MONITORING THE ISCSI GATEWAYS

Ceph provides an additional tool for iSCSI gateway environments to monitor performance of exported RADOS Block Device (RBD) images.

The `gwtop` tool is a `top`-like tool that displays aggregated performance metrics of RBD images that are exported to clients over iSCSI. The metrics are sourced from a Performance Metrics Domain Agent (PMDA). Information from the Linux-IO target (LIO) PMDA is used to list each exported RBD image with the connected client and its associated I/O metrics.

Requirements:

- A running Ceph iSCSI gateway

Installing:

1. As root, install the `ceph-iscsi-tools` package on each iSCSI gateway node:

   ```
   # yum install ceph-iscsi-tools
   ```

2. As root, install the performance co-pilot package on each iSCSI gateway node:

   ```
   # yum install pcp
   ```

3. As root, install the LIO PMDA package on each iSCSI gateway node:

   ```
   # yum install pcp-pmda-lio
   ```

4. As root, enable and start the performance co-pilot service on each iSCSI gateway node:

   ```
   # systemctl enable pmcd
   # systemctl start pmcd
   ```

5. As root, register the `pcp-pmda-lio` agent:

   ```
   cd /var/lib/pcp/pmdas/lio
   ./Install
   ```

By default, `gwtop` assumes the iSCSI gateway configuration object is stored in a RADOS object called `gateway.conf` in the `rbd` pool. This configuration defines the iSCSI gateways to contact for gathering the performance statistics. This can be overridden by using either the `-g` or `-c` flags. See `gwtop --help` for more details.

The LIO configuration determines which type of performance statistics to extract from performance co-pilot. When `gwtop` starts it looks at the LIO configuration, and if it find user-space disks, then `gwtop` selects the LIO collector automatically.

Example ``gwtop`` Outputs

```
gwtop  2/2 Gateways   CPU% MIN:  4 MAX:  5    Network Total In:    2M  Out:    3M   10:20:00
Capacity:   8G    Disks:   8   IOPS:  503   Clients:  1   Ceph: HEALTH_OK          OSDs:   3
Pool.Image       Src    Size     iops     rMB/s     wMB/s   Client
iscsi.t1703             500M        0      0.00      0.00
iscsi.testme1           500M        0      0.00      0.00
iscsi.testme2           500M        0      0.00      0.00
iscsi.testme3           500M        0      0.00      0.00
iscsi.testme5           500M        0      0.00      0.00
rbd.myhost_1      T       4G      504      1.95      0.00    rh460p(CON)
rbd.test_2                1G        0      0.00      0.00
rbd.testme              500M        0      0.00      0.00
```

In the *Client* column, (`CON`) means the iSCSI initiator (client) is currently logged into the iSCSI gateway. If `-multi-` is displayed, then multiple clients are mapped to the single RBD image.