



Foreign LUN Import

ONTAP FLI

NetApp
January 07, 2026

This PDF was generated from https://docs.netapp.com/us-en/ontap-fli/san-migration/concept_foreign_lun_import_overview.html on January 07, 2026. Always check docs.netapp.com for the latest.

Table of Contents

- Foreign LUN Import 1
 - Foreign LUN Import overview 1
 - Foreign LUN Import features 2
 - Benefits of an FLI-based solution 3
 - LUN requirements and limitations 3
 - Limitations 3
 - FLI supported configurations 3

Foreign LUN Import

Foreign LUN Import overview

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](#).

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.
- Simplifying and accelerating block data migrations during data center relocation, consolidation, and array replacements.
- Consolidating migration and LUN realignments into a single workflow.

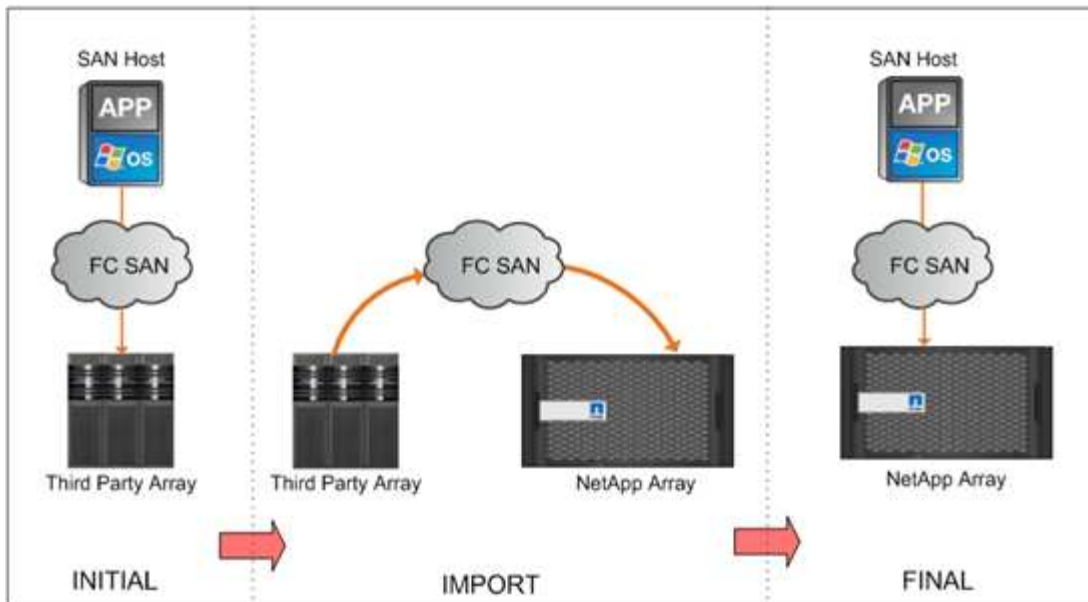
In addition, the 7-Mode to ONTAP transition procedure is able to convert from 32-bit to 64-bit aggregates, fix alignment problems, and migrate LUNS as a single operation.

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](#).

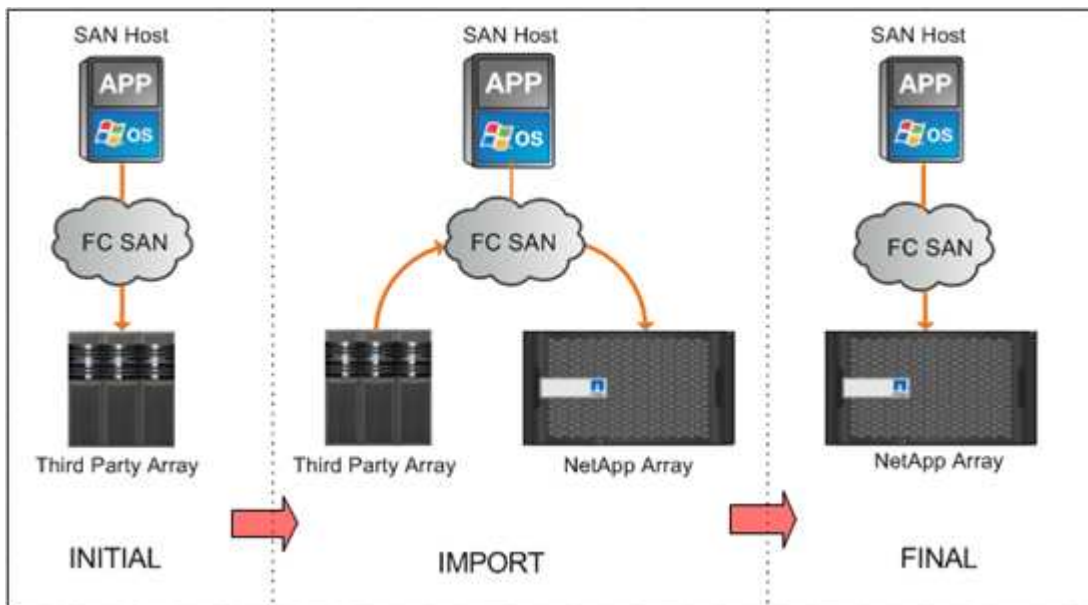
FLI requires at least one physical FC port on each controller and to have LUNs migrate directly in Initiator mode. Two ports, one to each fabric, are preferred, but a single port can be used. These ports are used to connect to the source array and need to be zoned and masked in order to be able to see and mount the source LUNs. If you need to change a port from target to initiator, see [Configure FC adapters](#).

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.



Foreign LUN Import features

FLI features allow you to migrate data from third-party SAN storage to ONTAP systems. FLI migration features support a variety of processes and systems.

- Support for online and offline migrations.
- Operating system independence: block-level data migration does not rely on volume managers or operating system utilities.
- Fibre Channel fabric independence: FLI is fully compatible with Brocade and Cisco FC fabrics.
- Support for most Fibre Channel storage arrays. See the Interoperability Matrix for a list of supported arrays.
- Support for native multipath and load balancing.

- CLI-based management.

Related information

[NetApp Interoperability Matrix Tool](#)

Benefits of an FLI-based solution

The FLI solution is designed to give NetApp customers exceptional value with these benefits.

- FLI is built into ONTAP and requires no additional licensing.
- FLI does not require an additional hardware appliance for data migration.
- FLI-based solutions support a variety of migration types and configurations of third-party storage platforms.
- FLI automatically aligns LUNs and can migrate a LUN hosted in a 32-bit aggregate to a 64-bit aggregate hosted on an ONTAP array. This makes FLI for 7-Mode to ONTAP an excellent choice for transitioning 7-Mode-hosted LUNs that are hosted on 32-bit aggregates and/or are misaligned.

LUN requirements and limitations

Your LUNs should meet the following requirements before beginning an FLI migration.

- FLI requires at least one FC port on each controller and to have LUNS migrate directly in Initiator mode.
- The foreign LUN must be marked foreign on the destination array to prevent assignments from ONTAP.
- The foreign LUN must be in an import relationship before starting import.
- The LUN must be the same size as the foreign LUN .This requirement is taken care of during the LUN creation steps.
- The foreign LUN block size must be 512b. NetApp LUNs support only 512b block size.
- The LUN must not be expanding or contracting.
- The LUN must be mapped to at least one igroup.
- The NetApp LUN should be brought offline before creating a relationship. However, after the LUN relationship is created, it can be brought back online in case of online FLI.

Limitations

- All migrations are at the LUN level.
- FLI supports Fibre Channel (FC) connections only.
- FLI does not support iSCSI connections directly. In order for iSCSI LUNs to be migrated using FLI, the LUN type must be changed to FC. After the migration is complete, the LUN type is changed back to iSCSI.

FLI supported configurations

The FLI environment must be deployed in a supported manner to ensure proper operation and support. As engineering qualifies new configurations, the list of supported configurations will change. Refer to the NetApp Interoperability Matrix to verify support for

specific configurations.

ONTAP 8.3 and later are the only supported destination storage. Migrations to third-party storage are not supported.

For a list of supported source storage arrays, switches, and firmware, see the Interoperability Matrix. The data migration program will provide support for the configurations in the NetApp Interoperability Matrix.

Once the import is complete and all LUNs have been migrated to NetApp controllers, ensure that all configurations are supported.

Related information

[NetApp Interoperability Matrix Tool](#)

Copyright information

Copyright © 2026 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.