

## How to Configure Filter Setup for OSPF and RIP

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This article explains how to configure filter setup for OSPF and RIP. A filter is required for example when redistributing routes from one protocol to another. Route maps can be used to modify routing information. In route maps, the filter is applied to match the routes. Some set actions can be applied to the matching routes.

**Example:** The RIP learned route *10.0.0.0 /24* with metric 4 hops should have metric 6 instead. The match condition in the route map must be a filter matching *10.0.0.0/24* and the set condition must be metric 6.

When applying route filters in the RIP or OSPF section, only ACLs or Prefix-lists but no route maps are needed.

This dialog is restricted to basic ACLs. Extended ACLs must be be configured in tab **Text Based Configuration**.

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 **Filter Setup IPv4** (when using IPv6 addresses, select **Filter Setup IPv6** and configure the settings for IPv6).

### Access List IPv4 Filters

This section allows the definition of filters which can be referenced within the **OSPF Area Setup** (see: [How to Configure OSPF Routers and Areas](#)) and within the **RIP Route Update Filtering** section (see: [How to Configure RIP Router Setup](#)).

Setting	Description
<b>Name</b>	This is the ACL name / ID.
<b>Description</b>	A short description of the ACL.
<b>Network Prefix</b>	Enter the network prefix.
<b>Type</b>	Specifies if the traffic is allowed or blocked: <b>permit</b> (default) / <b>deny</b>

### Route Map IPv4 Filters

Route maps are used to control and modify routing information that is exchanged between routing domains.

Setting	Description	
<b>Name</b>	This is the Route Map Name.	
<b>Route Map IPv4 Configuration</b>	A short description of the route map.	
<b>OSPF Specific Conditions</b>	<b>Sequence Number</b>	Unique identifier for a route map entry.
	<b>Type</b>	Action for route map: <b>permit (default) / deny</b>
	<b>Match Condition</b> The route map entry matches when the route matches the configured criteria or filter:	<ul style="list-style-type: none"> <li>◦ <b>ACL (default)</b></li> <li>◦ <b>PREFIXLIST</b></li> <li>◦ <b>Gateway-IP</b></li> <li>◦ <b>Interface-Name</b></li> </ul>
	<ul style="list-style-type: none"> <li>◦ <b>ACL Name</b> - Name of ACL defined in the Access-Lists section above.</li> <li>◦ <b>IP Prefix List</b> - Name of IP prefix list defined in <b>OSPF/RIP Settings - Filter Setup - IPv4 Prefix List Filters</b>.</li> <li>◦ <b>Gateway IP</b> - IP address of the next hop in the route.</li> <li>◦ <b>Out Interface Name</b> - See interfaces to gain available interface names.</li> <li>◦ <b>Set Action</b> - Defines action to set: <i>Metric / Metric-Type</i></li> <li>◦ <b>Set OSPF Metric</b> - Set metric for route map.</li> <li>◦ <b>Set OSPF External Metric</b> - Set external metric-type for route map.</li> </ul>	
<b>RIP Specific Conditions</b>	<b>Sequence Number</b>	Unique identifier for a route map entry.
	<b>Type</b>	Action for route map: <b>permit (default) / deny</b>
	<b>Match Condition</b> The route map entry matches when the route matches the configured criteria or filter:	<ul style="list-style-type: none"> <li>◦ <b>ACL (default)</b></li> <li>◦ <b>PREFIXLIST</b></li> <li>◦ <b>Gateway-IP</b></li> <li>◦ <b>Interface-Name</b></li> <li>◦ <b>Metric</b></li> </ul>
	<ul style="list-style-type: none"> <li>◦ <b>ACL Name</b> - Name of ACL defined in the Access-Lists section above.</li> <li>◦ <b>IP Prefix List</b> - Name of IP prefix list defined in <b>OSPF/RIP Settings - Filter Setup - IP Prefix List Filters</b>.</li> <li>◦ <b>Gateway IP</b> - IP of the Next Hop in the route.</li> <li>◦ <b>Out Interface Name</b> - See interfaces to gain available interface names.</li> <li>◦ <b>Match Metric</b> - Defines when a route map is used.</li> <li>◦ <b>Set Action</b> - Defines action to set: <i>Next Hop / Metric</i></li> <li>◦ <b>Set RIP Metric</b> - Set metric for route map.</li> <li>◦ <b>Set RIP Next-Hop IP</b> - Set next-hop IP address.</li> </ul>	

## IPv4 Prefix List Filters

Prefix lists are easier to understand for route-filters than ACLs. Example for IP prefix list filter usage:

	Network Prefix	Type	Extent Type
Deny default route 0.0.0.0/32	0.0.0.0/32	deny	none
permit prefix 10.0.0.0/24	10.0.0.0/24	permit	none

Setting	Description	
<b>Name</b>	This is the name of the IP prefix list.	
<b>IPv4 Prefix List Configuration</b>	<b>Description</b>	A short description of the IP prefix list.
	<b>Sequence Number</b>	Unique identifier for a prefixlist item.
	<b>Network Prefix</b>	Network/Netmask
	<b>Type</b>	Action for prefixterm: <b>permit / deny</b>
	<b>Extent Type</b> Matching condition:	<ul style="list-style-type: none"> <li>◦ <i>none (default)</i></li> <li>◦ <i>greater-than</i></li> <li>◦ <i>less-than</i></li> </ul>
<b>Prefix Length</b>	Minimum or maximum prefix length to be matched.	

4. Click **OK** to confirm your settings.
5. Click **Send Changes** and **Activate**.

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