Running Mellanox SHARP Deamons

Mellanox SHARP software, i.e. Mellanox SHARP daemon (`sharpd`) should be executed on every compute node, and the Aggregation Manager daemon (`sharp_am`) should be executed on a dedicated server along with Subnet Manager.

> ⚠ The `sharpd` and `sharp_am` commands must be executed as root user.
>
> - sharpd on all compute nodes
> - sharp_am on SM node only

To setup the daemons the following script should be used:

```
$HPCX_SHARP_DIR/sbin/sharp_daemons_setup.sh

Usage: sharp_daemons_setup.sh (-s | -r) [-p SHARP location dir] -d <sharpd | sharp_am> [-m]
        -s - Setup SHARP daemon
        -r - Remove SHARP daemon
        -p - Path to alternative SHARP location dir
        -d - Daemon name (sharpd or sharp_am)
        -b - Enable socket based activation of the service
```

> ⚠ Socket-based activation is only valid on systems with Systemd support.

sharp_am Registration as a Service on the SM Server and its Starting

1. Run as root the following:

   ```
   # $HPCX_SHARP_DIR/sbin/sharp_daemons_setup.sh -s -d sharp_am
   ```

   Daemon's log location is: /var/log/sharp_am.log
2. Set the "run level".
3. Start sharp_am as root.

   ```
   # service sharp_am start
   ```

sharpd Registration as Service on all Compute Nodes and its Starting

The procedure, described below, needs pdsh package. If you do not have pdsh, please use any other parallel execution tool and refer to the command below as an example.

1. Run as root the following:

   ```
   # pdsh -w <hostlist> $HPCX_SHARP_DIR/sbin/sharp_daemons_setup.sh -s -d sharpd
   ```

   Daemon's log location: `/var/log/sharpd.log`
2. Set the "run level"
3. Start sharpd daemons as root.

   ```
   # pdsh -w <hostlist>  service sharpd start
   ```

sharpd Registration as a Socket Based Activated Service on all Compute Nodes (for HPC-X)

⚠

⚠ Socket based activation installs sharpd as a daemon that is automatically activated when an application tries to communicate with sharpd.

Socket based activation is supported on RH 7.2 and above and requires Systemd.

MLNX_OFED SHARPD is automatically installed with socket-based activation on systems with Systemd.

The procedure described below needs pdsh package. If you do not have a pdsh, please use any other parallel execution tool and refer to the command below as an example.

Run as root the following:

```
# pdsh -w <hostlist> $HPCX_SHARP_DIR/sbin/sharp_daemons_setup.sh -s -d sharpd -b
```

Daemon's log location: `/var/log/sharpd.log`

Removing Daemons

- To remove sharp_am, run on AM host:

```
# $HPCX_SHARP_DIR/sbin/sharp_daemons_setup.sh -r -d sharp_am
```

- To remove sharpd, run:

```
# pdsh -w <hostlist> $HPCX_SHARP_DIR/sbin/sharp_daemons_setup.sh -r -d sharpd
```

Upgrading Daemons

Upgrading daemons requires their removal and re-registration according to the sections above.