

Power IQ VM Quick Setup Guide

Quick Setup Guide for VMware ESX or ESXi

Thank you for your purchase of Raritan's Power IQ. This Quick Setup Guide explains how to install and configure the Power IQ.

For additional information on any aspect of Power IQ, see Power IQ help, which can be accessed from the **Product Support** (<http://www.raritan.com/support>) section of Raritan's website.

Virtual Machine Requirements

Minimum Configuration (Number of PDUs)	RAM (GB)	CPU (Cores)	Datastore (GB)	OS	VMware
Up to 50	4	4	160 or more	CentOS 64-Bit	ESX/ESXi
51-100	8	4	160 or more	CentOS 64-Bit	ESX/ESXi
101-500	8	6	160 or more	CentOS 64-Bit	ESX/ESXi
501-1000	8	8	160 or more	CentOS 64-Bit	ESX/ESXi
1001-1500	16	8	160 or more	CentOS 64-Bit	ESX/ESXi
More than 1500	24	8	160 or more	CentOS 64-Bit	ESX/ESXi

Installing the Power IQ Application

Preparing to Install Power IQ

- Verify that you have the DVD containing the Power IQ .ISO file.
- Verify the datastore has at least 160GB free for a new virtual machine.
- If you plan to install the virtual machine from the datastore, verify that there is sufficient extra space free for the installation ISO file, and copy the file from the DVD to the datastore.
- If you plan to install from a remote server, copy the ISO file from the DVD to the server.

Note: The instructions in this guide refer to the vSphere client, which is compatible with ESX/ESXi 4.0 and higher.

Creating the Power IQ Virtual Machine

1. Connect to the VMware server using vSphere client. Log in as a user that has permission to create, start, and stop virtual machines.
2. In the Summary tab, click New Virtual Machine in the Command box.
3. Choose Custom. Click Next.
4. Enter a name for the virtual machine. Click Next.
5. Choose a Datastore with at least 160GB of free space available. Click Next.
6. You may need to select the Virtual Machine Version, depending on your host. Select the version. Click Next.
7. Select Linux for the Guest Operating System, then select CentOS 64-bit, if available, from the Version drop-down. If CentOS 64-bit is not available, select Other Linux (64-bit). Click Next.
8. Set the number of virtual processor cores to 4, 6 or 8, depending on the size of your configuration. See **Virtual Machine Requirements** (on page 1). Click Next.
9. Adjust the amount of memory allocated for the virtual machine, depending on the size of your configuration. See **Virtual Machine Requirements** (on page 1). Click Next.
10. Set the number of NICs to one or two. If there are two NICs, one can be used for external access to the web interface and the other can be used as a private LAN for

communication with the PDUs and other data center devices.

In either case, make sure Connect at Power On is checked, and leave all other settings at default. Click Next.

11. Select LSI Logic for the SCSI Controller. Click Next.
12. Select "Create a new virtual disk." Click Next.
13. Set the Disk Capacity to 160GB minimum. Select a disk provisioning option. Select "Store with the virtual machine". Click Next.
14. Leave all advanced options at default. Click Next.
15. Select the "Edit virtual machine settings before completion" checkbox, then click Continue. Select New CD/DVD, then select a Device Type option to map the CD/DVD drive on the virtual machine. Click Finish to save the drive and return to the main dialog.
16. Click Finish to create the virtual machine.

Loading Power IQ onto the Virtual Machine

1. From the tree in the left pane, select the Power IQ Virtual Machine.
2. Select the Console tab. Click  to power up the virtual machine. After a few moments, the Power IQ kickstart page opens.
3. Type 2 for a VMware installation and press Enter to begin installation.
4. Installation takes 20 minutes. When it completes, press Enter to reboot the Power IQ virtual machine.
5. The virtual machine reboots and displays a console prompt.

Initial Configuration of Power IQ

After installing Power IQ®, you must configure the system for access over the network.

1. Power on Power IQ.
2. When prompted to log in, use the username *config* and the password *raritan*. The Power IQ configuration page opens.

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Network Configuration: Main Menu
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--Appliance Configuration--
Networking Setup >>
Security Setup >>
Ping Network Test
Routing Network Test
System Services
Restart Appliance
Shutdown Appliance
Exit

LAN 1: Enabled: no  DHCP: yes
      IP Addr
      Net Mask
      Gateway
LAN 2: Enabled: no  DHCP: yes
      IP Addr
      Net Mask
      Gateway

Domain: raleigh.raritan.com
DNS 1: 192.168.42.1
DNS 2:
DNS 3:

SSH: running

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UP/DOWN ARROW KEYS: highlight menu selection, ENTER: select
  
```

3. Select Networking Setup, then select Setup LAN 1 to configure the primary Ethernet port.
4. Press the Space bar to select Enable this LAN Port.
5. To manually assign the network settings to Power IQ, leave Use DHCP deselected. Type the IP address, network masks, and gateway into the appropriate fields.
6. Select Accept to reset the network interface with the new values.
7. If you are using a second network interface, select Setup LAN 2 from the Network Configuration menu and configure the secondary Ethernet port in the same manner as the first. **Optional.**
8. Select Ping Network Test to ensure that Power IQ can communicate over the network. **Optional.**
9. To disable SSH remote access to Power IQ, select System Services. Then deselect Enable SSH. By default, the config account has access to Power IQ. SSH is re-enabled if a support connection is created. **Optional.**
10. Select Exit from the main menu. You can now access Power IQ from any client on the network.

Connecting to Power IQ

1. Connect to Power IQ using a web browser on any machine on the network.
2. In the browser's address bar, enter the IP address or hostname assigned to Power IQ. For example:
https://192.168.1.10
Answer yes to any security alerts and accept all certificates. Licenses are .LIC files. Repeat this step to add incremental licenses if needed.

Note: Your license file can be retrieved from the Raritan web site after you have activated your registration. To activate your registration, click the link in the "Thank you for registering" email from Raritan and create your user account. Once you create your account, look for a "Your Raritan software license key is available" email containing a link to your license file download page.

3. Log in with the default username *admin* and password *raritan*.

Configuring the System Clock

Power IQ uses the system clock to time-stamp events and data records. Set the system clock as soon as possible to keep an accurate record of events.

Using an NTP server is recommended to keep the system clock synchronized between Power IQ and the PDUs it manages.

Important! You must use the same NTP server for Power IQ and all Dominion PX PDUs managed to get accurate readings from PX.

Configuring NTP Server Settings

The Configure Time Servers table lists the NTP servers Power IQ contacts to get date and time information. NTP must be enabled first.

Power IQ attempts to retrieve the date and time from the first server on the list. If this attempt fails, it proceeds down the list and attempts to contact the second server, then the third, and so on.

► To enable NTP and configure NTP servers:

1. In the Settings tab, click Application Settings in the Appliance Administration section.
2. In the Time Settings box, click the arrow to expand the NTP Settings
3. Select the Enable NTP checkbox.
4. Click Add.
5. Type the time server's IP address in the Time Server field then click OK.
6. Click Save Time Settings.

Configuring Polling Intervals

At each polling interval Power IQ collects data from PDUs under its management.

► To configure the polling interval:

1. In the Settings tab, click Power IQ Settings in the Appliance Administration section.
2. In the Polling Settings box, select a time period from the "Polling interval" drop-down list. The time period indicates how much time passes before Power IQ starts a new polling cycle
3. Click Save Poller Settings.

Note: When managing a large number of PDUs you may need to configure a longer time period for the polling interval. Setting a longer time period helps ensure that all PDUs are polled within a given cycle. A warning message appears if Power IQ is unable to poll all PDUs within the configured time period. See Recommended Polling Intervals for details on settings that help Power IQ poll faster.

Gathering Buffered Data

If you plan to manage Dominion PX PDUs, version 1.2.5 or later, Power IQ can gather buffered data from these devices. This allows Power IQ to retrieve many more samples each time it polls a Dominion PX. See the User Guide for more details.

Adding PDUs to Power IQ Management

Once Power IQ is configured, add Raritan PX or other PDUs to its management. Power IQ can then gather data from these PDUs. If you're adding a PDU that uses a custom dynamic plugin, see Adding PDUs with Custom Dynamic Plugins.

You can also add PDUs to Power IQ by uploading a CSV file containing the information. See **Adding PDUs in Bulk with CSV Files** (on page 4) in the Power IQ User Guide.

► To add PDUs to Power IQ management:

1. In the PDUs tab, click Add.
 2. Enter the IP address of the PDU.
 3. If the PDU is in a daisy-chained configuration or console server configuration, enter the PDU's position number in the chain or serial port number in the Proxy Index field. You can also specify branch circuit monitors using the Proxy Index field. See Adding Veris Branch Circuit Monitors with Acquisuite.
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- Note: If the PDU is not in this type of configuration, leave the Proxy Index field blank.
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4. Enter an asset tag number or other asset management code in the External Key field. **Optional.**
 5. Enter data in Custom Field 1 and Custom Field 2. **Optional.** The labels may have been changed in Power IQ to identify these fields.
 6. If the PDU is a Raritan PX, enter a valid Username and Password for the PDU in the PDU Administrative Credentials section. Re-enter the password in the Password Confirm field.
 7. Select the SNMP Version.
 - For SNMP version 1/2c PDUs, enter an SNMP Community String that has at least READ permissions to this PDU. This enables polling the PDU for data. Enter an SNMP community string that has both READ and WRITE permissions to the PDU to enable power control, outlet naming, sensor naming, and buffered data retrieval.
 - For SNMP version 3 PDUs, enter the Username and select an Authorization Level. The authorization levels are:
 - noAuthNoPriv - No Authentication Passkey, No Encoding Passkey
 - authNoPriv - Authentication Passkey, No Encoding Passkey
 - authPriv - Authentication Passkey, Encoding Passkey
 - a. Depending on the Authorization Level selected, you must enter additional credentials for Authorization and Privacy.
 - b. Authorization Protocol: Select MD5 or SHA.
 - c. Enter the PDU's Authorization Passkey, then re-enter the passkey in the Authorization Passkey Confirm field.
 - d. Privacy Protocol: Select DES or AES.
 - e. Enter the PDU's Privacy Passkey, then re-enter the passkey in the Privacy Passkey Confirm field.

Note: You must enable the SNMP agent on all PDUs added to Power IQ.

8. Select "Validate and wait for discovery to complete before proceeding" to check credentials and view the discovery process status as you add this PDU. **Optional.** See Validating PDU Credentials in the Power IQ User Guide.
9. Click Add.

Note: PDU discovery is complete once the PDU model type is determined. SNMP fields such as contact or location values are not determined until this device is polled for the first time.

Once added, the PDU appears in the PDU list. Power IQ begins polling the PDU for sensor data. You can configure how often Power IQ polls PDU. See **Configuring Polling Intervals** (on page 3) in the Power IQ User Guide.

Adding PDUs in Bulk with CSV Files

You can add PDUs in bulk by uploading a CSV file.

Power IQ does not check the credentials of the PDU while adding it during a CSV import. If the credentials are incorrect, an event called PDUcredentialsInvalid is logged.

Importing more than 100 PDUs at a time causes polling to suspend while the import is in progress.

You can download a step-by-step CSV template file in the Support section of Raritan's website, under Firmware and Documentation. See <http://www.raritan.com/support/power-iq/>.

See Structure of the Add PDUs CSV File for file requirements.

► To add PDUs in bulk with CSV files:

1. In the PDUs tab, choose Activities > Import PDUs from CSV file. The Import PDUs page opens.
2. Click Browse and select the CSV file.
3. Select "View progress of the import as each PDU is discovered" to view the discovery progress and the resulting status. **Optional.**
4. Click Begin Import.

What to Do Next

After adding PDUs to Power IQ management, you may want to perform additional activities.

- Perform bulk PDU configuration, if you have deployed several Dominion PX PDUs of the same model type.
- Configure security settings such as web user session timeouts and IP-based access control.
- Change the administrator password.
- Add users.
- Configure an Enterprise Data Model, mapping PDUs and outlets to the IT equipment they power.
- Create reports and charts of your power usage.

See the Power IQ User Guide for detailed instructions.

Additional Information

For more information about the Power IQ® and the entire Raritan product line, see Raritan's website (www.raritan.com). For technical issues, contact Raritan Technical Support. See the Contact Support page in the Support section on Raritan's website for technical support contact information worldwide.

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