



Analyze phase IMT best practices

ONTAP

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Analyze phase IMT best practices

The analyze phase focuses on items that must be addressed before proceeding with the migration activities. The host configuration information must be compared to supported configurations documented in the NetApp Interoperability Matrix (IMT).

The IMT is a web-based utility that enables searching for information about configurations for NetApp products that work with third-party products and components qualified by NetApp. The IMT contains both supported and certified NetApp configurations. Supported configurations are those qualified by NetApp. Certified configurations are those qualified by a third-party company to work with NetApp components.

IMT best practices

- Enter the NetApp IMT recommendations for required software and upgrades into the Switches and Hosts section of your planning worksheet.
- Start by entering static information, such as ONTAP OS, protocol, and CF mode, into the IMT. Then, using the site survey as a filter guide, enter host OS, volume manager, and HBA information.
- Do not be so specific as to have no results returned; it is better to view multiple returned results and choose the best fit.
- Host HBAs are sometimes reported on the OEM part number and will need to be cross-referenced before they are entered into the IMT.
- Check each host against the IMT for supportability.

Related information

[NetApp Interoperability](#)

FLI interoperability and support criteria

The FLI Interoperability Matrix (IMT) is very similar to the FlexArray IMT, but was added as a distinctly different interoperability tool in order to better support the NetApp-qualified source arrays that work with FLI.

Prior to performing a Foreign LUN Import, two areas of interoperability need to be checked:

- Check that FLI is supported. You can do this by reviewing the FLI IMT.
- Check that the complete end-to-end configuration, after the import(s) are complete, is a supported configuration. This is done from the FAS/AFF IMT.

In addition, check these three criteria against the target ONTAP version:

- The source storage platform model and microcode version.
- The SAN switch model and microcode version.
- The NetApp controller, the customer environment (switches, HBAs, firmware, server hardware, etc.) and SAN-attached clients that mount the LUNs after migration.

If any of these three components are not supported, some remediation might be necessary to ensure full success and support during and after the migration process.

Related information

[NetApp Interoperability](#)

Checking supported configurations for FLI using the IMT

You should use the Interoperability Matrix Tool (IMT) to find information about configurations for NetApp products that work with third-party products and components qualified by NetApp.



Beginning in ONTAP 9.9.1, if your array is not listed as supported in the IMT, you can use the SAN LUN Migrate App on the NetApp Support Site to determine if your array might be supported.

Steps

1. Go to the Interoperability Matrix Tool.
2. Search for the array model.
3. Select the solution **Foreign LUN Import (FLI) Back-end Interoperability**.
4. Select the **FAS model** and **ONTAP version** to determine the supported configurations.
5. For front-end supported host configurations, click **build end to end view with ONTAP SAN host**.
6. For switch-supported configurations, click **build end to end view for SAN-Switch** from the **ONTAP SAN host** tab.

Related information

[NetApp Interoperability](#)

Checking supported configurations for FLI using the SAN LUN Migrate App

Beginning in ONTAP 9.9.1, you can use the SAN LUN Migrate App to qualify a foreign source array for FLI. The SAN LUN Migrate App can be used when the desired foreign array is not listed in the FLI IMT.

Steps

1. Go to the NetApp Support Site.
2. Under Filter by category, select Migration.
3. Under SAN LUN Migration, click Download App.
4. Run the app from a FC or iSCSI Linux host that has block access to the source array.

If the foreign source array can be qualified, a green check mark is displayed. If the foreign source array cannot be qualified, a red X is displayed. If your array does not qualify, you can contact NetApp Support for additional assistance.

Enablement for non-supported LUNs

It is important to verify that the host OS, HBA, switch, and ONTAP array for your source array and your final configuration are all listed as supported in the Interoperability Matrix.

The following sections provide information for these use cases:

- Importing iSCSI LUNs as FC LUNs
- Moving migrated LUNs to AFF platforms

Related information

[NetApp Interoperability Matrix Tool](#)

Importing non-FC LUNs

Because Foreign LUN Import (FLI) leverages FlexArray technology to mount foreign LUNs, it can only connect to source arrays using FCP. Only FC LUNs are supported by FLI. However, there is a workaround that allows you to import iSCSI LUNs. Because you will be importing the iSCSI LUNs as FC LUNs, unlike other FLI online 7-Mode to ONTAP workflows, the disruption window would span this entire workflow:

Because you will be importing the iSCSI LUNs as FC LUNs, unlike other FLI online 7-Mode to ONTAP workflows, the disruption window would span this entire workflow.

Steps

1. On the source array, you will need to unmap the desired iSCSI LUN from its iSCSI igroup.
2. On the source array, map the LUN to a FC igroup, making sure that the destination array WWPNs have been added to the igroup.
3. Import the LUN.
4. After the LUN has been imported, you can create a new iSCSI igroup and add the hosts to the igroup.
5. On the hosts, rescan for LUNs.

Refer to the Interoperability Matrix Tool (IMT) on the NetApp Support site to validate that the exact product and feature versions described in this document are supported for your specific environment. The NetApp IMT defines the product components and versions that can be used to construct configurations that are supported by NetApp. Specific results depend on each customer's installation in accordance with published specifications.

Related information

[NetApp Interoperability Matrix Tool](#)

Using Foreign LUN Import to import LUNs into AFF

AFF does not support FlexArray in all releases of ONTAP software. In those releases, you must stage Foreign LUN Imports (FLI) to a non-AFF high availability (HA) pair on the same cluster with the AFF.

Beginning with ONTAP 9.1, AFF supports FLI. You can use FKU to import LUNs from other arrays directly into ONTAP clusters.

As of ONTAP 8.3.2, AFF can support FLI with an approved Process Variance Request (PVR). Contact your NetApp account team to get the PVR submitted for approval. On approval, the submitter, usually a NetApp System Engineer, will receive an approval letter with instruction for enabling FLI functionality.

For versions of ONTAP software previous to 8.3.2, AFF does not currently support FlexArray due to some of the write optimizations that have been made. You will need to stage FLI imports to a non-AFF HA pair on the same cluster with the AFF. After the migration has been completed, you can then use non-disruptive operations (NDO) such as vol or LUN move to move the migrated LUNs to AFF. If your AFF cluster doesn't have any non-AFF nodes, talk to your account team about the possibility of borrowing swing gear to facilitate this.

Gap analysis report

The gap analysis is a report of the customer's current and NetApp-recommended environment. It presents all recommended upgrades to the customer's environment that will need to take place post-migration.

The target configuration (post-migration) includes details for each host (OS configuration, MPIO, HBA details, Host Utility Kit version, and so on). Information about additional NetApp-required products, such as SnapDrive and SnapManager, is also available.

The changes required are typically not made until the actual migration event, because of the usual need to schedule maintenance windows. Typically, any changes made to the MPIO configuration before migration will affect the support of the current storage as well.

The completed NetApp Recommended section in the Hosts section of your Site Survey and Planning worksheet will serve as the gap analysis report. The gap analysis must be completed for every host included in the migration project. The completed gap analysis report must be reviewed with the customer.

The following is an example Gap analysis report.

Hosts							
Current				NetApp Recommended			
Host Name	Driver	Firmware	HUK	MPIO	SnapDrive	SnapManager	Hotfixes
dm-nx200s6-21							
dm-nx200s6-22							
dm-nx200s6-20							

The screenshot shows a software interface with a table titled 'Hosts'. The table has two main sections: 'Current' and 'NetApp Recommended'. The 'Current' section has columns for Host Name, Driver, Firmware, and HUK. The 'NetApp Recommended' section has columns for MPIO, SnapDrive, SnapManager, and Hotfixes. Three hosts are listed: dm-nx200s6-21, dm-nx200s6-22, and dm-nx200s6-20. Below the table, there are navigation tabs: 'Storage Devices (Source)', 'Storage Devices (Destination)', 'Hosts', and 'HBA and Zone Information'. The 'Hosts' tab is currently selected. At the bottom left, it says 'Normal View' and 'Ready'.

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