

How to Configure MAC to Interface Mapping

<https://campus.barracuda.com/doc/96026026/>

If you are running a firewall with multiple configured network interfaces, the mapping of the interface names to the corresponding MAC addresses and the order of the interface names (e.g., eth0, eth1, eth2...) are the result of your first configuration. However, it might be necessary at a later time to add further interfaces or change the mapping of interface names to the MAC addresses. To ensure that a special MAC address maps to the correct interface name, you must bind the interface names to their corresponding MAC addresses in a special **MAC to Interface Mapping** table.

This configuration can only be done in **Advanced Mode**!

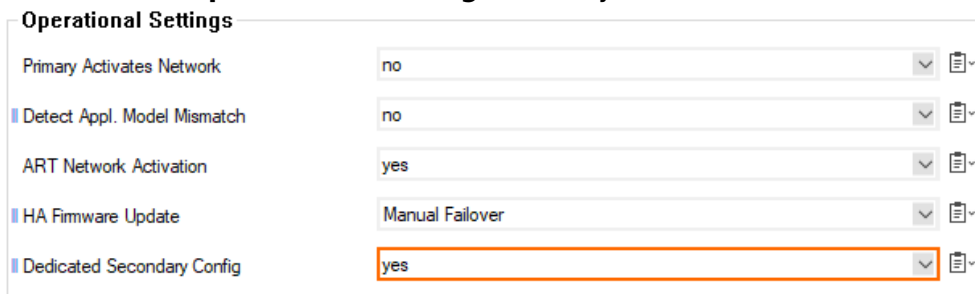
Before You Begin

If you are *not operating* an HA cluster, continue with *Step 1*.

With an HA cluster, the configuration must be done separately for both firewalls because each one has unique MAC addresses on the respective interfaces. Therefore, you must make provisions for getting configuration access to the **Interface** tab on the secondary firewall.

Option #1: For a standalone HA-cluster:

1. Log into the primary firewall.
2. Go to **CONFIGURATION > Configuration Tree > Box > Properties > Operational**.
3. In the left menu bar, click **Configuration Mode** to expand the list.
4. Click **Switch to Advanced**.
5. Click **Lock**.
6. In the section **Operational Settings**, select yes for **Dedicated Secondary Config**.



Operational Settings	
Primary Activates Network	no
Detect Appl. Model Mismatch	no
ART Network Activation	yes
HA Firmware Update	Manual Failover
Dedicated Secondary Config	yes

7. Click **Send Changes / Activate**.

Option #2: For a CC managed HA-cluster:

1. Log into the Control Center.
2. Go to **CONFIGURATION > Configuration Tree > Multi-Range > your range > your**

cluster > Boxes > your primary firewall > Properties > Operational.

3. In the left menu bar, click **Configuration Mode** to expand the list.
4. Click **Switch to Advanced**.
5. Click **Lock**.
6. In the section **Operational Settings**, select yes for **Dedicated Secondary Config**.

Operational Settings

Disable Box	no		
CC Activates Network	yes		
Detect Appl. Model Mismatch	no		
ART Network Activation	yes		
HA Firmware Update	Manual Failover		
Dedicated Secondary Config	yes		
Disable Barracuda Activation	Yes		
Collect Statistics	Manual enter		

7. Click **Send Changes / Activate**.

The secondary firewall will now be displayed in the configuration tree. You can now configure the interface settings individually for both firewalls.

In case of an HA cluster, execute the following steps both on the primary and the secondary firewall.

Step 1. Navigate to the respective Window to see the Interface Settings

1. Go to **CONTROL > Network**.
2. In the upper area, click **Interfaces** to see which MAC addresses map to which interface names and write down their mapping.

DASHBOARD CONFIGURATION **CONTROL**

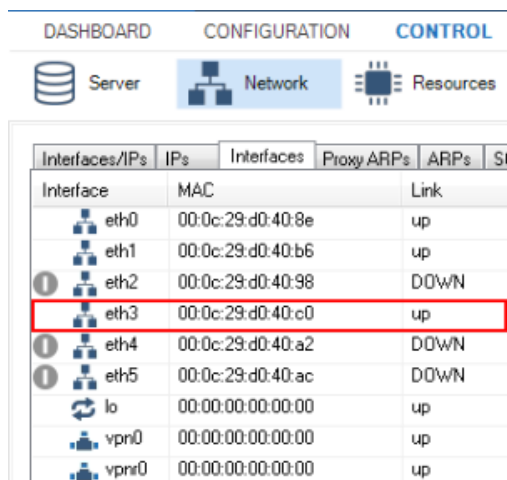
Server Network Resources

Interfaces/IPs	IPs	Interfaces	Proxy ARPs	ARPs	St
Interface	MAC				Link
eth0	00:0c:29:d0:40:8e				up
eth1	00:0c:29:d0:40:b6				up
eth2	00:0c:29:d0:40:98				DOWn
eth3	00:0c:29:d0:40:a2				up
eth4	00:0c:29:d0:40:ac				DOWn
lo	00:00:00:00:00:00				up
vpn0	00:00:00:00:00:00				up
vpnr0	00:00:00:00:00:00				up

Step 2. Verify the Mapping of MAC Addresses to the Interface Names

1. Go to **CONTROL > Network**.
2. Verify the mapping of MAC addresses to the interface names after adding the new Ethernet adapter. In this example, the newly added interface (eth3) incorrectly shows up between the previous order of interfaces.

Depending on your configuration, the order of interfaces can differ!



Interface	MAC	Link
eth0	00:0c:29:d0:40:8e	up
eth1	00:0c:29:d0:40:b6	up
eth2	00:0c:29:d0:40:98	DOWN
eth3	00:0c:29:d0:40:c0	up
eth4	00:0c:29:d0:40:a2	DOWN
eth5	00:0c:29:d0:40:ac	DOWN
lo	00:00:00:00:00:00	up
vpn0	00:00:00:00:00:00	up
vpn1	00:00:00:00:00:00	up

Step 3. Add a Mapping Table to Correctly Bind the MAC Addresses to the Corresponding Interface Names

1. Go to **CONFIGURATION > Configuration Tree > Box > Network > Interfaces**.
2. Click **Lock**.
3. In the left menu, click **Switch to Advanced View**.
4. Click **Set....**
5. The **MAC Mapping** window opens.
6. Set **Use Assignment** to **yes**.
7. For each network interface name and its corresponding MAC address that you wrote down earlier, add two entries in the **MAC to Interface Assignment** table complying with the following template:

If a MAC address contains letters, **use only lowercase letters** when configuring the two corresponding templates for an interface, e.g.: a, b, c, d, e, f.

1. Entry #1: CM2I_aa_bb_cc_dd_ee_ff=ethX. Replace the letters aa to ff by the real numbers from the corresponding MAC address. Replace X by the number of the corresponding interface number. Example: CM2I_00_11_22_33_44_55=eth0.
2. Entry #2: CI2M_ethX=aa_bb_cc_dd_ee_ff. Replace the letters aa to ff by the real numbers from the corresponding MAC address. Replace X by the number of the

corresponding interface number. Example: CI2M_eth0=00_11_22_33_44_55.

MAC to Ethernet Interface Mapping

Use Assignment

You may have to include the mapping upon initial installation on commodity server x86 hardware.

MAC to Interface Assignment

```

CM2I_00_0c_29_d0_40_8e=eth0
CI2M_eth0=00_0c_29_d0_40_8e
CM2I_00_0c_29_d0_40_b6=eth1
CI2M_eth1=00_0c_29_d0_40_b6
CM2I_00_0c_29_d0_40_98=eth2
CI2M_eth2=00_0c_29_d0_40_98
CM2I_00_0c_29_d0_40_a2=eth3
CI2M_eth3=00_0c_29_d0_40_a2
CM2I_00_0c_29_d0_40_ac=eth4
CI2M_eth4=00_0c_29_d0_40_ac
  
```

8. Add two further entries for the new interface name and MAC address according to the two templates shown above. In this example, the new Ethernet adapter must be placed at the end (=eth5) of the former list of Ethernet adapters:

1. Entry #1: CM2I_aa_bb_cc_dd_ee_ff=ethX.
2. Entry #2: CI2M_ethX=aa_bb_cc_dd_ee_ff.

MAC to Ethernet Interface Mapping

Use Assignment

You may have to include the mapping upon initial installation on commodity server x86 hardware.

MAC to Interface Assignment

```

CM2I_00_0c_29_d0_40_8e=eth0
CI2M_eth0=00_0c_29_d0_40_8e
CM2I_00_0c_29_d0_40_b6=eth1
CI2M_eth1=00_0c_29_d0_40_b6
CM2I_00_0c_29_d0_40_98=eth2
CI2M_eth2=00_0c_29_d0_40_98
CM2I_00_0c_29_d0_40_a2=eth3
CI2M_eth3=00_0c_29_d0_40_a2
CM2I_00_0c_29_d0_40_ac=eth4
CI2M_eth4=00_0c_29_d0_40_ac
CM2I_00_0c_29_d0_40_c0=eth5
CI2M_eth5=00_0c_29_d0_40_c0
  
```

9. Click **OK**.
10. Click **Send Changes** and **Activate**.

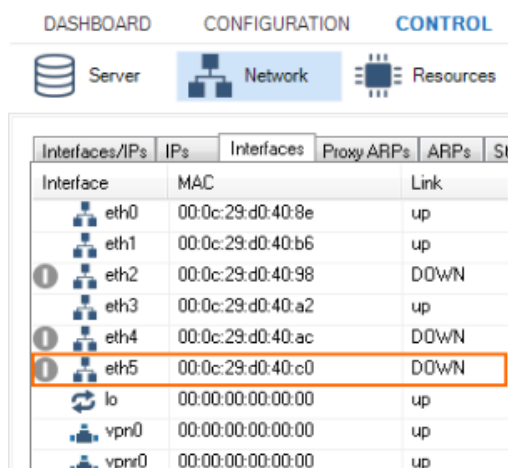
Step 4. Activate the Network Configuration

You must activate the network changes.

1. Go to **CONTROL > Box**.
2. In the left menu, expand the **Network** section and click **Activate new network configuration**.
3. Select **Failsafe**. The 'Failsafe Activation Succeeded' message is displayed after your new network configurations have been successfully activated.

Step 5. Verify the Correct Mapping of All MAC Addresses to Their Corresponding Interface Names

1. Go to **CONTROL > Network**.
2. In the upper area, click **Interfaces** to see which MAC addresses map to which interface name and write down the mapping.



DASHBOARD			CONFIGURATION			CONTROL		
Server			Network			Resources		
Interfaces/IPs			IPs			Proxy ARP		
Interfaces			Proxy ARP			ARP		
Interfaces			Proxy ARP			ARP		
Interface	MAC	Link						
eth0	00:0c:29:d0:40:8e	up						
eth1	00:0c:29:d0:40:b6	up						
eth2	00:0c:29:d0:40:98	DOWN						
eth3	00:0c:29:d0:40:a2	up						
eth4	00:0c:29:d0:40:ac	DOWN						
eth5	00:0c:29:d0:40:c0	DOWN						
lo	00:00:00:00:00:00	up						
vpn0	00:00:00:00:00:00	up						
vpn0	00:00:00:00:00:00	up						

The newly added interface is now listed according to the **MAC to Interface Mapping** table.

Step 6 (optional). Revert Visibility for Dedicated Secondary Configuration

With an HA cluster, you now can revert the setting for **Dedicated Secondary Config** in case you executed the steps in the paragraph *Before You Begin*.

1. Follow the steps described in the section *Before You Begin* and set **Dedicated Secondary Configuration** to **no**.
2. The secondary firewall node will no longer be displayed in the configuration tree of the primary firewall.

Figures

1. activate_dedicated_secondary_config_standalone.png
2. activate_dedicated_secondary_config_cc_mgd.png
3. MAC_interface_mapping_before_adding_interface.png
4. MAC_interface_mapping_after_adding_interface.png
5. add_mapping_former_MAC_interfaces_names.png
6. add_mapping_new_MAC_interfaces_names.png
7. MAC_interface_mapping_with_correct_interface_order.png

© Barracuda Networks Inc., 2024 The information contained within this document is confidential and proprietary to Barracuda Networks Inc. No portion of this document may be copied, distributed, publicized or used for other than internal documentary purposes without the written consent of an official representative of Barracuda Networks Inc. All specifications are subject to change without notice. Barracuda Networks Inc. assumes no responsibility for any inaccuracies in this document. Barracuda Networks Inc. reserves the right to change, modify, transfer, or otherwise revise this publication without notice.