintenance mode:

- Select the devices or groups from the list.
- Click the single arrow button to move the selected devices to the Maintenance Mode list
- Click the **Save Changes** button to save the changes.

Help

The Help menu provides three options:

- Getting Started   Quick start information
- About   Company and product information
- Contents   Online help

Making Connections

Server Technology Devices support Telnet, SNMP and Web (HTTP and HTTPS) access. Refer to the device Operations Manual for detailed instructions on installing, configuring and using the device. Manuals may be downloaded from the Server Technology website (www.servertech.com).

Configuring for use with Enterprise View PDU Manager:

- Connect to the device via an internet browser at the configured IP address.
- Click the Configuration menu option to display the all system configuration options.
- Click the SNMP menu option to display the SNMP configuration options
- Select Enabled from the SNMP Agent dropdown box.
- Enter the IP address of the computer hosting Enterprise View PDU Manager in the Trap Destination field.
- Click the **Apply** button.

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