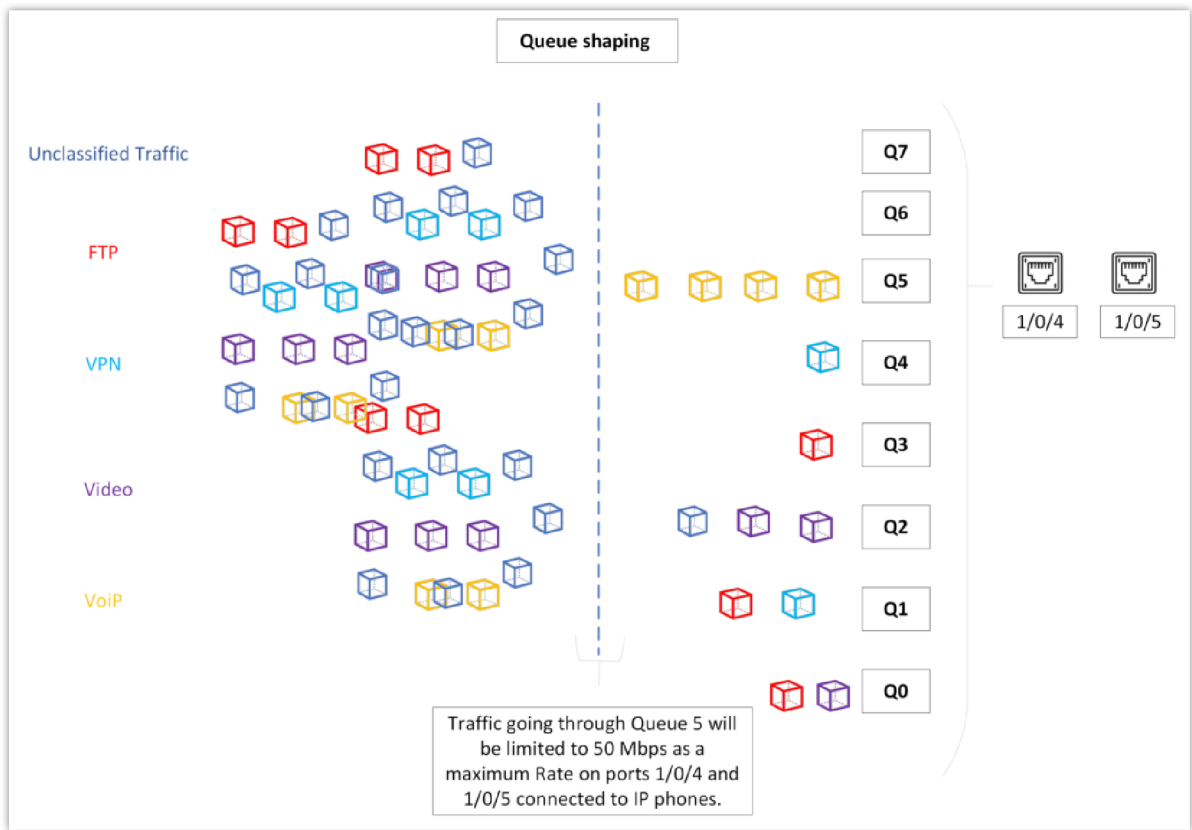


GWN78xx(P) – QoS: Queue Shaping Configuration Guide

Overview

Queue Shaping in the GWN78xx switch controls traffic flow, sets bandwidth limits for specific queues, and prevents congestion. This optimization enhances network performance and ensures fair resource allocation.



Implementation example

Note

Please note that queuing is a concept that applies to outbound traffic, and shaping is a complementary of queuing that is applied to the queues to restrict the output rate or traffic flow rate per queue.

Queue Shaping Parameters

- **Maximum Rate/CIR (Committed Information Rate) (Kbps):** The “Maximum Rate/CIR (Kbps)” sets the upper limit of bandwidth allocated to a specific queue. It helps manage network resources by preventing congestion and ensuring fair bandwidth allocation, The valid range is 16-1000000 Kbps, which must be an integer multiple of 16. The default is the port rate.
- **Committed Burst/CBS (Committed Burst Size) (Bytes):** Sets the maximum amount of data, measured in bytes, that can be transmitted in a burst at the specified average rate (CIR). It helps control short-term fluctuations in traffic, preventing excessive bursts that could impact the network’s quality of service.

Queue Shaping Configuration

The configuration of Queue shaping is an important part of quality of service set up on GWN78xx switches, it ensures that certain ports do not exceed a specific rate on some queues , to ensure fair bandwidth allocation, especially if the devices mentioned are put at a higher priority queue.

- **Configuration example**

We want to set ports 1/0/4 and 1/0/5 connected to receive a maximum bandwidth of 50 Mbps when the outgoing traffic going through queue 5 of the internal queuing system, to do this :

1. Access the switch’s management interface.
2. Navigate to the **Quality of Service (QoS)=> Queue Shaping**.
3. Find the configuration option for port 1/0/4 and 1/0/5 and set the “Maximum Rate” or “CIR” value to 50,000 (Kbps) on Queue 5 for both ports 1/0/4 and 1/0/5, set the burstness to 32687 Bytes, for the rest of the queues, you can keep them to default values which is the bandwidth speed of the port.

Overview

Switching

IP

Multicast

Routing

PoE

QoS

Port Priority

Priority Mapping

Queue Scheduling

Queue Shaping

Rate Limit

Security

Maintenance

System

Queue Shaping > Edit

Port1/0/4

Queue ID	Enable	Maximum Rate/CIR (Kbps)	Committed Burst/CBS (Bytes)
0	☒	100000	53247
1	☒	100000	53247
2	☒	100000	53247
3	☒	100000	53247
4	☒	100000	53247
5	☒	50000	32678
6	☒	100000	53247
7	☒	100000	53247

CancelOK

Queue Shaping

4. Save and apply the configuration.
5. Verify the Queue Shaping settings by reviewing the applied configuration or checking the QoS settings for port 1/0/4 and 1/0/5.

OverviewSwitchingIPMulticastRoutingPoEQoSPort PriorityPriority MappingQueue SchedulingQueue ShapingRate LimitSecurityMaintenanceSystem

Queue Shaping

CIRMaximum Rate/CIR (Kbps)CBSCommitted Burst/CBS (Bytes)

Port	0	1	2	3	4	5	6	7	Operation
1/0/1	--	--	--	--	--	--	--	--	
1/0/2	--	--	--	--	--	--	--	--	
1/0/3	--	--	--	--	--	--	--	--	
1/0/4	100000 53247	100000 53247	100000 53247	100000 53247	100000 53247	50000 32678	100000 53247	100000 53247	
1/0/5	100000 53247	100000 53247	100000 53247	100000 53247	100000 53247	50000 32678	100000 53247	100000 53247	

Queue Shaping settings

By following these steps, you can configure Queue Shaping on port 1/0/4 and 1/0/5 of the GWN78xx switch to limit the bandwidth to 50 Mbps. This ensures that the traffic passing through those ports does not exceed the specified rate, helping to control congestion and manage network resources effectively.

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!

CONTACT SUPPORT