Configuring a SnapServer iSCSI Disk as a VMware ESXi Datastore

September 2018

Summary

This application note describes how to use an iSCSI disk on a SnapServer running GuardianOS 8.0.073 or later as an ESXi datastore on a VMware Hypervisor host running ESXi 5.0 or later.

Required Information, Tools, and Files

Before you begin these procedures, the following information, tools, and files are required.

Prerequisites

Prior to performing these procedures:

- Be sure you are running SnapServer GOS 8.0.073 or greater.
- If needed, access additional information on SnapServer found at the following links:
  https://www.overlandstorage.com/products/snapserver/index.aspx
  http://docs.overlandstorage.com/snapserver

This document assumes the reader is familiar with VMware vSphere Client, vSphere Web Client, or vCenter Server as required in the VMware environment. Additional information can be obtained through VMware's online knowledge base.

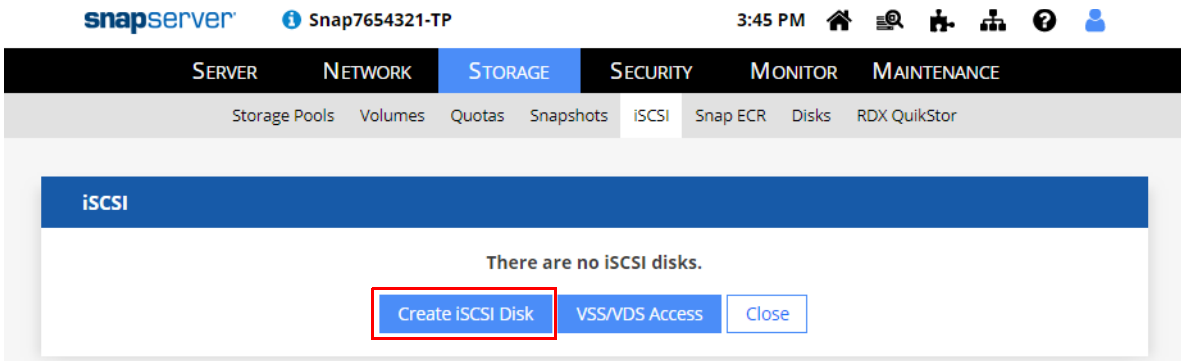
Best Practices

- While both Traditional and Dynamic RAID support iSCSI targets for use as VMware datastores, Traditional RAID provides better response to the high input/output operations per second (IOPS) load exercised by VMware hosts.
- Solid State Drives (SSD) are recommended for the SnapServer storage to provide lower latency and higher IOPS than traditional hard disk drives.
- A 10gig Ethernet connection between the VMware host and SnapServer is recommended for higher throughput to iSCSI datastores.
- If multiple Ethernet interfaces are used on the SnapServer to support access to the iSCSI targets by the VMware host, they should be bonded together in load balancing or failover mode when connected to the same subnet. To use iSCSI MPIO, configure the interfaces as standalone on different subnets.
- Create thick provisioned eager zeroed virtual disks (VMDKs) on SnapServer iSCSI datastores for the best disk I/O throughput for guest virtual machines.

Creating a SnapServer iSCSI Disk

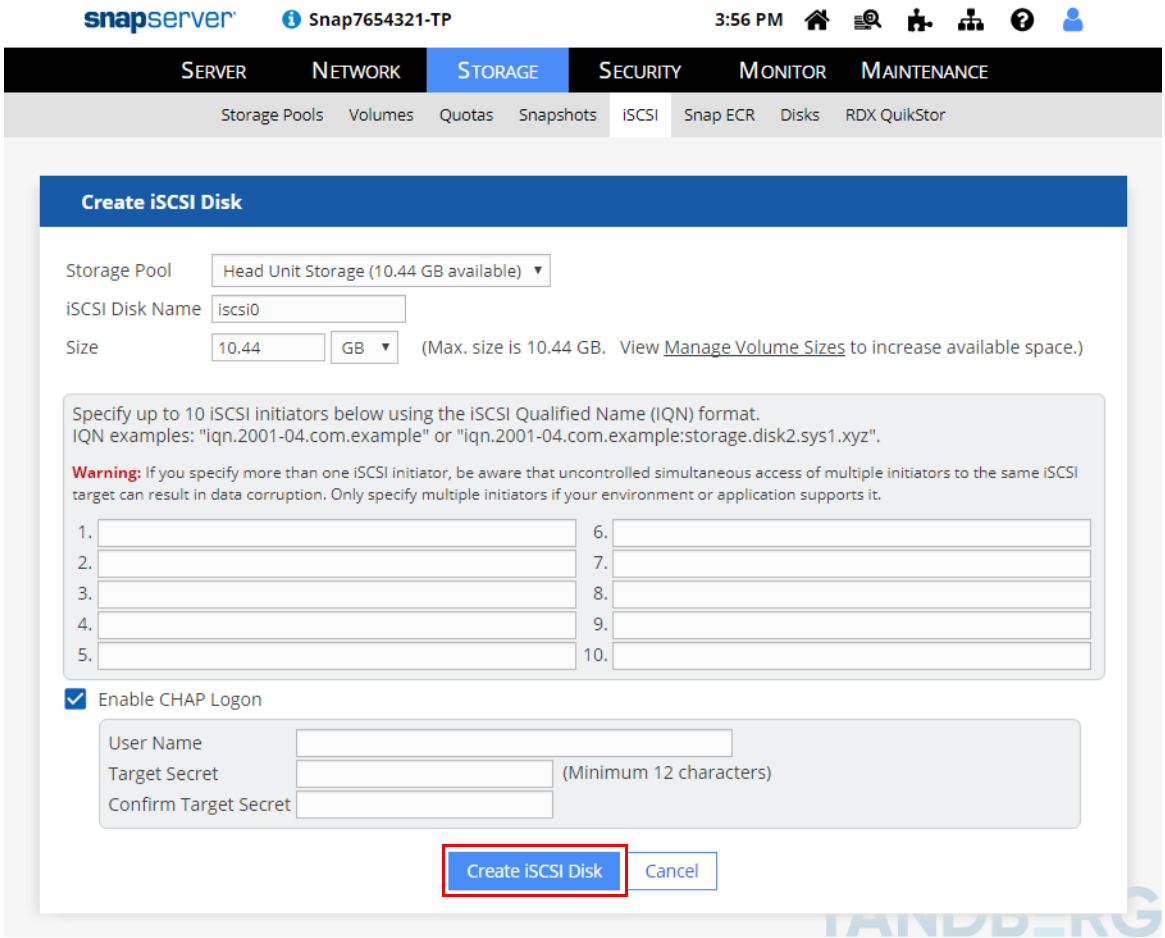
Perform the following steps to create an iSCSI Disk on a SnapServer:

1. Use the SnapServer Web Management Interface to log into the **server**.
2. Browse to **Storage > iSCSI** and click **Create iSCSI Disk**.

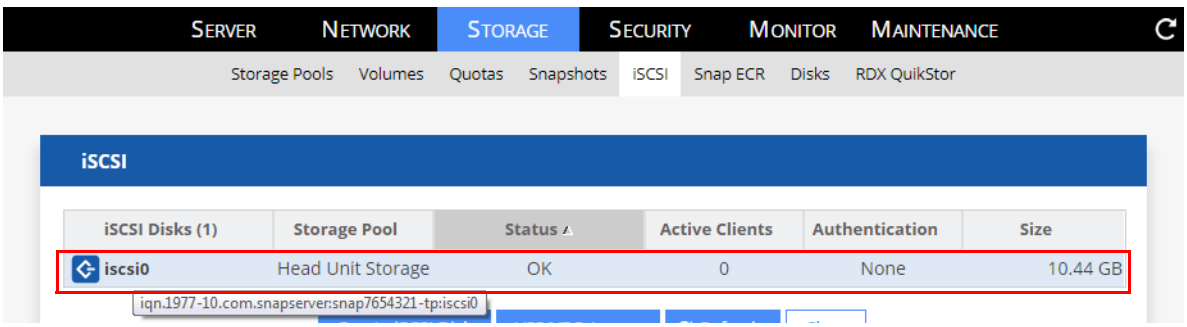


NOTE: It may be necessary to make space available for iSCSI disks on existing RAIDs or storage pools by deleting or resizing existing volumes or reducing snapshot reservation.

3. Provide the following **details**:
   - Name of the **RAID Set** or **Storage Pool** to be used.
   - **iSCSI Disk Name** (or accept the default name).
   - **Size** of the disk.
   - One or more **IQNs** of VMware hosts that will connect to this iSCSI disk.
   - If authentication enforcement is desired, check the **Enable CHAP Logon** box and enter the CHAP **User Name** and **Target Secret**.



4. Click **Create iSCSI Disk**.
5. At the verification page, click **Create iSCSI Disk** again.
6. Verify that the **iSCSI Disk** was created with provided details.

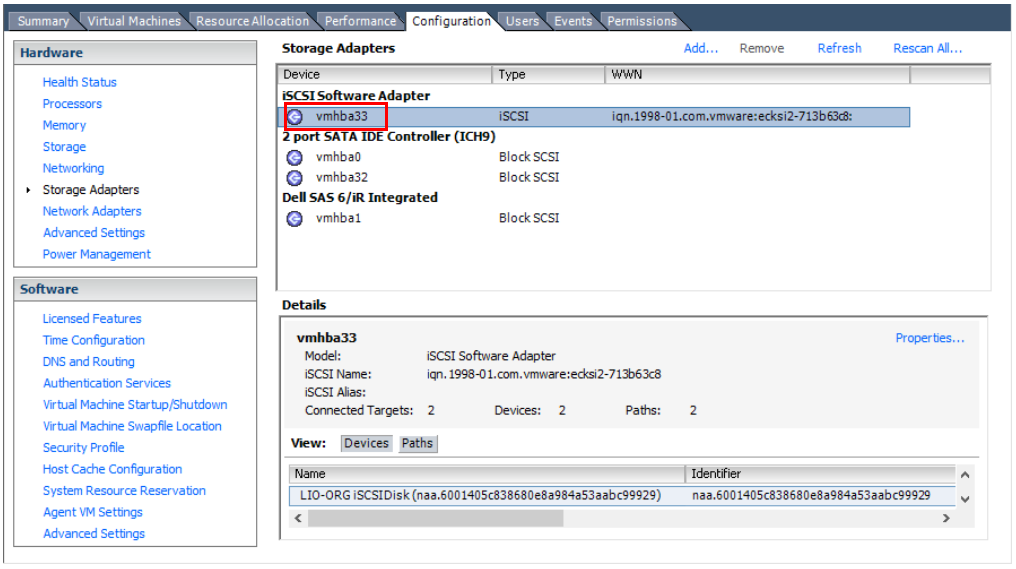


7. Repeat Steps 2–6 for additional iSCSI disks that are to be used for VMware datastores.

Connecting the VMware iSCSI Software Adapter to SnapServer iSCSI Targets

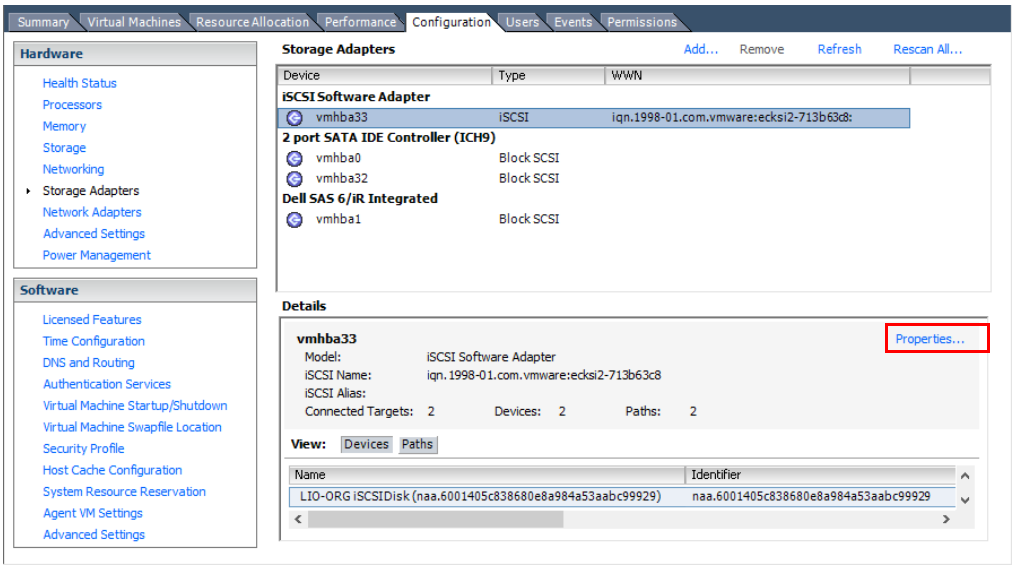
NOTE: The examples below use vSphere Client. The configuration is similar in other VMware interfaces.

1. Connect to the VMware host using **VMware vSphere Client**, **vSphere Web Client**, or **vCenter Server**.
2. Navigate to **Configuration > Storage Adapters** and click the **iSCSI Software Adapter** name (for example, **vmhba33**).

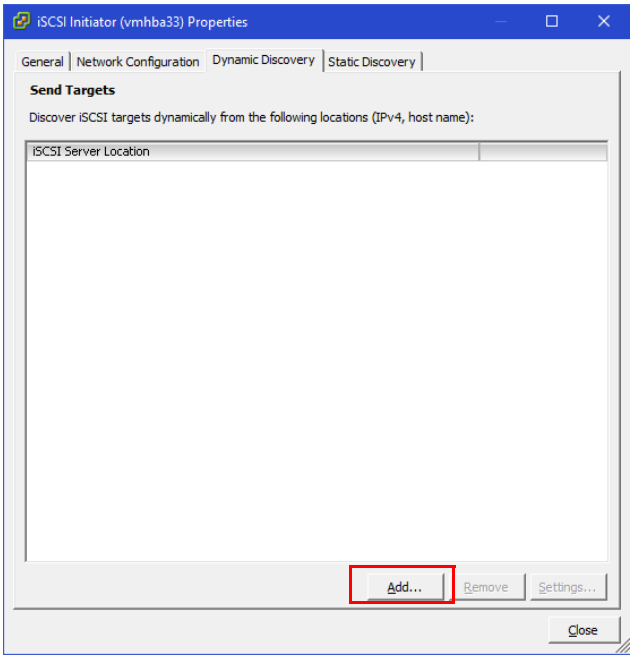


If no iSCSI Software Adapter is listed, click **Add** on the **Storage Adapters** title bar and choose **Add Software iSCSI Adapter** when prompted to add it. Then, repeat Step 2.

3. Click **Properties** in the **Details** section.

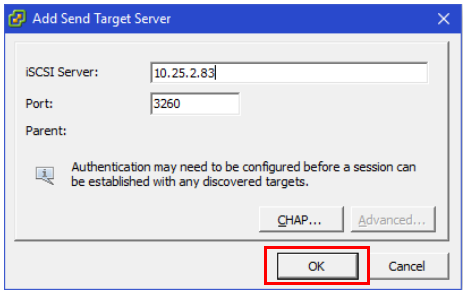


4. In the **Properties** screen, select the **Dynamic Discovery** tab and click **Add**.



NOTE: Alternatively, you can connect the VMware software iSCSI adapter only to specific SnapServer iSCSI disks using the **Static Discovery** tab and iSCSI Disk IQN of each iSCSI disk (the IQN can be found on the **iSCSI Disk Properties** page in the SnapServer Web Management Interface). Once configured, proceed to Step 8.

5. At the **Add Send Target Server** dialog box, configure as necessary and click **OK**:

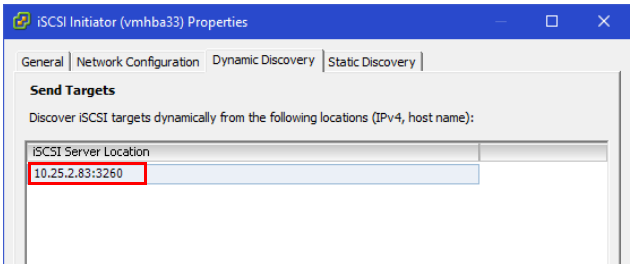


- **iSCSI Server** – Enter the **server name**, **fully-qualified name** (FQDN), or **IP address** of the SnapServer Ethernet interface to be used to access the iSCSI disk.

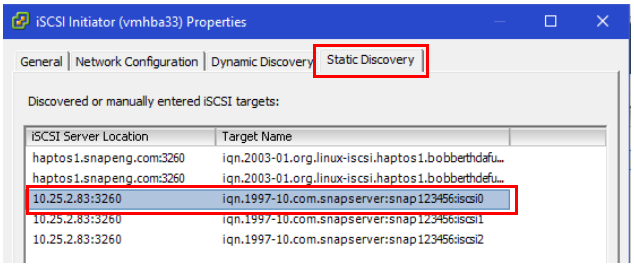
  NOTE: If using a hostname or FQDN, ensure the VMware host can resolve that name to the SnapServer's IP address. If using an IP address, ensure the IP is assigned statically or via a DHCP reservation. In both cases, ensure the VMware host connects to the desired SnapServer network interface to use for datastore storage communication.

- **Port** – Leave the **Port** set to default `3260`.
- **CHAP** – If necessary, click the **CHAP** button and configure CHAP authentication.

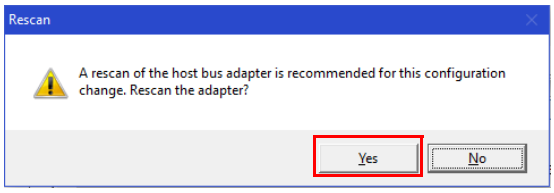
6. Verify that the SnapServer target appears in the **iSCSI Server Location** field.



7. Select the **Static Discovery** tab and verify the discovered iSCSI **targets**.

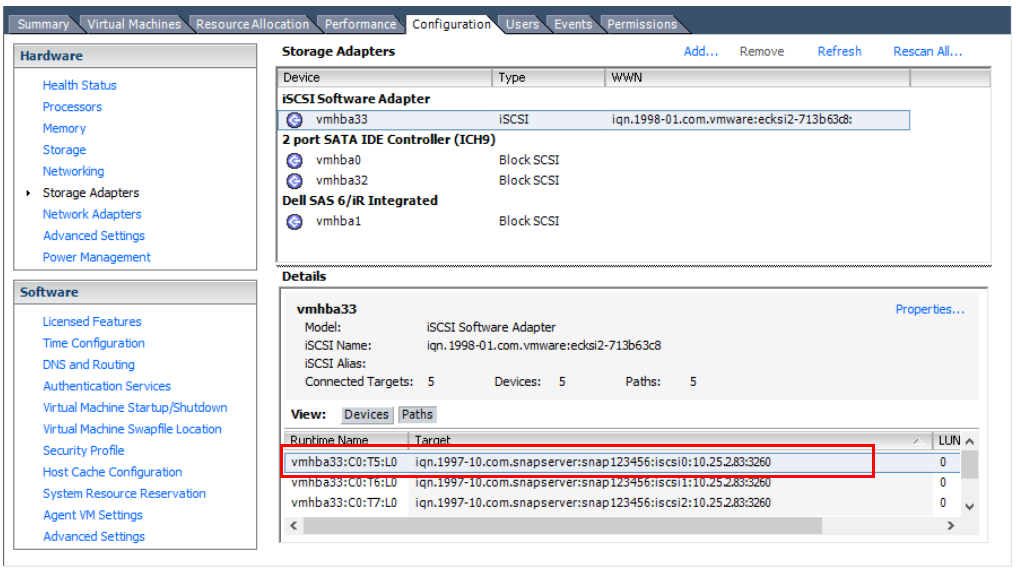


8. Click **Close** and, when prompted to rescan the adapter, click **Yes**.



9. Verify the **iSCSI Software Adapter** successfully connects to each SnapServer iSCSI disk and displays it in the adapter's **Details** list.

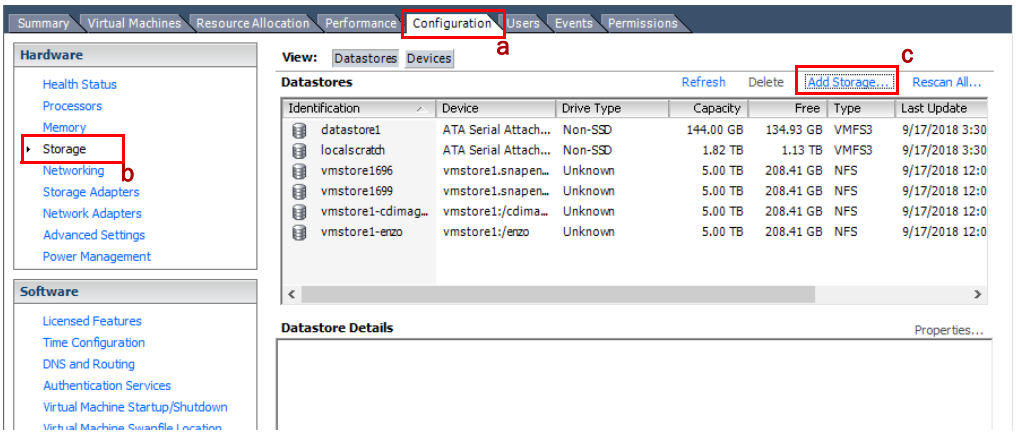
   For example, the following screen shows that the new iSCSI disk is connected to ESXi iSCSI Software Adapter **vmhba33**.



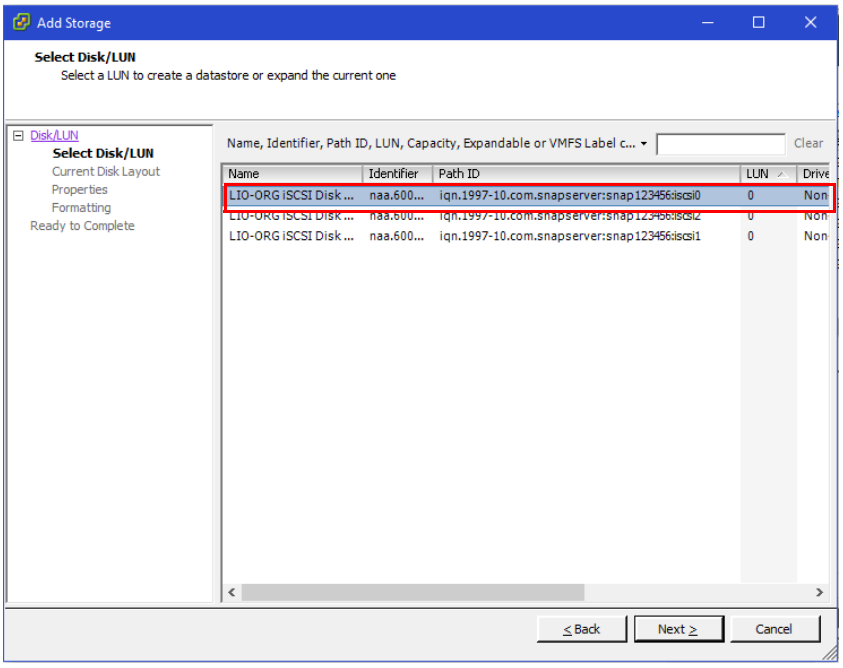
Creating a VMware Datastore on a SnapServer iSCSI Disk

Any iSCSI disks that have previously been configured as iSCSI datastores on this or another VMware host are automatically available for use in **Storage > Datastores** when the VMware iSCSI Software Adapter connects to them. New iSCSI disks or any disks that were previously formatted by a non-VMware system must first be configured and formatted as a VMware datastore.

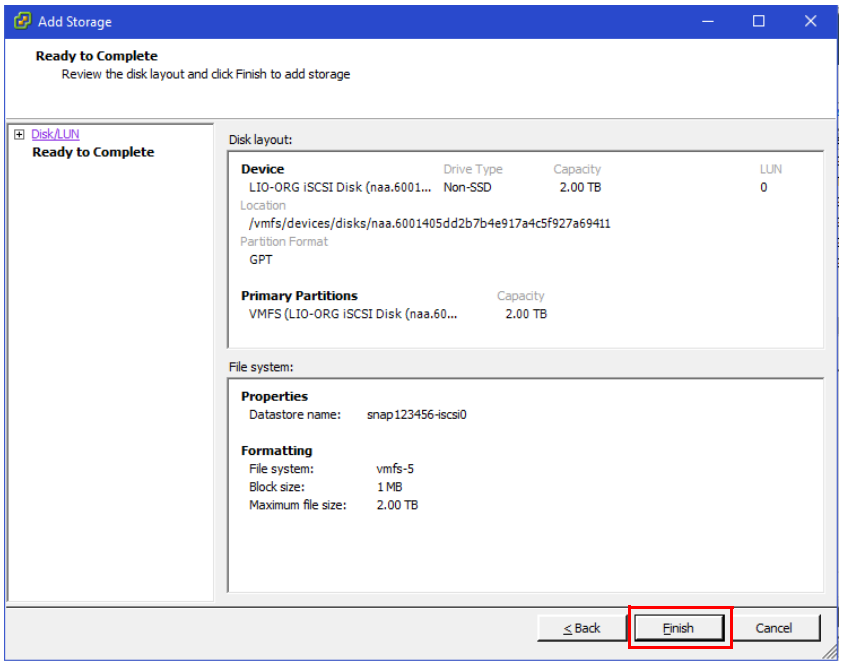
1. If necessary, log into ESXi host using **VMware vSphere Client**.
2. In the **vSphere Client**:



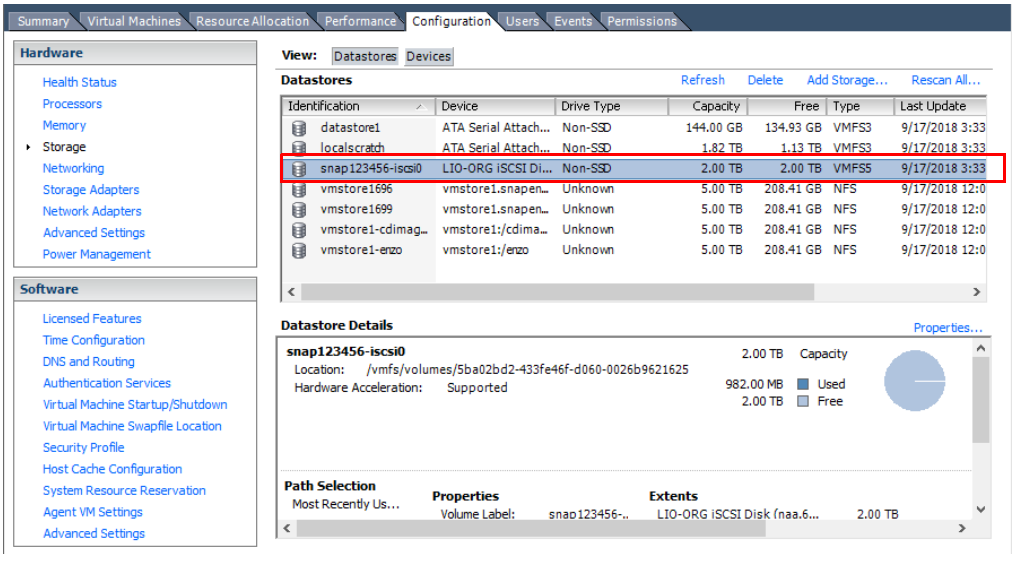
   a. Select the **Configuration** tab.
   b. Under **Hardware**, select **Storage**.
   c. In the **Datastores** title bar, click **Add Storage**.
3. From the first **Add Storage Wizard** screen, select **Disk/LUN** as the storage type, and click **Next**.
4. At the next screen, select the SnapServer iSCSI disk that appears in the **Select Disk/LUN** list (expanding the **Path ID** column if necessary to view the disk IQN), and click **Next**.



5. To complete the wizard, provide the following **information**:
   a. If necessary, select **File System Version**.
   b. Review the **Current Disk Layout** summary.
   c. Enter a **Datastore Name** to uniquely identify the datastore.
   d. Select the **Formatting Capacity** to consume either the maximum available space on the iSCSI disk or a lesser amount.
   e. Click **Next**.
6. At the **Ready to Complete** summary page, verify the details and click **Finish**.



The new iSCSI datastore appears in **Configuration > Storage > Datastores** list and is available for use.



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