



Foreign LUN Import overview

ONTAP

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Foreign LUN Import (FLI) is a feature built into ONTAP that allows users to import data from foreign array LUNs to NetApp LUNs in a simple and efficient manner.

All FLI migrations operate at the LUN level. FLI is a strictly block-based tool; file, record, NFS, and CIFS-based migrations are not supported. For a discussion of other migration methodologies for file-level protocols, such as NFS and CIFS/SMB, review the *Data Migration Tools Quick Reference Guide*.

FLI leverages NetApp FlexArray® technology to discover the foreign RAID array LUNs and pull data from them. FlexArray allows a NetApp ONTAP controller to act as an initiator in front of one or more third-party arrays. FlexArray can mount LUNs from those arrays as back-end storage and then present the space from those LUNs as NetApp unified storage (allowing FCP, FCoE, iSCSI, NFS, and CIFS/SMB protocol access) to hosts in your SAN or NAS environment.

FLI doesn't require a FlexArray license. FLI leverages FlexArray technology to copy the foreign LUN to a NetApp ONTAP array and then allow the hosts and applications consuming that LUN to be pointed at the NetApp array that is now hosting the LUN in question. Although ONTAP no longer requires a professional-services-run migration, NetApp does strongly recommend professional services involvement in scoping, planning, and training for all but the simplest migrations.

FLI was developed to migrate SAN LUNs to ONTAP. FLI supports a range of migration requirements, including, but not limited to, the following:

- Migrating data between heterogeneous storage arrays from EMC, Hitachi, HP, and other vendors to NetApp as supported by FlexArray configuration.
- Simplifying and accelerating block data migrations during data center relocation, consolidation, and array replacements.
- Consolidating migration and LUN realignments into a single workflow.

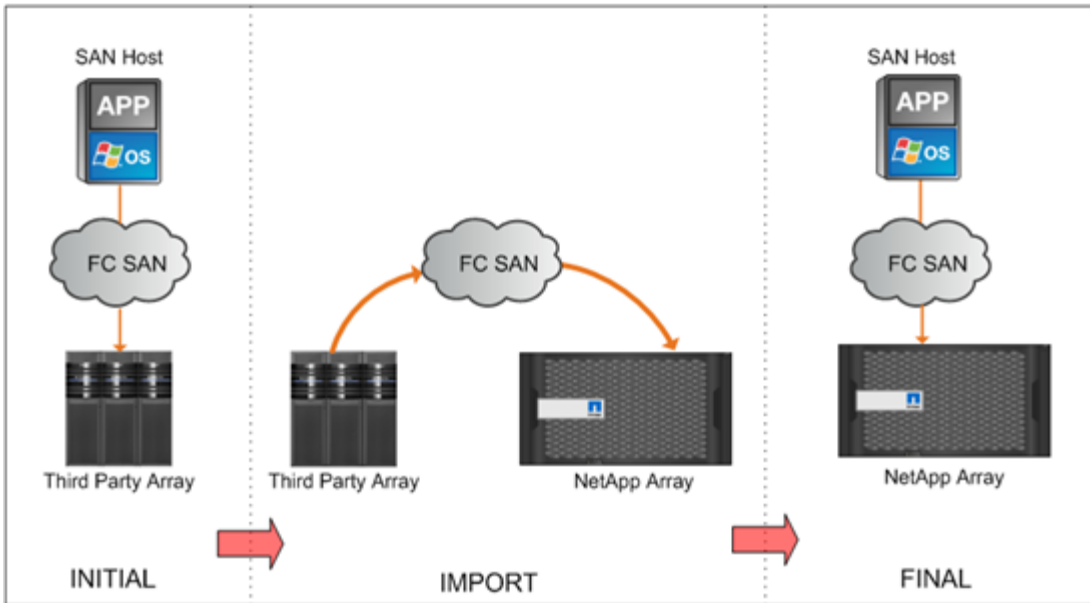
In addition, the 7-Mode to ONTAP transition procedure is able to convert from 32-bit to 64-bit aggregates, fix alignment problems, and migrate LUNS as a single operation.

FLI enables the NetApp storage to discover the LUNs to be imported for data migration. The foreign LUNs are shown as disks on the NetApp storage and have no ownership assigned to them automatically so that the user data is not overwritten by mistake. The disks that contain foreign array LUNs must be marked as foreign. The rules for configuring foreign array LUNs must be strictly adhered to in order to use FLI for NetApp storage. See the topic, [LUN requirements and limitations](#).

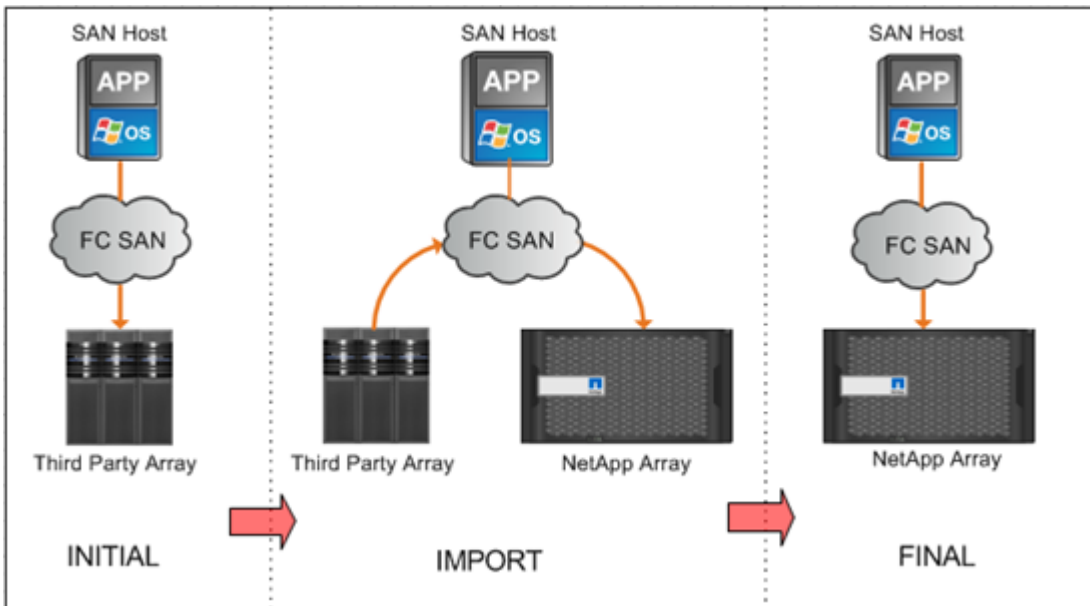
FLI requires at least one physical FC port on each controller and to have LUNs migrate directly in Initiator mode. Two ports, one to each fabric, are preferred, but a single port can be used. These ports are used to connect to the source array and need to be zoned and masked in order to be able to see and mount the source LUNs. If you need to change a port from target to initiator, see the *FlexArray Virtualization Installation Requirements and Reference Guide* for a review of the process of converting an FC port from target to initiator.

FLI migrations can be performed either offline, which disrupts operations for the duration of the import, or online, which is mainly non-disruptive.

This figure shows an FLI offline data migration, where the host is taken offline for the migration. The NetApp array copies the data directly from the third-party array.



This figure shows an FLI online data migration. The host is connected to the NetApp controller where the new LUN is now hosted. Host operation can then resume and continue during the import.



Related information

[Data Migration Tools Quick Reference Guide](#)

[FlexArray virtualization installation requirements and reference](#)

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