Configure QoS marking (cluster administrators only)

ONTAP System Manager

NetApp
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Overview

Network Quality of Service (QoS) marking helps you to prioritize different traffic types based on the network conditions to effectively utilize the network resources. You can set the differentiated services code point (DSCP) value of the outgoing IP packets for the supported traffic types per IPspace.

DSCP marking for UC compliance

You can enable differentiated services code point (DSCP) marking on outgoing (egress) IP packet traffic for a given protocol with a default or user-provided DSCP code. DSCP marking is a mechanism for classifying and managing network traffic and is a component of Unified Capability (UC) compliance.

DSCP marking (also known as QoS marking or quality of service marking) is enabled by providing an IPspace, protocol, and DSCP value. The protocols on which DSCP marking can be applied are NFS, CIFS, iSCSI, SnapMirror, NDMP, FTP, HTTP/HTTPS, SSH, Telnet, and SNMP.

If you do not provide a DSCP value when enabling DSCP marking for a given protocol, a default is used:

- The default value for data protocols/traffic is 0x0A (10).
- The default value for control protocols/traffic is 0x30 (48).

Modify QoS marking values

You can modify the Quality of Service (QoS) marking values for different protocols, for each IPspace.

Before you begin

All nodes in the cluster must be running the same version of ONTAP.

Step

Modify QoS marking values by using the `network qos-marking modify` command.

- The `-ipspace` parameter specifies the IPspace for which the QoS marking entry is to be modified.
- The `-protocol` parameter specifies the protocol for which the QoS marking entry is to be modified.

The `network qos-marking modify` man page describes the possible values of the protocol.

- The `–dscp` parameter specifies the Differentiated Services Code Point (DSCP) value. The possible values ranges from 0 through 63.
- The `-is-enabled` parameter is used to enable or disable the QoS marking for the specified protocol in the IPspace provided by the `–ipspace` parameter.

The following command enables the QoS marking for the NFS protocol in default IPspace:

```
network qos-marking modify -ipspace Default -protocol NFS -is-enabled true
```

The following command sets the DSCP value to 20 for the NFS protocol in the default IPspace:

```
network qos-marking modify -ipspace Default -protocol NFS -dscp 20
```

Display QoS marking values

You can display the QoS marking values for different protocols, for each IPspace.

Step

Display QoS marking values by using the `network qos-marking show` command.

The following command displays the QoS marking for all protocols in the default IPspace:

```
network qos-marking show -ipspace Default
IPspace             Protocol           DSCP  Enabled?
------------------- ----------------- -----  --------
Default
                    CIFS                 10  false
                    FTP                  48  false
                    HTTP-admin           48  false
                    HTTP-filesrv         10  false
                    NDMP                 10  false
                    NFS                  10  true
                    SNMP                 48  false
                    SSH                  48  false
                    SnapMirror           10  false
                    Telnet               48  false
                    iSCSI                10  false
11 entries were displayed.
```