



QoS Overhead Accounting

Overhead accounting enables the router to account for packet overhead when shaping traffic to a specific rate. This accounting ensures that the router executes quality of service (QoS) features on the actual bandwidth that is used by subscriber traffic.

The overhead accounting feature enables the router to account for downstream Ethernet frame headers when applying shaping to packets. The traffic scheduler allows a minimum amount of value more than the configured rate at the port, in addition to the excess bytes configured on that port.

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Restrictions for QoS Overhead Accounting

- Accounting feature is supported only for the following scenarios:
 - MPLS imposition
 - MPLS disposition
- Accounting feature can be enabled per interface and only one value of compensation bytes can be configured globally.
- The feature is applied in the following scenarios:
 - Per interface QoS overhead accounting can take effect only during a policy-map detach or attach process.
 - Any dynamic modification, for example, enabling or disabling on an interface or change in global compensation bytes can reflect per interface only after a policy-map detach or attach process.

- Already configured policy-map on the accounting enabled interface needs to be detached and reattached.
- While detaching, ensure to perform the following tasks:
 - Detach the policy-map per interface.
 - Disable the accounting feature for that interface.
 - Re-attach the policy-map based on the requirement.
- QoS overhead accounting is not supported for port channel interface and member links.
- QoS overhead accounting is not supported for trunk EFPs on an interface.
- Accounting is not supported if interface has Ethernet loopback that is enabled.

OH Accounting Support for L3VPN

Table 1: Feature History

Feature Name	Release Information	Feature Description
OH Accounting Support for L3VPN	Cisco IOS XE Cupertino 17.7.1	This feature enables OverHead (OH) accounting support for L3VPN traffic. This feature adds a header value and helps to match the Tx and Rx rates during a packet transfer.

Prior to Cisco IOS XE Cupertino release 17.7.1, OverHead (OH) accounting was only supported for native IP traffic and L2VPN.

Starting with Cisco IOS XE Cupertino release 17.7.1, OH accounting is also supported for L3VPN traffic. When a minimal packet size is transferred, the Transmission Traffic (Tx) rate gets reduced and you receive a reduced Receiving Traffic (Rx) rate. You do not experience any packet drop and this phenomenon is referred to as header compression.

This feature adds a header value to match the Tx and Rx rates. The header value or compensation range is from —48 to +48 bytes. Thus, it is useful when the traffic rate is calculated based on the Tx and Rx rates.



Note The restrictions for layer 2 OH accounting also apply to layer 3 OH accounting.

How to Configure QoS Overhead Accounting

Applying Overhead Accounting on a Particular Interface

To apply overhead accounting on a particular interface, for example layer 2 interface and MPLS disposition, enter the following commands:

```
Router> enable
Router# configure terminal
Router(config)# qos-overhead-accounting enable gi 0/0/0
```

Configuring Number of Bytes to be Accounted

To configure the number of bytes that need to be accounted, enter the following commands:

```
Router> enable
Router# configure terminal
Router(config)# qos-overhead-accounting positive 8
```

Configuring Overhead Accounting for MPLS Imposition

To configure compensation for the MPLS imposition with access interface as gig 0/0/0 and core port as gig 0/0/1, enter the following steps:

```
Router> enable
Router# configure terminal
Router(config)# qos-overhead-accounting enable gi 0/0/1
Router(config)# qos-overhead-accounting positive 8
Router(config)# qos-overhead-accounting enable gi 0/0/0
```

To disable the compensation, enter the following commands:

```
Router> enable
Router# configure terminal
Router(config)#no qos-overhead-accounting enable gi 0/0/1
Router(config)#no qos-overhead-accounting enable gi 0/0/0
```

Verifying Overhead Accounting compensation

Use the following show command to display the set of interfaces on which overhead accounting is enabled:

```
Router#show platform hardware pp active feature qos oh-accounting interface all
Overhead Accounting Target Info
Interface Name          GID      Status    Bytes (Shadow)  Bytes (Actual)
-----
```

```
GigabitEthernet0/0/0          269   Enabled   8           8
```

Apply OH Accounting on a Particular L3VPN Interface

To apply overhead accounting on a particular L3VPN interface:

```
Router> enable
Router# configure terminal
Router(config)# qos-overhead-accounting enable gi 0/0/0
```

Configure Number of Bytes to be Accounted

To configure the number of bytes to be accounted for the L3VPN interface:

```
Router> enable
Router# configure terminal
Router(config)# qos-overhead-accounting positive/negative value
```

Verify OH Accounting Compensation

Use the following show command to display the set of L3VPN interfaces on which overhead accounting is enabled:

```
Router#show platform hardware pp active feature qos oh-accounting interface all
Overhead Accounting Target Info
Interface Name          GID    Status   Bytes (Shadow)  Bytes (Actual)
-----
GigabitEthernet0/0/0   269    Enabled   8                8
```