



# PacketController Intelligent QoS

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**PacketController Network**

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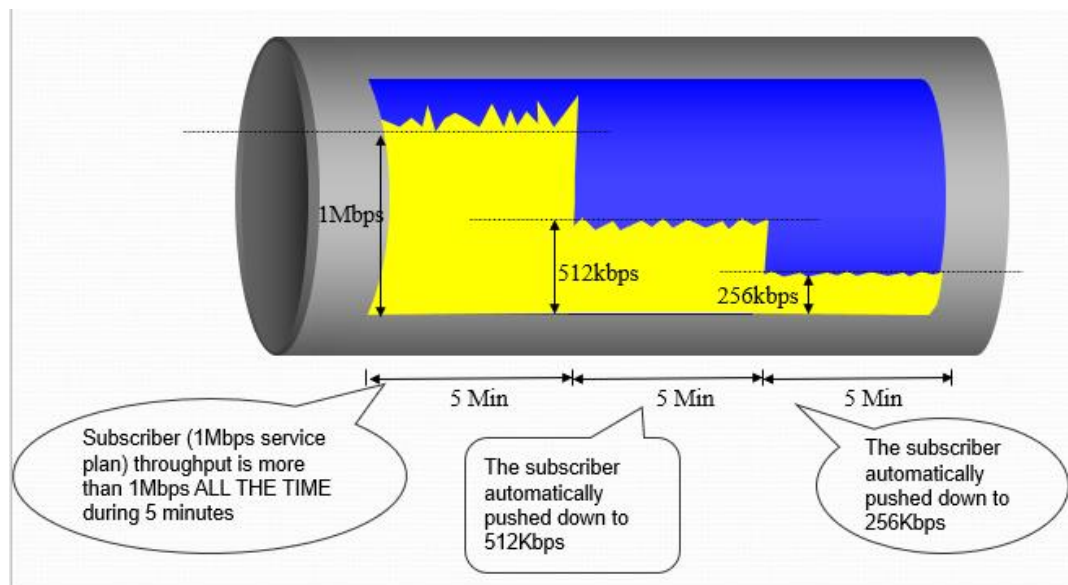
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## Overview

On ISP networks, fairness is important for residential subscribers who normally shares the bandwidth pool. For instance, 10 residential subscribers share 10Mbps bandwidth pool, chances are there will always be some heavy users among them by using P2P or whatever, the result is that those heavy users are going to eat up the bandwidth pool and it brings other subscriber speed down.

PacketController Intelligent QoS is to mitigate this issue by collecting the subscriber usage pattern and dynamically pace down the heavy user speed.



## How it works

The following is one example to show how it works:

- For 2Mbps subscribers in one user group, if any subscriber speed is more than 1.5Mbps for 5 minutes, it will be automatically kick down to 512Kbps for 5 minutes.
- If the same subscriber speed is more than 400Kbps for the next 10 minutes, this subscriber speed will be kick down to 64Kbps for 15 minutes.
- After 15 minutes, this subscriber speed will be restored to 2Mbps.
- The process repeat itself.

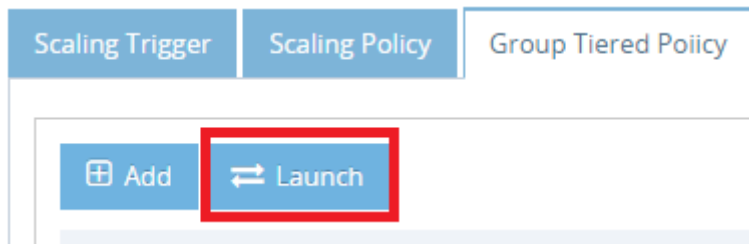
Please note that there is option to have premium subscriber in the user group to opt out intelligent QoS. That means you could choose some subscribers who will NOT be affected by Intelligent QoS, and this gives you flexibility.

The following is the sample configuration.

## Launch Intelligent QoS

The intelligent QoS is required to be launched

- Click Subscriber->Intelligent QoS and check **Group Tiered Policy** tab
  - Click **Launch** button
-



- Select Start Engine from Monitor Engine and click **Save** button

Launch Group Tiered Management ✕

Start On Boot

Monitor Engine

Please note there is option to start on boot, it means the Intelligent QoS will automatically be started after PacketController system boots.

## Add Group Tiered Policy

The group tiered policies need to be configured for intelligent QoS to be working.

- Click Subscriber->Intelligent QoS and check **Group Tiered Policy** tab
- Click **Add** button

Add Group Tiered Policy ✕

Name	<input type="text" value="512K-Rule"/>	Notes	<input type="text"/>
Group Type	<input type="text" value="User Group"/>	User Group	<input type="text" value="100MGroup"/>
Include Premium	<input type="text" value="No"/>	Direction	<input type="text" value="Combined"/>
Threshold Operator	<input type="text" value="Greater Than"/>	Usage Threshold	<input type="text" value="1500000"/>
Usage In Last	<input type="text" value="5 Minutes"/>	Kickdown Plan	<input type="text" value="512Kbps"/>








- Click **Save** button

Parameter	Description
Name	The name of this policy
Notes	The notes of this policy
Group Type	Either User Group or Contention Ratio. The policy is per one group, the policy is applied to all the subscribers in this group
User Group	This dropdown field is only available when Group Type is set to User Group
Contention Ratio	This dropdown field is only available when Group Type is set to Contention Ratio
Include Premium	Whether to apply this policy to the premium subscribers in this group, by default it is set to No
Direction	The speed threshold direction: Combined: download + upload Download: only download speed

	Upload; Only upload speed
Threshold Operator	Either greater than or less than Please note you could use less than operator to restore the subscriber speed
Usage In Last	The usage time, from 1 minute to 60 minutes
Kickdown Plan	When criteria met, the service plan to be applied for the subscriber.

The following are the sample configuration:

Display  records Search:

Order	Name	Group	Criteria	Kickdown Plan	Action
1	512K-Rule	100MGroup	users in group,if total speed > 1500000 in 5 minutes	512Kbps	  
2	64K-Rule	100MGroup	users in group,if total speed > 400000 in 10 minutes	64Kbps	   
3	2M-Rule	100MGroup	users in group,if total speed < 2000000 in 15 minutes	2Mbps	  

- Policy 512K-Rule: In 100MGroup, all the subscribers speed will be switched to 512Kbps if its speed is greater than 1.5Mbps for 5 minutes.

Edit Group Tiered Policy

Name	<input type="text" value="512K-Rule"/>	Notes	<input type="text"/>
Group Type	<input type="text" value="User Group"/>	User Group	<input type="text" value="100MGroup"/>
Include Premium	<input type="text" value="No"/>	Direction	<input type="text" value="Combined"/>
Threshold Operator	<input type="text" value="Greater Than"/>	Usage Threshold	<input type="text" value="1500000"/>
Usage In Last	<input type="text" value="5 Minutes"/>	Kickdown Plan	<input type="text" value="512Kbps"/>

- Policy 64K-Rule: In 100MGroup, all the subscribers speed will be switched to 64Kbps if its speed is greater than 400Kbps for next 10 minutes.

Edit Group Tiered Policy

Name	<input type="text" value="64K-Rule"/>	Notes	<input type="text"/>
Group Type	<input type="text" value="User Group"/>	User Group	<input type="text" value="100MGroup"/>
Include Premium	<input type="text" value="No"/>	Direction	<input type="text" value="Combined"/>
Threshold Operator	<input type="text" value="Greater Than"/>	Usage Threshold	<input type="text" value="400000"/>
Usage In Last	<input type="text" value="10 Minutes"/>	Kickdown Plan	<input type="text" value="64Kbps"/>

- Policy 2M-Rule: In 100MGroup, all the subscribers speed will be restored to 2Mbps if its speed is **less than** 2Mbps for **next** 15 minutes.











Edit Group Tiered Policy

Name	2M-Rule	Notes	
Group Type	User Group	User Group	100MGroup
Include Premium	No	Direction	Combined
Threshold Operator	Less Than	Usage Threshold	2000000
Usage In Last	15 Minutes	Kickdown Plan	2Mbps

## Policy Order

Please note the policy has its order, and PacketController processes the policies in order from low to high. In the example above, if 512K-Rule(Order 1) met, the other 2 policies will not be processed for the subscriber.

You could change the policy order by clicking  or  icon in Action column.

Order	Name	Group	Criteria	Kickdown Plan	Action
1	512K-Rule	100MGroup	users in group,if total speed > 1500000 in 5 minutes	512Kbps	  
2	64K-Rule	100MGroup	users in group,if total speed > 400000 in 10 minutes	64Kbps	   
3	2M-Rule	100MGroup	users in group,if total speed < 2000000 in 15 minutes	2Mbps	  

## Premium Subscriber

There is option to set up premium subscribers in the group to opt out the policies.

Name	LTE-5571	Premium	<input checked="" type="checkbox"/>	TCP Optimization	<input checked="" type="checkbox"/>
Notes	Demo User				
Email	support@packetcontroller.com	Password	password		

And in policy, you could overwrite this setting.

Name	512K-Rule	Notes	
Group Type	User Group	User Group	100MGroup
Include Premium	Yes	Direction	Combined
Threshold Operator	Greater Than	Usage Threshold	1500000
Usage In Last	5 Minutes	Kickdown Plan	512Kbps

## Log

To view the Intelligent QoS log, click Log & Report->Audit Log and check **Group Tiered**

## Log tab

Operation Log Logon Log API Log Group Tiered Log

All Users  Search

Display 10 records

User	Time	Group	Service Plan
LTE-5571	2020-12-25 11:39:04	100MGroup	512Kbps
LTE-5571	2020-12-25 11:33:01	100MGroup	2Mbps
LTE-5571	2020-12-25 11:13:02	100MGroup	64Kbps
LTE-5571	2020-12-25 11:00:01	100MGroup	512Kbps

Showing 1 to 4 of 4 entries

Previous 1 Next