



Networking

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Configuring the Management IP Address

During the initial system installation and configuration, the CML server's management IP address is configured to be DHCP-assigned or a static IP address. To change the system's management IP address after that, use the **Networking** page of the **System Administration Cockpit**. As an example, these steps illustrate how to change from using a DHCP-assigned management IP address to a static IP address.

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- Step 1** Log into the **System Administration Cockpit** as the system administrator account. See [Logging into the System Administration Cockpit](#).
 - Step 2** Click on **Networking**.
 - Step 3** Click on `bridge0`.
 - Step 4** Click on the IPv4 **Automatic (DHCP)** link under the information block for bridge 0.
The **IPv4 Settings** pop-up dialog is shown.
 - Step 5** Select **Manual** from the **Addresses** dropdown and provide static address settings for **IPv4 address**, **Netmask**, and **Gateway**.
 - Step 6** Click on the + button to add a **DNS** server.
 - Step 7** Click **Apply**.
 - Step 8** Wait for the **testing connection** dialog to complete.

If no errors are reported, your CML server will now have a permanent static IP address.

Editing the Management IP Address via the Console

If the server was deployed with a static IP address that is no longer valid or reachable due a network change, you will be unable to access the **System Administration Cockpit** to repair the problem. Instead, use the CML VM's console to restore network access.

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- Step 1** In VMware, open the console window for the CML VM. The console window is the prompt displayed during installation at the completion of the Initial System Configuration wizard. See also [Initial Set-up](#).
- Step 2** Log in using the system administrator username and password, which were assigned during initial deployment.
- Step 3**
- ```
sudo PYTHONPATH=/var/local/virl2/.local/lib/python3.6/site-packages/
/usr/local/bin/virl2-initial-setup.py --ipconfig
```
- This command runs the initial configuration wizard, which will permit you to edit the system's IP address configuration in the console. Pay attention to spaces and characters because you will have to type this command. Copy and paste is not supported in this console.
- Step 4** Follow the wizard prompts to edit IP information and confirm.
- Step 5** No reboot is required after the wizard has closed.
- Step 6** Open a supported web browser and visit the CML UI at the updated IP address.
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## Adding (Custom) Bridge Interfaces



**Caution** **Experimental functionality!** Creating new bridge interfaces can leave your server inaccessible. Before adding additional networks to your CML server, make sure that you have console access and that you understand the network settings being modified.

The instructions for adding custom bridge interfaces are meant to be used as a general guide and may not work for all deployments. When adding a new interface, standard networking rules apply and should be considered independent from the CML server application.

The CML server is configured with a single interface by default. Additional interfaces may be added at any time but must be manually configured. In this example, a new vNIC is added to the CML virtual machine to allow nodes in your labs to access another network segment. You may add a network interface while the virtual machine is running, but we recommend that you stop all running simulations prior to making changes to the virtual machine's hardware.

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- Step 1** In VMware, open the CML virtual machine's settings window. From the toolbar, choose **VM > Settings**.
- Step 2** Add a new network adapter. If you are using VMware Workstation, click the **Add** button at the bottom of the **Hardware** pane, select **Network Adapter**, and click **Finish**. If you are using VMware Fusion, click the **Add Device** button at the top right of the dialog window, select **Network Adapter**, and click **Add...**

**Caution** Do **not** connect the adapter at this time!

**Step 3**

If you are using VMware Workstation, uncheck the **Connect at power on** check box under **Device Status** and select the desired Network Connection mode. If you are using VMware Fusion, uncheck the **Connect Network Adapter** check box and select the desired Network Connection mode. In both cases, the new vNIC will be connected to the NAT network of the host.

**Example:**

*Figure 1: VMware Workstation: setting properties for the new network adapter*

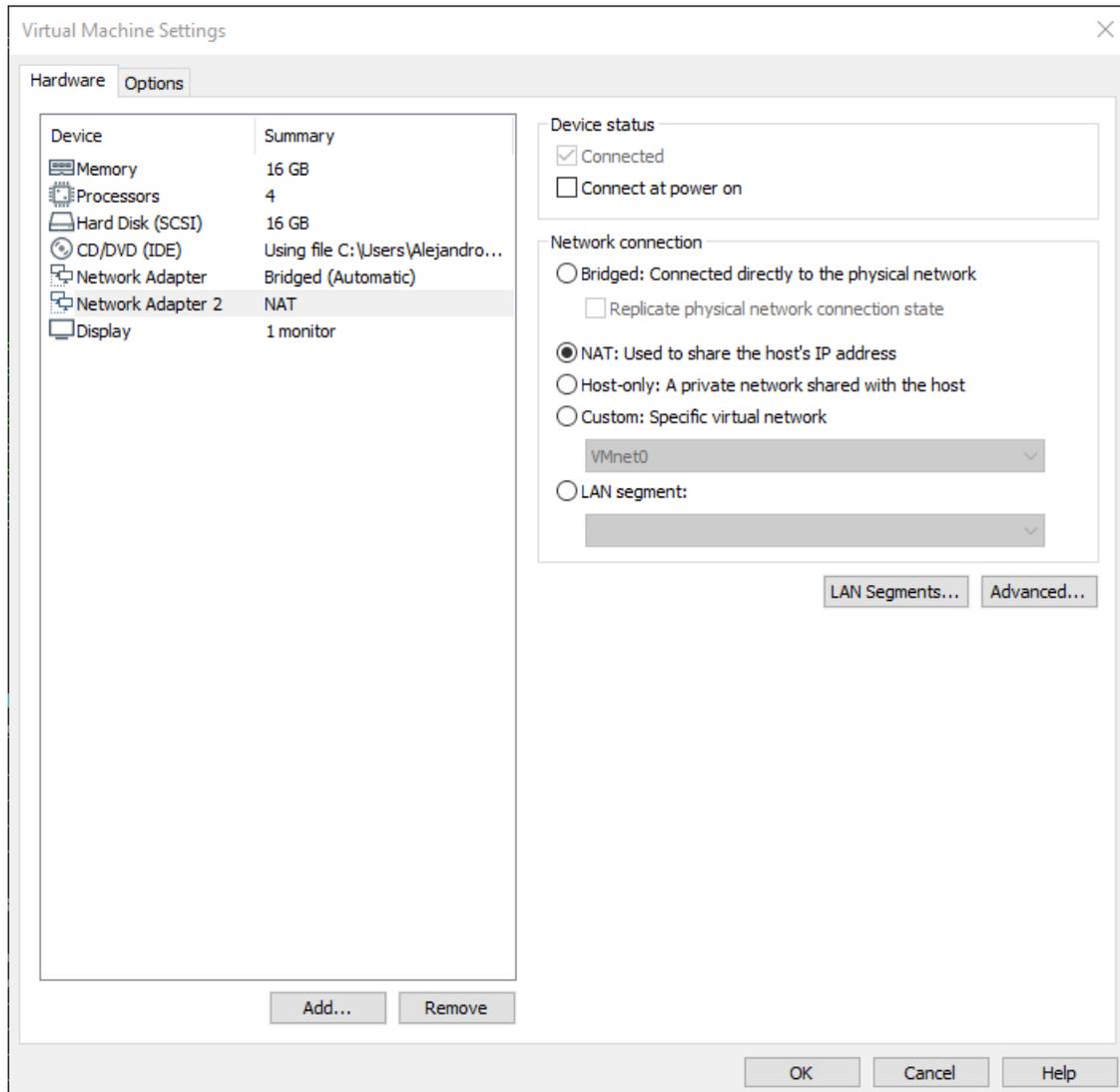
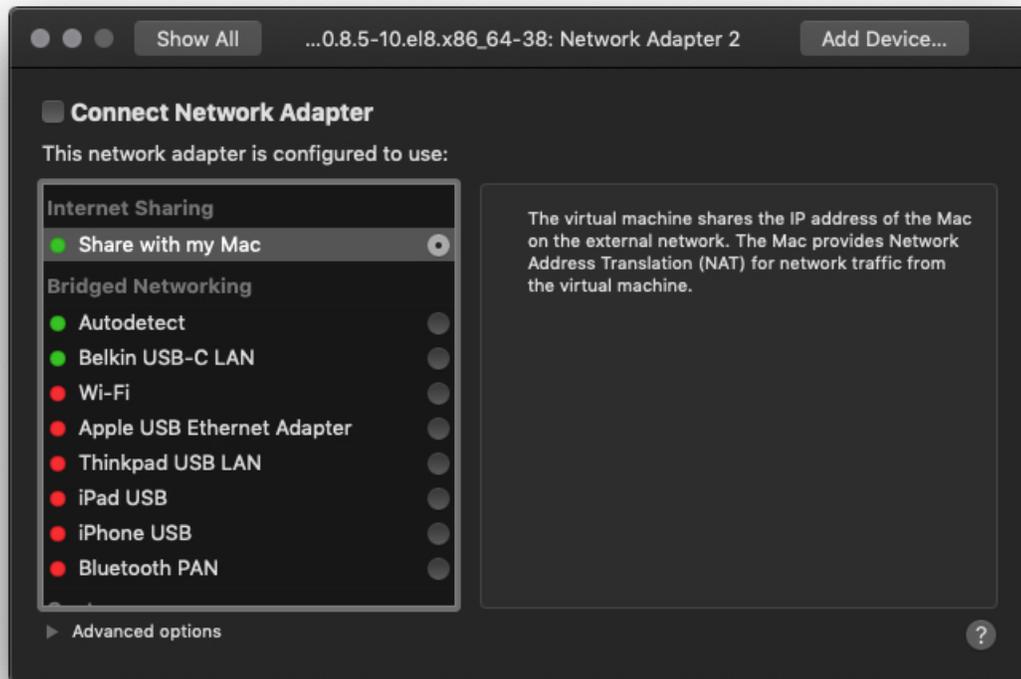


Figure 2: VMware Fusion: setting properties for the new network adapter



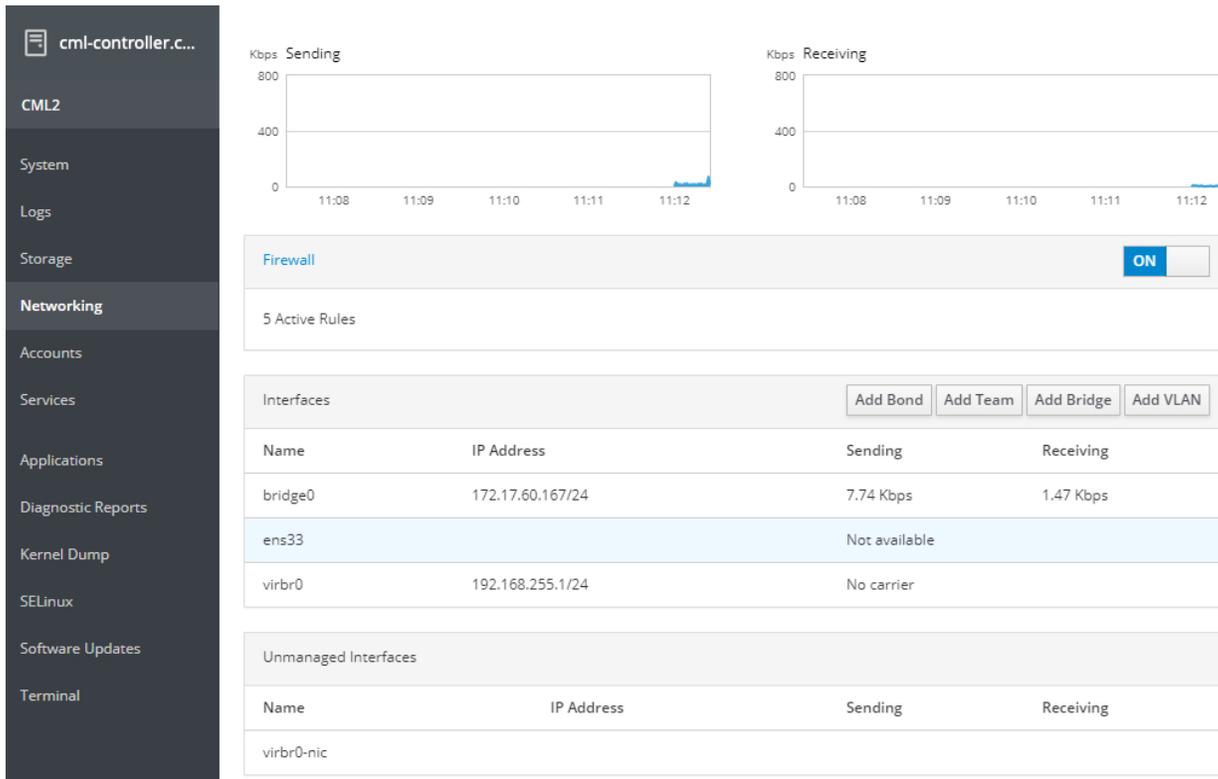
**Step 4** With the new vNIC disconnected, log into the **System Administration Cockpit** as the system administrator account. See [Logging into the System Administration Cockpit](#).

**Step 5** Click **Networking** in the navigation bar on the left side of the page.

A new interface is now available to the CML VM and can be configured in the **System Administration Cockpit**.

**Example:**

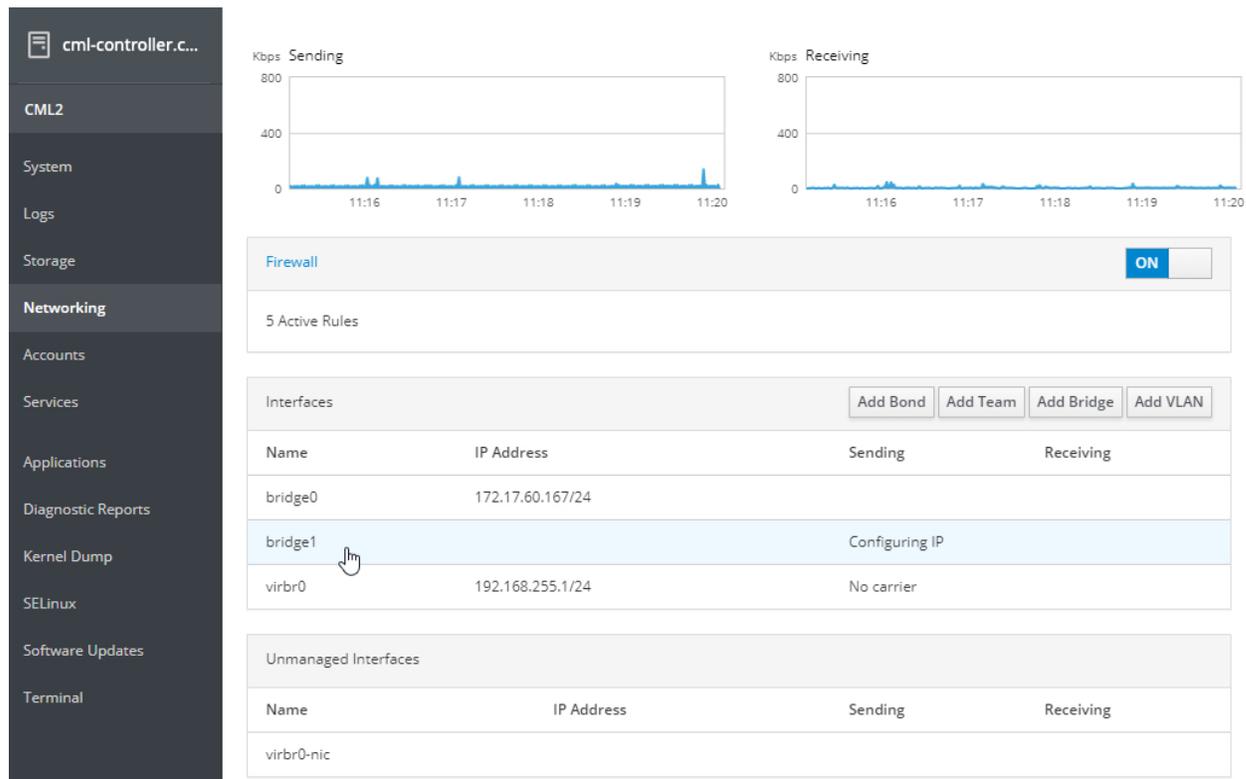
Figure 3: Networking page of the System Administration Cockpit



**Step 6** Click the **Add Bridge** button, assign the new interface to the **Bridge**, and click **Apply**.

**Example:**

Figure 4: Bridge Settings dialog



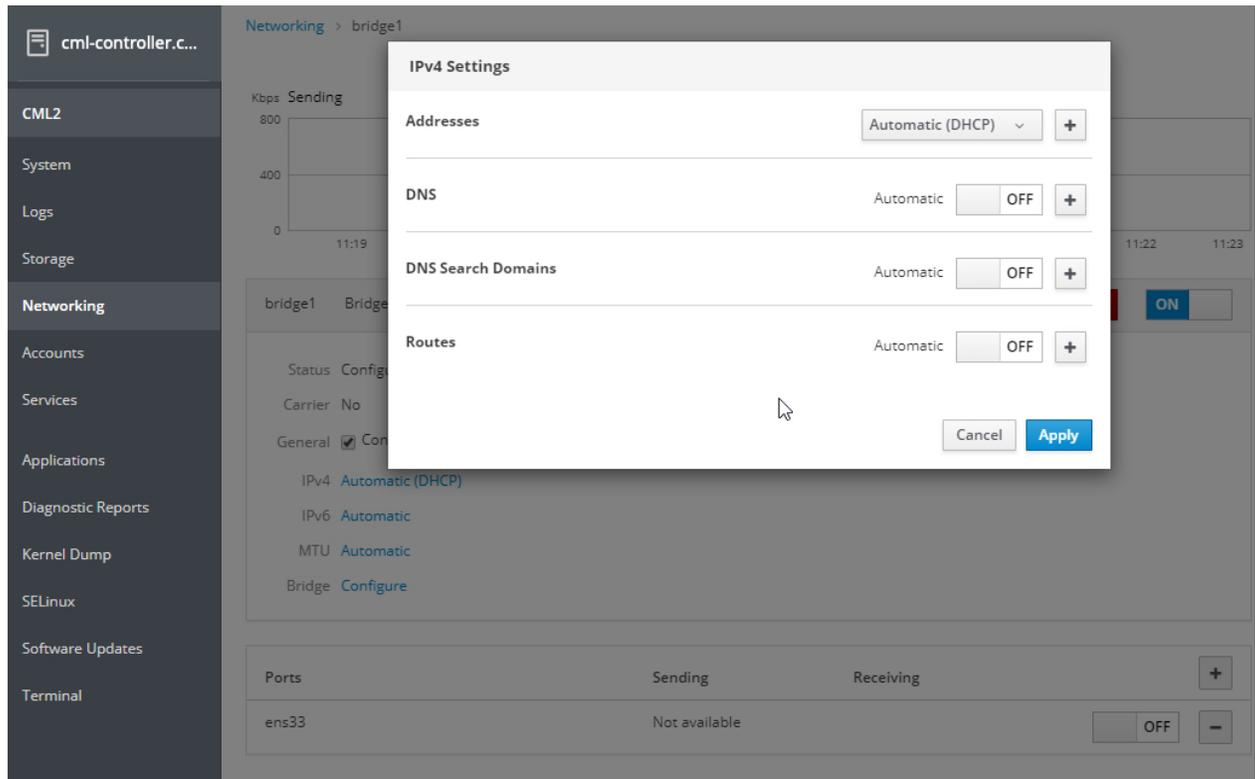
By default, the new interface will be auto-configured via DHCP. If the new interface is connected, it is possible that the **System Administration Cockpit** could become inaccessible once the new interface receives a DHCP response. For example, you may lose access if a secondary default route is created by the system. In that case, you will need to use the VMware console and the CLI to remove the new route manually in order to restore connectivity.

- Step 7** Click on the newly created bridge (**bridge1**).
- Step 8** Click the **Automatic (DHCP)** link to open the settings dialog.
- Step 9** Turn **DNS** and **Routes** to **OFF** as shown in the screenshot.

**Example:**

checkbcheck

Figure 5: IPv4 Settings dialog



**Step 10** Click **Apply**.

**Step 11** Return to VMware and open the Virtual Machine settings. Locate the newly added interface again and check the **Connected** check box and the **Connect at power on** check box.

The new bridge interface is now ready for use.

## NTP Configuration

These instructions illustrate the steps to change the CML server's NTP server.

**Step 1** Log into the **System Administration Cockpit** as the system administrator account. See [Logging into the System Administration Cockpit](#).

**Step 2** Click **System** in the navigation bar on the left side of the page.

**Step 3** Click on the date displayed next to **System Time**.  
The **Change System Time** dialog is shown.

**Step 4** Select the desired NTP update method.

### Example:

For example, if you want to set specific NTP servers for your system to use, choose **Automatically using specific NTP servers** from the drop-down list for the **Set Time** field and enter one or more NTP servers.

**Step 5** Click **Change** to apply the changes.

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