

Configuration of VLAN Ingress Rate Limit on Sx500 Series Stackable Switches

Objective

Traffic limiting on VLANs can be achieved by rate limiting per VLAN. Ingress traffic is the traffic which comes into the ports of the switch. When VLAN ingress rate limiting is configured, it constrains the traffic from all the ports on the switch. Rate limiting is calculated separately for each packet processor in a unit and each unit in a stack.

In a real time scenario, VLAN ingress rate limiting can be configured if it is necessary to limit the total traffic from all ports on the switch when the traffic is more.

Note: This configuration is not available if the switch operates in Layer 3 mode. VLANs need to be configured in the switch before an Ingress limit is applied to it. This configuration can be found in the article [VLAN Creation on Sx500 Series Stackable Switches](#). The following constraints apply when rate limiting is used per VLAN:

- The precedence given to this is lower than any other traffic limiting policing in the system. That is, if a packet is configured with QoS rate limiting and also VLAN rate limiting, and if the rate limits clash, then QoS rate limiting has precedence over VLAN rate limiting.
- It is configured at a device level and at the packet processor level within the device. If there is more than one packet processor on the device, the configured VLAN rate limit value is applied to each of the packet processors separately. Devices that have 24 ports have a single packet processor while devices that have 48 ports or more have two packet processors. Rate limiting is calculated individually for each packet processor in a unit and each unit in a stack. For a four unit stack with 48 ports each, the maximum number of packet processors is eight. Hence there is a limitation that VLAN Ingress Rate Limit has to be applied for each packet processor if there are more than one.

Applicable Devices

- Sx500 Series Stackable Switches

Software Version

- 1.3.0.62

Configuration of VLAN Ingress Rate Limit

Step 1. Log in to the web configuration utility to choose **Quality of Service > General > VLAN Ingress Rate Limit**. The *VLAN Ingress Rate Limit* page opens:

VLAN Ingress Rate Limit

VLAN Ingress Rate Limit Table			
<input type="checkbox"/>	VLAN ID	CIR	CBS
0 results found.			

Step 2. Click **Add**. The *VLAN Ingress Rate Limit* window appears.

VLAN ID:

Committed Information Rate (CIR): kBits/sec. (Range: 3 - 57982058, Default: 3)

Committed Burst Size (CBS): Bytes (Range: 3000 - 19173960, Default: 3000)

Step 3. Choose a VLAN ID from the *VLAN ID* drop-down list. It is used to identify a particular VLAN on which the ingress rate limit is configured.

VLAN ID:

Committed Information Rate (CIR): kBits/sec. (Range: 3 - 57982058, Default: 3)

Committed Burst Size (CBS): Bytes (Range: 3000 - 19173960, Default: 3000)

Step 4. Enter the guaranteed amount of data that can be received from the ingress interface on average, measured in bits per second, in the *Ingress Committed Information Rate (CIR)* field. Internet Service Provider (ISP) provides this rate based on the subscription.

VLAN ID:

Committed Information Rate (CIR): kBits/sec. (Range: 3 - 57982058, Default: 3)

Committed Burst Size (CBS): Bytes (Range: 3000 - 19173960, Default: 3000)

Step 5. ISP provides Committed Burst Size (CBS) which describes the maximum allowable bandwidth that can be reached. Enter the maximum burst size in bytes in the *Ingress Committed Burst Size (CBS)* field.

VLAN ID:

Committed Information Rate (CIR): kBits/sec. (Range: 3 - 57982058, Default: 3)

Committed Burst Size (CBS): Bytes (Range: 3000 - 19173960, Default: 3000)

Step 4. Click **Apply** and the VLAN Rate limit is added to the running configuration file.

Edit a VLAN Ingress Rate Limit

Step 1. Log in to the web configuration utility to choose **QoS > General > VLAN Ingress Rate Limit**. The *VLAN Ingress Rate Limit* page opens. This page shows the VLAN Ingress Rate Limit table.

VLAN Ingress Rate Limit Table			
<input checked="" type="checkbox"/>	VLAN ID	CIR	CBS
<input checked="" type="checkbox"/>	VLAN 1	34	3500

Step 2. Check the appropriate VLAN to be edited and click **Edit**. The *Edit VLAN Ingress Rate Limit* window appears.

VLAN ID:

Committed Information Rate (CIR): kBits/sec. (Range: 3 - 57982058, Default: 3)

Committed Burst Size (CBS): Bytes (Range: 3000 - 19173960, Default: 3000)

Step 3. Edit the desired values.

VLAN ID:

Committed Information Rate (CIR): kBits/sec. (Range: 3 - 57982058, Default: 3)

Committed Burst Size (CBS): Bytes (Range: 3000 - 19173960, Default: 3000)

Step 4. Click **Apply**. The settings are applied.

VLAN Ingress Rate Limit Table				
<input type="checkbox"/>	VLAN ID	CIR	CBS	
<input type="checkbox"/>	VLAN 1	45	4600	

Add... Edit... Delete

Delete a VLAN Ingress Rate Limit

Step 1. Log in to the web configuration utility to choose **QoS > General > VLAN Ingress Rate Limit**. The *VLAN Ingress Rate Limit* page opens. This page shows the VLAN Ingress Rate Limit table.

VLAN Ingress Rate Limit Table				
<input checked="" type="checkbox"/>	VLAN ID	CIR	CBS	
<input checked="" type="checkbox"/>	VLAN 1	34	3500	

Add... Edit... Delete

Step 2. Check the VLAN you wish to delete and click **Delete**. The changes are applied.