



HP-UX host utilities

SAN hosts and cloud clients

NetApp
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HP-UX host utilities

HP-UX Host Utilities 6.0

What you'll need

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

You can use the [NetApp Interoperability Matrix Tool](#) to verify your configuration.

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 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/rdisk/c34t0d0
fclp1      FCP          150g  C
sanboot_unix          /vol/hpux_boot/boot_hpux_lun          /dev/rdisk/c23t0d0
fclp1      FCP          150g  C
sanboot_unix          /vol/hpux_boot/boot_hpux_lun          /dev/rdisk/c12t0d0
fclp0      FCP          150g  C
sanboot_unix          /vol/hpux_boot/boot_hpux_lun          /dev/rdisk/c81t0d0
fclp0      FCP          150g  C
```



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

Installing HP-UX Host Utilities

The NetApp HP-UX Host Utilities software package is available on the [NetApp Support Site](#) in a compressed file.

You can download the compressed file containing the Host Utilities software packages from the [NetApp Support Site](#). After you have downloaded the file, you must decompress it before installation.

Steps

1. Login 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 by entering the following command:

```
# 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 by entering the following command:

```
# 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
```

Sample command reference

List all host initiators mapped to host

```
# sanlun fcp show adapter -v
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

```
# sanlun lun show -p -v all
\
      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      vsserver  /dev/dsk
HP A/A
path      path      filename      host      vsserver
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

```
# sanlun lun show -p -v vs_hp_cluster
      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      vsserver    /dev/dsk
HP A/A
path      path        filename          host      vsserver
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

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

      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 File name


```

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

host          lun          device
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: 80D71?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::0x000000000000000000000000080915935
    Vserver snapshot name:

```

List all SVM target LIF WWPNs attached to host

```
# sanlun lun show -wwpn

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/rdisk/c22t6d7
vs_hp_cluster      208100a098ba7afe
/vol/chathpux_217_vol_en_1_10/hp_en_217_lun  /dev/rdisk/c44t6d7
vs_hp_cluster      208200a098ba7afe
/vol/chathpux_217_vol_en_1_10/hp_en_217_lun  /dev/rdisk/c37t6d7
vs_hp_cluster      207e00a098ba7afe
/vol/chathpux_217_vol_en_1_10/hp_en_217_lun  /dev/rdisk/c36t6d7
vs_hp_cluster      207d00a098ba7afe  /vol/chathpux_217_os/hp_217_os
/dev/rdisk/c18t7d4
vs_hp_cluster      207f00a098ba7afe  /vol/chathpux_217_os/hp_217_os
/dev/rdisk/c42t7d4

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

HP-UX Host Utilities 6.0 Release Notes

This Release Notes document contains the latest information on the HP-UX Host Utilities 6.0 release, including updates about known problems, limitations, and configuring and managing your ONTAP storage system. The Release Notes document is updated when new information on using the HP-UX Host Utilities becomes available.

About the HP-UX Host Utilities 6.0 release

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

- Native MPIO
- Veritas Dynamic Multipathing (DMP)



To make it immediately clear 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.

HP-UX Host Utilities 6.0 enhancements

The Release Notes are updated between product releases as new information is available. The HP-UX Host Utilities 6.0 continues to support versions of the following:

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

Known Problems and Limitations

There are no known issues for the HP-UX 6.0 release.

About SAN Host Configuration documentation

Documentation for SAN Host Utilities is included in the [ONTAP SAN Host Configuration documentation](#). The ONTAP SAN Host configuration documentation is cumulative, covering all current SAN Host releases. Any functional differences across releases are noted in context.

Where to find product documentation and other information

You can access documentation for all NetApp products and find other product information resources, such as technical reports and white papers on the Product Documentation page of the NetApp corporate site.

Related information

Configuring and managing your ONTAP storage system

- The [ONTAP Software Setup Guide for your version of ONTAP](#)
- The [ONTAP San Administration Guide for your version of ONTAP](#)
- The [ONTAP Release Notes for your version of ONTAP](#)
- [NetApp Interoperability Matrix](#)
- [Hardware Universe](#) (formerly the System Configuration Guide)
- [Supported Fibre Channel SAN topologies](#)
- [Configuring your host for Host Utilities](#)

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