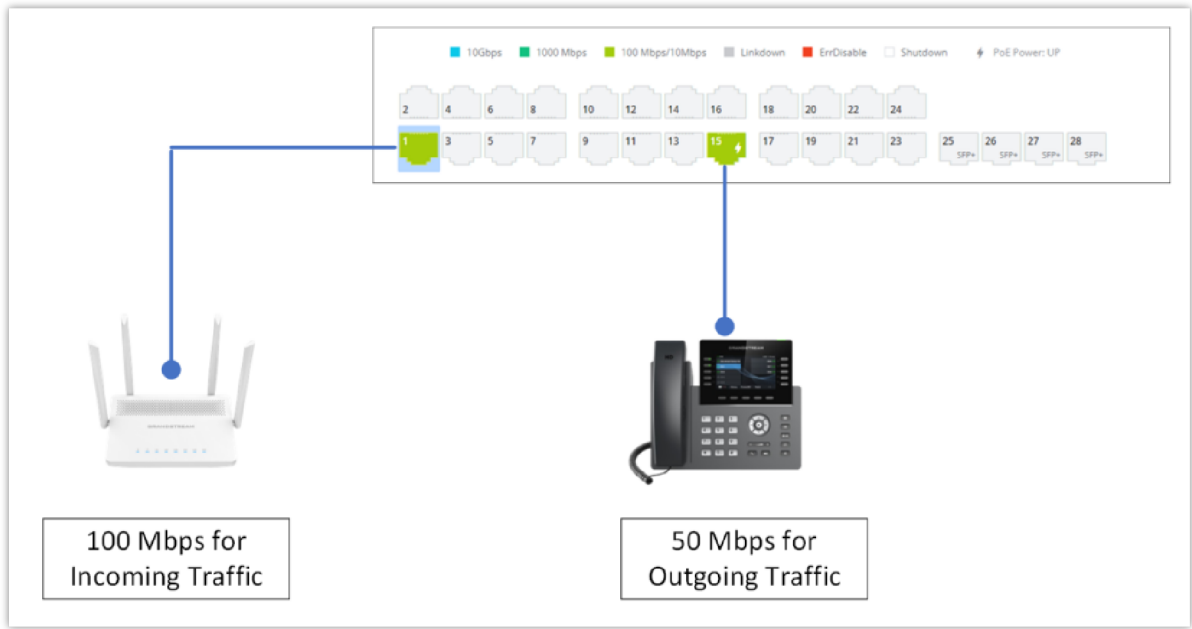


GWN78xx – QoS Rate Limit Configuration Guide

Overview

Rate Limit is a feature in the GWN78xx network switch's Quality of Service (QoS) settings that allows setting bandwidth limits for egress (outgoing) and ingress (incoming) traffic. It enables administrators to control the data rate for specific ports or traffic classes, managing network congestion and ensuring fair resource allocation. By configuring Rate Limit, administrators can optimize network performance, prevent bandwidth abuse, and maintain a consistent user experience.



Rate Limit Configuration Example

Rate Limit Parameters

- **Ingress CIR (Committed Information Rate) [Kbps]:** The Ingress CIR represents the maximum average data rate at which the switch accepts incoming traffic on a specific port or VLAN. It is used to regulate the rate at which traffic is received by the switch. The Ingress CIR helps in managing network congestion and ensuring that the switch can handle incoming traffic within the defined limits. The valid range is 16-1000000Kbps,
- **Ingress CBS (Committed Burst Size) [Byte]:** Ingress CBS is the Committed Burst Size for incoming traffic, measured in bytes. It determines the maximum amount of data that can be transmitted in a burst at the Ingress CIR. The valid range: 32768-2147483647 Bytes
- **Egress CIR(Committed Information Rate) [Kbps]:** The Egress CIR represents the maximum average data rate at which the switch can transmit data from a specific port or VLAN. It ensures that the outgoing traffic does not exceed a predefined bandwidth limit. The switch monitors the egress traffic and limits it to the configured CIR. If the traffic exceeds the CIR, the switch can take actions like dropping or remarking packets based on the QoS policies configured. The valid range is 16-1000000 Kbps.
- **Egress CBS (Committed Burst Size) [Byte]:** Similar to Ingress CBS, Egress CBS controls the burstiness of outgoing traffic by specifying the maximum size of data that can be sent at the Egress CIR. This helps regulate the flow of data leaving the network switch. The valid range: 32768-2147483647 Bytes

Rate Limit Configuration

Follow these steps to configure Rate Limit on port 1/0/1 of the GWN78xx switch, setting the incoming traffic at 100 Mbps for the port connected to the network gateway, and outgoing traffic at 50 Mbps for the port connected to an IP Phone:

- Access the switch's management interface using a web browser.
- Navigate to the **Quality of Service (QoS)=>Rate Limit**
- Find the configuration option for port 1/0/1 by clicking the icon

Switching

IP

Multicast

Routing

PoE

QoS

Port Priority

Priority Mapping

Queue Scheduling

Queue Shaping

Rate Limit

Port	Ingress	Ingress CIR (Kbps)	Ingress CBS (Byte)	Egress	Egress CIR (Kbps)	Egress CBS (Byte)	Operation
1/0/1	Disabled	--	--	Disabled	--	--	
1/0/2	Disabled	--	--	Disabled	--	--	
1/0/3	Disabled	--	--	Disabled	--	--	
1/0/4	Disabled	--	--	Disabled	--	--	
1/0/5	Disabled	--	--	Disabled	--	--	
1/0/6	Disabled	--	--	Disabled	--	--	
1/0/7	Disabled	--	--	Disabled	--	--	
1/0/8	Disabled	--	--	Disabled	--	--	
1/0/9	Disabled	--	--	Disabled	--	--	
1/0/10	Disabled	--	--	Disabled	--	--	
1/0/11	Disabled	--	--	Disabled	--	--	

- Set the ingress rate limit to 100000 Kbps for incoming traffic, set the burstiness to 32768 Bytes, this defines maximum amount of data that can be transmitted in a burst.

The Egress Information can be ignored for port 1/0/1 since it will be connected to a network gateway, where we will need to primary control incoming traffic.

Rate Limit > Edit

Port

1/0/1

Ingress

☒

Ingress CIR (Kbps)

Enter a value between 16-100000 that is a multiple of

Ingress CBS (Byte)

Valid range is 32768-2147483647

Egress

☐

Cancel

OK

Rate Limit Configuration for port 101

With the same way we will configure the rate limit for port 1/0/15 connecting an IP phone.

- Access the switch’s management interface using a web browser.
- Navigate to the **Quality of Service (QoS)=>Rate Limit**
- Access the configuration parameters of port 1/0/15, by clicking the icon

QoS

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Rate Limit

Security

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System

1/0/12	Disabled	--	--	Disabled	--	--	
1/0/13	Disabled	--	--	Disabled	--	--	
1/0/14	Disabled	--	--	Disabled	--	--	
1/0/15	Disabled	--	--	Disabled	--	--	
1/0/16	Disabled	--	--	Disabled	--	--	
1/0/17	Disabled	--	--	Disabled	--	--	
1/0/18	Disabled	--	--	Disabled	--	--	
1/0/19	Disabled	--	--	Disabled	--	--	
1/0/20	Disabled	--	--	Disabled	--	--	
1/0/21	Disabled	--	--	Disabled	--	--	
1/0/22	Disabled	--	--	Disabled	--	--	
1/0/23	Disabled	--	--	Disabled	--	--	

- Set the Egress rate limit to 50000Kbps for outgoing traffic from port 1/0/16, to not flood the IP phone with data, we will set the Egress CBS to a lower value, lets set it to 678 Bytes.

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Rate Limit

Rate Limit > Edit

Port

1/0/15

Ingress

☐

Egress

☒

Egress CIR (Kbps)

Enter a value between 16-1000000 that is a multiple of

Egress CBS (Byte)

Valid range is 678-53247

Cancel

OK

Rate Limit Configuration for port 1015

1. Save or apply the configuration.

2. Verify the Rate Limit settings by reviewing the applied configuration or checking the QoS settings for ports 1/0/1 and 1/0/15.

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Rate Limit

Port	Ingress	Ingress CIR (Kbps)	Ingress CBS (Byte)	Egress	Egress CIR (Kbps)	Egress CBS (Byte)	Operation
1/0/1	Enabled	1000000	32768	Disabled	--	--	
1/0/2	Disabled	--	--	Disabled	--	--	
1/0/3	Disabled	--	--	Disabled	--	--	
1/0/4	Disabled	--	--	Disabled	--	--	
1/0/5	Disabled	--	--	Disabled	--	--	
1/0/6	Disabled	--	--	Disabled	--	--	
1/0/7	Disabled	--	--	Disabled	--	--	
1/0/8	Disabled	--	--	Disabled	--	--	
1/0/9	Disabled	--	--	Disabled	--	--	
1/0/10	Disabled	--	--	Disabled	--	--	
1/0/11	Disabled	--	--	Disabled	--	--	
1/0/12	Disabled	--	--	Disabled	--	--	
1/0/13	Disabled	--	--	Disabled	--	--	
1/0/14	Disabled	--	--	Disabled	--	--	
1/0/15	Disabled	--	--	Enabled	50000	678	

Note

Configuring the Incoming and outgoing port traffic and burstiness relies heavily on the type of connection established on the port:

- If it is a trunk connection , which connects the switch to a different networking device from which the traffic will be coming such as a distribution or core switch, then the Ingress CIR and CBS should be the one used to control the incoming traffic.
- If the port carries a connection to an endpoint device, Then depending on the type of the endpoint device (Server, desktop, IP Phone), the Egress CIR and CBS will be used to control how much bandwidth and data is transmitted to that endpoint to avoid network congestion and ensure network load balancing.

Supported Devices

Device Name	Supported	Firmware Required
GWN7801	Yes	1.0.1.20 or higher
GWN7801P	Yes	1.0.1.20 or higher
GWN7802	Yes	1.0.1.20 or higher
GWN7802P	Yes	1.0.1.20 or higher
GWN7803	Yes	1.0.1.20 or higher
GWN7803P	Yes	1.0.1.20 or higher
GWN7811	Yes	1.0.1.8 or higher
GWN7811P	Yes	1.0.1.8 or higher
GWN7812P	Yes	1.0.1.8 or higher
GWN7813	Yes	1.0.1.8 or higher
GWN7813P	Yes	1.0.1.8 or higher

GWN7806	Yes	1.0.1.14 or higher
GWN7806P	Yes	1.0.3.3 or higher
GWN7830	Yes	1.0.3.3 or higher
GWN7831	Yes	1.0.3.3 or higher
GWN7832	Yes	1.0.3.3 or higher

List of supported Devices

Need Support?

Can't find the answer you're looking for? Don't worry we're here to help!

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