NetApp

HP-UX Host Utilities

SAN hosts and cloud clients

NetApp
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HP-UX Host Utilities 6.0 Release Notes

The release notes describe new features and enhancements, issues fixed in the current release, known problems and limitations, and important cautions related to configuring and managing your specific HP-UX host with your ONTAP storage system.

The HP-UX Host Utilities 6.0 continues to support the following versions:

- HP-UX 11iv2
- HP-UX 11iv3

There are no new features, enhancements, known limitations, or cautions for the HP-UX host utilities 6.0 release.

HP-UX Host Utilities 6.0

The HP-UX Host Utilities enable you to connect an HP-UX host to NetApp storage.

The HP-UX Host Utilities supports multiple protocols and the following environments:

- Native MPIO
- Veritas Dynamic Multipathing (DMP)

> ⓘ To indicate which environment is being used, this document sometimes specifies "DMP" for the Veritas DMP environment and "MPIO" for the HP-UX native environment. In some cases, the commands you use might vary depending on which drivers you are using. In those cases, both the environment and driver types are specified.

What you'll need

- For reliable operation, verify that your entire iSCSI, FC, or FCoE configuration is supported.

You can use the NetApp Interoperability Matrix Tool to verify your configuration.

About this task

The NetApp HP-UX Host Utilities software package is available on the NetApp Support Site in a compressed file. After you download the file, you must decompress it before installation.

Steps

1. Log in to your host.

2. Download the HP-UX Host Utilities file `netapp_hpux_host_utilities_6.0_ia_pa.depot.gz` from the NetApp Support Site to your HP-UX host.

3. Decompress the `netapp_hpux_host_utilities_6.0_ia_pa.depot.gz` file:

   ```
   # gunzip netapp_hpux_host_utilities_6.0_ia_pa.depot.gz
   ```

   The system places the extracted software in the directory where you uncompressed the depot file.

4. Install the software:

```
# swinstall -s /depot_path
```

`depot_path` provides the path and name of the depot file.

The `swinstall` command runs an installation script that verifies the status of your HP-UX setup. If your system meets the requirements, this script installs the `sanlun` utility and diagnostic scripts in the `/opt/NetApp/santools/bin` directory.

5. Verify the installation:

```
sanlun version
```

SAN Toolkit

HP-UX Host Utilities is a NetApp host software that provides a command line tool kit on your HP-UX host. The toolkit is installed when you install the NetApp Host Utilities package. This kit provides the `sanlun` utility which helps you manage the LUNs and host bus adapters. (HBAs). The `sanlun` command returns information about the LUNs mapped to your host, multipathing, and information necessary to create initiator groups.

Example

In the following example, the `sanlun lun show` command returns the LUN information.

```
# sanlun lun show all

controller(7mode)/ device host lun
vserver(Cmode)              lun-pathname                      filename
adapter    protocol   size   mode
--------------------------------------------------------------------------
----------------------------------
sanboot_unix          /vol/hpux_boot/boot_hpux_lun       /dev/rdsk/c34t0d0
fclp1      FCP         150g    C
sanboot_unix          /vol/hpux_boot/boot_hpux_lun       /dev/rdsk/c23t0d0
fclp1      FCP         150g    C
sanboot_unix          /vol/hpux_boot/boot_hpux_lun       /dev/rdsk/c12t0d0
fclp0      FCP         150g    C
sanboot_unix          /vol/hpux_boot/boot_hpux_lun       /dev/rdsk/c81t0d0
fclp0      FCP         150g    C
```

ⓘ This toolkit is common across all Host Utilities configurations and protocols. As a result, some of its contents apply to one configuration, but not another. Having unused components does not affect your system performance.

HP-UX Host Utilities 6.0 command reference

You can use the HP-UX Unified Host Utilities 6.0 sample command reference for an end-

to-end validation of the NetApp storage configuration using the host utilities tool.

List all host initiators mapped to host

You can retrieve a list of all host initiators mapped to a host.

```
# sanlun fcp show adapter -v
```

Example output

```
adapter name:        fclp2
WWPN:                10000000c985ef92
WWNN:                20000000c985ef92
driver name:         fclp
model:               AJ763-63001
model description:   HP 8Gb Dual Channel PCI-e 2.0 FC HBA
serial number:       MY19034N9U
hardware version:    3
driver version:      @(#) FCLP: PCIe Fibre Channel driver (FibrChanl-02),
B.11.31.1805, Feb  5 2018, FCLP_IFC (3,2)
firmware version:    2.02X2 SLI-3 (U3D2.02X2)
Number of ports:     1 of 2
port type:           Unknown
port state:          Link Down
supported speed:     8 GBit/sec
negotiated speed:    Speed not established
OS device name:      /dev/fclp2

adapter name:        fclp3
WWPN:                10000000c985ef93
WWNN:                20000000c985ef93
driver name:         fclp
model:               AJ763-63001
model description:   HP 8Gb Dual Channel PCI-e 2.0 FC HBA
serial number:       MY19034N9U
hardware version:    3
driver version:      @(#) FCLP: PCIe Fibre Channel driver (FibrChanl-02),
B.11.31.1805, Feb  5 2018, FCLP_IFC (3,2)
firmware version:    2.02X2 SLI-3 (U3D2.02X2)
Number of ports:     2 of 2
port type:           Unknown
port state:          Link Down
supported speed:     8 GBit/sec
negotiated speed:    Speed not established
OS device name:      /dev/fclp3
```

List all LUNs mapped to host

You can retrieve a list of all LUNs mapped to a host.

```
# sanlun lun show -p -v all
```

Example output

```
\
                    ONTAP Path:
vs_hp_cluster:/vol/chathpux_217_vol_en_1_10/hp_en_217_lun
                         LUN: 55
                    LUN Size: 15g
                  Host Device: /dev/rdisk/disk718
                        Mode: C
                          VG: /dev/vg_data
            Multipath Policy: A/A
          Multipath Provider: Native
-------- ---------- ------------------- -------
-------------------------------------------- -------------
host       vserver    /dev/dsk
HP A/A
path       path       filename               host     vserver
path failover
state      type       or hardware path       adapter LIF
priority
-------- ---------- ------------------- -------
-------------------------------------------- -------------
up         primary    /dev/dsk/c37t6d7    fclp0    hpux_7
0
up         primary    /dev/dsk/c22t6d7    fclp1    hpux_8
0
up         secondary  /dev/dsk/c36t6d7    fclp0    hpux_5
1
up         secondary  /dev/dsk/c44t6d7    fclp1    hpux_6
1
```

List all LUNs mapped to host from a given SVM

You can retrieve a list of all LUNs mapped to host from a certain SVM.

```
# sanlun lun show -p -v vs_hp_cluster
```

Example output

```
                    ONTAP Path:
vs_hp_cluster:/vol/chathpux_217_vol_en_1_10/hp_en_217_lun
                         LUN: 55
                     LUN Size: 15g
                  Host Device: /dev/rdisk/disk718
                         Mode: C
                           VG: /dev/vg_data
              Multipath Policy: A/A
            Multipath Provider: Native
-------- ---------- ------------------- -------
-------------------------------------------- -------------
host      vserver    /dev/dsk
HP A/A
path      path       filename                host     vserver
path failover
state     type       or hardware path        adapter LIF
priority
-------- ---------- ------------------- -------
-------------------------------------------- -------------
up        primary    /dev/dsk/c37t6d7        fclp0    hpux_7
0
up        primary    /dev/dsk/c22t6d7        fclp1    hpux_8
0
up        secondary  /dev/dsk/c36t6d7        fclp0    hpux_5
1
up        secondary  /dev/dsk/c44t6d7        fclp1    hpux_6
1
```

List all attributes of a given LUN mapped to host

You can retrieve a list of all attributes of a specified LUN mapped to a host.

```
# sanlun lun show -p -v
vs_hp_cluster:/vol/chathpux_217_vol_en_1_5/hp_en_217_lun
```

Example output

```
                         ONTAP Path:
vs_hp_cluster:/vol/chathpux_217_vol_en_1_5/hp_en_217_lun
                              LUN: 49
                         LUN Size: 15g
                      Host Device: /dev/rdisk/disk712
                             Mode: C
                               VG: /dev/vg_data
                 Multipath Policy: A/A
               Multipath Provider: Native
-------- ---------- ------------------- -------
-------------------------------------------- -------------
host       vserver    /dev/dsk
HP A/A
path       path       filename                host     vserver
path failover
state      type       or hardware path        adapter LIF
priority
-------- ---------- ------------------- -------
-------------------------------------------- -------------
up         primary    /dev/dsk/c37t6d1        fclp0    hpux_7
0
up         primary    /dev/dsk/c22t6d1        fclp1    hpux_8
0
up         secondary  /dev/dsk/c36t6d1        fclp0    hpux_5
1
up         secondary  /dev/dsk/c44t6d1        fclp1    hpux_6
1
```

List ONTAP LUN attributes by host device filename

You can retrieve a list of ONTAP LUN attributes by a specified host device filename.

```
#sanlun lun show -dv /dev/rdisk/disk716
```

Example output

```
                                                             device
host                    lun
vserver                 lun-pathname                        filename
adapter    protocol   size    mode
--------------------------------------------------------------------
------------------------------------------------
vs_hp_cluster        /vol/chathpux_217_vol_en_1_14/hp_en_217_lun
/dev/rdisk/disk716 0          FCP          15g     C
             LUN Serial number: 80D7l?NiNP5U
         Controller Model Name: AFF-A800
          Vserver FCP nodename: 208400a098ba7afe
          Vserver FCP portname: 207e00a098ba7afe
             Vserver LIF name: hpux_5
           Vserver IP address: 10.141.54.30
                                10.141.54.35
                                10.141.54.37
                                10.141.54.33
                                10.141.54.31
          Vserver volume name: chathpux_217_vol_en_1_14
MSID::0x00000000000000000000000080915935
          Vserver snapshot name:
```

List all SVM target LIF WWPNs attached to host

You can retrieve a list of all SVM target LIF WWPNs attached to a host.

```
# sanlun lun show -wwpn
```

Example output

```
controller(7mode)/
vserver(Cmode)       target wwpn        lun-pathname
device filename
--------------------------------------------------------------------
------------------------------
vs_hp_cluster        208300a098ba7afe
/vol/chathpux_217_vol_en_1_10/hp_en_217_lun   /dev/rdsk/c22t6d7
vs_hp_cluster        208100a098ba7afe
/vol/chathpux_217_vol_en_1_10/hp_en_217_lun   /dev/rdsk/c44t6d7
vs_hp_cluster        208200a098ba7afe
/vol/chathpux_217_vol_en_1_10/hp_en_217_lun   /dev/rdsk/c37t6d7
vs_hp_cluster        207e00a098ba7afe
/vol/chathpux_217_vol_en_1_10/hp_en_217_lun   /dev/rdsk/c36t6d7
vs_hp_cluster        207d00a098ba7afe   /vol/chathpux_217_os/hp_217_os
/dev/rdsk/c18t7d4
vs_hp_cluster        207f00a098ba7afe   /vol/chathpux_217_os/hp_217_os
/dev/rdsk/c42t7d4

host adapter     lun size     mode
-------------------------------
fclp1            15g          C
fclp1            15g          C
fclp0            15g          C
fclp0            15g          C
fclp1            30g          C
fclp0            30g          C
```