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USER GUIDE

VNET

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VAISALA

USER'S GUIDE

Vaisala vNet PoE Network Interface



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About this Manual

The Vaisala vNet Power over Ethernet Device User Guide includes the information you need to install, configure and operate your vNet Device with a Vaisala Veriteq Logger.

Who this Manual is for

This manual is for administrators who will install and configure vNet Devices for use with a Vaisala Veriteq Logger, and Vaisala Veriteq viewLinc or Vaisla Veriteq vLog software.

Learn how to:

- Configure IP and Ethernet settings, and vNet Device information.
- Set administrator passwords.
- View PCs connected to your vNet Device.
- Back up and restore vNet Device configuration information.
- Update or restart a vNet Device.

Conventions Used in this Document

This document uses the following conventions:

- A sequence of actions is indicated by a list separated by a vertical line. For example:

  "From the vNet Configuration and Management interface, choose **Configuration | Network | IP Settings**"
- Menu selections, items you select, the names of buttons and tabs are shown in **bold**.

Related Documentation and Software

For a quick overview of vNet Device installation steps, refer to the vNet Quick Start Guide (included with your vNet Device).

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To set up individual Loggers, refer to your Logger-specific User Guide, or Vaisala Veriteq vLog and Spectrum software online Help and User Guides.

Once your Loggers and vNets are installed and configured, refer to the Vaisala Veriteq viewLinc User Guide or online Help to learn more about:

- Viewing Logger data
- Setting and acknowledging alarms
- Graphing Logger data
- Generating Reports

Radio Interference Notification

CISPR32: Operation of this equipment in a residential environment could cause radio interference.

USA FCC15B: NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada: CAN ICES003(A)/NMB003(A)

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Vaisala vNet PoE Network Device

Welcome to the Vaisala vNet User's Guide. This guide provides you with the information you need to install, configure and operate a vNet Device.

The vNet PoE (Power over Ethernet) Network Interface is part of the Vaisala Veriteq Continuous Monitoring System, which is made up of both software components (including Vaisala Veriteq viewLinc and vLog), and hardware components (Vaisala Veriteq Loggers, a PC with a supported Web browser, vNet Devices).

After you install and configure your vNet Device(s), refer to the viewLinc and vLog User's Guides for information about how to start monitoring data.

viewLinc Aware Service

To save time installing and configuring your vNet Devices, enable the viewLinc Aware Service, available in viewLinc 4.3 and higher.

The viewLinc Aware Service allows you to automatically install drivers and set configuration parameters for vNet Device models with serial number 1411xxxx or Firmware 1.4, and higher.

Refer to the viewLinc User's Guide for more information.

Setting Up a vNet Device

There are three stages involved in setting up a vNet Device on your network: connecting your Logger to a vNet Device, installing vNet Device Drivers, and identifying vNet Devices on your network.

Before connecting a Vaisala Veriteq Logger to a vNet Device:

- If you are mounting a vNet Device on a wall to hold a built-in fan logger model, ensure the vNet Device is in the upright position (the arrow on the vNet Device bed pointing up ^).
- Use the wall anchors and screws provided for use with the vNet Device mounting brackets.

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Important: Do not drop the Device as the impact may damage it.

To connect a Logger to a vNet Device:

1. Remove protective label on the bottom or back of the Logger.
2. Slide the Logger as far right as possible towards the two tabs before pushing down into the vNet Device bed (you should hear a 'click').

   Note: If your Logger has an internal temperature channel, it must be connected to a vNet Device with a built-in fan mechanism.

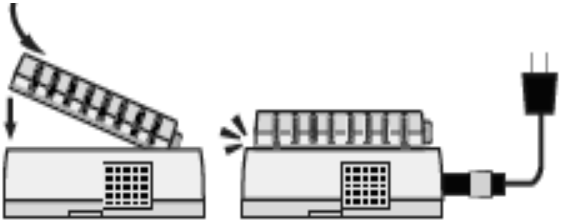


Figure 1: Connecting a Logger to a vNet Device

3. Insert the power supply, if required (if your network supports Power over Ethernet, you do not need to connect to an external power supply). To ensure a secure connection, insert

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the power supply barrel-end connector into the Device and turn 1/4 to the right (Figure 2).



Figure 2: Connecting to an external power supply

- When power is supplied to the vNet Device, the red power LED will blink for 7-8 seconds, then stay on.
- When a network connection is made, the LNK LED will light up and stay on, and the ACT LED will blink intermittently.

Installing Drivers

Device drivers are required on each PC to which a vNet Device is connected. This allows Vaisala Veriteq software (viewLinc and vLog) to communicate with the Loggers attached to the vNet Devices on your network.

Your vNet installation CD provides you with two device drivers: a device driver for vNet Devices which are installed on the same subnet as your PC, and a device driver for vNet Devices on a different subnet. If your PC is on a different subnet than the vNet Device, see page 6.

Note: If you use viewLinc 4.3 or higher, and are installing vNet devices with serial number 1411xxxx or Firmware 1.4, or higher, enabling the viewLinc Aware Service ensures device drivers are installed automati-cally. Refer to the viewLinc User's Guide to learn how to enable the viewLinc Aware Service.

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Before you start:

- Obtain an IP address for each vNet Device from your IT department. They should either be reserved IP addresses supplied by DHCP, or static IP addresses (recommended). If the IP addresses are reserved, the DHCP server must be updated before you proceed with the installation.
- Write down the MAC address of the vNet Device (address is found on the side of the vNet Device above the serial number).
- Modify Firewall settings:
  - Allow the **dgrunwiz.exe** and **dgcfgwiz.exe** programs to receive incoming network connections.
  - Unblock UDP port 2362 and multi-cast address 224.0.5.128, as these are used by device discovery.

To install drivers for vNet Devices on the same subnet:

Note: vNet Devices are installed with Digi Driver software (all Setup Wizard screens refer to Digi Drivers).

1 Insert the Vaisala vNet and Digi Device Drivers CD into the PC.

If the Software Installation menu does not display automatically, click **Start** on the Taskbar, then select **Run**. Type **D:\setup.exe** (replace '**D**' with the drive letter of your CD-ROM drive), then click **OK**. The Software Installation window displays.

2 To check for the most recent updates to the software installation, click **Documentation Index**, then click **vNet PoE Readme**.

3 In the **Software Installation** window, click **Device Setup Wizard**, then connect the vNet Device to your network.

If the vNet Device and your network both support Power over Ethernet, an external power supply is not needed. Otherwise, connect the power supply barrel plug into the vNet Device (see Figure 2 on page 3), and plug the power supply into a wall outlet.

4 When the **Welcome to the Digi Device Setup Wizard** screen displays**,** click **Next**.

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5 On the **Discover Device** window, scroll down the device list until you find the MAC address of the vNet Device you are installing (on the side of the vNet Device above the serial number). If the vNet Device does not appear in the list, wait a few seconds, then click **Refresh**. Select the vNet Device, then click **Next**.

6 On the **Configure Network Settings scree**n, specify the IP settings:

- If DHCP will be used to supply a reserved or dynamic IP address, select **Obtain IP settings automatically using DHCP**, then click **Next**.
- If a static IP address will be assigned to the vNet Device, select **Use the following IP settings**, enter the desired IP address, Subnet Mask, and Default Gateway, then click **Next**.

7 From the **Select Scenario List**, select **RealPort (COM Port Redirection)**, then click **Next**. Select Custom Configuration if you want to manually set all parameters using the vNet Configuration web interface (not recommended).

8 Ensure the **Install Digi RealPort on this computer** checkbox is checked, click **Next**, then click **Next** on the summary screen. Wait for the new settings to be saved to the vNet Device. This may take up to 3 minutes, depending on the Device.

9 Optional: Enter a description for the vNet Device, then click **Next**.

10 If required, enter the system username (**root**) and the default password (**dbps**). You can change the device password later.

After a short delay, a list of all installed vNet Devices that use the RealPort driver, displays in the Command Prompt window. Record the COM port number(s) of the vNet Device(s) you installed (you will refer to these numbers when using Vaisala software). You can close the Command Prompt window by selecting the title bar, then pressing any key on the keyboard, or click the X in the top right corner.

Refer to, “Configuring vNet Devices” on page 9, for further instructions on opening the web-based interface to change the password or other settings.

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To install drivers for Devices on a different subnet:

Note: vNet Devices are installed with Digi Driver software (all Setup Wizard screens refer to Digi Drivers).

1 Insert the Vaisala vNet and Digi Device Drivers CD into the PC where the drivers are to be installed.

If the Software Installation menu does not display automatically, click **Start** on the Taskbar, then select **Run**. Type **D:\setup.exe** (replace '**D**' with the drive letter of your CD-ROM drive), then click **OK**.

2 To check for most recent updates to the software installation, click **Documentation Index**.

- **vNet PoE Readme** - review for updates to information in the User's Guide.
- **Digi Documentation Index** - select the desired document for the Digi Device you are using.

3 On the Software Installation window, click **vNet RealPort Setup**.

- If the Welcome screen asks you to ensure that the vNet Device is powered up and connected to the network, disregard the message and click **Next**.
- If the **Add a New Device** option is displayed, select it, then click **Next**.

4 On the **Select Device** window, scroll to the bottom of the device list, wait until "Searching..." is no longer displayed, select **<Device not listed>**, then click **Next**.

5 On the **Describe Device** window, enter the Device Model Name (this name is on the serial number label, for example, **CDL-VNET-P**).

6 In the **Network Settings** area complete the following:

- Enter the **IP Address** obtained from your IT Department.
- Set **No. Ports** to 1.
- Set **Starting COM** to the lowest COM port number that the Setup Wizard displays.

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Note: After the Device is installed, use the Windows Device Manager to change assigned COM port number(s).

- Select the option, **Wait for COM open request.**
- Accept all other options at default settings.

7 Click **Finish**. If your vNet Device is not yet connected to the network, or is not yet configured with the IP address you entered in step 6, a message indicates that no vNet Device could be located. Click **Yes** to proceed.

8 Repeat steps 4 through 7 for any additional vNet Devices you want to install. Do not continue with step 9 until all vNet Devices are installed.

9 Wait for the Setup Wizard to finish (this could take up to 3 minutes), then click **Finish**.

After a short delay, a list of all installed vNet Devices that use the RealPort driver displays in the Command Prompt window. Record the COM port number(s) of the vNet Device(s) you installed (you will refer to these numbers when using Vaisala software).

10 Close the Command Prompt window.

If any of the vNet Devices you installed drivers for are not yet connected to the network, connect them to an open Ethernet port on the desired subnet of your network. If the vNet Device and your network both support Power over Ethernet, you do not need an external power supply. Otherwise, connect the power supply barrel plug into the vNet Device (see Figure 2, “Connecting to an external power supply” on page 3) and plug the power supply into a wall outlet.

If all of the vNet Devices you installed are using IP addresses reserved with DHCP, go to the “Configuring vNet Devices” on page 9 for further instructions on opening the web-based interface to change the password or other settings. However, if one or more of the vNet Devices are to have static IP addresses assigned, repeat steps 3 to 10.

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Discover Devices

The Device Discovery function ensures that all vNet Devices connected to your network are identified by viewLinc or vLog software with a reserved or static IP address.

> **Note:** If you use viewLinc 4.3 or higher, and are installing vNet Devices with serial number 1411xxxx or Firmware 1.4 or higher, the viewLinc Aware Service ensures vNet Devices are discovered automatically (see "viewLinc Aware Service" on page 1). Refer to the viewLinc User's Guide to learn how to enable the viewLinc Aware Service.

Before you start, ensure your firewall software settings are adjusted, as described in the section, "Connecting to an external power supply" on page 3.

To complete device discovery:

1. Insert the Vaisala vNet and Digi Device Drivers CD into a PC on the same subnet as the Device(s) you installed.

   If the Software Installation menu does not display automatically, click **Start** on the Taskbar, then select **Run**. Type **D:\setup.exe** (replace 'D' with the drive letter of your CD-ROM drive), then click **OK**.

2. On the Software Installation menu click **Device Discovery Install**, on the **Welcome** window, click **Next**.
3. On the **Destination Location** window, select the destination for the discovery program to install, click **Next**, click **Next** again, and then click **Finish**.
4. From your desktop select **Start | Programs | Digi | Digi Device Discovery**. The Device Discovery program displays a list of all vNet Devices found on this subnet.
5. Scroll down the device list until you find the MAC address of your vNet Device (MAC address is found on the side of the vNet Device above the serial number, or on the bottom of the Digi Device).

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If the vNet Device does not appear in the list, wait a few seconds, then click **Refresh view**. Select the Device, then, in the **Device Tasks** area, click **Configure network settings**.

6 To change network settings, on the **Configure Network Settings** window, select **Manually configure network settings**, then enter the IP Address, Subnet Mask, and Default Gateway values for this vNet Device. Click **Save**.

7 On the **Device Tasks** menu click **Restart device**, then click **Restart**. Wait until the vNet Device restarts and the device list updates.

8 Repeat steps 5 through 7 for each additional vNet Device.

Configuring vNet Devices

The vNet Device has a web-based vNet Configuration and Management interface which allows you to make configuration changes, restore default settings, and more. It is recommended that you log in to this interface to change the default password.

If you have enabled the viewLinc Aware Service in viewLinc, for vNet devices with serial number 1411xxxx or Firmware 1.4, or higher:

- Configuration is completed automatically for all vNet Devices on the same subnet as the viewLinc Server.
- For vNet Devices on a different subnet from the viewLinc Server, you are only required to configure one vNet Device. Additional vNet Devices are configured automatically.

To launch the vNet Configuration and Management interface from a Web browser:

1 In a Web browser, enter the IP address of your vNet Device (obtained from your IT administrator) or enter the NetBIOS name. The default NetBIOS name is VERITEQXXXXXXXX (X denotes the 8-digit serial number of the vNet Device). If the vNet Device is configured with a TCP port for HTTP other than the default value of 80, enter the port number after the IP address or NetBIOS name, separated with a colon.

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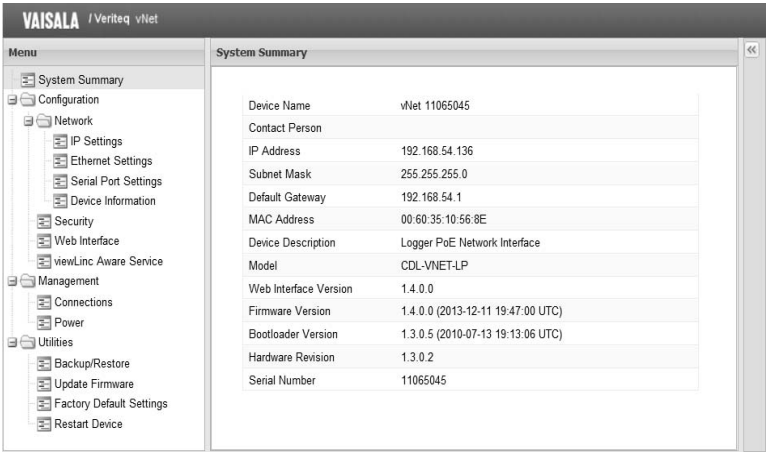
For example:

http://192.168.1.58
http://VERITEQ09075101
http://192.168.1.58:8000

2 At the login screen, enter the user name: **root.**

3 Enter the default password: **dbps**. You can change this password later (see “Administrator Password” on page 16).

4 Click **OK.** The vNet Configuration and Management screen displays:



To launch the vNet Configuration and Management interface using Digi Device Discovery:

Note: If the vNet Device is configured with a TCP port for HTTP other than the default value of 80, you need to launch the interface from a web browser.

1 From the Start menu select **Digi | Digi Device Discovery | Digi Device Discovery**.

2 Locate your vNet Device’s MAC address (found on the side of your vNet Device) in the MAC address list, and double-click on it to open the login screen.

3 Enter the user name: **root**.

4 Enter the default password: **dbps**. You can change this password later (see “Administrator Password” on page 16).

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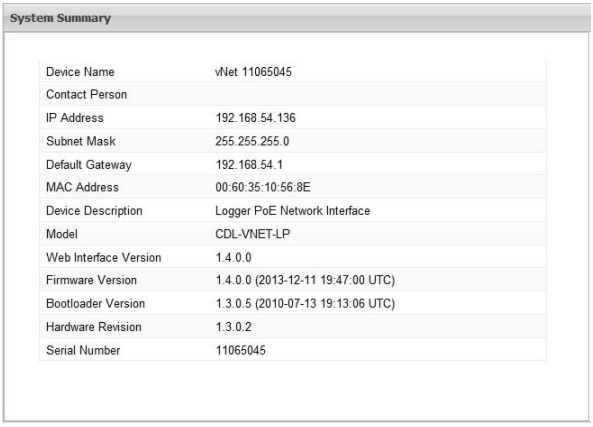
5 Click **OK.** The vNet Configuration and Management screen displays.

Network Configuration Settings

To view vNet Device IP settings:

1 Launch the vNet Configuration and Management interface.

2 The window displays the **System Summary**.



Note: This summary includes all the important information about your vNet Device, such as Device name, contact person, current IP address, MAC address, model name, and firmware version.

IP Settings

There are three methods you can use to assign an IP address to a vNet Device:

1 Configure a DHCP server to reserve a specific IP address (by MAC address) and automatically assign it to the vNet Device.

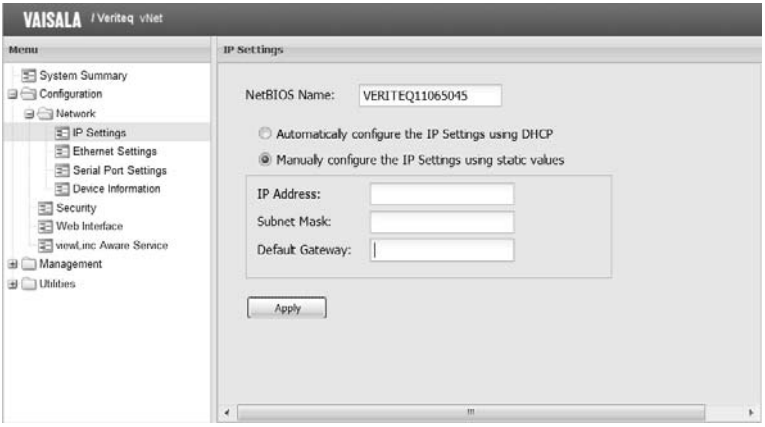
2 Manually assign a static IP address to the vNet Device.

3 Allow a DHCP server to automatically assign any available IP address to the vNet Device.

Note: The vNet Device has DHCP enabled by default. If your network does not have a DHCP server, manually assign a static IP address.

To manually configure IP settings for your vNet Device:

1 From the vNet Configuration and Management interface, choose **Configuration | Network | IP Settings**.



2 Select the option, **Manually configure the IP Settings using static values**, then enter the IP Address, Subnet Mask, and Default Gateway supplied by your IT administrator.

3 Click **Apply**. When prompted, click the **here** link to restart the vNet Device.

Please click here to restart the device.

NetBIOS Name

A NetBIOS name provides an easy way to connect to your vNet Device through a Web browser, without having to remember the assigned IP address.

To access a vNet Device using the NETBIOS name, simply enter the name in the address line of your Web browser:

http://NetBIOSname

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The factory default NetBIOS name is VERITEQXXXXXXXX (X denotes the 8-digit serial number of the vNet device).

To change the NetBIOS name:

1. From the vNet Configuration and Management interface, choose **Configuration | Network | IP Settings.**
2. In the NetBIOS name field you can enter up to 15 characters (using letters, numbers, and underscores). To avoid a network conflict, do not assign the same name to another vNet Device.
3. Click **Apply**. When prompted, click the **here** link to restart the vNet Device.

Ethernet Settings

Depending on the network hub or switch the vNet Device is connected to, you may want to change the Ethernet mode from the default setting, half-duplex, to full-duplex.

To change the Ethernet settings for your vNet Device:

1. From the vNet Configuration and Management interface, choose **Configuration | Network | Ethernet Settings**.
2. Choose the desired Duplex Mode (Half or Full).
3. Click **Apply**. When prompted, click the **here** link to restart the vNet Device.

   Note: The speed setting is fixed at 10Mbit and cannot be changed.

Serial Port Settings

The vNet Device communicates with the Vaisala Veriteq Logger through a serial port; however, communication between the PC and the vNet is through TCP ports.

Because TCP port numbers can change, use the Serial Port Settings screen to configure the vNet Device to continue to use

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the same TCP port as the serial port (managed by serial port redirector software).



Loopback Test Mode

Enable the Loopback Test Mode option when you want to perform diagnostic tests to solve vNet communication problems.

When the Loopback Test Mode is enabled, the vNet enters a diagnostic mode - data is received from the PC and transmitted back to the PC, but not to the Logger. In diagnostic mode, you can determine if a communication problem is a Logger issue, a vNet Device issue, or an issue with the device driver on the PC. A change to the Loopback Test Mode setting only takes effect when the port is closed, then reopened.

Note: The Loopback Test Mode checkbox clears automatically when the vNet Device restarts, or if more than 1 hour has elapsed since it was enabled (checked).

RealPort

The serial port on the vNet Device is accessed using the Digi RealPort protocol. If a RealPort driver is installed on a PC, it can be configured to access the serial port using the RealPort TCP port number. The factory default setting is 771.

It is important to note:

- Only one RealPort client can connect to the vNet Device at a time. Install the RealPort driver using a Vaisala vNet Device

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Driver installation disk (this ensures that the PC only connects to the vNet device when trying to open the serial port).

- When the serial port is closed, the TCP connection is also closed, allowing another client PC to connect to the vNet Device.
- If the driver is installed from the Digi RealPort Setup option, the RealPort driver on one client PC connects to the vNet Device when the PC starts, and keeps the TCP connection open. No other PC will have access to the vNet Device.

Raw TCP

You can also access the serial port on a vNet Device using generic third-party Ethernet-to-serial port redirector software. These applications can send and receive data using the Raw TCP port number. The factory default setting is 9761.

When using the serial port in Raw mode, the client PC can only send and receive data. There is no access to serial port settings such as baud rate or control lines (the serial port is automatically set to 19200 bps, 8 data bits, no parity bit, 1 stop bit).

To set the Serial Port settings for your vNet Device:

1. From the vNet Configuration and Management interface, choose **Configuration | Network | Serial Port Settings**.
2. Enter new port numbers.
3. Click **Apply**. When prompted, click the **here** link to restart the vNet Device.

To allow multi-user RealPort access to a vNet Device:

1. Open the Windows Control Panel and double-click **System**.
2. On the System Properties screen, select the **Hardware** tab, then click **Device Manager**.
3. On the Device Manager screen, open **Multi-port serial adapters** to find your adaptor.
4. Right-click on your adaptor name, then select **Properties**.
5. Select the **Advanced** tab, then click **Properties**.
6. Select the **Network** tab, then click **Connection Settings**.

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7 Check the **Wait for COM open request before connecting to device** checkbox, then click **OK** and close all open dialogs.

8 Repeat these steps for all client PCs that have this vNet Device connected.

Note: With this option selected, you can access the data logger connected to your vNet Device from multiple client PCs.

Device Information

The Device Information settings screen allows you to:

- Identify a contact person who will provide assistance in case of a problem connecting with the web interface. Note that the contact person information is stored in the vNet Device for reference purposes only.
- Specify a name for your vNet Device to make it easy to locate on your network. This name displays in the Name column of the Digi Device Discovery screen (**Start | Digi | Digi Device Discovery**).

  Hint: The default device name is **VeriteqXXXXXXXX** (X denotes the 8-digit serial number of the vNet device).

To set the device information for your vNet Device:

1 From the vNet Configuration and Management interface, choose **Configuration | Network | Device Information**.

2 Enter the contact person for your vNet Device (name, phone number and/or email address, maximum 63 characters).

3 To change the vNet Device name, enter a description (maximum 63 characters).

4 Click **Apply**.

Administrator Password

For security purposes, you can change the administrator password for your vNet Device. The password is case-sensitive,

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and must be 4 to 16 characters long. The default administrator password is **dbps**.

Note: The administrator name, **root**, cannot be changed.

To change the administrator password:

1. From the vNet Configuration and Management interface, choose **Configuration | Security**.
2. In the Security Settings screen, enter and confirm your new administrator password.
3. Click **Apply**. When prompted, click the **here** link to restart the vNet Device.

   The new password takes effect after the restart completes.

Session Timeout Period

In addition to passwords, another security feature you can apply is a timeout period for the web interface session. The timeout period specifies when the session will automatically close, protecting you from others altering your vNet Device configuration settings if you accidentally leave the Web session open.

You can also specify the HTTP TCP port number used by Web browsers to display the vNet Device's Web interface. In most circumstances you will not need to change the default HTTP TCP port number (80), unless port 80 is blocked.

To set the timeout period and HTTP port:

1. From the vNet Configuration and Management interface, choose **Configuration | Web Interface**.
2. In the Web Interface screen, choose to either select (recommended) or deselect the option **End session after timeout**.
3. Enter the session timeout period in minutes.
4. Enter the HTTP port you want to use (change the default, 80, only if it is blocked).

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5 Click **Apply**. If the TCP port number was changed, a message appears stating that the vNet Device needs to be restarted. Click the **here** link to restart the Device.

viewLinc Aware Service

If you have installed viewLinc 4.3 or higher, use the viewLinc Aware Service page to automatically set the communication parameters used to identify your vNet Device.

Note: To activate viewLinc Aware Service, you also need to set the option in viewLinc. Refer to the viewLinc User's Guide to learn how to enable this option.

When installing vNets on the same subnet as viewLinc, enabling the viewLinc Aware service ensures that drivers are installed automatically.

When installing vNets on a different subnet from viewLinc, simply configure one vNet and ensure the viewLinc Aware Service is enabled. Each time an additional vNet is added, the viewLinc IP address is passed to the new vNet, and drivers are installed automatically.

To enable the viewLinc Aware Service for a vNet Device:

1 From the vNet Configuration and Management interface, choose **Configuration | viewLinc Aware Service** then select the **Enable viewLinc Aware Service** checkbox (enabled by default).

2 Enter communication transmission intervals:

- **Lookup Interval**: Enter a time period, in seconds, the vNet Device will use to initiate communications with viewLinc (enter a number between 1 and 600; default is 120).
- **Followup Interval**: Enter a time period, in seconds, the vNet Device will use to maintain communications with viewLinc (enter a number between 1 and 3600; default 600).

Note: If communication is interrupted, the vNet Device will attempt to reinstate communications with viewLinc

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using the Lookup Interval and Followup Interval, on an on-going cycle.

3 Specify communication channel and address:

- **viewLinc UDP Port**: Accept the default port number, 9065, unless viewLinc uses a different port number. This number may change during regular operation.
- **viewLinc IP Address**: Enter the viewLinc server IP address. This number may change during regular operation.

4 Click **Apply** to save your changes. The vNet Device uses the new settings immediately.

Managing Connections and Network Statistics

The vNet Configuration and Management interface includes a Connections table that shows which computers are, or have been, connected to this vNet Device.

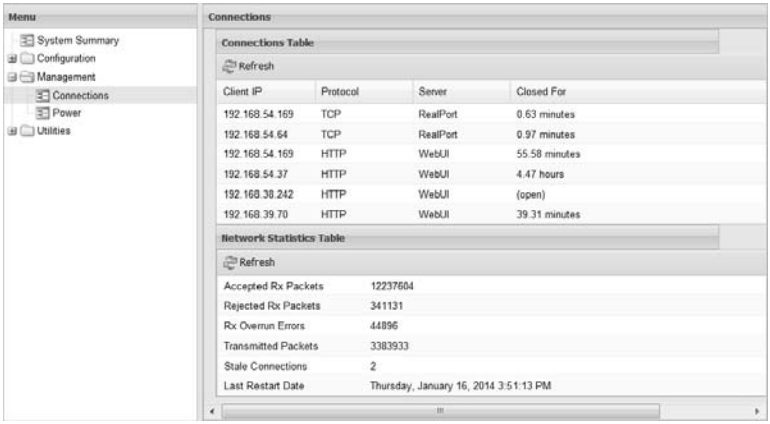
The Connections screen also includes a Network Statistics table that monitors network activity.

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Connections

To see the Connections and Network Statistics tables:

1 From the vNet Configuration and Management interface, choose **Management | Connections**. The **Connections** and **Network Statistics** tables appear:



2 Click one of the **Refresh** buttons to update the list to show the current status.

Connections Table

Use the Connections table to find out if a PC is holding the serial port on the vNet Device open too long, how many PCs are accessing the serial port, or if the Web interface is being accessed from another computer.

Only the six most recent connections are shown. Restarting the vNet Device clears the list.

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Network Statistics Table

Use the Network Statistics table to monitor the network activity:

- **Accepted Rx Packets**: The number of received Ethernet packets that were accepted for further processing.
- **Rejected Rx Packets**: The number of received Ethernet packets that were rejected for various reasons, such as protocol not supported, multicast address not supported, or packet errors.
- **Rx Overrun Errors**: The number of times a receive overrun was detected, i.e., one or more packets were dropped because the receive buffer was already full with previously received packets that had not yet been processed.
- **Transmitted Packets**: The number of Ethernet packets that were transmitted by the vNet Device.
- **Stale Connections**: The number of times a TCP connection for RealPort or Raw TCP was closed because it was “stale” or “half-open”.
- **Last Restart Date**: The date/time when the vNet Device was last restarted.

  Note: Restarting the vNet Device will reset the network statistics counters to zero, and update the last restart date.

Power Settings

To view current settings such as fan speed and power supply voltage, from the vNet Configuration and Management Interface, choose **Management | Power.**

Current settings display. You may be able to change some of these settings, depending on the vNet Device model.

If the power supply input voltage and fan speed are displayed, click **Refresh** to update the values.



Setting the System Fan

Some vNet Devices are equipped with an internal fan. This fan is provided to cool the internal electronics so they do not affect data logger measurements. If the Logger connected to your vNet Device does not include any internal measurement Channels, you may be able to turn the fan off if this option is supported by the vNet Device model (if available, this option displays on the Power Settings screen). By default, the fan is turned ON.

Note: If your vNet Device is powered using Power over Ethernet, the fan must be turned ON. The Power over Ethernet (PoE) standard requires that a minimum amount of load current be drawn from the supply; the fan provides this minimum load.

To turn the system fan on or off:

1. From the vNet Configuration and Management interface, choose **Management | Power**.
2. In the **Power Settings** screen, use the drop-down list to select **On** or **Off** for the **Fan Setting** option.
3. Click **Apply**.

15V Loop Power Excitation

The vNet Device may include a 15V loop power output, which allows you to provide power to a sensor or transducer connected to a Vaisala Veriteq Logger recording 4-20 mA currents or DC voltage signals.

If your vNet device is equipped with this feature, the option to enable or disable loop power displays on your screen.

To enable or disable 15V Loop Power Excitation:

1. From the vNet Configuration and Management interface, choose **Management | Power**.
2. In the **Power Settings** screen, check or uncheck the **Enable 15V Loop Power Excitation** checkbox to enable or disable loop power.
3. Click **Apply**.

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vNet Device Utilities

Backup/Restore

It is recommended that you save your current vNet Device configuration settings to a backup file, so they can be restored at a later time. You can also use this backup file to save time when configuring other vNet Devices (see page 25).

When restoring vNet Device settings using a configuration backup file that was created by a different vNet Device, consider the following:

- The configuration backup file is a plain text file that can be edited.
- You can remove items from the configuration backup file if you do not want to change specific settings (such as NetBIOS name).
- There are vNet Device-specific items in the configuration backup file that are for informational purposes only and do not get applied when the file is restored (such as serial number, MAC address, model name and description).

Item	Configuration
UseDhcp	• When UseDhcp = true, DHCP is enabled and the vNet Device tries to automatically acquire IP settings. • When UseDhcp = false, the vNet Device uses the user-defined IP address, Subnet mask and Gateway items in the configuration file.
IpAddr	The IP address used if UseDhcp = false.
Subnet-Mask	The Subnet mask used if UseDhcp = false.
Gateway-Addr	The Gateway address used if UseDhcp = false.

Table 1: Configuration Backup File

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Item	Configuration
NetBios-Name	The NetBIOS name used to access the vNet Device. The name must be 1 to 15 characters long (you can use any alphanumeric combination and the underscore character, _).
EthDuplex	The Ethernet mode the vNet Device uses on the network on which it is installed. Valid duplex values are **Half** or **Full**.
CloseTimeout	The control setting to enable or disable the web interface idle timeout. Valid values are **true** or **false**.
IdleTimeout	The timeout value in minutes (1 to 120) used if the CloseTimeout = true.
HttpPort	The TCP port number the vNet Device uses to display the web interface.
DeviceName	The vNet Device name displayed in the Digi Device Discovery software. The name can be up to 63 characters in length.
Contact	An informational description saved in the vNet Device. The description can be up to 63 characters in length.
RealPort	The TCP port number the RealPort driver uses to access the serial port on the vNet Device.
RawPort	The TCP port number the Raw TCP driver uses to access the serial port on the vNet Device.
EnableFan	The control setting for the vNet Device fan. Valid values are **on** or **off**.
Enable15V	The control setting to enable or disable the 15V loop power supply output. Valid values are **true** or **false**.

Table 1: Configuration Backup File

To save configuration settings:

1 From the vNet Configuration and Management interface, choose **Utilities | Backup/Restore**.

2 Select the **Backup** tab and click **Backup**.

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3 At the **File Download** prompt, click **Save**.

4 Choose a location where you want to save the file and specify a file name. The default file name is **vNetConfigBackupXXXXXXXX** (X denotes the 8-digit serial number of the vNet device).

5 At the **Download Complete** prompt, click **Close.**

To restore settings from a previously saved configuration backup file:

1 From the vNet Configuration and Management interface, choose **Utilities | Backup/Restore**.

2 On the **Restore** tab, click **Browse** to locate the configuration file to restore, then click **Open**.

3 Click **Apply.**

- If a message appears stating that the vNet Device needs to be restarted, click the **here** link to restart the Device.
- If you do not need to restart the Device, click the browser's **Refresh** button to update the Web interface with the new values.

To configure another vNet Device from a backup file:

1 Open the configuration backup file in a text editor (such as Notepad or Wordpad).

2 Edit the file by modifying lines or deleting lines (refer to Table 1, "Configuration Backup File" on page 23, for a list of editable lines).

3 Save the modified file with a different name but the same file extension (.txt)

4 Locate the new vNet Device on your network (**Start | Digi | Digi Device Discovery | Digi Device Discovery**).

5 Select the Device, then click **Open web interface** to open the vNet Configuration and Management interface.

6 Choose **Utilities | Backup/Restore**.

7 On the **Restore** tab, click **Browse** to locate and select the modified configuration file, then click **Open.**

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8 Click **Apply**.

- If a message appears stating that the vNet Device needs to be restarted, click the **here** link to restart the Device.
- If you do not need to restart the Device, click the browser's **Refresh** button to update the Web interface with the new values.

Updating Software

You may need to update the vNet Device application software if a problem is identified, or if new features are available. You can update the application Firmware, the Boot Loader, or the Web interface.

Important: Only update the vNet Device when instructed to do so by a Vaisala representative, and ensure the update is complete before unplugging any cables. Communication with the Logger attached to the vNet Device is disrupted during the update.

To update the vNet Device:

1 From the vNet Configuration and Management interface, choose **Utilities | Update Firmware**.

2 In the Update screen, from the drop-down list, select **Boot Loader**, **Firmware** or **Web Interface**.

3 Click **Browse** to locate and select the update file provided by a Vaisala representative, then click **Open**.

4 Click **Apply**. Updating the Boot Loader or Firmware completes in about 1 minute.

The vNet Device restarts automatically, and the Web interface reloads (it takes about 1 minute for a Web interface update to complete and the new Web interface to load).

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Factory Default Settings

You may need to restore the vNet Device configuration to factory default settings if you:

- Forgot the administrator password.
- Changed the TCP port for HTTP but don't remember what it is.
- Want to remove all custom configuration changes.

Before restoring factory default settings, you must choose whether or not you want to keep the IP settings and administrator password you have already set (recommended).

> **Important:** If you do not check the option to keep the current IP settings, DHCP is automatically enabled. This could result in the vNet Device acquiring a new IP address if it had previously been configured with a static IP address. If this happens, you will need to rediscover the vNet Device using the Digi Device Discovery software (**Start | Digi | Digi Device Discovery**).

You can restore default settings on the vNet Device using the web interface or from the vNet Device itself using the restart button.

To restore factory default settings using the Web interface:

1. From the vNet Configuration and Management interface, choose **Utilities | Factory Default Settings**.
2. To keep the IP address settings and administrator password but reset all other settings to the factory defaults, select the option, **Keep IP Settings and Administrator Password**.
3. If you do not want to keep IP address settings, clear the checkbox.

   > **Note:** If you do not keep IP address settings and password, the IP settings will revert to DHCP, and the administrator password will revert to 'dbps'.

4. Click **Apply**.

Restoring factory default settings takes about 45 seconds to complete. The vNet Device restarts automatically and the web interface reloads.

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To manually restore factory default settings:

- On the vNet Device itself, press and hold the restart button for at least five (5) seconds (see Figure 3, “Restart button on vNet Device,” on page 30).

  Important: There is no warning before the factory default settings are restored.

List of Factory Default Settings

For an explanation of each setting shown below, refer to Table 1, “Configuration Backup File” on page 23.

These configuration settings are returned to factory default settings if the **Keep IP Settings and Administrator Password** option is checked:

Item	Setting
RealPort	771
RawPort	9761
IdleTimeout	5
CloseTimeout	True
DeviceName	vNet XXXXXXXX, where “X” is the 8-digit serial number of the vNet Device
Contact	(blank)
Enable15V	Off (if installed)
EnableFan	On (if installed)
viewLinc Aware Enabled	True
viewLinc Aware Lookup Interval	120 seconds
viewLinc Aware Reinstate interval	600 seconds

Table 2: Factory Default Settings not including IP Settings and Administrator Password

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Item	Setting
viewLinc Aware Out Port	9065
viewLinc Aware IP Address	0

Table 2: Factory Default Settings not including IP Settings and Administrator Password

If the **Keep IP Settings and Administrator Password** option is unchecked, these additional items are reset to their factory default settings:

Item	Setting
UseDhcp	True
IpAddr	0.0.0.0
HttpPort	80
SubnetMask	255.255.255.0
GatewayAddr	0.0.0.0
NetBiosName	VERITEQXXXXXXXX, where “X” is the 8-digit serial number of the vNet Device
EthDuplex	Half
Password	dbps

Table 3: Factory Default IP Settings and Administrator Password

Restarting the vNet Device

Sometimes it is necessary to restart the vNet Device for new configuration settings to take effect. If restarting is necessary, you are prompted to restart using the link appearing at the top of your Web browser.



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The restart process takes approximately 15 seconds to complete. During this time the vNet Device is unavailable. The vNet Configuration and Management interface takes about 1 minute to reload after restarting.

Important: Restarting the vNet Device will disconnect all connected clients and close their sessions. Closing a connection to a client disrupts communication between the client and the Logger that is attached to the vNet Device.

You can restart the vNet Device from the vNet Configuration and Management interface or from the vNet Device itself.

To restart the vNet Device using the Web interface:

1. From the vNet Configuration and Management interface, choose **Utilities | Restart Device**.
2. From the Restart Device screen, click **Restart**.
3. At the Restart prompt, click **Yes**.

To manually restart the vNet Device:

- On the vNet Device itself, press and immediately release the restart button (refer to Figure 3, “Restart button on vNet Device”.)

  Important: Do not press the restart button for more than one (1) second, or you might restore all settings to their factory default values.



Figure 3: Restart button on vNet Device

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Getting Help

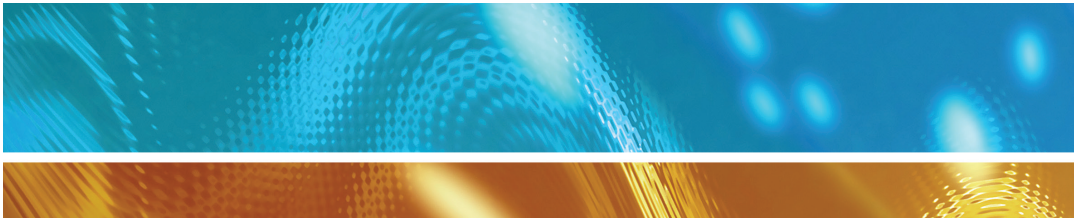
If you need help, technical support is available from Vaisala, 8 am-4 pm PST Monday through Friday.

In North America, please call 1-888-VAISALA.
For all other locations, please send an email or visit us online:

Email: helpdesk@vaisala.com.

Web: www.vaisala.com.

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