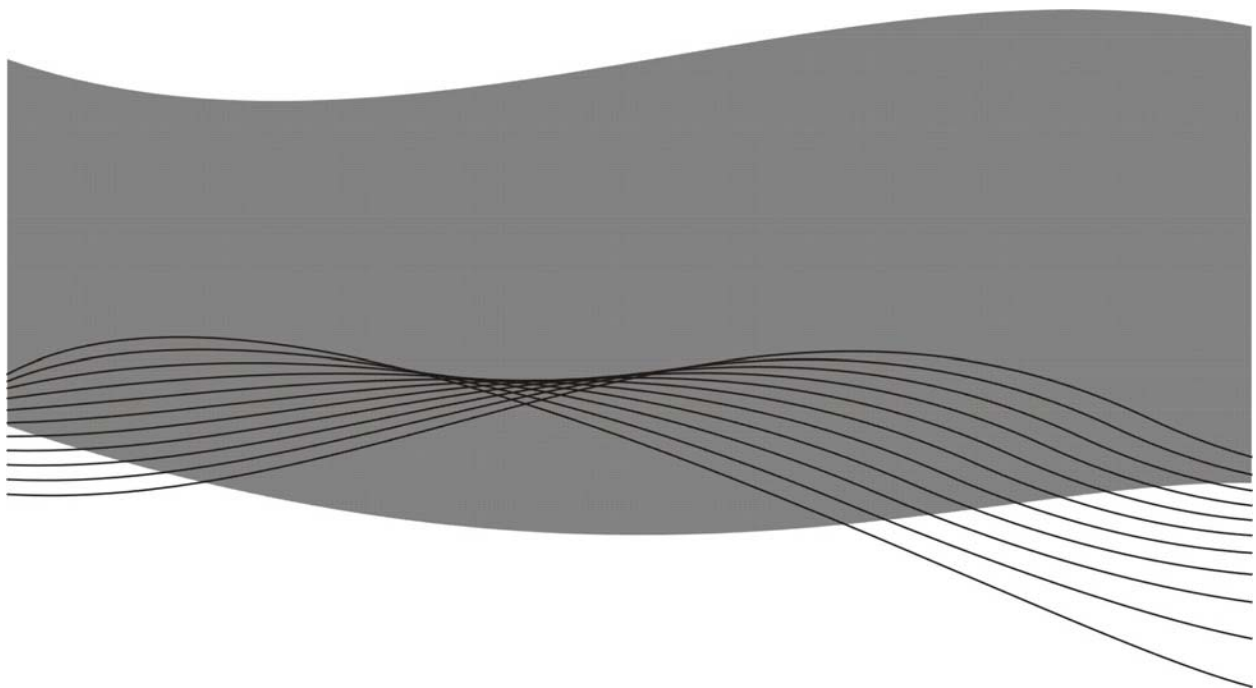




HP ProCurve Services zI Module

Firewall ZL1 Installation and Getting Started Guide



www.procurve.com
www.vantronix.com

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Overview

The HP ProCurve Services zI Module is shipped from the factory ready for the .vantronix Firewall ZL1 software image to be downloaded and installed. It does not have any specific application software or an application-related operating system already installed. Instead, a resident Service OS provides the ability to download, install and activate a complete operating system image that includes the Firewall ZL1 application.

After the Firewall ZL1 image is downloaded, installed and activated on the Services zI Module, it becomes joined to that one particular module. Since Services zI Module is not shipped with any specific network function or service until a “Product OS” image is added, it provides a unique ability to become a dedicated “appliance within a switch” after the Firewall ZL1 image is installed and activated.

This document describes the steps needed to install and activate Firewall ZL1 on the Services zI Module. Because the Services zI Module is not a server device, it is necessary to follow the steps described in this document to successfully complete the installation.

Before proceeding, register for accounts both at <http://my.procurve.com> and at <http://my.vantronix.com>. These accounts provide access to product support information, updates, and license keys.

Step-by-step instructions

1. Install the Services zI Module hardware

Before installing the Services zI Module into the switch chassis, access the switch CLI to verify the switch has the most current module-compatible software installed. The switch software version should be **K.13.41**¹ or later. Use the following command to check the switch software version:

```
ProCurve# show version <CR>

Image stamp:    ...
                <date, time>
                K.13.XX
                ...
Boot Image:    Primary
```

If the switch software needs to be updated, follow the directions in the **HP ProCurve Services zI Module Installation and Getting Started Guide** to update the software.

¹ The switch software version is expected to change.

Next, install the Services zI Module following directions and safety precautions in the **HP ProCurve Services zI Module Installation and Getting Started Guide**.

Verify the module is installed successfully. When the module is installed, it undergoes a self test that takes a few seconds. The LEDs on the front panel of the module help determine if the module has passed the self test. For more information, see the **HP ProCurve Services zI Module Installation and Getting Started Guide**.

2. Download the software image onto the Services zI Module

Contact .vantronix | secure systems GmbH for software licensing options and instructions on how to acquire access to the Firewall ZL1 product software image.

Once the Firewall ZL1 product software image is received, it can be downloaded onto the Services zI Module using either a USB flash drive or using FTP file transfer through the local network.

Download Using USB Flash Drive

Copy the image onto a USB flash drive. Make sure the drive is FAT/FAT32 formatted and can hold all files that will be downloaded. If the software image is provided in the form of a zip file, first unzip the image directory and copy all files to the following location on the USB drive:

```
/services/images/vantronix_Firewall_ZL1_J9xxxA_XXXXXX_XXXX/
```

Type "services" to list the services installed on the Services zI Module:

```
ProCurve> services <CR>

                Installed Services
Slot  Index Description                               Name
B      1. Services Module                             services-module
```

The Services zI Module service is in Slot **B** at index **1** and has the name **services-module**. Type either of the following commands to access the Services zI Module CLI:

```
ProCurve# service b 1 <CR>
ProCurve(services-module-B:HD)#
```

or

```
ProCurve# service b name services-module <CR>
ProCurve(services-module-B:HD)#
```

Insert the USB flash drive with the Firewall ZL1 image into the USB slot on the front of the Services zI Module.

IMPORTANT: The USB flash drive must be inserted into the USB slot on the front of the Services zI Module, NOT into the USB slot on the switch chassis.

Type the following commands to copy the image to the image repository on the Services zI Module:

```
ProCurve(services-module-B:HD)# usb mount <CR>
ProCurve(services-module-B:HD)# usb copyfrom
vantronix_Firewall_ZL1_J9xxxA_XXXXXX_XXXX <CR>
ProCurve(services-module-B:HD)# usb unmount <CR>
```

Download Using FTP File Transfer

If the software image is provided in the form of a zip file, first unzip the image directory and copy it (as a sub-directory) to the root directory of an FTP server:

```
/FTP-root/vantronix_Firewall_ZL1_J9xxxA_XXXXXX_XXXX/
```

Type "services" to list the services installed on the Services zI Module:

```
ProCurve> services <CR>
```

Installed Services			
Slot	Index	Description	Name
B	1.	Services Module	services-module

The Services zI Module service is in Slot **B** at index **1** and has the name **services-module**. Type either of the following commands to access the Services zI Module CLI:

```
ProCurve# service b 1 <CR>
ProCurve(services-module-B:HD)#
```

or

```
ProCurve# service b name services-module <CR>
ProCurve(services-module-B:HD)#
```

Next, type the following command to initiate FTP file transfer:

```
ProCurve(services-module-B:HD)# download ftp <IP-ADDRESS>
vantronix_Firewall_ZL1_J9xxxA_XXXXXX_XXXX user <USERNAME> <CR>
```

<IP-ADDRESS> is the IP address of the FTP server to which the product image directory was copied, and <USERNAME> is the optional login ID for the FTP server (enter this login ID only if it's required for FTP server login).

3. Install the software image on the Services zI Module

After the Firewall ZL1 software image is downloaded into the Services zI Module image repository (using either USB file copy or FTP transfer), type the following commands to install the image:

```
ProCurve# services b 1 <CR>

ProCurve(services-module-B:HD)# uninstall product <CR>

ProCurve(services-module-B:HD)# install product
vantronix_Firewall_ZL1_J9xxxA_XXXXXX_XXXX <CR>
```

At this point the software image is installed and ready to be activated.

4. Activate the Firewall ZL1 product software image

After the software image is installed onto the Services zI Module, it must be registered and activated before being run for the first time. To do this, first obtain a hardware ID for the Services zI Module by entering the following commands:

```
ProCurve# services b 1 <CR>

ProCurve(services-module-B:HD)# licenses hardware-id activation <CR>
The hardware Id for package "activation" is
SG000GG000-A-0123456-ABCDEFG-0123456-ABCDEFG
```

Note: **SG000GG000** is the serial number of the Services zI Module.

Detailed instructions to find your activation hardware ID are embedded in the My ProCurve portal (<https://my.procurve.com>) registration pages and are also available in the **HP ProCurve Services zI Module Installation and Getting Started Guide**.

Use this activation hardware ID to register the Services zI Module through the My ProCurve portal. Sign in to the portal and then click on **My Software** and follow the instructions to complete the registration process. You will be asked to enter the **activation hardware ID** as well as the **registration ID** that was provided along with the Firewall ZL1 product software image.

Once the registration process has completed successfully, you should receive a license key in email and on the screen. This license key must be installed on the Services zI

Module. For instructions on how to install the license key, see the **HP ProCurve Services z1 Module Installation and Getting Started Guide**.

The following commands install the license key on the Services z1 Module:

```
ProCurve# services b 1 <CR>

ProCurve(services-module-B:HD)# licenses install activation SG0000GG000-A-0123456-ABCDEFG-0123456-ABCDEFG <CR>

ProCurve(services-module-B:HD)# boot product <CR>
Changing boot from Service OS to Product OS.
System will be rebooted. Do you want to continue [y/n]? y
Rebooting
```

Check the boot progress on the Services z1 Module until the Product OS is running (you can use the repeat command to monitor booting progress):

```
ProCurve# show services b <CR>

Status and Counters - Services Module A Status

HP Services z1 Module J9154A

Versions           : A.01.06, B.01.03
Status             : not responding

For more information, use the show commands in services context

ProCurve# repeat <CR>
```

Press any key to exit the repeat command once the “Status” display shows the module is “running”.

IMPORTANT: *The USB flash drive must be removed from the USB slot on the front of the Services z1 Module before the module is rebooted. If it is not, the module may appear to “hang” instead of rebooting. To recover, simply remove the USB flash drive, disengage the module from the switch chassis for 5 seconds, then reinsert the module to restart the boot process.*

After the Services z1 Module reboots, the Firewall ZL1 command line interface (CLI) becomes available.

5. Access the Firewall ZL1 CLI

Type "services" in the switch CLI to list the services installed on the Services zl Module:

```
ProCurve# services <CR>
                Installed Services
Slot  Index Description                               Name
B     1.  Services Module                             services-module
B   2.  .vantronix Firewall ZL1                       firewall-module
```

The Firewall ZL1 service is now activated in Slot **B** at index **2** and has the name Firewall ZL1. Type either of the following commands to access the Firewall ZL1 CLI:

```
ProCurve# services b 2 <CR>
ProCurve(firewall-module-B)#
```

Or

```
ProCurve# services b name firewall-module <CR>
ProCurve(firewall-module-B)#
```

6. Configure the Services zl Module ports into a specific VLAN

The Services zl Module provides two internal Ethernet port connections into the switch after installation. By default, both ports are placed in the default VLAN. For example, if the Services zl Module is installed into slot B of the switch chassis, the internal ports appear as B1 and B2, and are automatically placed in the default VLAN. Depending on the VLAN configuration in the switch, one or both of these ports may need to be reassigned into a different VLAN. This is done by using the switch's management interface, just like any other port on the switch. The VLAN that the internal ports are placed in is important when configuring network parameters (e.g. IP address) for the services on the zl Module. These network parameters need to match the network configuration of the VLAN they are members of.

The VLAN configuration in the switch can be seen using:

```
ProCurve# show vlans <CR>

Status and Counters - VLAN Information

Maximum VLANs to support : 256
Primary VLAN : DEFAULT_VLAN
Management VLAN :

VLAN ID Name | Status Voice Jumbo
-----+-----
1 DEFAULT_VLAN | Port-based No No
123 VLAN_123 | Port-based No No
```

For this example, the ports assigned to the default VLAN can be seen using:

```
ProCurve# show vlan 1 <CR>

Status and Counters - VLAN Information - VLAN 1

VLAN ID : 1
Name : DEFAULT_VLAN
Status: Port-based
Voice : No
Jumbo : No

Port Information Mode Unknown VLAN Status
-----
B1 Untagged Learn Up
B2 Untagged Learn Up
```

In this example, if all other switch ports are assigned to VLAN 123, the two Services zl Module ports will also need to be assigned to VLAN 123 in order to be accessible. These ports can be assigned as tagged using:

```
ProCurve# configure <CR>
ProCurve(config)# vlan 123 <CR>
ProCurve(vlan-123)# tagged B1,B2 <CR>
```

or else as untagged using:

```
ProCurve# configure <CR>
ProCurve(config)# vlan 123 <CR>
ProCurve(vlan-123)# untagged B1,B2 <CR>
```

See the **Management and Configuration Guide for the ProCurve Series 3500yl, 6200yl, 5400zl, and 8200zl Switches** for more information on VLAN configuration.

7. Install the Firewall ZL1 .vantronix license key

An additional license from .vantronix is required to enable the product functionality. It is important to distinguish between the ProCurve ONE activation key to install the product image and the .vantronix license key to register and unlock the vendor product.

Please register at <https://my.vantronix.com/> or contact .vantronix support and submit the hardware key including product name to request a valid license key. The Firewall ZL1 CLI will display the required information and ask for a license key if there is none installed on the product image. After successful installation of the .vantronix license key, the running system has to be rebooted.

```
ProCurve# service b 2 <CR>
% No valid license key found

Hardware key:      1234-5678-90ab-cdef
Product:          .vtFW-ZL1

% Please specify a valid key: fedc-ba09-8765-4321-1234-5678-90ab-cdef
% Please specify a valid key (again): fedc-ba09-8765-4321-1234-5678-90ab-cdef

% Do you really want to reboot the system? yes
```

8. Configure the Firewall ZL1 using the CLI

After installing the .vantronix license key, you can enter the unlocked Firewall ZL1 CLI. The available commands are listed if you type the **?** or **TAB** character. As you type a command you can press **?** or **TAB** at any time to see matching commands or arguments:

```
ProCurve(firewall-module-B)# <?>
%Available commands:
...
(list of Firewall ZL1 CLI commands appears here)
...
  exit                End current context
```

When entering a command, there may be a delay of a few seconds as the command is processed - this is normal behavior. Wait for the command prompt before trying to enter further commands.

Using the Firewall ZL1 CLI, configure network settings, set time and time zone, synchronize time, set passwords, and set security generally requires to enter configuration context on the CLI first:

```
ProCurve(firewall-module-B)# configure <CR>
ProCurve(firewall-module-B:config)#
```

The first step is to change the login password. The default password of the “manager” user is “admin” and should be changed after installation with the following command:

```
ProCurve(firewall-module-B:config)# user password <CR>
Changing local password for manager.
New password: xxxxxxxx
Retype new password: xxxxxxxx
```

Configure an initial IPv4 or IPv6 address to access to module over the network. The internal ports of the module appear as **ix0** and **ix1** on the Firewall ZL1. Any untagged VLAN memberships configured on the switch CLI will automatically be learned and appear as **vlan1**, **vlan2**, and so on. You can configure the IP addresses and routes with the “ip” commands, for example:

```
ProCurve(firewall-module-B:config)# ip address dhcp interface ix0
```

or

```
ProCurve(firewall-module-B:config)# ip address 192.168.1.2/24 interface vlan123
ProCurve(firewall-module-B:config)# ip route default gateway 192.168.1.1
```

Next set the time zone of the module. The time zone can be specified by the location name like “US/Pacific”, “Japan”, “Europe/Berlin” or the symbolic time zone name like “UTC”. See the **.vantronix Management and Configuration Guide** for a list of the supported time zones.

```
ProCurve(firewall-module-B:config)# time zone Europe/Berlin <CR>
```

The time will be synchronized to the clock of the switch chassis on startup. You can additionally run an SNTP client to synchronize against a pool of time servers:

```
ProCurve(firewall-module-B:)# cvs edit ntp-server <CR>
...
(configure the SNTP service before starting it)
...
ProCurve(firewall-module-B:)# service ntp-server <CR>
```

Use the “show” commands to verify the settings (the addresses starting with fe80: are automatically-assigned IPv6 link-local addresses):

```
ProCurve(firewall-module-B)# show ip <CR>
% Internet Protocol configuration:

lo0          127.0.0.1/8
lo0          ::1/128
lo0          fe80:a::1/64
ix0          fe80:.../64
```

```

ix1                fe80:.../64
vlan123            fe80:.../64
vlan123            192.168.1.2/24

ProCurve(firewall-module-B)# show time <CR>
% Current date and time:

    Wed Jan 14 12:07:18 CET 2009

ProCurve(firewall-module-B)# show <?> <CR>
...
(list of more show commands)
...

```

8. Access the Firewall ZL1 Web interface

The Firewall ZL1 provides a secure SSL-based Web interface. It is required to generate a new SSL certificate before activating the Web interface for the first time. Use the “crypto ssl” command on the Firewall ZL1 CLI to generate the certificate and fill in the required information, for example:

```

ProCurve(firewall-module-B)# crypto ssl <CR>
% Generating new SSL RSA host key
...
% Generating new self-signed SSL certificate
...
Country Name (2 letter code) []:de
State or Province Name (full name) []:Lower Saxony
Locality Name (eg, city) []:Hanover
Organization Name (eg, company) []:.vantronix
Organizational Unit Name (eg, section) []:.
Common Name (eg, fully qualified host name) []:<configured_ip>
Email Address []:mail@example.com
...

```

The next step is to enable the Web interface and .vantronix management service on the Firewall ZL1 CLI.

```

ProCurve(firewall-module-B)# do service vantronix-mgmt
ProCurve(firewall-module-B)# write disk

```

Once you have configured the Web interface through the CLI you can connect to Firewall ZL1 using a Web browser. Just go to **https://<configured ip>:8034/**.

Note: Make sure to specify the **https** protocol and port **8034** as indicated above. .vantronix uses a SSL-based Web interface for secure, encrypted administration and uses port 8034 (assigned as “vantronix-mgmt”) to avoid conflicts with firewalled or load-balanced services operated by the Firewall ZL1.

You can also access the Firewall ZL1 Web interface by clicking on the [Details] link associated with the Services zl Module on the Device View of the ProCurve switch web management interface.

The screenshot displays the web management interface for a ProCurve Switch 5406zl (J8697A) in Mozilla Firefox. The interface includes a navigation menu with tabs for Identity, Status, Configuration, Security, Diagnostics, and Support. The main content area is titled "Device View" and contains a grid of configuration options: Fault Detection, System Info, IP Configuration, Port Configuration, Quality of Service, Monitor Port, Device Features, VLAN Configuration, Support/Mgmt URL, Upload/Download, and PoE Configuration. Below this grid, a detailed view of the switch hardware is shown, including a port grid (A-F), a Services Module section with a circled "[Details]" link, and various status indicators (HDD, CF, Network Activity, USB). At the bottom, there are buttons for "Select All Ports", "Deselect All Ports", "Enable Selected Ports", and "Disable Selected Ports". A note at the bottom states: "For advanced configuration start a [telnet session to the switch console](#)."

9. Configure Firewall ZL1 using the Web interface

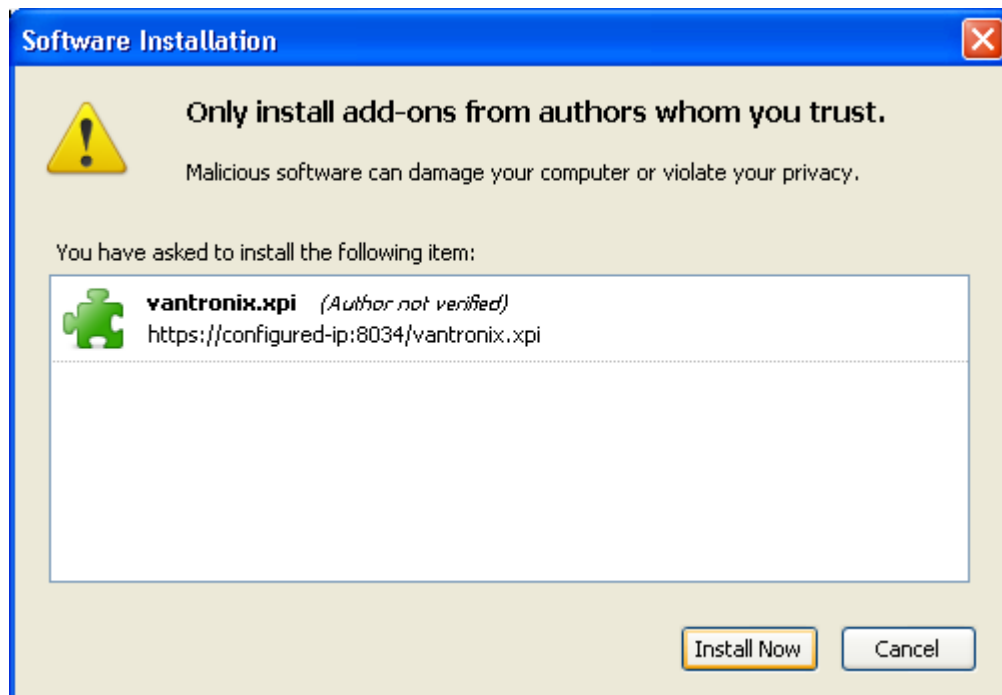
Use the Firewall ZL1 web interface to configure basic operation. Log in with the user “manager” and the password that was configured on the CLI before (the default password is “admin”):



10. Installing the .vantronix Firewall Manager

The .vantronix Firewall Manager is the extended graphical user interface of the Firewall ZL1. It runs as an add-on for the open source Mozilla Firefox web browser. Please visit <http://www.mozilla.com/> for more information and free downloads of the browser for various operating systems.

To install the Firewall Manager, open the Mozilla Firefox browser and go to **https://<configured ip>:8034/vantronix.xpi** to start the installation process. Accept the software installation and press the “Install Now” button to install the add-on.



After successful installation, the Firewall Manager will appear with a small red .vantronix logo in the lower right corner of the browser window and in the “Tools -> .vantronix | Firewall Manager” menu.

11. Rebooting the Services zl Module

Rebooting should not normally be required and can potentially result in data loss. If for some reason the Services zl Module becomes unresponsive, the following commands can be used to reboot:

```
ProCurve# service b 1  
ProCurve(services-module-B:PR)# boot <CR>  
System will be rebooted, do you want to continue [y/n]? y
```

or

```
ProCurve# service b name services-module  
ProCurve(services-module-B:PR)# boot <CR>  
System will be rebooted, do you want to continue [y/n]? y
```

12. Technical Support

The Services zI Module is a hardware platform that allows application vendors to make minor changes in their existing application software to run in a switch chassis. With a wide variety of applications available from several vendors, HP is committed to providing an "initial point of contact" for technical support. During this process, HP will verify the installation, configuration, activation licensing, and warranty claims on the Services zI Module. For problems concerning the application software, such as configuration or licensing of the application from the vendor, HP may have to redirect technical support to the application vendor to provide the best resources for solving a support issue. Consequently, if you are confident that the technical support issue resides within the application, it may be expeditious to contact the application vendor directly.

For access to HP ProCurve support, go to:

<http://www.procurve.com/customer-care/support/>

For troubleshooting tips, tutorials and Frequently Asked Questions, go to

<http://www.vantronix.com/support/>