#BZ 1849540: no etcd leader change error should take place while running NP tests.

Verified on 4.4.0-0.nightly-2020-06-29-071755 with OSP16.1
(RHOS-16.1-RHEL-8-20200625.n.0) with OVN.

NP tests run with parallelism set to 3 with expected results. It took 1h 9 minutes to be executed (from Jun 29 11:21:54.059 UTC to Jun 29 12:30:44.356 UTC)

- No etcd leader change observed during test execution:

(overcloud) [stack@undercloud-0 ~]$ date && for i in $(oc get pods -n openshift-etcd -l app=etcd -o NAME); do echo "# $i"; oc logs $i -n openshift-etcd -c etcd |grep 'became leader'; done
Mon Jun 29 12:16:20 EDT 2020
pod/etcd-ostest-l6xkl-master-0
pod/etcd-ostest-l6xkl-master-1
pod/etcd-ostest-l6xkl-master-2
2020-06-29 10:44:57.414342 I | raft: e2f2fc9d46f0eb5c became leader at term 4

- No timeouts on port 2380 during test execution (on day 2020-06-24):

$ date && for i in $(oc get pods -n openshift-etcd -l app=etcd -o NAME); do echo "# $i"; oc logs $i -n openshift-etcd -c etcd |grep 'timeout'; done
Mon Jun 29 12:17:02 EDT 2020
pod/etcd-ostest-l6xkl-master-0
pod/etcd-ostest-l6xkl-master-1
pod/etcd-ostest-l6xkl-master-2
2020-06-29 10:45:37.233344 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 39.988079ms, to 45a5708909c764fb)
2020-06-29 10:45:37.233408 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 40.06606ms, to b417308bc0582b13)
2020-06-29 10:46:21.765507 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 245.167291ms, to 45a5708909c764fb)
2020-06-29 10:46:21.773092 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 252.830754ms, to b417308bc0582b13)
2020-06-29 10:46:22.695692 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 174.289407ms, to b417308bc0582b13)
2020-06-29 10:46:22.695734 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 174.344808ms, to 45a5708909c764fb)
2020-06-29 10:47:45.588674 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 97.406816ms, to b417308bc0582b13)
2020-06-29 10:47:45.588762 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 97.522375ms, to 45a5708909c764fb)
2020-06-29 10:53:26.456351 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 48.278383ms, to 45a5708909c764fb)

2020-06-29 10:53:26.456826 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 48.791253ms, to b417308bc0582b13)
2020-06-29 10:54:28.937621 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 196.725382ms, to 45a5708909c764fb)
2020-06-29 10:54:28.937697 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 196.825453ms, to b417308bc0582b13)
2020-06-29 11:04:32.088895 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 40.816893ms, to 45a5708909c764fb)
2020-06-29 11:04:32.088974 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 40.933145ms, to b417308bc0582b13)
2020-06-29 14:04:31.574536 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 6.48505ms, to 45a5708909c764fb)
2020-06-29 14:04:31.574930 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 6.903726ms, to b417308bc0582b13)
2020-06-29 16:04:31.264962 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 28.598692ms, to 45a5708909c764fb)
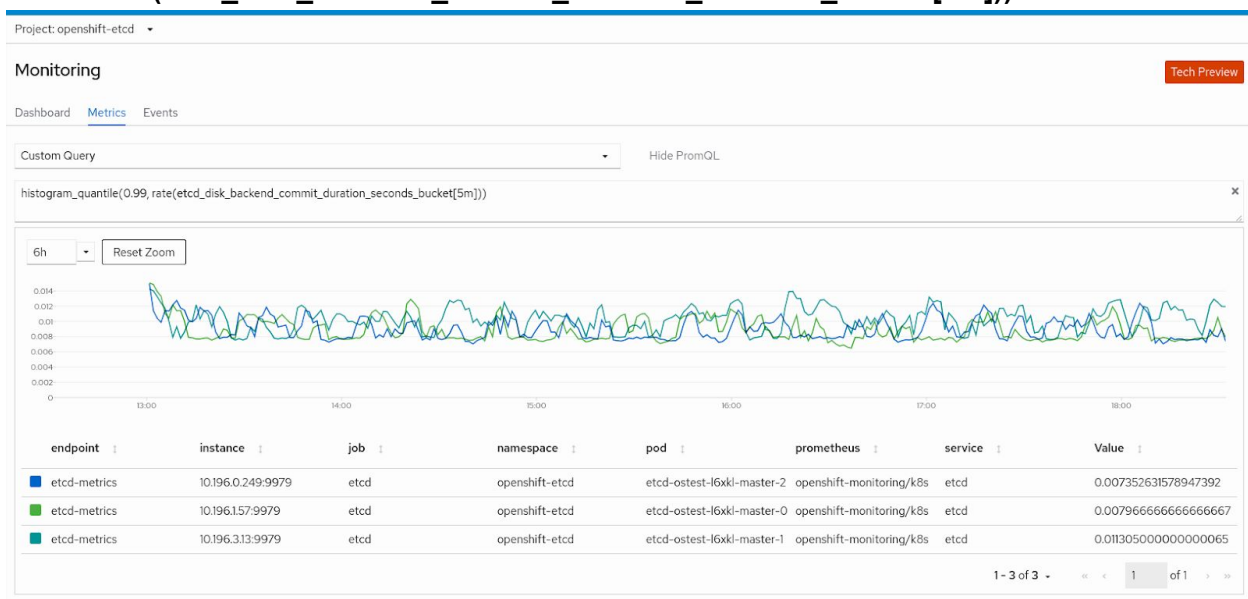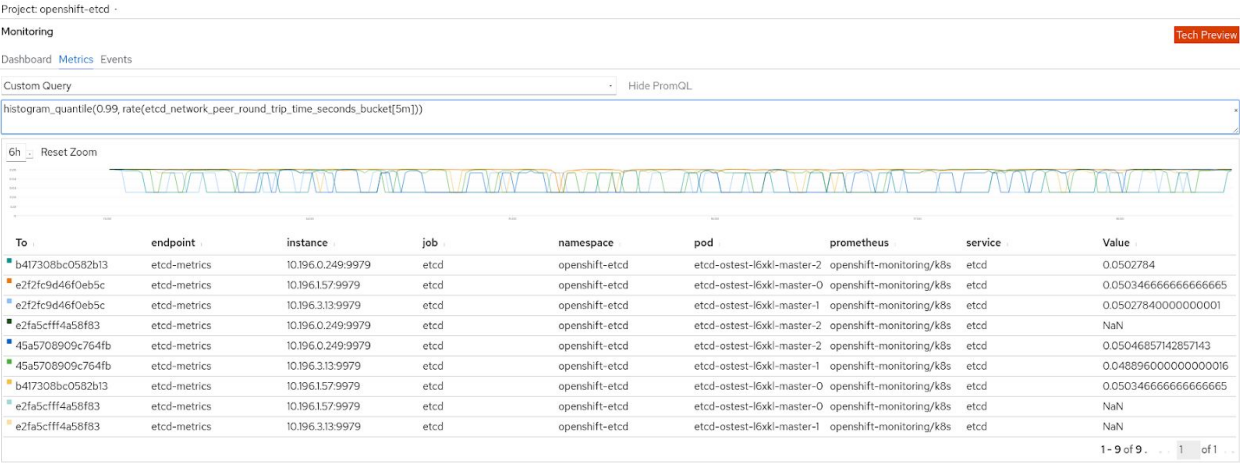2020-06-29 16:04:31.265383 W | etcdserver: failed to send out heartbeat on time (exceeded the 100ms timeout for 29.054097ms, to b417308bc0582b13)

Furthermore, etcd metrics show an stable behaviour during the same:
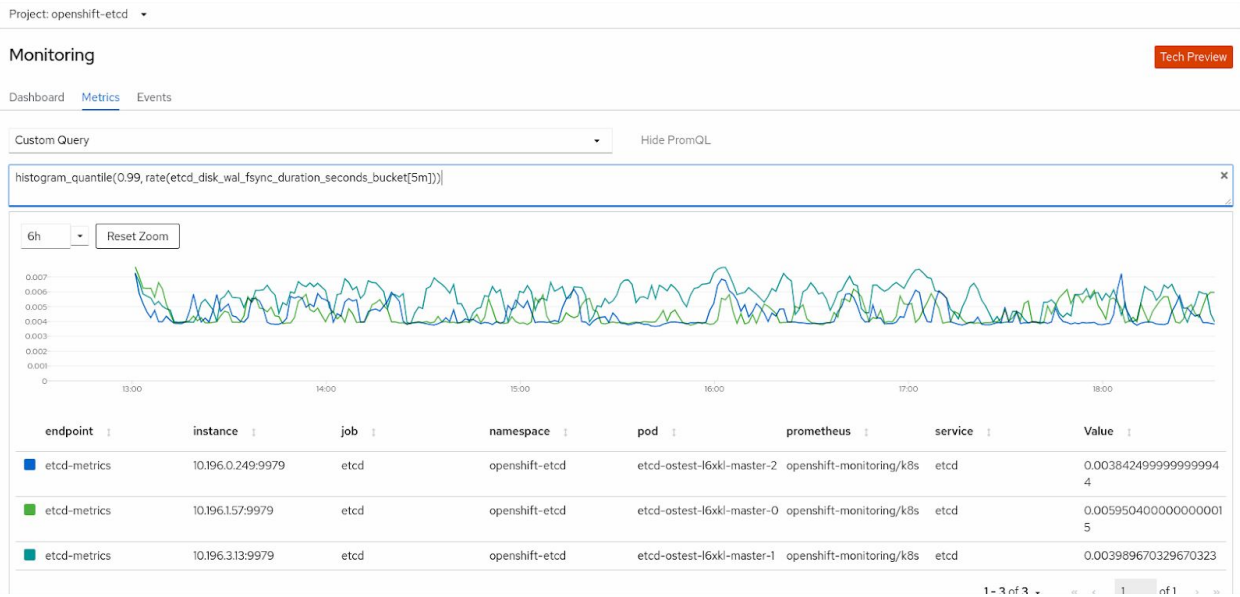
- **histogram_quantile(0.99, rate(etcd_disk_backend_commit_duration_seconds_bucket[5m]))**

- **histogram_quantile(0.99, rate(etcd_network_peer_round_trip_time_seconds_bucket[5m]))**

Monitoring

Dashboard Metrics Events

| Custom Query | ▾ | Hide PromQL |

`histogram_quantile(0.99, rate(etcd_network_peer_round_trip_time_seconds_bucket[5m]))`

6h ▾ Reset Zoom

To	endpoint	instance	job	namespace	pod	prometheus	service	Value
b417308bc0582b13	etcd-metrics	10.196.0.249:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-2	openshift-monitoring/k8s	etcd	0.0502784
e2f2fc9d46f0eb5c	etcd-metrics	10.196.1.57:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-0	openshift-monitoring/k8s	etcd	0.050346666666666665
e2f2fc9d46f0eb5c	etcd-metrics	10.196.3.13:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-1	openshift-monitoring/k8s	etcd	0.05027840000000001
e2fa5cfff4a58f83	etcd-metrics	10.196.0.249:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-2	openshift-monitoring/k8s	etcd	NaN
45a5708909c764fb	etcd-metrics	10.196.0.249:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-2	openshift-monitoring/k8s	etcd	0.05046857142857143
45a5708909c764fb	etcd-metrics	10.196.3.13:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-1	openshift-monitoring/k8s	etcd	0.048896000000000016
b417308bc0582b13	etcd-metrics	10.196.1.57:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-0	openshift-monitoring/k8s	etcd	0.050346666666666665
e2fa5cfff4a58f83	etcd-metrics	10.196.1.57:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-0	openshift-monitoring/k8s	etcd	NaN
e2fa5cfff4a58f83	etcd-metrics	10.196.3.13:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-1	openshift-monitoring/k8s	etcd	NaN

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- **histogram_quantile(0.99, rate(etcd_disk_wal_fsync_duration_seconds_bucket[5m]))**

Monitoring

Dashboard Metrics Events

| Custom Query | ▾ | Hide PromQL |

`histogram_quantile(0.99, rate(etcd_disk_wal_fsync_duration_seconds_bucket[5m]))` ✕

6h ▾ Reset Zoom

endpoint	instance	job	namespace	pod	prometheus	service	Value
etcd-metrics	10.196.0.249:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-2	openshift-monitoring/k8s	etcd	0.0038424999999999994
etcd-metrics	10.196.1.57:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-0	openshift-monitoring/k8s	etcd	0.0059504000000000015
etcd-metrics	10.196.3.13:9979	etcd	openshift-etcd	etcd-ostest-l6xkl-master-1	openshift-monitoring/k8s	etcd	0.003989670329670323

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- **max(etcd_server_leader_changes_seen_total)**

Monitoring

Dashboard   Metrics   Events

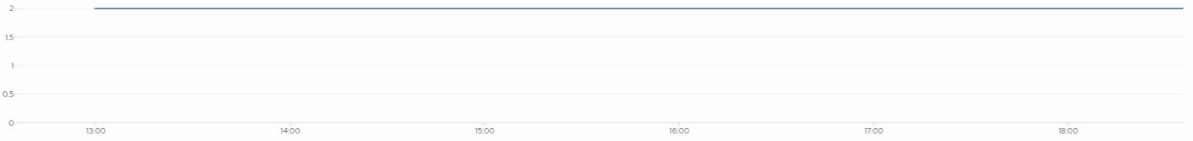| Custom Query | ▾ | Hide PromQL |

max(etcd_server_leader_changes_seen_total)   ✕

| 6h | ▾ | Reset Zoom |

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2 ─────────────────────────────────────────────────────────────────
1.5
1
0.5
0
      13:00        14:00        15:00        16:00        17:00        18:00
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Value   ↕

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