1 New Workflows in System Manager Version 3.1

1.1 Applying Storage Quality of Service Policy Group to Workloads

With System Manager 3.1, a user can manage storage quality of service (QoS) for volumes and LUNs. A user can create QoS policy groups and assign FlexVol volumes or LUNs to new or existing policy groups. The maximum throughput specified for the policy group enables you to manage the workload of storage objects.

For demonstrations about assigning storage quality of service policy group using System Manager 3.1, see the demonstration video on NetApp Community.

Use case: A storage administrator wants to deploy test applications in a production NetApp cluster and wants to make sure that the production workload is not affected.

As part of this workflow, we perform the following tasks:

- Assign new test application workloads to “untested_apps” QoS policy group
- Limit maximum throughput on the “untested_apps” QoS policy group
- When the test application workloads are ready to be moved to production, unassign the test application workloads from the “untested_apps” QoS policy group

Note: This workflow assumes that the user has a few volumes dedicated for test purposes. If not, create them before using this workflow.

Workflow Steps

Assign Test Application Workloads to QoS Policy Group and Limit Maximum Throughput

1. From the homepage, double-click the appropriate storage system.
2. Expand the Storage Virtual Machines hierarchy in the left navigation pane.
3. In the navigation pane, select the SVM and click Storage > Volumes.
4. Select the test application volumes for which you want to assign storage QoS. Click Storage QoS.

Figure 57) Assign workloads to QoS policy group.

5. In the Quality of Service Details dialog box, the Manage Storage Quality of Service check box is selected to manage the workload performance of the FlexVol volumes.

Note: If some of the volumes you selected are already assigned to a policy group, the changes that you make will overwrite the existing configuration for these volumes. Click the volumes hyperlink to review the list of selected volumes.
Figure 58) Quality of service details window.

Quality of Service Details

Selected volumes might be assigned to a Quality of Service policy group. Changes that you make will overwrite the existing configuration for all volumes.

Manage Storage Quality of Service

Limit throughput for the volume by assigning it to a policy group and specify the maximum throughput. Storage objects assigned to the same policy group will share the maximum throughput.

Tell me more about Storage Quality of Service

Assign to:  
- New Policy Group
- Existing Policy Group

Policy Group Name:

Maximum Throughput: Unlimited MB/s

OK  Cancel

Selected Volumes

Review the list of selected volumes. Click Discard to remove a volume from the list.

Discard

<table>
<thead>
<tr>
<th>Name</th>
<th>Policy Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>testapp2</td>
<td>None</td>
</tr>
<tr>
<td>testapp1</td>
<td>None</td>
</tr>
</tbody>
</table>

OK  Cancel
6. Create a new storage QoS policy group to control the input/output (I/O) performance of the FlexVol volumes.

   Specify the policy group name and the maximum throughput limit to make sure that the workload of the objects in the policy group does not exceed the specified throughput limit.

   Note: If you do not specify the maximum throughput limit, the value is set to Unlimited, and the unit that you specify does not affect the maximum throughput.

Figure 59) Assign maximum throughput.

Details about the QoS policy groups can be viewed from the QoS Policy Groups window.
Unassign the Test Application Workload from a QoS Policy Group

When the test application workloads are ready to be moved to production, they can be unassigned from the QoS policy group.

1. Select the test application volumes for which you want to unassign storage QoS. Click Storage QoS.
2. Clear the Manage Storage Quality of Service check box to stop managing the workload performance of the test application volumes.

Figure 60) QoS Policy Groups window.

Figure 1) Unassign QoS.
Note:

1. You can assign storage QoS only to read/write (rw) volumes that are online.
2. You cannot assign storage QoS to a volume if the following storage objects are assigned to a policy group:
   a. Parent storage virtual machine (SVM) of the volume
   b. Child LUNs of the volume
   c. Child files of the volume
3. You can assign storage QoS or modify QoS details for a maximum of 10 volumes at the same time.

As part of the assign QoS policy group using System Manager 3.1 workflow, we performed the following tasks:

- We assigned new test application workloads to “untested_apps” QoS policy group.
- We limited maximum throughput on the “untested_apps” QoS policy group.
- When the test application workloads were ready to be moved to production, we unassigned the test application workloads from the “untested_apps” QoS policy group.