

BGP IP VRF Configuration Mode Commands

The Border Gateway Protocol (BGP) IP VRF (Virtual Routing and Forwarding) Configuration Mode is used to configure properties for BGP-4 routing.

Important The VRF must have been preconfigured using the **ip vrf** command in the Context Configuration mode before you can enter this configuration mode.

Command Modes Exec > Global Configuration > Context Configuration > BGP Configuration > BGP-IP VRF Configuration

configure > context *context_name* **> router bgp** *as_number* **> ip vrf** *vrf_name*

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-bgp-vrf)#`

Important The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).

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end

Exits the current configuration mode and returns to the Exec mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description **end**

Usage Guidelines Use this command to return to the Exec mode.

exit

Exits the current mode and returns to the parent configuration mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description **exit**

Usage Guidelines Use this command to return to the parent configuration mode.

route-distinguisher

Assigns a route distinguisher (RD) for the VRF that helps identify a virtual routing domain in a provider's network and allows for overlapping IP space. The route distinguisher must be a unique value on the router for each VRF.

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Context Configuration > BGP Configuration > BGP-IP VRF Configuration

configure > **context** *context_name* > **router bgp** *as_number* > **ip vrf** *vrf_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-bgp-vrf)#
```

Syntax Description **route-distinguisher { *as_number* | *ip_address* } *rd_identifier***

route-distinguisher *as_number rd_value*

Identifies the target VRF by an autonomous system (AS) number. *ASN value* is a 16-bit ASN expressed as an integer from 0 through 65535.

route-distinguisher *ip_address rd_value*

Identifies the target VRF by its IP address. *ip_address* is entered using IPv4 dotted-decimal notation.

rd_identifier

rd_identifier is a unique route distinguisher identifier and must be an integer from 0 through 4294967295.

Usage Guidelines Use this command to assign a router distinguisher (RD) for the IP VRF. The combination of AS number or IP address and RD value must be unique for every VRF configured. The RD is added to the beginning of the pool addresses to change them into globally unique VPN-IPv4 prefixes.

If the RD is not configured for a VRF, user cannot enter into the BGP Address-Family mode for that VRF to configure the neighbors or other related BGP commands.

An RD assigned to a VRF cannot be changed until the existing VRF is deleted or removed and reconfigured.

Example

The following command assigns a router distinguisher *12345* to VRF with AS number *300*:

```
route-distingusher 300 12345
```

The following command assigns a router distinguisher *12345* to VRF with IP address *10.5.3.4*:

```
route-distingusher 10.5.3.4 12345
```

route-target

Adds an export and/or import list of extended route target communities to the VRF. BGP uses an extended-community attribute, the route target, to filter appropriate VPN routes into the correct VRFs. You configure the export list on the VRF to specify export route targets. When BGP advertises a route from this VRF's forwarding table, it associates the list of export route targets with the route and includes this attribute in the update message that advertises the route. You also configure a route-target import list on each VRF to specify import route targets.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Context Configuration > BGP Configuration > BGP-IP VRF Configuration

configure > context *context_name* **> router bgp** *as_number* **> ip vrf** *vrf_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-bgp-vrf)#
```

Syntax Description

`route-target { both | import | export } {` *`as_value`* **`|`** *`ip_address`* **`}`** *`rt_value`*

route-target both

Creates a list of import and export route targets for the VRF with the same parameters. The list contains an AS number or IP address along with a route target (RT) value.

route-target import

Creates a list of import RTs for the VRF with the same parameters. The list contains an AS number or IP address along with an RT value.

route-target export

Creates a list of export RTs for the VRF with the same parameters. The list contains an AS number or IP address along with an RT value.

as_value

Specifies a 16-bit autonomous-system (AS) number expressed as an integer from 0 through 65535.

ip_address

Specifies an IP address in IPv4 dotted-decimal notation.

rt_value

Specifies a unique RT identifier as an integer from 0 through 4294967295.

Usage Guidelines

Use this command to create the list of export and/or import route target extended communities for VRF.

A maximum of 5 route targets can be defined with this command up to release 9.0.

A maximum of 10 route targets can be defined with this command from release 10.0 onward.



Important This command must be executed for each route target extended community.

Example

The following command creates an export list of route target extended community *12345* for VRF with AS number *300*:

```
route-target export 300 12345
```

The following command creates an export list of route target extended community *12345* for VRF with IP address *192.168.1.2*:

```
route-target export 192.168.1.2 12345
```