ISO Virtual Server Networks

The Networking menu in the Virtual Servers menu enables you to manage network interfaces, allocate IP addresses and set firewall rules for virtual servers.

On this page:

Configure ISO Virtual Server Network Interface

The **Networking > Network Interfaces** menu shows the virtual network interfaces allocated to this VS. Network interfaces join the physical network to the VS.
When you create a VS a network interface is added automatically. This network interface will be assigned to the existing physical network using a spare IP (IPv4) and will be set primary by default.
OnApp supports IPv4 and IPv6. Since not every application supports IPv6, at least one IPv4 address must be allocated to a VS's primary network interface.
To see the list of all network interfaces allocated to the VS:

1. Go to your Control Panel's **Virtual Servers** menu.
2. Click the label of the virtual server you're interested in.
3. Click the **Networking** tab, then click **Network Interfaces.**
4. On the page that follows you will see the following fields:

- *Interface* – optional label of the network interface.
- *Network join* – name of the network and a Compute resource or Compute zone this network is joined to.
- *Port speed* – the speed set to the interface.
- *Primary interface* – indication whether the interface is primary or not.

Here you can also view Interface Usage, Edit and Delete network interface (using icon controls) and Add a new network interface using the button at the bottom of the screen.
To add a network interface:

1. Go to your Control Panel's **Virtual Servers** menu.
2. Click the label of the virtual server you're interested in.
3. Click the **Networking** tab, then click **Network Interfaces.**
4. Click the **Add New Network Interface** button at the bottom of the screen.
5. On the screen that appears, input values for the following parameters:

- *Label* – a human-friendly name for the new interface.
- *Physical Network* – choose a network join from the drop-down menu, which lists network joins assigned to the Compute resource /Compute zone on which the VS runs).
- *Port speed* – set port speed in Mbps, or make it unlimited.

6. Click the **Submit** button.

To edit network interface label, port speed or set it as primary (if none is marked as primary), click **Edit** icon next to the appropriate network interface.
After editing the port speed, the virtual server should be power cycled for the change to take effect.
To delete a network interface, click the **Delete** icon next to the interface you want to delete.

> ⚠
> - To run the VS, at least one network interface with an assigned IP address (or addresses) is required!
> - To allocate another physical network, add a new network interface.
> - When managing Network Interfaces in OnApp, make sure to reflect all the changes in the ISO VS configuration manually.

Set ISO Virtual Server Firewall Rules

With OnApp you can set firewall rules for the network interfaces of virtual servers. There are two types of firewall rule:

- *ACCEPT* – defines the packets that will be accepted by the firewall
- *DROP* – defines the packets that will be rejected by the firewall

> ⚠ Ensure that the following permissions are enabled before setting firewall rules for your virtual server:
>
> - Create own firewall rules
> - Destroy own firewall rules
> - Read own firewall rules
> - Update own firewall rules
> - Update own virtual server
> - Read own virtual server
>
> You cannot apply firewall rules to virtual servers which are parts of a blueprint.

You can set the following:

- add a specific firewall rule - you can configure a firewall rule with specific parameters (source, destination port, protocol type etc.)
- set default firewall rules - you can set default firewall rules for an entire network interface

Add a specific firewall rule

To configure a firewall rule:

1. Go to your Control Panel's **Virtual Servers** menu.
2. Click the label of the VS for which you want to configure a firewall rule.
3. Click the **Networking** tab, then click **Firewall.**
4. On the page that appears, set the following:
   a. Choose the network interface.
   b. Specify if the rule defines requests that should be accepted or dropped.
   c. Set the IP address for which this rule is active.
      - Leave the empty field to apply this rule to all IPs
      - Enter hyphen-separated IPs to apply the rule to an IP range (e.g. 192.168.1.1-192.168.1.10)
      - Enter the IPs with slash to apply the rule to CIDR (e.g. 192.168.1.1/24)
   d. Set the port for which this rule is effective.
      - Leave the empty field to apply the rule to all ports
      - Enter colon-separated ports to apply the rule to a port range (e.g. 1024:1028)
      - Enter comma-separated ports to apply the rule to the list of ports (e.g. 80,443,21)
   e. Protocol type (for ICMP protocol only) - indicate a type of the ICMP protocol (range from 0 to 255)
   f. Choose the protocol (TCP, UDP, DCCP, SCTP or ICMP).
5. Save the rule by clicking the **Add Rule** button. The rule will be saved in the UI, but the transaction won't be started until you click the Apply Firewall Rules button.
6. To start the transaction which runs firewall rules for a VS, click **Apply firewall rules** button.
7. Use **Up** and **Down** arrow buttons in the left column to change firewall rule position.
8. To edit or delete a firewall rule click the appropriate icon in the last column.

Default firewall rules

To set default firewall rules for a network interface:

1. Go to your Control Panel's **Virtual Servers** menu.
2. Click the label of the ISO VS for which you want to configure a firewall rule.
3. Click the **Networking** tab, then click **Firewall.**
4. On the page that appears, go to Default firewall rules section.
5. Choose ACCEPT or DROP command next to the network interface and click **Save Default Firewall Rules**. The rule will be saved in the UI, but the transaction won't be started until you click the **Apply Firewall Rules** button.

Example:

The Int1 ACCEPT 122.158.111.21 22 TCP firewall rule means that the Int1 network interface will accept all requests and packets addressed from 122.158.111.21 using the TCP protocol on port 22.
The Int2 DROP 122.158.111.21 22 UDP firewall rule means that the Int2 network interface will reject all requests and packets from 122.158.111.21 using the UDP protocol on port 22.

> ⚠ If you reboot a Xen-based VS from the console, the firewall rules for this VS will be lost, and you will need to update the firewall rules again.

⚠️

ISO Virtual Server IP Addresses

In the Networking -> IP Addresses tab you can find the list of assigned IP addresses, allocate new IP addresses and rebuild a network.
To allocate a new IP Address to the VS:

1. Go to your Control Panel's **Virtual Servers** menu.
2. Click the label of the virtual server you're interested in.
3. Click the **Networking** tab **> IP Addresses.**
4. Click the **Allocate New IP Address Assignment** button.
5. Select a network interface from the drop-down menu (only the network interfaces you added to the VS will be available). The IP Address will be allocated automatically.
6. *(Not available for federated VSs)* As an alrernative you can manually select an IP address from the IP Pool associated with the network interface. To enable this option move the **Specify IP Address** slider to the right and choose IP Address from the drop-down list. You may select an IP address that's already assigned to a VS, but only one VS should be online at a time. Use *Please show me used IP Pool*, *Show only my IPs* and *Show only IPv6* checkboxes to narrow the list of IP in the drop-down list.
7. Click the **Add IP Address Assignment** button.

> ⚠️ After Allocating New IP address(es) for ISO virtual server, configure this IP Address manually for ISO in console.

To remove an IP address from a VS:

1. Go to your Control Panel's **Virtual Servers** menu.
2. Click the label of the virtual server you're interested in.
3. Click the **Networking > IP Addresses** tab.
4. Click the **Delete** icon next to the IP address you want to delete.
5. In the pop up window that appears:
   - Choose **Delete with Reboot** option if you want to reboot a VS and rebuild the network immediately after deleting the IP address. After choosing the Delete with Reboot option you will be redirected to the VS's Overview page.
   - Choose **Delete without Reboot** option if you don't want to reboot a VS. In this case to apply the changes, you will have to the reboot the VS additionally.

> ⚠️ You can't delete an IP address that is in use.

ISO Virtual Server Network Speed

The main **Virtual Servers** screen displays the network speed of each VS's primary network interface. To see the speed of all interfaces assigned to a VS:

1. Go to your Control Panel's **Virtual Servers** menu.
2. Click the label of the virtual server you are interested in.
3. Click the **Networking > Network Interfaces** tab.
4. On the screen that appears, the **Port Speed** column shows the network speed of the network interface.

To edit a virtual server's network speed:

1. Go to your Control Panel's **Virtual Servers** menu.
2. Click the label of the virtual server you want to change .
3. Go to the **Network** tab-> **Network Interfaces.**
4. In the last column click the **Edit** button.
5. Change the port speed.
6. Click the **Submit** button to save changes.