



Traffic Protection for Third-Party Applications

Traffic Protection for Third-Party Applications provides a mechanism for securing management traffic on the router. Without Traffic Protection for Third-Party Applications, if the service is enabled, the Cisco IOS XR allows the service traffic to pass through any interface with a network address.



Note Prior to Cisco IOS XR Release 6.5.2, Traffic Protection for Third-Party Applications was termed as MPP for Third-Party Applications.

Traffic Protection for Third-Party Applications helps in rate limiting or throttling the traffic through configuration with the help of LPTS. Traffic Protection for Third-Party Applications filters traffic based on the following tuples: address family, vrf, port, interface, local address and remote address.



Note It is mandatory to configure address family, protocol, local port, and vrf, as well as at least one of interface or local or remote address.

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Configuring Traffic Protection for Third-Party Applications

The following task shows how to configure traffic protection for third-party applications

```
RP/0/0/CPU0:ios#configure
RP/0/0/CPU0:ios(config)#tpa
RP/0/0/CPU0:ios(config-tpa)#vrf default
RP/0/0/CPU0:ios(config-tpa-vrf)#address-family ipv4
RP/0/0/CPU0:ios(config-tpa-vrf-afi)#protection
RP/0/0/CPU0:ios(config-tpa-vrf-afi-prot)#allow protocol {udp|tcp} local-port {port-number}
remote-address {remote-ip-address} local-address {local-ip-address}
```

Running Configuration

```
Router# show running-config
tpa
vrf default
address-family ipv4
protection
```


Running Configuration

```
Router# show running-config grpc

grpc port 57600
no-tls
!
```

Limitations for Traffic Protection for Third-Party Applications over gRPC

The following limitations are applicable for the Traffic Protection for Third-Party Applications:

- If the TPA entry is configured with only the active RP management interface and redundancy switchover is performed, the gRPC connection fails.

Troubleshooting Traffic Protection for Third-Party Applications

The following show command output displays the TPA configuration.

```
Router# show running-config tpa

tpa
vrf default
address-family ipv4
allow local-port 57600 protocol tcp inter mgmtEth 0/RP0/CPU0/0 local-address
192.168.0.1/32 remote-address 10.0.0.2/32
!
```

gRPC Configuration without TPA

```
Router# show kim lpts database
```

State:

```
Prog - Programmed in hardware
Cfg - Configured, not yet programmed
Ovr - Not programmed, overridden by user configuration
Intf - Not programmed, interface does not exist
```

Owner	AF	Proto	State	Interface	VRF	Local ip,port	>	Remote ip,port
Linux	2	6	Prog			global-vrf		any,57600
						> any,0		

```
Router# show lpts bindings brief | include TPA
0/RP0/CPU0 TPA LR IPV4 TCP default any any,57600 any
```

gRPC Configuration with TPA

The following show command output displays the things that are configured in the LPTS database. It also checks if gRPC configuration is owned by Linux without using any filters.

```
Router# show kim lpts database
```

State:

```
Prog - Programmed in hardware
Cfg - Configured, not yet programmed
Ovr - Not programmed, overridden by user configuration
Intf - Not programmed, interface does not exist
```

Owner	AF	Proto	State	Interface	VRF	Local ip,port	>	Remote ip,port

```
Client 2      6 Prog          default      192.168.0.1/32,57600 > 10.0.0.2/32,0
Linux  2      6 Ovr           global-vrf   any,57600 > any,0

Router# show lpts bindings brief | include TPA

 0/RP0/CPU0 TPA LR IPV4 TCP default Mg0/RP0/CPU0/0 192.168.0.1,57600 10.0.0.2
Router#
Router# 0/RP0/ADMIN0:Mar 19 15:22:26.837 IST: pm[2433]:
%INFRA-Process_Manager-3-PROCESS_RESTART : Process tams (IID: 0) restarted
```