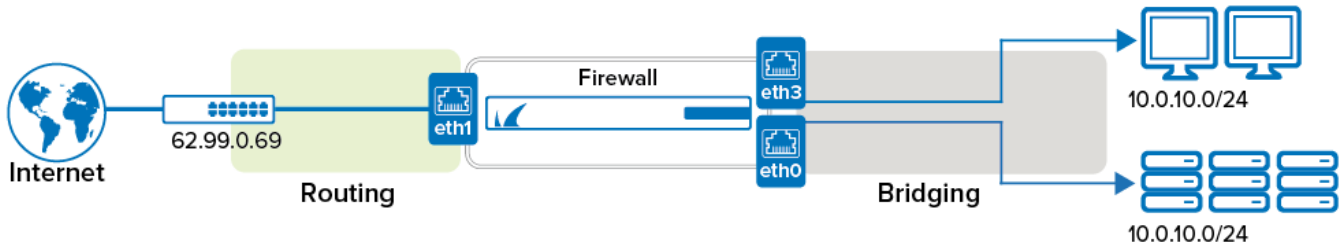
How to Configure Routed Layer 2 Bridging

https://campus.barracuda.com/doc/96026302/

Routed bridging is used when the firewall must act as a layer 2 bridging and layer 3 routing device simultaneously. This is needed when the clients and servers in the bridged network must send data into another network. The bridged interfaces are assigned local IP addresses so the clients in the bridged networks can directly address the Barracuda CloudGen Firewall. Firewall rules forward traffic between the bridge interface groups and the external networks.



Step 1. Configure a Routed Layer 2 Bridge

Create a layer 2 bridge and add bridge IP addresses to allow the clients in the bridges networks to directly access the Barracuda CloudGen Firewall.

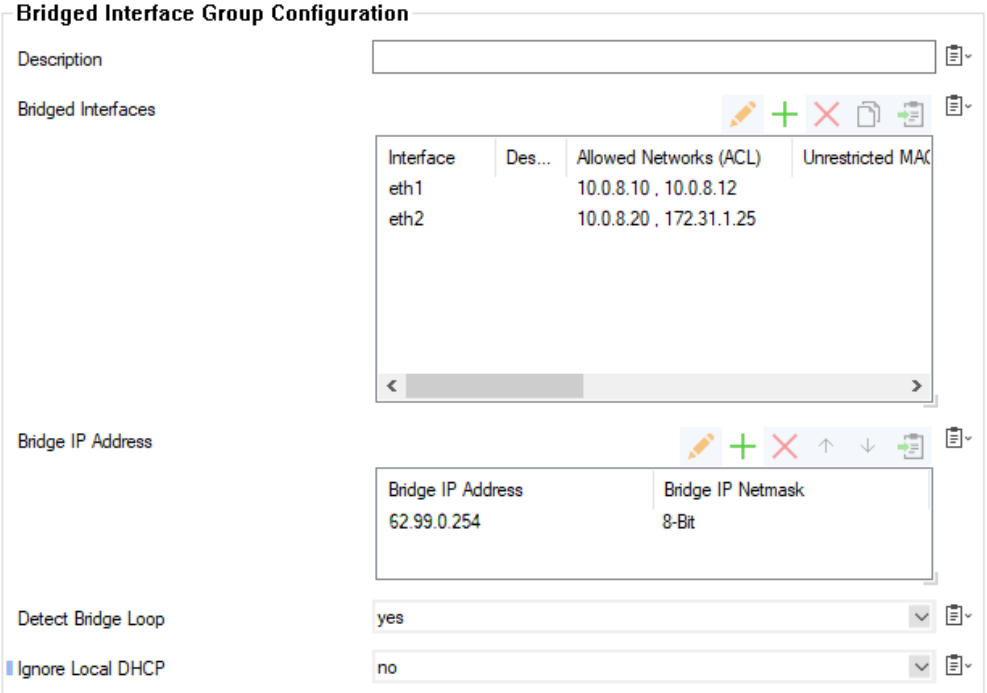
1. Go to **CONFIGURATION > Configuration Tree > Box > Network**.
2. In the left navigation, click on **Layer 2 Bridging**.
3. Click **Lock**.
4. In the **Bridged Interface Group** table, click **+** to add an entry. For each interface group, you can edit the following settings:
    - **Bridged Interfaces** – Add all interfaces to be bridged together in this group. For each interface enter the following settings:
        - **Interface** –The exact network interface label, as listed in the network configuration. E.g., eth1
        - **Allowed Networks (ACL)** – Networks that are allowed to communicate over the bridged interface. You can enter complete networks, individual client/server IP addresses, or network ranges.
        - **Unrestricted MACs** – List of MAC address for which the **Allowed Networks (ACL)** does not apply.
        - **MAC Change Policy** – Select **Allow-MAC-Change** to permit the MAC address of the interface to be changed, otherwise select **Deny-MAC-Change**.
        - **Assign to RSTP Tree** – Assign the interface to an existing RSTP tree by choosing it from the list.
        - **RSTP Interface Priority** – Assign a priority to the RSTP interface. This might affect

the role the port will play in the calculated topology.
- **Active** – Default is **yes**. Set to **no** to disable the setting to leave the interface within the configuration but prevent it from being used.

- **Bridge IP Address** – Add an entry or edit an existing entry for the gateway. In the entry, specify the following settings for the gateway:
  - **Bridge IP Address** – IP address for the gateway. E.g., `62.99.0.254`

    Shared IP addresses and management IP addresses are automatically added to the bridge device as soon as the hosting interface is added to a bridge. However, if local traffic from bridged interfaces is supposed to terminate on the firewall, i.e., listening for VPN traffic, you must assign shared IP addresses to the loopback interface (lo) for each bridge IP address that should handle traffic for the firewall services.

    For more information on how to configure **Shared IPs**, see How to Configure the Management Network, IP, and Shared IPs in the Management Network, and How to Configure Shared Networks and IPs.
  - **Bridge IP Netmask** – Netmask for the gateway.



- **RSTP Tree** – Add RSTP trees to the bridged interface group so that a subset of its interfaces can be assigned to them.

5. Click **OK**.
6. Click **Send Changes** and **Activate**.

Step 2. Create Access Rules

To allow network traffic to pass between the bridged interfaces, create Pass and Broad-Multicast

access rules:

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > Firewall > Forwarding Rules**.
2. Click **Lock**.
3. Create a **Pass** access rule with the following settings:
   - **Bi-Directional** – **Yes**
   - **Source** – Select **Any (0.0.0.0/0)**
   - **Service** – Select **Any**
   - **Destination** – Select a network object containing all networks or IP addresses for the bridged interfaces. E.g., `10.0.8.0/24` and `172.31.1.25`
   - **Connection Method** – Select **Original Source IP**.
4. Create a **Broad-Multicast** access rule with the following settings:
   - **Source** – Select a network object containing all networks or IP addresses for the bridged interfaces. E.g., `10.0.8.0/24` and `172.31.1.25`
   - **Service** – Select **Any**
   - **Connection Method** – Select **Original Source IP**.
   - **Destination** – Enter the destination networks/IP addresses. E.g., `10.0.8.255`

     Optional
     To use a DHCP server over the layer 2 bridge, also add **0.0.0.0** to the source and ***255.255.255.255*** to the destination IP addresses.
   - **Propagation List** – Enter the network interfaces. E.g., `eth0,eth0,brid01`
5. Rearrange the order of the firewall rules so the new rules can match incoming traffic.
6. Click **Send Changes** and **Activate**.

Figures

1. routed_layer2_bridge.png
2. rt_l2_conf.png