Hewlett Packard Enterprise

Amilcar Petroleum Operations

Nimble HF40 deployment and configuration

Contents

I.   INTRODUCTION

Nimble Storage is built on the unique Cache Accelerated Sequential Layout (CASL) Architecture; a CPU-driven storage architecture capable of optimizing performance and increasing usable capacity through dynamic caching, sequential data layout and inline compression. Nimble devices are renowned for the simplicity of their setup and administration,

This report presents the different steps of installation and configuration of the Nimble Storage:

* Initialize and configure the HPE Nimble Storage

* Create and mapping Virtual Volumes

* Mounting database under VMware

II.   Initialize and configure the HPE Nimble Storage

There are two methods to apply a management IP address to the new array; using the GUI from a Windows machine on the same subnet, or directly using the CLI. To use the GUI, download the latest version of Windows Toolkit from InfoSight, which includes Nimble Setup Manager.

- Launch the Nimble Setup Manager, this can be downloaded from https://infosight.nimblestorage.com

You'll see below I actually used an older version, and it still worked fine discovering the array. When you click next, you'll be presented a dialog box explaining that your default browser will be launched to continue the setup (as part of the new HTML5 interface).

HPE Storage Setup Manager (7.1.2.42)

Welcome to Setup Manager For HPE Alletra 6000, Alletra 5000 and Nimble Arrays

Setup Manager has discovered the following uninitialized arrays. If your array does not appear in the list, verify that the array is on the same subnet as this computer. You may have to configure your firewall to allow communications over UDP port 5353.

Select the array to initialize and click **Next**.

Array	Model	Version
⦿ AF-244704	HF40	6.0.0.400-991061-opt

Help   Refresh   Next   Cancel

-Accept the certificate error, as the Nimble uses a self-signed cert on the web interface.
-Scroll to the bottom of the EULA, then accept the T+Cs and click "Next"

HPE Nimble Storage

Terms and Conditions, End User License Agreement and Third Party Software Notices
2023-03-23 11:36

INSTRUCTIONS: Please scroll down to review the Consent Statement. The checkbox will activate once you scroll to the bottom.

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☑ By checking the box to the left, I acknowledge that I have (a) read and agree to both the terms and conditions of sale and support and the end user license agreement with HPE Nimble Storage and (b) received the third party software notices provided by HPE Nimble Storage

Proceed

-Choose your setup method;

Either a new device from scratch,
Set up this array but do not join a group and click next

:

HPE Nimble Storage

You are connected to the following uninitialized HPE Nimble Storage array:

Array Serial Number

AF-244704

Model

HF40

Software version

6.0.0.400-991061-opt

Select an action below and click **Next**.

◉ Set up this array but do not join a group

○ Add this array to an existing group

Next

-Enter the following basic settings:
Array Name
Group Name
IP address, Subnet, Default Gateway, Domain Name
Admin password for default account "admin"

HPE Nimble Storage

To create a *NEW* group with the array shown below as the only member, complete the form below and click **Save**. To add an array to an existing group, do not use this form. Instead, log in to the group web-based user interface. Click on **Add Array to Group** under the **Administration** menu.

Array Serial Number

AF-244704

Array Name *

TUNNIMBLE01

Group Name *

GRTUNNIMBLE01

Management Settings

Initial management settings need to be done with interface eth1 connected. The management settings you specify below will be configured on eth1. Additional IPs and their respective interfaces will be configured later.

Management IP *

172.16.1.60

Netmask *

255.255.255.0

Default Gateway *

172.16.1.254

-Login using the password configured earlier, you'll notice that the username is grayed out and cannot be changed yet. This is because the setup of the array is not yet completed.

-Setup your subnets, in this example, we have one management network, which is already configured, and a second subnet which will be used for the iSCSI traffic. (If you have an FC array, then there will be no subnets to setup for the FC traffic)

Setup which interfaces on the array will be part of which subnet, you will need to enter IPs for each Data interface. You will also enter two more IP addresses on the management VLAN to be used as diagnostic IP addresses.

HPE Nimble Storage

Network Settings

Interface Assignment

IP Interface	Link Status	Subnet	Network	Netmask	Data IP Address
eth0a		management	172.16.1.0	255.255.255.0	
eth0b		Select...			

FC Interface	Link Status
fc1a	
fc1b	
fc1c	
fc1d	

Diagnostic IP

IP Address

Controller A *

172.16.1.62

Controller B *

172.16.1.63

-Enter your domain name and DNS Servers

HPE Nimble Storage

Setup

Subnet Configuration — Interface Assignment — Domain — Time — Support

Domain

Enter the domain name the array will be joining and the DNS servers responsible for the domain.

Domain Name

apo.local

DNS Servers

Enter up to 3 IP addresses, one per field, of the DNS server or servers that are responsible for the domain. At least one DNS server is required.

10.100.1.21   ×

10.72.8.10   ×

Add

Back   Next

-Set your NTP server and Time Zone

HPE Nimble Storage

Setup

Subnet Configuration — Interface Assignment — Domain — Time — Support

Time

If you wish to use a different time server than the default, you can enter it here. The date and time can be set manually from the administrative pages after setup is complete.

Time (NTP) Server

10.100.1.19

Time Zone

Select the time zone the array is located in.

Region

Africa

Country/State/City

Tunis

Back   Next

-One the final page, setup the Email alert settings, connection to Nimble Cloud Analytics, and proxy server if needed. Clicking finish will submit the settings to the array to finish the setup. Finally you will be given a reminder of the firewall settings to configure, and clicking continue on this dialog message will take you to the login page again for your Nimble.

HPE Nimble Storage

Setup

Subnet Configuration ⟶ Interface Assignment ⟶ Domain ⟶ Time ⟶ Support

Support

Email Alerts

Email alerts are sent to the specified email addresses, providing proactive notification of critical alerts like hardware failures.

Send From Address *

The "From Address" is the email address used only by the group when sending email alerts. It does not need to be a valid email account. HPE Nimble Storage Support recommends that you use an email address that lets you easily identify the group sending the alert.

GRTUNNIMBLE01@apo.local

Send To Addresses

Add

☑ Send event data to HPE Nimble Storage Support

SMTP Server

Hostname or IP address *

Hostname or IP address

Diagnostics for Nimble Analytics

HPE Nimble Storage

SMTP Server

Hostname or IP address *

mail.apo.local

Diagnostics for Nimble Analytics

Diagnostics for Nimble Analytics allows the HPE Nimble Storage array to send periodic health updates to HPE Nimble Storage Support. These updates contain statistics and diagnostic data that summarize the health and performance of the HPE Nimble Storage array: no application data will be sent. It is strongly recommended that you enable DNA to allow HPE Nimble Storage Support to collect analytics data from this array.

☑ Allow HPE Nimble Storage Support to collect analytics data automatically from the array.

Usage Analytics

HPE Nimble Storage uses Google Analytics to gather data related to array GUI usage. The data gathered is used to evaluate and improve the product.

Information collected by Google Analytics will be transmitted to and stored by Google on servers in the United States of America in accordance with its privacy practices. To see an overview of privacy at Google and how this applies to Google Analytics, visit https://www.google.com/policies/privacy. You may opt out of tracking by Google Analytics by visiting https://tools.google.com/dlpage/gaoptout or by deselecting the Enable Analytics option below. For further information about HPE Nimble Storage's privacy practices, please visit HPE Nimble Storage's Privacy Statement at https://www.hpe.com/us/en/legal/privacy.html.

☑ Enable analytics on user actions

HTTP Proxy

Diagnostics for Nimble Analytics and software updates require an HTTPS connection to the Internet, either directly or using a proxy server. If a proxy server is required, check Use proxy server, and configure the proxy server details.

☐ Use proxy server

Back   Finish

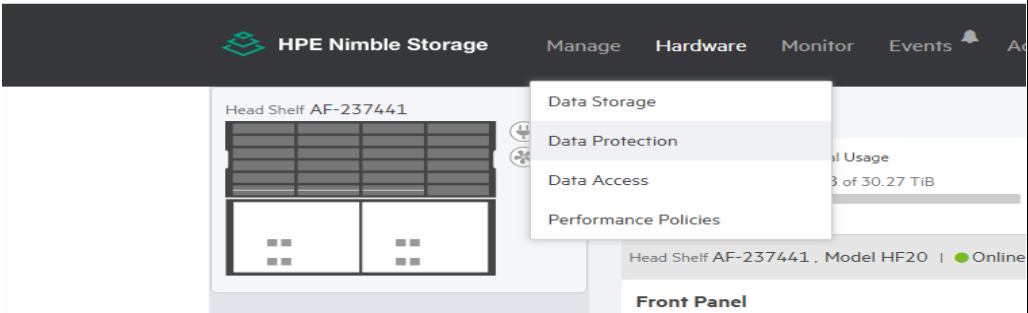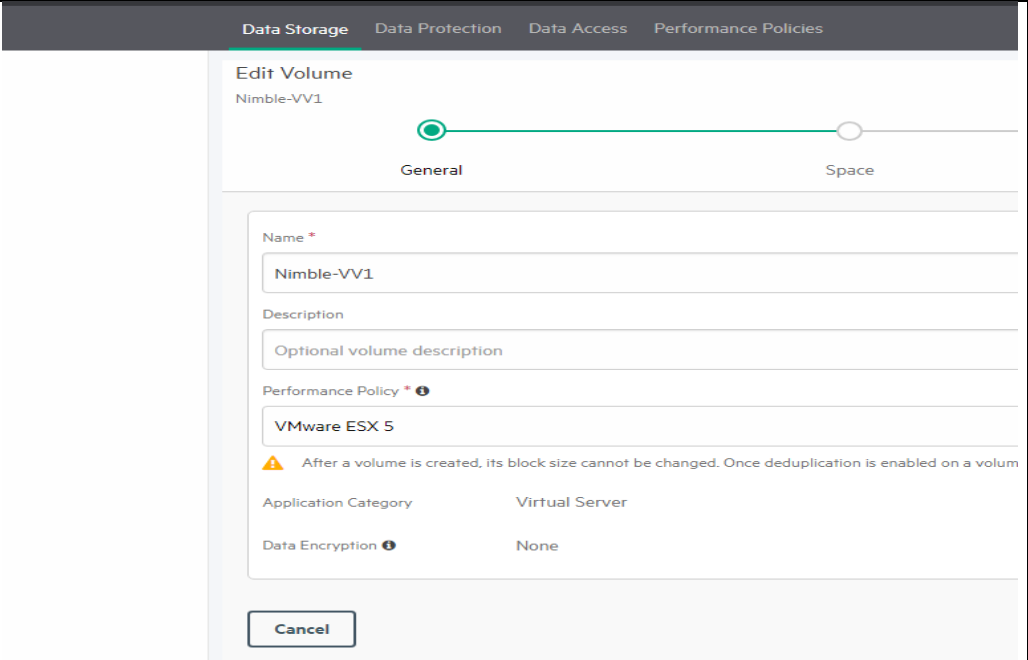|	

-Click Continue	**Setup Complete**
	
	Your HPE Nimble Storage array is ready to use. Before you start using your array, you must:
	
	• Add the management IP address and the controller support addresses from your configuration to the relay list on your mail server.
	• Open the following firewall ports for outbound access:
	   • SSH: 2222 hogan.nimblestorage.com (secure tunnel for HPE Nimble Storage Support)
	   • HTTPS: 443 nsdiag.nimblestorage.com (Diagnostics for Nimble Analytics, heartbeats)
	   • HTTPS: 443 update.nimblestorage.com (software downloads)
	
	Click **Continue** to proceed to the home page.
	
	[Continue]

-Create Initiator Group : Enter your Volume Name, IQN, IP ADDRESS	

log into the Nimble Management -Go to Manage and then data storage - Click on New Volume	
– Enter your Volume Name – Description if needed – Choose your Performance Policy, (These are predefined and are accelerated for VMware ESXi, SQL, Exchange etc.) – Choose who can access this volume,	
- Click Next, and then choose your Volume Size – Choose if you want to Hard Reserve this on the array, the higher the percentage the lower your ability to compress – Choose your Snapshot settings	
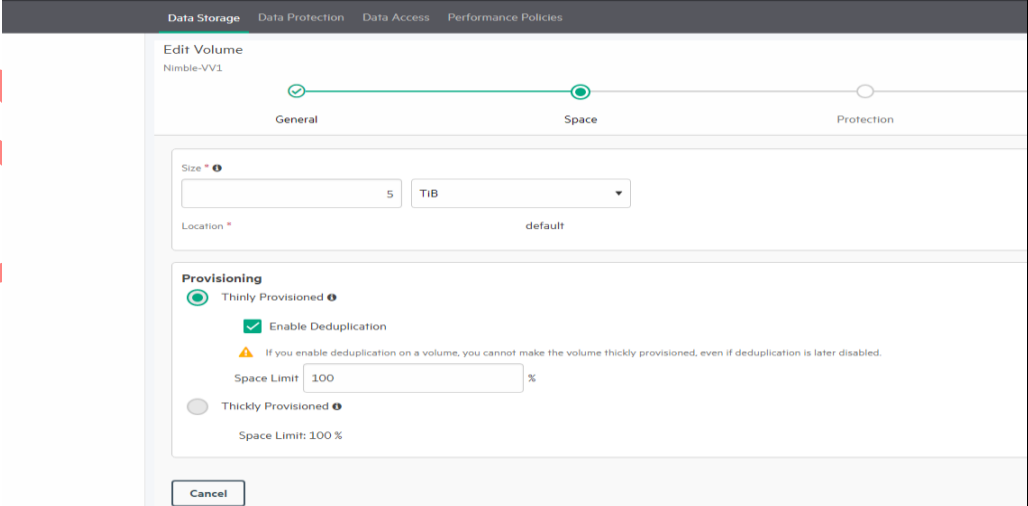
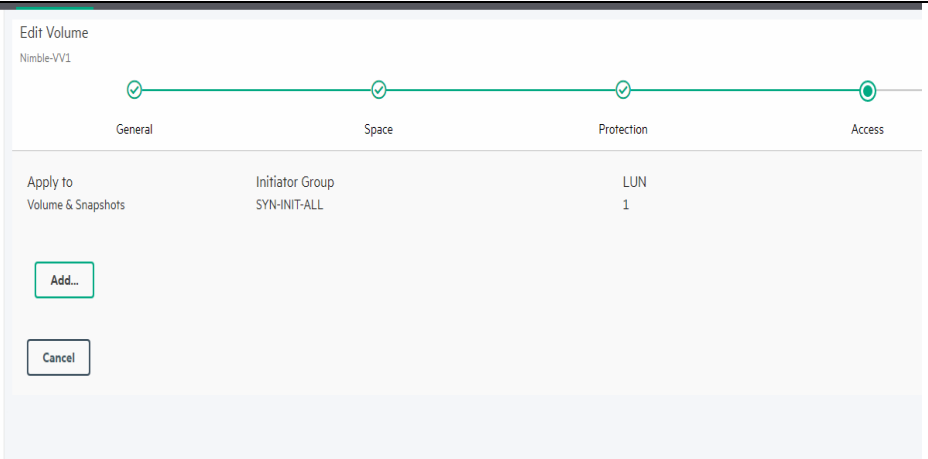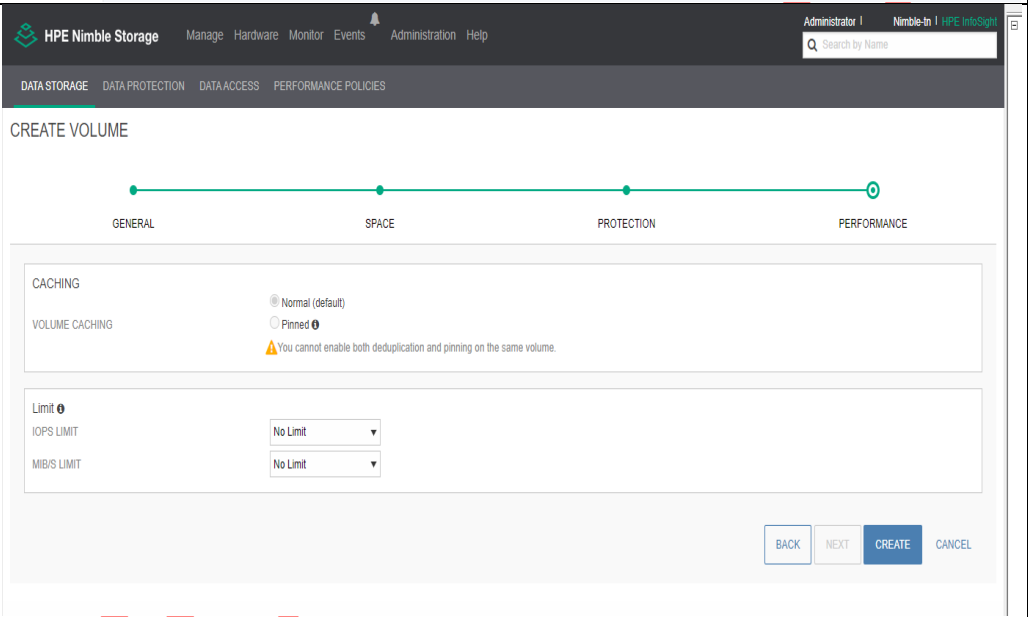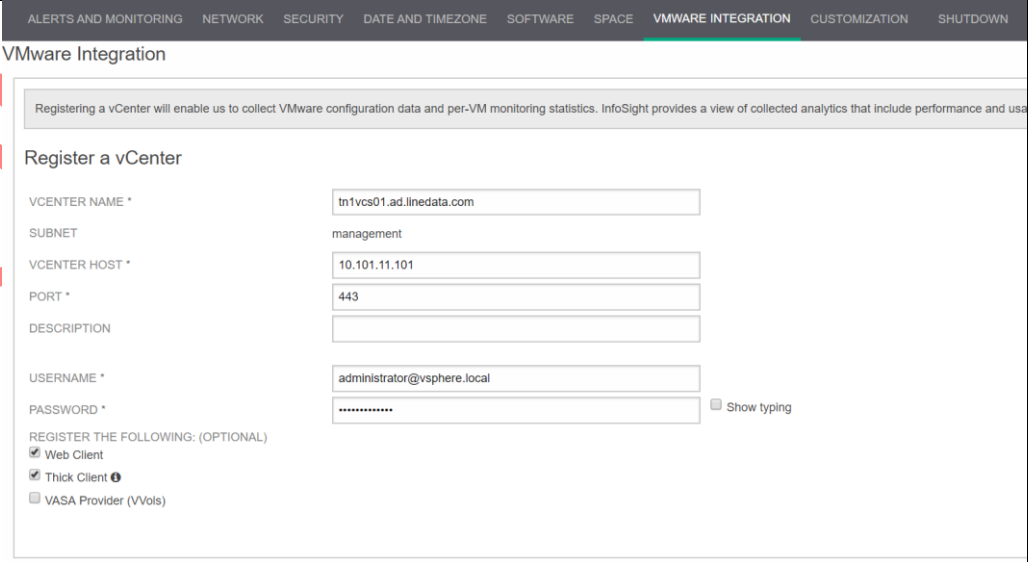|	
- Click Next and define the LUN	**Edit Volume** Nimble-VV1 General — Space — Protection — Access Apply to: Volume & Snapshots Initiator Group: SYN-INIT-ALL LUN: 1 Add... Cancel
- Click Create	**HPE Nimble Storage** — Manage Hardware Monitor Events Administration Help — Administrator | Nimble-tn | HPE InfoSight Q Search by Name DATA STORAGE · DATA PROTECTION · DATA ACCESS · PERFORMANCE POLICIES **CREATE VOLUME** GENERAL — SPACE — PROTECTION — PERFORMANCE **CACHING** VOLUME CACHING ◉ Normal (default) ◯ Pinned ❶ ⚠ You cannot enable both deduplication and pinning on the same volume. **Limit ❶** IOPS LIMIT: No Limit MIB/S LIMIT: No Limit BACK · NEXT · CREATE · CANCEL
- Integration Vcenter	ALERTS AND MONITORING · NETWORK · SECURITY · DATE AND TIMEZONE · SOFTWARE · SPACE · **VMWARE INTEGRATION** · CUSTOMIZATION · SHUTDOWN **VMware Integration** Registering a vCenter will enable us to collect VMware configuration data and per-VM monitoring statistics. InfoSight provides a view of collected analytics that include performance and usa... **Register a vCenter** VCENTER NAME *: tn1vcs01.ad.linedata.com SUBNET: management VCENTER HOST *: 10.101.11.101 PORT *: 443 DESCRIPTION: USERNAME *: administrator@vsphere.local PASSWORD *: ●●●●●●●●●●●●●● ☐ Show typing REGISTER THE FOLLOWING: (OPTIONAL) ☑ Web Client ☑ Thick Client ❶ ☐ VASA Provider (VVols)

III.   Conclusion:

Nimble arrays come configured with triple parity RAID as standard, which offers greater protection of data in the event of a drive failure, without impacting performance or overall capacity of the array. Furthermore should a drive fail then the rebuild process is significantly quicker since it only rebuilds the individual compressed blocks in use.

In order to ensure the proper functioning of the storage solution, a weekly monitoring of the logs events is highly recommended.