QoS for L3Outs

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QoS for L3Outs

To configure QoS policies for an L3Out, use the following guidelines:

• To configure the QoS policy to be enforced on the border leaf where the L3Out is located, the VRF instance must be in egress mode (Policy Control Enforcement Direction must be "Egress").

• To enable the QoS policy to be enforced, the VRF Policy Control Enforcement Preference must be "Enforced."

• When configuring the contract governing communication between the L3Out and other EPGs, include the QoS class or target DSCP in the contract or subject.

   Note

   Only configure a QoS class or target DSCP in the contract, not in the external EPG (`l3extInstP`).

   • When creating a contract subject, you must choose a QoS priority level. You cannot choose Unspecified.

Configuring QoS for L3Outs Using the REST API

QoS for L3Out is configured as part of the L3Out configuration.
Configuring QoS for L3Outs Using the NX-OS Style CLI

QoS for L3Out is configured as part of the L3Out configuration.

Procedure

**Step 1**
When configuring the tenant and VRF, to support QoS priority enforcement on the L3Out, configure the VRF for egress mode (pcEnfDir="egress") with policy enforcement enabled (pcEnfPref="enforced"). Send a post with XML similar to the following example:

**Example:**
```xml
<vzFilter name="http-filter">
    <vzEntry name="http-e" etherT="ip" prot="tcp" matchDscp="EF"/>
</vzFilter>
```

**Step 2**
When creating the filters and contracts to enable the EPGs participating in the L3Out to communicate, configure the QoS priority.

The contract in this example includes the QoS priority, level1, for traffic ingressing on the L3Out. Alternatively, it could define a target DSCP value. QoS policies are supported on either the contract or the subject.

The filter also has the matchDscp="EF" criteria, so that traffic with this specific TAG received by the L3out processes through the queue specified in the contract subject.

**Example:**
```xml
<vzBrCP name="httpCtrct" prio="level1" scope="context">
    <vzSubj name="subj1">
        <vzRsSubjFiltAtt tnVzFilterName="http-filter"/>
    </vzSubj>
</vzBrCP>
```
Step 2  When creating filters (access-lists), include the match dscp command, in this example with target DSCP level EF. When configuring contracts, include the QoS class, for example, level1, for traffic ingressing on the L3Out. Alternatively, it could define a target DSCP value. QoS policies are supported on either the contract or the subject.

Example:
```
apic1(config)# tenant t1
napic1(config-tenant)# access-list http-filter
napic1(config-tenant-acl)# match ip
napic1(config-tenant-acl)# match tcp dest 80
napic1(config-tenant-acl)# match dscp EF
napic1(config-tenant-acl)# exit
napic1(config-tenant)# contract httpCtrct
napic1(config-tenant-contract)# scope vrf
napic1(config-tenant-contract)# qos-class level1
napic1(config-tenant-contract)# subject http-subject
napic1(config-tenant-contract-subj)# access-group http-filter both
napic1(config-tenant-contract-subj)# exit
napic1(config-tenant)# exit
napic1(config)#
```

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**Configuring QoS for L3Outs Using the GUI**

QoS for an L3Out is configured as part of the L3Out configuration.

**Procedure**

**Step 1** Configure the VRF instance for the tenant consuming the L3Out to support QoS to be enforced on the border leaf switch that is used by the L3Out.

a) On the menu bar, choose Tenants > tenant-name.
b) In the Navigation pane, expand Networking, right-click VRFs, and choose Create VRF.
c) Enter the name of the VRF.
d) In the Policy Control Enforcement Preference field, choose Enforced.
e) In the Policy Control Enforcement Direction choose Egress.
f) Complete the VRF configuration according to the requirements for the L3Out.

**Step 2** When configuring filters for contracts to enable communication between the EPGs consuming the L3Out, include a QoS class or target DSCP to enforce the QoS priority in traffic ingressing through the L3Out.

a) On the Navigation pane, under the tenant that that will consume the L3Out, expand Contracts, right-click Filters and choose Create Filter.
b) In the Name field, enter a filter name.
c) In the Entries field, click + to add a filter entry.
d) Add the Entry details, click Update and Submit.
e) Expand the previously created filter and click on a filter entry.
f) Set the Match DSCP field to the desired DSCP level for the entry, for example, EF.
Step 3  Add a contract.

a) Under **Contracts**, right-click **Standard** and choose **Create Contract**.

b) Enter the name of the contract.

c) In the **QoS Class** field, choose the QoS priority for the traffic governed by this contract. Alternatively, you can choose a **Target DSCP** value.

d) Click the + icon on **Subjects** to add a subject to the contract.

e) Enter a name for the subject.

f) In the QoS Priority field, choose the desired priority level. You cannot choose **Unspecified**.

g) Under **Filter Chain**, click the + icon on **Filters** and choose the filter you previously created, from the drop down list.

h) Click **Update**.

i) On the **Create Contract Subject** dialog box, click **OK**.