PacketController

Subscriber Mask Conversion

Version: 7.3.0

Updated: Dec. 2021

PacketController Network

Disclaimer

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Overview

The policy efficiency is important for performance and Subscriber Mask Conversion feature is implemented for this purpose.

The subscriber mask conversion is to automatically convert the IP subnet (/26,27/,/28,/29 and /30) of subscriber to individual IP policies and it will dramatically improve the QoS policy matching efficiency. If you have most subscribers with /26,/27,/28,/29 or /30 IP subnets, you could see more than 254 times faster in QoS policy matching performance.

From version 7.3.0 the default rule space between subscribers is increased from 50 to 200, and the max. individual IP rules of each subscriber is 150.

Please note that in existing installation, if you want to enable Subscriber Mask Conversion, the subscriber rules must be regenerated. Only do this after consultation with PacketController Support.

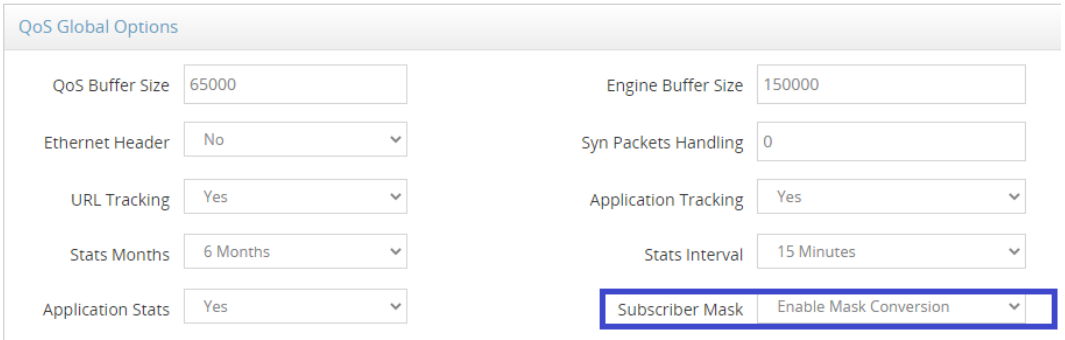
Pre-condition

Before implementation of subscriber mask conversion, the external port of bridge should be configured correctly.

Please see the section below.

Subscriber Mask

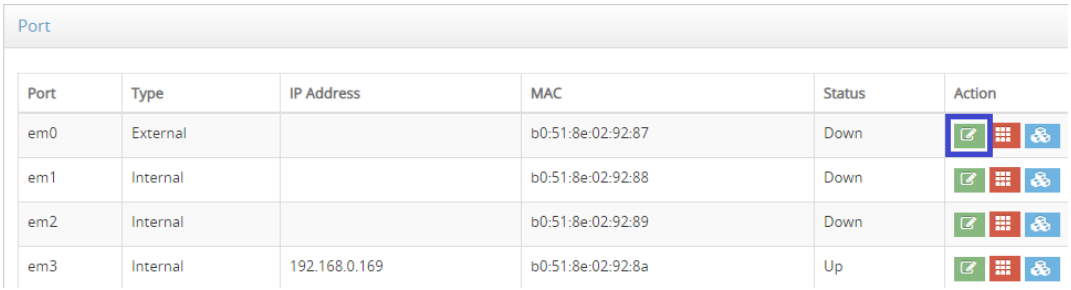
- Click QoS ->Global Settings
- In Subscriber Mask dropdown, select **Enable Mask Conversion**



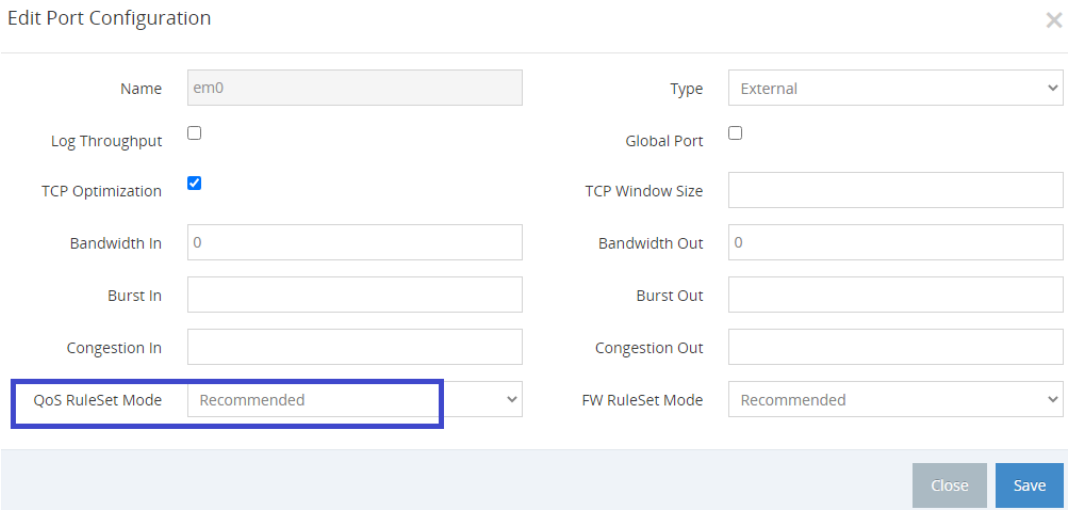
- Click **Save** button

QoS RuleSet Mode

- Click Network ->Port
- Go to the external port of bridge, click  icon to edit



- Select **Recommended** in QoS RuleSet Mode dropdown

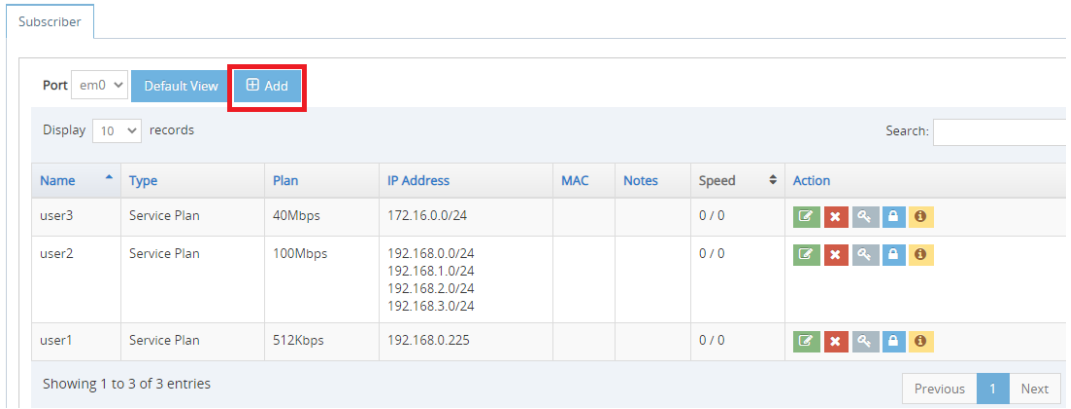


- Click **Save** button
- Reboot the unit

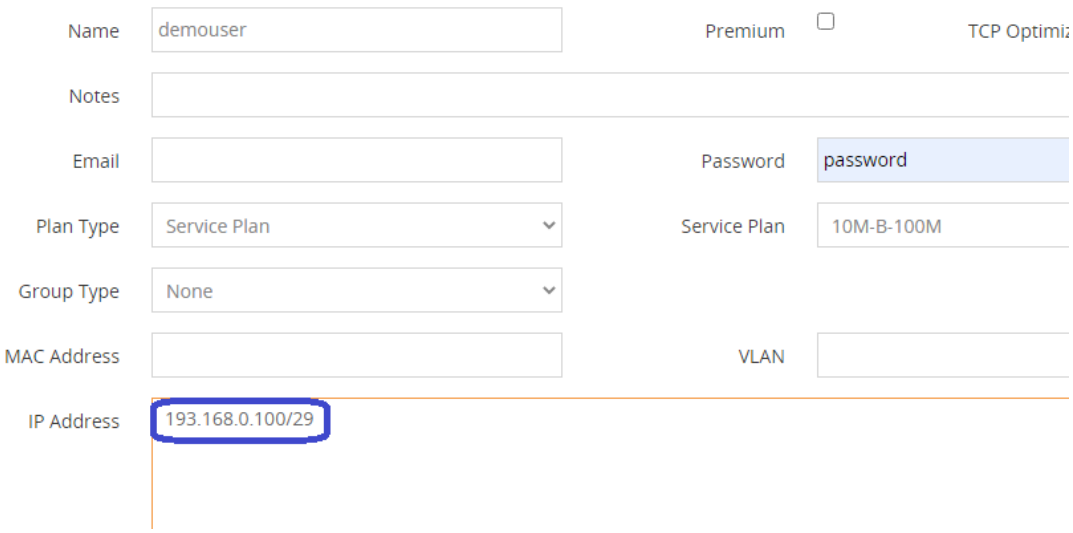
Please note that the change of QoS RuleSet Mode requires a reboot to make effective.

Add Subscriber

- Click Subscriber-> Subscriber, select the port and then click **Add** button

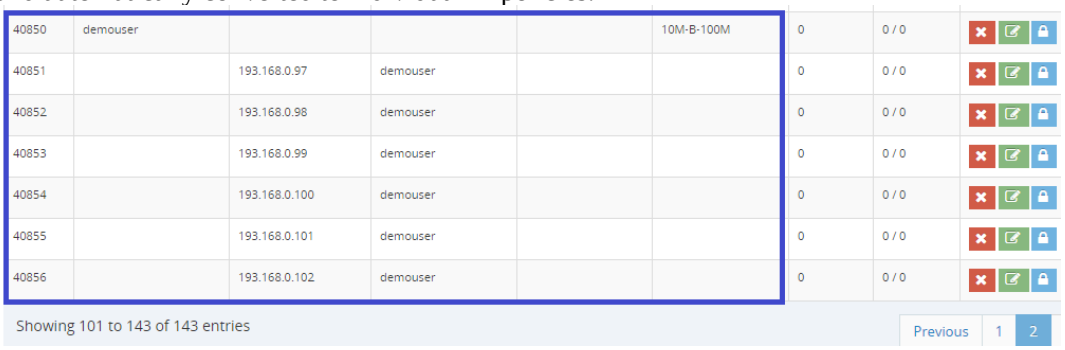


- Please fill in the forms of this user as below, the IP address is /29



Notes: You could add multiple subnets

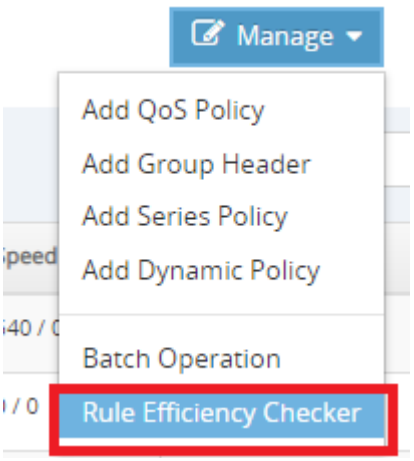
- Click **Save** button
- Click QoS -> QoS Policy, policies for this subscriber have been automatically created, and automatically converted to individual IP policies.



Rule Efficiency Checker

From version 7.3.0, it is possible to see the QoS policy matching efficiency in real time.

- Click QoS-> QoS Policy, and from Manage dropdown list and then click **Rule Efficiency Checker** button



- In the popup window, the rule efficiency real-time analysis is available.

Metrics	Description
Indexed QoS Policies	The quantity of QoS policies which have been indexed and it can be matched very fast and hence high performance.
Non-Indexed QoS Policies	The quantity of QoS policies which have NOT been indexed and ***all the packets*** will match. The less the better in terms of performance, if you see lots of Non-Indexed QoS policies, for instance, hundreds of them, the QoS policy tunning must be done. When Subscriber Mask Conversion enabled, any subnets other than /26,/27,/28,/29,/30 will not be indexed. And you should keep non-indexed subnets as less as possible to improve the system performance. For instance, /20 subnet is one non-indexed subnet, while you could convert /20 to twenty /24 subnets, and you should use one /20 subnet rather than twenty /24 subnets.
Worst Depth	This is the worst case, normally it is not a concern since it happens for some of packets.