



# Dell EqualLogic Host Integration Tools for Linux Version 1.7 Release Notes

**Current Version:** 1.7  
**Release Date:** 2020-04  
**Previous Version:** 1.6

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This document contains important product information and restrictions for the Dell EqualLogic Host Integration Tools for Linux (HIT/Linux) version 1.7. HIT/Linux provides access to and protection for data stored on Dell EqualLogic PS Series groups managed from Linux servers.

## Revision History

Revision	Date	Description
R1	April 2020	Version 1.7 initial release

## Supported Platforms

This version of HIT/Linux supports the following software platforms.

Product	Versions
PS Series Firmware	9.0 or later  <b>NOTE: Version 10.0.3 is required to import EqualLogic storage to PowerStore.</b>
Red Hat Enterprise Linux (RHEL) Server	7.3, 7.4, and 7.5  <b>NOTE: RHEL 7.5 is required to import EqualLogic storage to PowerStore.</b>
RHEL Server 32-bit or 64-bit	6.9
SUSE Enterprise Linux Server (SLES)	12 SP2 and 12 SP3  <b>NOTE: SLES 12 SP3 is required to import EqualLogic storage to PowerStore.</b>
Oracle Enterprise Linux (OEL) UEK4	7.3 and 7.4
Oracle Enterprise Linux UEK4 32-bit or 64-bit	6.8 and 6.9

# New in This Release

The following features are new in HIT/Linux version 1.7:

- Support for RHEL Server 7.5
- Compatibility with PS Series firmware version 10.0.3
- Support for importing EqualLogic storage to PowerStore

## Known Issues and Usage Constraints

This section describes known issues and usage constraints in this software release.

### Known Issues

Known issues reported in HIT/Linux version 1.7 include the following items:

#### **A Warning Message is Displayed When you run pvs, vgs, and lvs Commands for Physical/Logical Volumes and Volume Groups**

During the HIT/Linux 1.7 installation, the `lvm.conf` file is updated with the filter [ `"r|^/dev/ignore_eq1/.*" ]`. When you run `pvs`, `vgs`, and `lvs` commands for physical/logical volumes and volume groups, the boot device `/dev/sd[x]` is not ignored. The following warning message is displayed:

```
WARNING: duplicate PV 2oAd2IBdphLl04rmsQFJAS1w4c3q92n1 is being used from both
devices /dev/eq1/68-hit15 and /dev/sdb
Found duplicate PV 2oAd2IBdphLl04rmsQFJAS1w4c3q92n1: using /dev/eq1/68-hit15 not /dev/sdb
Using duplicate PV /dev/eq1/68-hit15 from subsystem DM, ignoring /dev/sdb
```

To resolve this issue, modify the `lvm.conf` file with the filter [ `"r|^/dev/ignore_eq1/.*" , "r|/dev/sd<x>|"` ] to exclude the boot device. The value of `x` represents the `sd` device, if the boot device is `sda` then the value of `x` is `a`.

#### **Red Hat Enterprise Linux 7.4 Does not Support On-Demand Thin-Provisioning**

During On-Demand Thin-Provisioning, the `eq1volume` utility first attempts to perform a `FITRIM ioctl` operation to each mount point. Red Hat Enterprise Linux 7.4 does not support On-Demand Thin-Provisioning and displays the following error message:

```
Does not support the FITRIM ioctl or "mount -o discard"
```

#### **SAN HQ Installation Intermittently Fails on 32-Bit Windows Systems**

When installing SAN HQ on a supported 32-bit Windows operating system, the installation might abort and display an error message. If this happens, rerun the installation. It might take a few times to complete a successful installation.

#### **RWCLI Fails to Create CHAP User Name and Password When Initializing an Array**

RHEL 7.x servers, and Oracle Linux 7.x UEK3 servers, HIT/Linux initializes the array but fails to create a CHAP user name and password when you specify the `--chap-user` and `--chap-secret` parameters.

#### **Data Center Bridging Limitations of Some Switches**

Certain 10 Gb network switch models do not fully support DCB for Dell EqualLogic PS Series arrays. Running in such a requirement could result in alerts being reported by the array and incorrect failure of RWCLI initialization due to an unspecified DCB VLAN ID.

As a workaround, disable DCB on your network switch.

See the following Technical White Paper for additional information: <http://en.community.dell.com/techcenter/storage/w/wiki/4355.configuring-dcb-with-equallogic-sans.aspx>

#### **Kernel Memory Requirements**

When connecting to many iSCSI volumes from a 32-bit server, allocations by the storage and network layers might exhaust the kernel's physical memory pool (also referred to as Low Memory).

To resolve this issue, determine how much of this memory pool has been used by looking at the `LowTotal` and `LowFree` values in `/proc/meminfo`. Dell recommends using a 64-bit operating system installation for large configurations so that the kernel can directly access more than 1 GB of RAM.

#### **Renamed HIT/Linux Volume Does Not Appear in ehcmcli Output**

When you enter the `ehcmcli status` command, the volume name displayed is generated from the iSCSI target name. The iSCSI target name is not changed if you rename an existing HIT/Linux volume. As a result, `ehcmcli status` continues to report the original

volume name. Similarly, if you choose to keep the original target name when promoting a replica set to a failover volume, `ehcmlcli status` displays this original volume name, rather than the name of the failover volume.

### ASMCLI Reports Authentication Failures for Valid Credentials

If you created your administrative accounts while running an older version of firmware, the necessary information to allow access using SNMPv3 was not stored on the group. This condition results in ASMCLI failing to log in, even though you are providing the correct credentials.

To resolve this issue, reset the password on your administrative account (you can reuse the same password). Resetting the password causes the current PS Series array firmware to store the proper information for SNMPv3 access.

## Usage Constraints

This section describes usage constraints that pertain to HIT/Linux version 1.7:

- Boot from SAN volumes is not supported by the HIT/Linux multipathing tools. If you want to use MPIO for other volumes on a SAN boot system, explicitly disable MPIO on the boot volume by putting these lines in your `/etc/equallogic/eq1.conf` file:

```
[MPIO Volume Params boot volume name]  
EnableMPIO = false
```

For more details, see the information about setting volume-specific configuration parameters in the *Dell EqualLogic Host Integration Tools for Linux Installation and User's Guide*.

- The MPIO balancer prefers 10G NICs over 1G NICs when establishing iSCSI sessions to each volume. If the number of 10G NICs is equal to or greater than the number of sessions being created to each member, then the 1G NICs will not be used.
- QLogic iSCSI HBAs do not support iSCSI session management through the Open-iSCSI management tools. Because iSCSI session management is an important piece of multipathing functionality, you will not see any performance gain when using it in conjunction with these HBAs.
- HIT/Linux version 1.7.0 does not support failover or failback operations using replicas. For information about supported failover or failback operations on PS Series groups, see the *Dell EqualLogic PS Series Group Manager Administrator's Guide*.
- Broadcom iSCSI offload adapters require static IP addresses. HIT/Linux does not support the following configuration with the Broadcom iSCSI offload adapters (bnx2i):
  - IPv4 with DHCP
  - IPv6
- Updating the SLES operating system (for example, SLES 11 SP3 to SLES 11 SP4) removes the previously installed HIT/Linux dm-switch component because SLES does not consider dm-switch to be an integral part of the Linux kernel. When you update SLES, you must update or reinstall the HIT/Linux software, which reinstalls the dm-switch component.
- HIT/Linux does not support cluster snapshots of `ocfs2` file systems.
- If you install the SLES 12 operating system, to use ASM/LE, you must select either the `ext4` or `xf`s file system. HIT/Linux does not support `btrfs` and `ocfs2` file systems.
- When you configure LVM on EqualLogic volumes, enable replication, and then promote a replica volume, Dell recommends that you retain the original target volume name for the promoted replica volume because LVM only recognizes the original volume name and not a new volume name.
- A volume administrator account can only see the volumes for which he/she is the administrator. If you use multiple volume administrator accounts, the following usage constraints apply:
  - Any Smart Copies created with one volume administrator account are reported as unreachable when queried using a different volume administrator account.
  - Any Clone type Smart Copies that are soft-deleted by one volume administrator account are not found in the recovery bin when queried by a different volume administrator account. This condition can cause the backup document to be deleted on the host before the clone is purged from the recovery bin.
- If you install HIT/Linux inside a guest VM to manage iSCSI volumes connected from within the guest, your guest virtual NICs must be configured to negotiate at 1Gb/s or greater. Dell recommends using the Intel Pro/1000 (e1000) and paravirtualized (virtio-net) adapters.
- HIT/Linux relies on the presence of `/dev/sd*` device nodes as created by your distribution's default udev rules. Additional user-supplied udev rules that rename or remove these `/dev/sd*` device nodes interfere with the ability to manage and create additional iSCSI sessions. Disable or remove these rules. You do not have to implement additional udev rules to achieve persistent device names. EqualLogic MPIO supplies persistent device names in `/dev/eq1/*` that you should use to access PS Series volumes.
- ASM/LE does not support `ext2` and `btrfs` file systems; therefore, Smart Copies cannot be created from these file systems.

# Support Resources

The following resources are available for downloading the latest HIT/Linux software and documentation.

## Downloading Software

Obtain the installation kit from the Dell EqualLogic customer support website.

To download HIT/Linux, you must have a Dell EqualLogic customer user account. To set up an account, go to <https://eqsupport.dell.com>.

After you set up your support account, follow these steps to obtain the installation kit:

1. Log in to your support account on <https://eqsupport.dell.com>.
2. Select **Downloads** in the navigation bar and select **Host Integration Tools for Linux**.
3. Under **Recommended Host Integration Tools for Linux**, select the latest version of the toolkit.
4. Select the **Download Page** link.
5. Select the link for the current version of the tool kit.
6. Accept the EULA and click the **Download** button. Save the ISO installation image to a temporary location on your local computer.
7. Return to the **Downloads** page and select the **GPG Key** link.
8. Download the GPG Key (`RPM-GPG-KEY-DELLEQL`) and save it to a temporary location on your local computer. The installation requires a public key to authorize your RPM signature and run the installation.

After downloading the software, review the installation prerequisites in the *Dell EqualLogic Host Integration Tools for Linux Installation and User's Guide* and then follow the installation steps. Optionally, first-time users can perform a basic installation and configuration by following the instructions in the *Dell EqualLogic Host Integration Tools for Linux Quick Start Guide*.

## Related Documentation

For detailed information about PS Series arrays, groups, volumes, array software, and host software, log in to the Documentation page at the Dell customer support site:

<https://eqsupport.dell.com/support/resources.aspx?id=2495>

 **NOTE: You must log in to the Dell customer support site to access these pages.**

## Dell Online Services

To learn more about Dell EqualLogic products, visit the [PS Series support site](#). The site provides links to articles, demos, online discussions, and more details about the benefits of our product family.

## Technical Support and Customer Service

Dell support service is available to answer your questions about PS Series arrays and FS Series appliances.

## Contacting Dell

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services might not be available in your area. To contact Dell for sales, technical support, or customer service issues, go to [Dell.com/support/home](https://Dell.com/support/home).

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