

Router Resources Commands

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show system resources

To display the currently used and max allowed entries for IP Entries, policy based routes and VLAN mapping , use the **show system resources** command in User EXEC mode.

Syntax

show system resources

Parameters

This command has no arguments or keywords.

Command Mode

User EXEC mode

User Guidelines

Use the **show system resources** command to display the currently used and the maximum allowed IP Entries, policy based routes and VLAN mapping entries.

The count of the "in use" entries in command output is calculated as follows:

"*policy routes*" entries - a single entry is consume per each created policy map

- "*vlan mapping*" entries - 8 entries are reserved for system use, and in addition:
  - A single entry is consumed for each VLAN mapping entry applied to an interface
- *"IP entries*" entries - the ip entry count can include different type of entries. The following table details the number of ip entries consume per each entry type::

Logical Entity	Number of IP entries consumed
IP host/Neighbor	1 entry per neighbor
IPv4 interface	2 entries per interface
IPv4 (Remote) Route	1 entries per route
IPv4 Multicast Group	2 entries per group
IPv6 host/Neighbor	4 entries per neighbor
IPv6 interface	8 entries per interface
IPv6 On Link Prefix	4 entries per Prefix
IPv6 (Remote) Route	4 entries per route
IPv6 Multicast Group	8 entries per group

Example

In the following example, per each type, the in use and max entries are displayed:

```
switchxxxxxx# show system resources
                        In-Use              Max
                        ------            --------
IP Entries                 10                500
IPv4 policy Routes         0                 16
IPv6 policy Routes         16                32
VLAN Mapping Entries       48                64
```

set router hardware-routing active

To start the process of re-activating hardware based routing on the device, use the **set router hardware-routing active** Privileged EXEC mode command.

Syntax

set router hardware-routing active

Parameters

This command has no arguments or keywords.

Command Mode

Privileged EXEC mode

User Guidelines

Hardware based routing is supported automatically on device once IPv4 or IPv6 route is enabled. However, hardware based routing is de-activated automatically by the software in cases where device hardware resources cannot support the amount of IPv4 and/or IPv6 entries.

IPv4 entries - IPv4 interfaces/addresses and routes and as well as IPv4 Multicast entries;

IPv6 entries - IPv6 interfaces/addresses and routes as well as IPv6 Multicast entries;

Once Hardware based routing is de-activated by the system the user needs to apply the **set router hardware-routing active** command to re-activate hardware based routing on device. It is recommended to adjust the number of IPv4 and/or IPv6 entries on device to match the device hardware capabilities

Once command is applied, the device begins to update all existing IP entries to device hardware tables. If process succeeds - hardware based routing will be re-activated. If process fails (for example device hardware resource are still not sufficient to support current device IP entries), hardware routing status will remain in-active.

Syslog messages will indicate to user the start of the hardware table update process and the success or failure of such update.

Example 1. The following example the process of reactivating hardware based routing is applied.

```
switchxxxxxx# set router hardware-routing active
This operation may take a few moments...
```

Example 2. In the following example, command is applied, but hardware based routing is already active on the device.

```
switchxxxxxx# set router hardware-routing active
Hardware based routing aleady active
```

show router hardware-routing status

To display the status of hardware based routing, use the **show router hardware-routing status** command in User EXEC mode.

Syntax

show router hardware-routing status

Parameters

This command has no arguments or keywords.

Command Mode

User EXEC mode

Example 1. In the following example, the hardware routing status is displayed as inactive:

```
switchxxxxxx# show system router resources
Hardware routing status: inactive
```

Example 2. In the following example, the hardware routing status is displayed as "in activation" (this will usually indicate that hardware table updated is in process following the activation of command set router hardware-routing active, on page 4):

```
switchxxxxxx# show system router resources
Hardware routing status: in activation
```

system resources

To configure hardware resource allocation for policy based routing and/or VLAN mapping , use the **system resources** command in Global Configuration mode. To return to the default, use the **no** form of this command.

Syntax

system resources [**policy-ip-routes** max-number] [**policy-ipv6-routes** max-number] [**vlan-mapping-entries** max-number]

no system resources

Parameters

- **policy-ip-routes** max-number —(Optional) The maximum number of IPv4 policy routes that can be configured. (range: 0- 32)
- **policy-ipv6-routes** max-number —(Optional) The maximum number of IPv6 policy routes that can be configured. (range: 12- 32)
- **vlan-mapping-entries** max-number —(Optional) The maximum number of VLAN Mappings entries that can be configure. (range: 0- 228)

Default Configuration

- policy-ip-routes— 12.
- policy-ipv6-routes— 12.
- vlan-mapping-entries — 0.

Command Mode

Global Configuration mode

User Guidelines

Use the **system resources** command to enter new settings for the maximum supported number of policy based routes and/or VLAN mapping entries. After entering the command, the current setting will be displayed, and the user will be required to confirm saving the new setting to the startup-configuration, following which system needs to be rebooted to apply changes.

When this command is included in a configuration file that is downloaded to the device, if it is downloaded to the running configuration file, the command will be rejected. If it is downloaded to the startup configuration file, the device will not reboot automatically. The new settings will be used after the device is rebooted manually.

Allocating additional resources for policy based routes and/or VLAN mapping entries, means that there are less resources to be used by IP type entries.

Out of the entries allocated for VLAN Mapping - 8 entries are reserved for system use, and cannot be used for user based VLAN Mapping configuration.

Data Validation:

If the new policy based route and/or VLAN mapping values cannot be supported by device (due to relevant resource being used by other applications), the command is rejected and a message is displayed to the user.

If the new max-number parameter is lower than the actual number of entries currently in-use settings, a confirmation message is displayed to the user (before the save confirmation message).

Use the **no system resources** command to restore the default settings.

Examples

Example 1 - The following example defines the supported number of entries for IPv4 policy based routes,IPv6 policy based routes and/or VLAN mapping.

```
switchxxxxxx(config)# system resources policy-ip-routes 20 policy-ipv6-routes 32
vlan-mapping-entries 100
                            In-Use  Reserved (Current)  Reserved (New)
                            ------  ------------------  --------------
IPv4 policy Routes              8             16                  20
IPv6 policy Routes              8             16                  32
VLAN Mapping Entries             32            32                  100
Setting the new configuration of entries requires saving the running-configuration file to
 startup-configuration file and rebooting the system, do you want to continue? (Y/N) [N] Y
```

Example 2 - In the following example, the configured entries are less than the entries which are currently in use by the device. Using this configurations means that the system may not have enough resources for the running again in the existing network:

```
switchxxxxxx(config)# system resources policy-ip-routes 8 policy-ipv6-routes 8
vlan-mapping-routes 16
                             In-Use   Reserved (Current)  Reserved (New)
                             ------   ------------------  --------------
IPv4 policy Routes             10             20                   8
IPv6 policy Routes             10              32                  8
VLAN Mapping Entries             50            100                    16
1) In one or more of the parameters, the new max entry configuration is less than the entries
 which are currently in use by the system, do you want to continue?

2) Setting the new configuration of entries requires saving the running-configuration file
 to startup-configuration file and rebooting the system.
Do you want to continue?
Do you want to continue? (Y/N) [N] Y
```