

# QoS Report

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## QoS Report

### New in version 3.4.1 for NMIS8 and version 4.2.1 for NMIS9

QoS Report will generally not include interfaces in the report that have 'collect=false' set. However, from opReports versions 3.4.1 and 4.2.1, **Standardised Quality of Service** supported devices that do not support CBQoS will display interface QoS even though the interface has a setting of 'collect=false'.

### New in version 3.3.0

Model and Vendor details are provided per node in the report.

### Bold Introduction

The QoS report is intended to provide an overview of the Quality of Service configuration and utilisation of the selected nodes.

QoS Report will not include interfaces in the report that are disabled.

### Rules

To assist in the assimilation of the data, a few simple rules have been applied to the statistics to assist with highlighting some possible problem areas.

#### Queue Drop

/path/to/omk/conf/opCommon.nmis config option **opreport\_rules/qos\_droppkt (default 1)** applies:

This condition indicates that a QoS Policy is being exceeded and packets in this class have been dropped. It may or may not be impacting applications, depending on how they handle packet loss. For example, HTTP will generally handle packet loss with no problems, while voice and video do not suffer packet loss very well at all.

If an interface utilisation is greater than 0% input and 0% output;

AND DropPkt is greater than **opreport\_rules/qos\_droppkt (default 1)** packet per second;

THEN this class is highlighted yellow.

#### Class Under Utilised

/path/to/omk/conf/opCommon.nmis config option **opreport\_rules/qos\_lowutil (default 1)** applies:

This condition indicates that the QoS class was configured to be used for traffic, and there are VERY low levels of traffic in that class. It might be possible to update the QoS policy allocating some of this bandwidth to other classes.

If an interface utilisation is greater than 0% input and 0% output;

AND the Policy Percent is greater than 0 percent;

AND PrePolicyUtil is less than **opreport\_rules/qos\_lowutil (default 1)** percent;

THEN this class is highlighted yellow.

#### Class Utilisation Exceeding Policy

This condition indicates that QoS class was configured for a certain bandwidth and the traffic levels have exceeded the configured policy. This may not be a problem, depending on QoS configuration, traffic may be being forwarded or discarded, if necessary increase the bandwidth allocated to this class.

If an interface utilisation is greater than 0% input and 0% output;

AND PrePolicyUtil exceeds the classes configured bandwidth Percent;

THEN this class is highlighted yellow.

## Example

A full report can be downloaded and viewed [Here](#)

opReports 3.0.14

Views -

Modules -

Help -

User: nmis -

QoS Report

Info

CSV

HTML

XLSX

ZIP

Email

Delete

Coverage: 31 day(s), from 2017-09-01T00:00:00 to 2017-09-01T00:00:00 AEST, between the hours of 00:00 to 12:00 each day

Generated: 2017-09-01T00:00:06 AEST

Downline

Input

Output

MaxDiff

QoS for jagard

Interface: FastEthernet0/1, 100 Mbps, Description: WAN/DSL

Input Utilization: 0.849%, Output Utilization: 0.100%, Calculated from 00:00 to 12:00

Condition: QoS Class Utilization is very low for one or more classes, indicated in yellow in PrePolicyUtil column.

Reported Rates per Second

Direction	Policy Name	Action	Bandwidth	Percent	PrePolicyUtil	PostPolicyUtil	MaxPrePolicyUtil	PrePolicyBps	MaxPrePolicyBps	DropBps	MaxDropBps	PostPolicyBps	MaxPostPolicyBps	PrePolicyPkt	DropPkt	NoBufDropPkt
out	Interactive	Bandwidth	256 Kbps	0.256%	0.01%	0.01%	0.38%	5608.81	377470.11	0.00	0.00	5608.81	377470.11	9.05	0.00%	0.00
out	VPN	Bandwidth	1024 Kbps	1.024%	0.03%	0.03%	0.51%	28109.95	506933.52	0.00	0.00	28109.95	506933.52	35.00	0.00%	0.00
out	Voice	Bandwidth	512 Kbps	0.512%	0.00%	0.00%	0.00%	14.42	243.71	0.00	0.00	14.42	243.71	0.02	0.00%	0.00
out	WebTraffic	Bandwidth	2.048 Mbps	2.048%	0.00%	0.00%	0.13%	1853.76	128943.14	0.00	0.00	1853.76	128943.14	3.08	0.00%	0.00
out	class-default	Bandwidth	N/A	N/A	0.06%	0.06%	1.22%	63635.41	1221286.41	0.00	0.00	63635.41	1221286.41	27.38	0.00%	0.00

QoS for mianzong

Interface: Vlan1, 100 Mbps, Description: PACKET LAN

Input Utilization: 0.100%, Output Utilization: 1.168%, Calculated from 00:00 to 12:00

Reported Rates per Second

Direction	Policy Name	Action	Bandwidth	Percent	PrePolicyUtil	PostPolicyUtil	MaxPrePolicyUtil	PrePolicyBps	MaxPrePolicyBps	DropBps	MaxDropBps	PostPolicyBps	MaxPostPolicyBps	PrePolicyPkt	DropPkt	NoBufDropPkt
in	Mark_Business	Bandwidth	N/A	N/A	0.07%	0.07%	1.05%	69914.72	1048415.08	0.00	0.00	69914.72	1048415.08	57.25	0.00%	0.00
in	Mark_Critical_Data	Bandwidth	N/A	N/A	0.00%	0.00%	0.01%	754.23	6740.66	0.00	0.00	754.23	6740.66	1.09	0.00%	0.00
in	Mark_Management	Bandwidth	N/A	N/A	0.00%	0.00%	0.00%	1047.74	3527.76	0.00	0.00	1047.74	3527.76	0.66	0.00%	0.00
in	Mark_Scavenger	Bandwidth	N/A	N/A	0.00%	0.00%	0.00%	0.01	0.76	0.00	0.00	0.01	0.76	0.00	0.00%	0.00
in	Mark_Video	Bandwidth	N/A	N/A	0.00%	0.00%	0.44%	1741.20	444477.51	0.00	0.00	1741.20	444477.51	0.68	0.00%	0.00
in	Mark_Voice	Bandwidth	N/A	N/A	0.01%	0.01%	0.33%	7122.47	326343.44	0.00	0.00	7122.47	326343.44	3.70	0.00%	0.00
in	class-default	Bandwidth	N/A	N/A	0.02%	0.02%	0.50%	22094.37	496679.24	0.00	0.00	22094.37	496679.24	13.80	0.00%	0.00
out	Mark_Business	Bandwidth	N/A	N/A	1.05%	1.05%	8.99%	1050626.46	8993922.71	0.00	0.00	1050626.46	8993922.71	95.23	0.00%	0.00
out	Mark_Critical_Data	Bandwidth	N/A	N/A	0.00%	0.00%	0.08%	2716.26	82685.02	0.00	0.00	2716.26	82685.02	1.18	0.00%	0.00
out	Mark_Management	Bandwidth	N/A	N/A	0.02%	0.02%	0.02%	15142.04	22194.42	0.00	0.00	15142.04	22194.42	1.62	0.00%	0.00
out	Mark_Scavenger	Bandwidth	N/A	N/A	0.00%	0.00%	0.00%	0.01	1.16	0.00	0.00	0.01	1.16	0.00	0.00%	0.00
out	Mark_Video	Bandwidth	N/A	N/A	0.00%	0.00%	0.68%	3813.65	680644.57	0.00	0.00	3813.65	680644.57	1.03	0.00%	0.00
out	Mark_Voice	Bandwidth	N/A	N/A	0.02%	0.02%	1.68%	23527.27	1682229.36	0.00	0.00	23527.27	1682229.36	4.78	0.00%	0.00
out	class-default	Bandwidth	N/A	N/A	0.08%	0.08%	1.66%	77649.13	1683172.73	0.00	0.00	77649.13	1683172.73	16.01	0.00%	0.00

Interface: Dialer1, 820 Kbps In, 8.192 Mbps Out, Description: Escape to the Cloud Back

## Standardised Quality of Service - new in version 3.2.0

The QoS report now provides 'Standardised Quality of Service' on Cisco, Huawei, Juniper and Teldat devices insofar as these devices support QoS.

- Teldat proprietary BRS is also interpreted as QoS insofar as BRS implements QoS;
- **opReports 3.2.0 does not have a dependency on any particular version of NMIS8;**
- **NMIS8 modelling needs to be set up correctly for the Standardised QoS report to work correctly.**
  - The following files have been developed to assist in regard to NMIS modelling to support Standardised QoS:
    - These files are examples that should be reviewed and adapted as needed before implementation:
      - Plugin to support Huawei QoS devices at nmis8/conf/QualityOfServiceStatatable.pm
        - copy from nmis8/install/QualityOfServiceStatatable.pm
      - Common model file to support Huawei QoS devices at nmis8/models/Common-Huawei-cbqos.nmis
        - copy from nmis8/models-install/Common-Huawei-cbqos.nmis
        - QualityOfServiceStat
      - Example model file at nmis8/models/Model-HuaweiRouterAR2240-uses-common.nmis
        - copy from nmis8/models-install/Model-HuaweiRouterAR2240-uses-common.nmis
      - Plugin to support Juniper CoS devices at nmis8/conf/plugins/jnxCoStable.pm
        - copy from nmis8/install/plugins/jnxCoStable.pm
      - Common model file to support Juniper CoS devices at nmis8/models/Common-Juniper-jnxCoS.nmis
        - copy from nmis8/models-install/Common-Juniper-jnxCoS.nmis
        - Juniper\_CoS
          - Please note that **TotalDropPkts** in this file is calculated as **sum of jnxCosIfqTailDropPkts and jnxCosIfqTotalRedDropPkts** as a 'calculate' example:
            - **TotalDropPkts can be adapted to rather be only jnxCosIfqTotalRedDropPkts, or can be disabled completely by commenting out the entry**
      - Common model file to support Teldat QoS and BRS at nmis8/models/Common-Teldat-cbqos.nmis
        - copy from nmis8/models-install/Common-Teldat-cbqos.nmis
        - TeldatQoSStat
        - TeldatBRSStat
      - Example model file at nmis8/models/Model-TeldatM1-uses-common.nmis
        - copy from nmis8/models-install/Model-TeldatM1-uses-common.nmis
      - Teldat QoS graph file at nmis8/models/Graph-TeldatQoSStat.nmis
        - copy from nmis8/models-install/Graph-TeldatQoSStat.nmis
      - Teldat BRS graph file at nmis8/models/Graph-TeldatBRSStat.nmis
        - copy from nmis8/models-install/Graph-TeldatBRSStat.nmis
      - Teldat graph file at nmis8/models/Graph-mem-proc-teldat.nmis
        - copy from nmis8/models-install/Graph-mem-proc-teldat.nmis
    - The following changes will also be needed in NMIS8:
      - nmis8/models/Common-database.nmis
        - add following two lines after 'QualityOfServiceStat' => '/nodes/\$node/interface/hwqos-\$index.rrd':
          - 'TeldatQoSStat' => '/nodes/\$node/interface/tdqos-\$index.rrd',
          - 'TeldatBRSStat' => '/nodes/\$node/interface/tbrs-\$index.rrd',
      - nmis8/conf/Model-Policy.nmis
        - set Juniper\_CoS => 'true' in 999 => {...} section

- nmis8/models/Model.nmis
  - needs appropriate entries for the Huawei and Teldat models to use their respective example models:
    - 'HuaweiRouterAR2240-uses-common' => 'AR2240'
    - 'TeldatM1-uses-common' => 'M1'
- Since the QoS Report is a CBQoS Report, the following Node settings in NMIS need checking for Juniper, Huawei and Teldat compatible devices:
  - Edit each node and set 'CBQoS' to 'both' or 'out' then update each node
  - Update all device nodes affected by these changes