How to Configure Network Interfaces for OSPF and RIP

https://campus.barracuda.com/doc/53248874/

This article provides information on how to configure the parameters for the **Network Interfaces Configuration** section within the **OSPF/RIP Settings** of the Barracuda NextGen Firewall F-Series.

In the **Network Interfaces Configuration** section, interface specific parameters of the routing protocols are configured (This applies to OSPF **and** RIP):

1. Go to **CONFIGURATION** > **Configuration Tree > Box > Virtual Servers > *your virtual server* > Assigned Services > OSPF-RIP-BGP-Service > OSPF/RIP/BGP Settings**.
2. Click **Lock**.
3. In the left menu, click **Network Interfaces**. In this section, the parameters can be specified as follows:

Section Network Interfaces Configuration

- **Load Interface Info** – If set to **yes**, the list of available interfaces is loaded after execution of **Send Changes**.
- **Interfaces** – See Interface list (Available Interfaces).

Shared Interfaces Configuration

Shared interfaces can be edited by double clicking or added by using the **+** icon.

- **Interface Description** – Informational text field.
- **Apply to Interface** – Specifies the network interface to which the following settings apply.
- **Activate Config for** – Specifies the routing protocols for which the settings should be activated on this interface. Possible settings are OSPF, RIP or OSPF+RIP.
- **Passive Interface** – On a passive interface the routing protocol does not send *Hello* packets. The network configured for this interface is still advertised. An interface is active by default (setting: **No**).
- **Parameter Template** – References templates for this interface.

OSPF Specific Parameters

- **Network Type** – Type of network. Ethernet is normally broadcast. Sometimes there may be a need to use point-to-point for Ethernet-Links, for example when there is only a /30 subnet. Type non-broadcast is needed to propagate OSPF over a VPN tunnel.
- **Bandwidth [kBit/s]** – Bandwidth of the interface. Configuration is highly recommended since this information can not be determined automatically. This setting is used by OSPF to calculate the metric.
- **Interface Addresses** – By specifying an Interface Address the configuration only applies for a

single OSPF network. This parameter can be useful in multinet environments. Otherwise the parameters applies to all OSPF networks on the given interface.
- **Parameter Template for Address** – References templates for this interface.

RIP Specific Parameters

- **Enable Split Horizon** – Split Horizon is a mechanism used by RIP to reduce the possibility of routing loops. By enabling this parameter (default: **yes**), routes learned from a specific interface, are not re-advertised on this interface.
- **Enable Poisoned Reverse** – This technology is an extension to Split Horizon. By enabling this setting (default: **no**), routes learned from a specific interface are re-advertised on this interface but the metric is set to **infinity (16)**.

Section Available Interfaces

This section displays a read-only list of the available network interfaces. Available interfaces can be edited by double clicking or added by using +.

Section Parameter Template Configuration

Shared interfaces can be edited by double clicking or added by using the **+** icon.

OSPF Parameters

- **Authentication Type** – Authentication for neighbors on specified interface. Either no authentication (default: **null**), simple authentication as specified in RFC1583 or the cryptographic authentication digest-MD5 (RFC2328) can be used.
- **Simple Authentication Key** – Password for simple authentication. This value only has to be specified with **Authentication type** set to **simple**.
- **Digest Authentication Key** – Password for digest authentication. This value only has to be specified with **Authentication type** set to **digest-MD5**.
- **Message Digest Key ID** – Key for digest authentication. This value only has to be specified with **Authentication type** set to **digest-MD5**.
- **OSPF Cost** – Set to a higher value, the router will be more eligible to become a Designated Router or a Backup Designated Router. Set to **0**, the router is no longer eligible to become a Designated Router. Default: **1**.
- **OSPF Dead Interval** – Seconds for timer value used for Wait Timer and Inactivity Timer. This value must be the same for all routers attached to a common network.
- **OSPF Hello Interval** – Time to wait between OSPF "hello" messages to neighbors (sec). This value must be the same for all routers attached to a common network.
- **OSPF Retransmit Interval** – Minimum time waited between retransmissions (sec).

- **OSPF Transmit Delay** – Sets number of seconds for InfTransDelay value. The **InfTransDelay** parameter defines the estimated time required to send a link-state update packet on the interface.

RIP Parameters

- **Authentication Type** – Authentication for neighbors on specified interface. Either no authentication (default: **null**), text authentication or the cryptographic authentication digest-MD5 (RFC2082) can be used.
- **RIP Key Chain** – The pull-down menu displays the configured key chains (see:) and allows selection of a key chain which is used for authentication.
- **RIP Text Secret** – Specifies the text secret used for authentication purposes. Note that the value specified here always takes precedence over the RIP keychains settings.
- **Send Protocol** – Configures protocol types for transmission. Possible values are **Version_1**, **Version_2** or **Version_1+2**.
- **Receive Protocol** – Configures protocol types for reception. Possible values are **Version_1**, **Version_2** or **Version_1+2**.

Neighbor Setup

For connectivity issues it is sometimes recommended to set the neighbors statically.

1. In the left menu, click **Neighbor Setup IPv4** or **Neighbor Setup IPv6** if you are using IPv6 addresses.
   Note: IPv6 has to be enabled in Quagga too.
2. To add an entry, click **+**.
3. Enter a descriptive name and click **OK** to open the configuration window.
4. In this section, the parameters can be specified as follows:
   - **Neighbor IPv4** – IP address of the neighbor to exchange routing information with.
   - **Active** – Set to **no** if you want to disable this neighbor configuration.
   - **Routing Protocols** – Specifies which routing protocols should be exchanged with this neighbor. Possible values are **OSPF**, **RIP** or **BGP**.
   - **Neighbor Priority** – This parameter influences the Designated Router election. Set to a higher value, the router will be more eligible to become a Designated Router. Set to **0** , the router is no longer eligible to become a Designated Router or a Backup Designated Router. Default: 1.
   - **Dead Neighbor Poll Interval** – Seconds between two neighbor probings.
5. Click **OK**.
6. Click **Send Changes** and **Activate**.

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