Cisco TrustSec VRF-Aware SGT

The Cisco TrustSec VRF-Aware SGT feature binds a Security Group Tag (SGT) Exchange Protoco (SXP) connection with a specific virtual routing and forwarding (VRF) instance.

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VRF-Aware SXP

The SXP implementation of Virtual Routing and Forwarding (VRF) binds an SXP connection with a specific VRF. It is assumed that the network topology is correctly configured for Layer 2 or Layer 3 VPNs, with all VRFs configured before enabling Cisco TrustSec.

SXP VRF support can be summarized as follows:

- Only one SXP connection can be bound to one VRF.
- Different VRFs may have overlapping SXP peer or source IP addresses.
- IP–SGT mappings learned (added or deleted) in one VRF can be updated only in the same VRF domain. The SXP connection cannot update a mapping bound to a different VRF. If no SXP connection exits for a VRF, IP–SGT mappings for that VRF won't be updated by SXP.
- Multiple address families per VRF is supported. Therefore, one SXP connection in a VRF domain can forward both IPV4 and IPV6 IP-SGT mappings.
- SXP has no limitation on the number of connections and number of IP–SGT mappings per VRF.

How to Configure Cisco TrustSec VRF-Aware SGT

This section describes how to configure Cisco TrustSec VRF-Aware SGT.

Configuring VRF-to-Layer-2-VLAN Assignments

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**interface** *type number* **Example:** `Device(config)# interface vlan 101`	Enables an interface and enters interface configuration mode.
Step 4	**vrf forwarding** *vrf-name* **Example:** `Device(config-if)# vrf forwarding vrf-intf`	Associates a VRF instance or a virtual network with an interface or subinterface. **Note** Do not configure VRFs on the management interface.
Step 5	**exit** **Example:** `Device(config-if)# end`	Exits interface configuration mode and returns to global configuration mode.
Step 6	**cts role-based l2-vrf vrf1 vlan-list 20** **Example:** `Device(config)# cts role-based l2-vrf vrf1 vlan-list 20`	Selects a VRF instance for Layer 2 VLANs.
Step 7	**end** **Example:** `Device(config)# end`	Exits global configuration mode and returns to privileged EXEC mode.

Configuring VRF-to-SGT Mapping

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**cts role-based sgt-map vrf vrf-name** {**ip4_netaddress** | *ipv6_netaddress* | **host** {*ip4_address* | *ip6_address*}} **sgt** *sgt_number* **Example:** `Device(config)# cts role-based sgt-map vrf red 10.0.0.3 sgt 23`	Applies the SGT to packets in the specified VRF. The IP-SGT binding is entered into the IP-SGT table associated with the specified VRF and the IP protocol version implied by the type of IP address.
Step 4	**end** **Example:** `Device(config)# end`	Exits global configuration mode and returns to privileged EXEC mode.

Configuration Examples for Cisco TrustSec VRF-Aware SGT

The following sections show configuration examples of Cisco TrustSec VRF-Aware SGT:

Example: Configuring VRF-to-Layer2-VLAN Assignments

```
Device> enable
Device# configure terminal
Device(config)# interface vlan 101
Device(config-if)# vrf forwarding vrf-intf
Device(config-if)# exit
Device(config)# cts role-based l2-vrf vrf1 vlan-list 20
Device(config)# end
```

Example: Configuring VRF-to-SGT Mapping

```
Device> enable
Device# configure terminal
```

```
Device(config)# cts role-based sgt-map vrf red 23.1.1.2 sgt 23
Device(config)# end
```

Feature History for Cisco TrustSec VRF-Aware SGT

This table provides release and related information for the features explained in this module.

These features are available in all the releases subsequent to the one they were introduced in, unless noted otherwise.

Release	Feature	Feature Information
Cisco IOS XE Everest 16.6.1	Cisco TrustSec VRF-Aware SGT	The Cisco TrustSec VRF-Aware SGT feature binds a SGT SXP connection with a specific VRF instance.
Cisco IOS XE Cupertino 17.7.1	Cisco TrustSec VRF-Aware SGT	This feature was implemented on supervisor modules C9400X-SUP-2 and C9400X-SUP-2XL.

Use the Cisco Feature Navigator to find information about platform and software image support. To access Cisco Feature Navigator, go to https://cfnng.cisco.com/.