CA API Gateway – Virtual Appliance
Getting Started

Contents

Introduction

The CA API Gateway – Virtual Appliance provides the power of the CA API Gateway conventional hardware appliance with the flexibility of a software application.

This document helps you get the Virtual Appliance up and running on your personal workstation as quickly as possible.

For complete information on using the Virtual Appliance and its accompanying Policy Manager, refer to the Gateway online documentation located at wiki.ca.com/Gateway and download the *CA API Gateway Administrators Manual* from the CA API Management Customer Support site.

If you require further assistance, send an email to *api-support@ca.com*.

Requirements

The CA API Gateway Virtual Appliance will run under any recent version of VMware® Workstation or vSphere.

For a complete list of requirements, refer to "Requirements and Compatibility" in the CA API Gateway online documentation located at: wiki.ca.com/Gateway.

Starting the Virtual Appliance

1. Follow the applicable instructions to start the Virtual Appliance:

   - **To start the ESXi image:** Select **File > Deploy OVF Template** and then navigate to the Virtual Appliance image file (*.ova).

   - **To start the Workstation image:** Select **File > Open** and then navigate to the Virtual Appliance image file (*.ova).

2. Verify the following settings:

   a. Select **Edit virtual machine settings** and then make sure the Hardware tab is visible.

   b. Select **Memory** from the list and make sure the slider is showing at least **768 MB**.

   c. Select **Network Adapter** from the list and choose the appropriate option:

      - If the Gateway will be connected to a physical network or accessed from external systems, choose **Bridged**.

      - If external access is not required or the host system is not connected to a network, select **NAT** or **Host Only**. Select **NAT** if you are running the Virtual Appliance for evaluative or training purposes.

   d. Click [**OK**].

3. If using the ESXi Server, you must map the virtual network interface to the appropriate virtual network switch for your configuration.

4. Click **Power on this virtual machine** to start the Virtual Appliance. Allow a few moments for the boot process to complete.

Once the Virtual Appliance has started, proceed to *Configuring the Virtual Appliance* below.

Technical Tip: If a "[FAILED]" message appears during the VMware Tools initialization process, check the irqbalance daemon.

Configuring the Virtual Appliance

Tip: The example settings shown are designed to get your Virtual Appliance up and running as quickly as possible for evaluation purposes. For use in other environments, see the CA API Gateway online documentation located at [wiki.ca.com/Gateway.](wiki.ca.com/Gateway)for a detailed description of each setting.

Once the image boot process has completed, you can configure the Virtual Appliance.

1. When prompted to log in, type **ssgconfig** for the user name and **7layer** for the password (both are case sensitive).

2. After your first login, you will be prompted to change the password for ssgconfig. Follow the prompts to create a new password. **Tip:** For evaluation purposes, you can use **L7Secure$0@** ("0" = zero).

    The Gateway main menu appears once you are successfully logged in.

```
Welcome to the SecureSpan Gateway

This user account allows you to configure the appliance
What would you like to do?

1) Configure system settings
2) Display Layer 7 Gateway configuration menu
3) Use a privileged shell (root)
4) Change the Master Passphrase
5) Display Remote Management configuration menu
6) Manage HSM
7) Display Enterprise Service Manager configuration menu
8) Display Patch Management Menu
R) Reboot the SSG appliance (apply the new configuration)
X) Exit (no reboot)

Please make a selection: 1
```

Figure 1: Gateway main menu

3. Select **3** (Use a privileged shell). This opens a command prompt for root access.

4. Type **7layer** as the current password. Upon first access to this shell, you will be prompted to change the password for the root user. Create a new password that adheres to "Password Rules" under "Troubleshooting Password Issues" in the Gateway online documentation. **Tip:** You can use the same **L7Secure$0@** password as shown above.

5. If evaluating the Virtual Appliance, you may want to reset the passwords back to **7layer** to make it easier to remember. **Tip:** For non-evaluation uses of the Gateway, it is not advisable to weaken the password strength in this manner.

    To reset the root password:

    a. Type **passwd**.

    b. Type **7layer** and ignore the "Bad Password" warning.

    c. Type **7layer** again to confirm. The password is changed.

To reset the ssgconfig password:

a.   Type **passwd ssgconfig**.

b.   Type **7layer** and ignore the "Bad Password" warning.

c.   Type **7layer** again to confirm. The password is changed.

6.   If evaluating the Virtual Appliance, type **ifconfig** and then make a note of the Gateway's dynamically assigned IP address on the NAT network and the subnet mask. See Figure 2.

```
[root@localhost ~]# ifconfig
eth0      Link encap:Ethernet  HWaddr 00:0C:29:B2:51:2B
          inet addr:192.168.146.128  Bcast:192.168.146.255  Mask:255.255.255.0
          inet6 addr: fe80::20c:29ff:feb2:512b/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:23 errors:0 dropped:0 overruns:0 frame:0
          TX packets:23 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:3379 (3.2 KiB)  TX bytes:2820 (2.7 KiB)
```

Figure 2: ifconfig output

Note: By default, the eth0 interface on the Gateway is configured for DHCP. For evaluation purposes, you will change eth0 to use a static IP address.

7.   If evaluating the Virtual Appliance, you must edit the hosts file to add the fully qualified host name of the Gateway because the name will likely not be registered with any configured DNS server.

Tip: You must also modify the hosts file if you want the Gateway to connect to any other system by host name rather than IP address.

a.   Type **vi /etc/hosts** (space after "vi") to load the hosts file into the editor.

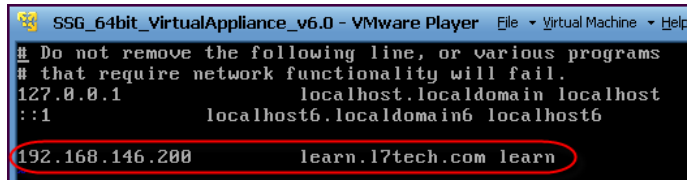Table 1 lists some basic editing commands for the vi editor.

Table 1: Basic vi commands

To…	Do this…
Enter insert mode	Press **i**.
Create a new line	Use the arrows to position the cursor at the end of the last line, and then press [Enter].
Type content into the line	Be sure to separate the IP address from the host name and short name using one or more spaces (the actual number of spaces does not matter).
Exit insert mode	Press [Esc].
Save and exit vi	Type **:wq** and then press [Enter].
Exit without saving	Type **:q!** and then press [Enter].

b.   Add the IP address and hostname that you plan to assign to this gateway during network configuration (described later).

For example, this inet address was noted in our example in step 6 above:

192.168.146.128 (dynamically assigned address)

This means our static IP address must begin with "192.168.146"—in this example, we will use **192.168.146.200**. Figure 3 shows a sample hosts file in the vi editor, using the fictitious hostname "**learn.l7tech.com**" followed by the short name "**learn**".

Figure 3: Editing /etc/hosts

    c.   Save the changes and exit vi, and then type **exit** to return to the main menu.

8.   Select option **1** (Configure system settings) from the main menu

9.   Select option **1** (Configure networking and system time settings) to begin network configuration.

    a.   Enter **1** to configure the eth0 interface and then enter **y** to enable the interface.

    b.   Enter **y** to configure IPv4 networking.

    c.   Under boot protocol, select **static** and then:

- For the IPv4 address, type the IP address that was added to the */etc/hosts* file in step 7b above. For example: **192.168.146.200**.

- For the default IPv4 gateway, type the VMware NAT network's default IPv4 gateway. Normally this is the x.x.x.2 address on the NAT network. Although presented as optional, it is recommended that you enter one in this environment as the default IPv4 address will also be used as the DNS server address later. For example: **192.168.146.2**.

  Tip: Another way to locate the default Gateway is to run the "route –n" command. Look for the destination "0.0.0.0." and the corresponding entry in the Gateway column is what you need.

- For the netmask, type the VMware NAT network's subnet mask that was noted in step 6 above. For example: **255.255.255.0**.

    d.   Enter **n** to skip configuring IPv6 networking.

    e.   Enter **n** to skip configuring another interface.

    f.   Enter **n** to skip configuring a default IPv4 gateway and interface.

    g.   If prompted to configure a default IPv6 gateway and interface, type **n**.

Tip: To learn more about default gateways, see "Determining Whether a Default Gateway is Necessary" in the *Layer 7 Installation and Maintenance Manual*.

h. Type the fully qualified hostname that was added to the Gateway's */etc/hosts* file. For example: **learn.l7tech.com**.

i. When prompted for the DNS server IP address, you may leave this blank if you wish to receive the name servers and search domains via DHCP.

j. Enter **y** to configure the time zone, and then select your time zone from the lists presented.

k. Enter **n** to skip synchronizing the Virtual Appliance with an NTP server.

    Tip: Time synchronization is an essential system setup step for clustering and replay attack prevention, but it can be omitted for the purposes of evaluating the Virtual Appliance. If you have an NTP server available, you can type **y** and specify the NTP server IP addresses. The image comes preconfigured with the rhel.pool.ntp.org servers.

l. Carefully review the configuration settings you are about to apply. If everything is correct, enter **y** to continue.

    If you are not ready to apply the settings, press **<** to return to a previous step or type **quit** to exit the configurator.

m. Review the results. You should see a message stating that the configuration was successfully applied. Press [Enter] to exit the configurator.

10. When the network menu reappears, select option **X** to return to the main menu, select option **R** to reboot the Virtual Appliance, and type **y** to confirm. Rebooting may take a few minutes to complete.

11. Log in as the *ssgconfig* user (see step 1), and then select option **2** (Display Layer 7 Gateway configuration menu) from the main menu. The configuration menu in Figure 4 is displayed.

```
This menu allows you to configure the Layer 7 Gateway application
What would you like to do?

1) Upgrade the Layer 7 Gateway database
2) Create a new Layer 7 Gateway database
3) Configure the Layer 7 Gateway
4) Change the Layer 7 Gateway cluster password
5) Delete the Layer 7 Gateway
6) Display the current Layer 7 Gateway configuration
7) Manage Layer 7 Gateway status
8) Reset Admin password
X) Exit

Please make a selection: 1
```

Figure 4: Gateway configuration menu

12. Select option **2** (Create a new Layer 7 Gateway database) and then follow Table 2 to complete each step.

Note: Once the new Gateway database is created, you can no longer use option 2. To modify the configuration afterwards, select option 3 (Configure the Layer 7 Gateway). To delete the Gateway configuration and start over, select option 5 (Delete the Layer 7 Gateway).

Table 2: Creating a new Gateway database

Step	Description
Set Up the Gateway Database	1. Press [Enter] to set up the database connection. 2. Press [Enter] to accept **localhost** as the hostname. 3. Press [Enter] to accept the default port **3306**. 4. Press [Enter] to accept the default database name **ssg**. 5. Press [Enter] to accept the default database username **gateway**. 6. Type the password for the database user and then retype to confirm. 7. Press [Enter] to accept the default administrative database username **root**. 8. Type the administrative database password.
Set Up the Gateway Failover Database	• Press [Enter] to skip setting up a Gateway Failover Database. **Note:** Database failover connections are used in multi-Gateway clusters. For evaluation purposes, a single Gateway is deployed and failover does not apply.
Set Up the Policy Manager Administration	This step sets up the account for the Policy Manager administrator (i.e., the "super user"). 1. Type the user name for the administrator. For example: **admin**. 2. Type the password for the administrator and then retype to confirm. For example: **7layer**.
Set Up the Gateway Cluster	This step sets up the Gateway cluster. **Note:** This single Virtual Appliance is considered to be a "cluster" of one. 1. Press [Enter] to accept the cluster hostname offered as the default. Note that the cluster host cannot be changed once entered. 2. Type the passphrase to protect the cluster and then retype to confirm. For example: **7layer**.
Set Up the Gateway Node	• Press [Enter] to enable the node. This activates the Virtual Appliance when configuration is complete. **Tip:** It may take a few minutes for the node to be fully up and running.
Configuration Summary	Carefully review the configuration settings you are about to apply. If everything is correct, press [Enter] to apply the settings. If you are not ready to apply the settings, press **<** to return to a previous step or type **quit** to exit the wizard.
Configuration Results	The configuration results show either: • **Success:** Press [Enter] to return to the Configure Layer 7 Gateway menu. Enter **X** to exit to the main menu. • **Errors encountered:** Copy and paste the log messages from the command window

Step	Description
	into a text file. Analyze the errors and run the wizard again. If you require assistance, email *api-support@ca.com*.

13. Enter **x** to return to the Gateway main menu, then select option **R** to reboot the Virtual Appliance and then type **y** to confirm.

You will now install the Gateway license using the Policy Manager.

Installing the Gateway License

Once the Virtual Appliance is configured, the next step is to install the license file. This is done using the CA API Gateway – Policy Manager, which provides a graphical interface for managing the Virtual Appliance.

The Policy Manager is available in two form factors:

- As a browser-based application that can run on any supported Web browser. No installation or additional download are required if using this form factor.

- As a desktop client for optimal performance. This form factor is a separate download. For installation instructions, see "Install and Upgrade the Policy Manager" in the *CA API Gateway Administrators Guide*.

Note: The browser and desktop versions of the Policy Manager have nearly identical functionality. The differences between the two are summarized under "Policy Manager Browser Client" in the Gateway online documentation located at wiki.ca.com/Gateway.

➢ *To install the Gateway license:*

1. Start the Policy Manager:

    - **Browser client:** Load the URL:

        https://*<gatewayHostName>*:8443/ssg/webadmin

        where "*<gatewayHostName>*" is the hostname entered in the "Set Up the Gateway Cluster" step of Table 2.

    Tip: You may see some security prompts when you start the Policy Manager for the first time in a browser. Both Internet Explorer and Firefox will present a series of warnings and authentication challenges. See "Start the Policy Manager" in the Gateway online documentation for detailed instructions on how to respond to these prompts.

- **Desktop client:**

    1) Run the Policy Manager. The Login dialog appears.

    2) For the User Name and Password, use the values in the "Set Up the Policy Manager Administration" step of Table 2.

    3) For the Gateway, use the hostname entered in the "Set Up the Gateway Cluster" step of Table 2.

2. Click [**Yes**] when prompted to view the license manager.

3. Click [**Install License**] and then locate the license file provide by Layer 7.

4. Click [**I Agree**] at the License Agreement; it may take a moment for the license to fully register. The license is installed when you see "Valid" next to License Status.

5. Click [**Close**] to return to the Policy Manager interface.

Next Steps

Now that the Gateway is installed and the Policy Manager is up and running, you can begin to publish services and create policies. For more information, see "Virtual Appliance Tutorials" in the CA API Gateway online documentation located at: wiki.ca.com/Gateway.

Getting Assistance

Complete documentation for the CA API Gateway and the Policy Manager is available from any Web-enabled device by visiting wiki.ca.com/Gateway. For your convenience, any portion of the online documentation can be saved as ePUB or PDF files.

If you require further assistance, email CA Support at *api-support.ca.com*.

Troubleshooting Password Issues

Most common password difficulties can be resolved by following the steps under "Troubleshoot Password Issues" in the CA API Gateway online documentation located at wiki.ca.com/Gateway. If these steps do not resolve your issue, email CA Support.