

migration guide

Migrating from HP StorageWorks Secure Path for Active-Active Disk Arrays to Native Multipathing in HP-UX 11i v3

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About this guide

This guide discusses migration of HP Secure Path for Active-Active Disk Arrays to native multipathing in HP-UX 11i v3.

This guide discusses the following topics:

- [Overview](#)
- [Migration](#)
- [Known issues](#)

HP technical support

Telephone numbers for worldwide technical support are listed at the HP support web site:

<http://www.hp.com/support/>

Collect the following information before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

For continuous quality improvement, calls may be recorded or monitored.

HP recommends that customers sign up online using the Subscriber's choice web site:

<http://www.hp.com/go/e-updates>

- Subscribing to this service provides you with e-mail updates on the latest product enhancements, newer versions of drivers, and firmware documentation updates, as well as instant access to numerous other product resources.
- After signing up, you can quickly locate your products by selecting **Business support** and then **Storage** under Product Category.

HP-authorized reseller

For the name of your nearest HP-authorized reseller:

- In the United States, call 1-800-345-1518
- In Canada, call 1-800-263-5868
- Elsewhere, visit the HP web site: <http://www.hp.com>. Then click **Contact HP** to find locations and telephone numbers

Helpful web sites

For other product information, see the following HP web sites:

- <http://www.hp.com>
- <http://www.hp.com/country/us/eng/prodserv/storage.html>
- <http://www.hp.com/support/>
- <http://www.docs.hp.com>

1 Overview

HP StorageWorks Secure Path for HP-UX provides high-availability access to the HP Active-Active disk arrays in HP-UX 11i v2 or earlier. It provides automatic failover across the paths of the end storage device (LUN). In addition, it provides the load-balancing of the Input/Outputs (I/Os) across the paths of the storage device and there by improving the I/O throughput. A device special file (DSF) is created for each path to the end LUN which allows you to access the LUN through any of its paths. Secure Path selects an appropriate path to forward the I/O requests.

2 Migration

This chapter provides information about:

- Need for migration
- Migrating to HP-UX 11i v3

Need for migration

HP-UX 11i v3 operating system (OS) no longer supports Secure Path. HP-UX 11i v3 has the native multipathing capabilities.

After the OS upgrades to HP-UX 11i v3, the virtual aliases provided by Secure Path (Active-Active) are no longer available. The applications that use Secure Path virtual aliases, start using the system provided persistent DSFs.



NOTE:

Native Multipathing introduces a persistent DSF to represent each LUN in the system. This device special file is of the format `/dev/disk/diskX` (and the corresponding raw device file `/dev/rdisk/diskX`), where `X` is a positive integer. The legacy device special files of the format `/dev/dsk/cXtYdZ` still remain, with the difference that these legacy device files are still created for each path to the end LUN and are path specific in nature.

Migrating to HP-UX 11i v3

This section provides information about:

- Migration script
- Migration process

Migration script

Secure Path migration scripts for Active-Active disk arrays are integrated with the HP-UX 11i v3 upgrade kit and are invoked automatically when the OS upgrades to HP-UX 11i v3.

The migration scripts perform the following actions:

- Uninstall the HP StorageWorks Secure Path for Active-Active and Active-Passive disk arrays, if present in the system.
- Map the pseudo DSF provided to the LUNs by Secure Path for Active-Passive disk arrays to their corresponding LUN WWN.

This information is stored in the `/opt/HPswsp_migration/SecPath_AP_CTD_to_LunWWN.txt` file.

Each line in this file is of the format: `<CTD> <LunWWN>`

Where: `<CTD>` is the CTD assigned to a LUN by Secure Path for Active-Passive disk arrays, and `<LunWWN>` is the WWN of the LUN.

- Maps the virtual aliases provided to the LUNs by Secure Path for Active-Active disk arrays to their corresponding HP-UX 11i v3 disk device special file.

This information is stored in the `/opt/HPswsp_migration/SecurePathVDsf_To_NativeMultipathingDsf.txt` file.

Each line in the file is of the format: `<SecurePathAlias>:<NewStyleDSF>`

Where: <SecurePathAlias> is the alias provided by Secure Path for Active-Active disk arrays, and <NewStyleDSF> is the new DSF introduced in HP-UX 11i v3 to represent each LUN.

- Update the `/etc/fstab` with HP-UX 11i v3 disk device special file by replacing the virtual aliases provided by Secure Path for Active-Active disk arrays.

Migration process

The migration process is automatically executed when the OS upgrades to HP-UX 11i v3. It requires no user intervention.

The mapping between the Secure Path virtual aliases and the new persistent DSFs are generated only after the successful upgrade of the OS. The migration process updates all the Secure Path virtual aliases with the new persistent DSFs. If the virtual aliases provided by Secure Path (Active-Active disk arrays) are used in the `/etc/fstab` file, the entries are automatically replaced with the corresponding new persistent DSF.

Systems connected with HP StorageWorks Active-Active disk arrays

HP-UX 11i v3 supports the HP StorageWorks Active-Active disk arrays. The Secure Path virtual aliases (of the format `/hpa/dsk/hpapX`) for Active-Active disk arrays provided for the Secure Path managed LUNs are not available after the OS upgrades to HP-UX 11i v3. Instead, the Active-Active disk arrays uses the new persistent DSFs that are introduced with HP-UX 11i v3. The mapping between the Secure Path virtual aliases and the new persistent DSFs are stored in the `/opt/HPswsp_migration/SecurePathVDsf_To_NativeMultipathingDsf.txt` file. Use this file as a reference for any applications that was using virtual aliases in HP-UX 11i v2.

Systems connected with HP StorageWorks Active-Passive disk arrays

HP-UX 11i v3 does not support HP StorageWorks Active-Passive disk arrays, which includes EVA3000, EVA5000, EMA12000, and EMA16000. If you are using the EVA (Enterprise Virtual Array) Active-Passive disk arrays, you must upgrade the firmware to an appropriate Active-Active disk array version.

NOTE:

- Use the Secure Path migration kit provided with HP-UX 11i v3 for migrating the EVA Active-Passive disk array devices to Active-Active disk array devices.
- For EMA (Enterprise Modular Array) Active-Passive disk arrays, transfer the data to other disk arrays that are supported in HP-UX 11i v3, before upgrading the OS to HP-UX 11i v3.

HP-UX 11i v3 does not support Active-Passive disk arrays. When the OS upgrades to HP-UX 11i v3, Secure Path for Active-Passive disk arrays are uninstalled and a message is displayed: `Secure Path for Active-Passive disk arrays are uninstalled.` The information about the device special files (of the format `cXtYdZ`) assigned by Secure Path for Active-Passive disk arrays to the Active-Passive LUNs is stored in the `/opt/HPswsp_migration/SecPath_AP_CTD_to_LunWWN.txt` file.

Use the `scsimgr` system utility to get more information about all the LUNs present in HP-UX 11i v3.

For example, use `scsimgr -p get_attr -a wwid -a device_file current all_lun` command to get information on mapping between WWN of the LUNs and new device special file assigned to them.

3 Known issues

The following are the known issues while migrating from Secure Path to native multipathing in HP-UX 11i v3:

- Mount points using Secure Path (Active-Active disk arrays) virtual aliases are replaced with the new persistent DSFs, and are not automatically remounted.
- Migration process does not deal with HP Active-Passive disk arrays, except for uninstalling and generating the mapping between the Secure Path (Active-Passive disk array) pseudo DSFs and LUN WWNs. This information is stored in the `SecPath_AP_CTD_to_LunWWN.txt` file. HP Active-Passive disk arrays are not supported on HP-UX 11i v3. For more information, see [Systems connected with HP StorageWorks Active-Passive disk arrays](#).
- Load-balancing policies set for Secure Path LUNs are not migrated to the corresponding native multipathing load-balancing policies. Similarly, preferred path settings for the LUNs are not migrated.