# Table of Contents

Table of Contents ....................................................................................................................... 2  
Preface ........................................................................................................................................ 3  
Document History 3  
Overview ..................................................................................................................................... 4  
Supported NexentaStor/NexentaCloud Versions 4  
Network Requirements .............................................................................................................. 5  
NexentaFusion Installed as a Docker Container ......................................................................... 6  
System Recommendations 6  
Network Requirements 6  
Deployment Using Docker Install Script 6  
Deployment Using the Docker Command Line 7  
Advanced Actions Using the Docker Command Line 10  
Upgrading to the Latest NexentaFusion 11  
Downgrading to a Prior Release 11  
NexentaFusion Installed as an OVA .......................................................................................... 12  
System Requirements 12  
Network Requirements 12  
Deploying NexentaFusion OVA 12  
Configuring Network 13  
Advanced Actions Using the Console Wizard 16  
Upgrading to the Latest NexentaFusion 18  
NexentaFusion in AWS launched as an Amazon AMI .............................................................. 20  
Preparing the AWS Environment 20  
Launching the NexentaFusion instance 20  
The NexentaFusion GUI ............................................................................................................ 22  
Accessing NexentaFusion GUI 22  
Registering the NexentaFusion GUID 22  
Configuring NTP and TimeZone 22  
Configuring NexentaFusion 23  
Registering NexentaStor Appliances 23  
Deploying NexentaCloud Appliances 24  
Reconfiguring the Network 24  
Troubleshooting 24  
Additional Resources ................................................................................................................ 25
Preface

This documentation presents information specific to Nexenta products. The information is for reference purposes and is subject to change.

You can manage NexentaStor 5.x and NexentaCloud appliances with their Command Line Interface (CLI) and REST APIs, or with the NexentaFusion graphical user interface (GUI).

This document includes the instructions to install NexentaFusion and covers the following tasks:

• Ensure that the NexentaFusion installation requirements are met.
• Deploy NexentaFusion.
• Register the NexentaStor appliances in NexentaFusion.
• Deploy NexentaCloud as AWS appliances in NexentaFusion.

Document History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>nf-1.2-installationguide-RevA</td>
<td>July, 2018</td>
<td>1.2 GA version</td>
</tr>
</tbody>
</table>
Overview

NexentaFusion is a graphical user interface that provides centralized management of multiple NexentaStor/NexentaCloud appliances, tracks performance analytics trends, and monitors system faults. From a single pane, NexentaFusion provides appliance-specific summary views of hardware components, services, and storage logical objects such as shares, snapshots, and clusters. You can navigate the GUI using its intuitive tabs, drill-down menus, action cogwheels, and expand / contract arrows.

NexentaFusion supports a variety of deployment options, including deployment using Docker containers, installing from an OVA file, and installing as an AMI in the Amazon cloud.

Supported NexentaStor/NexentaCloud Versions

NexentaFusion 1.2 supports NexentaStor 5.1.0, 5.1.1, and 5.1.2 and NexentaCloud 5.1.2.
Network Requirements

The following ports are needed for proper usage of NexentaFusion and NexentaStor or NexentaCloud storage appliances. These ports should be utilized when configuring the VPN tunnel between the internal corporate network and public cloud services. Note that these ports should not be exposed publicly to avoid potential security risks.

- TCP 8457 - Web Server
- TCP 2000 - Private API
- TCP 9200 - Elasticsearch
- TCP 8443/8080 - REST API
- TCP 22 – SSH access, for NexentaFusion in AWS

These ports must be accessible through the management address set with –e in the docker run command.

For information on the direction of TCP packets, see the diagram below.
NexentaFusion Installed as a Docker Container

System Recommendations

The following table lists the resource recommendations for our container.

Table 4: System Recommendations

<table>
<thead>
<tr>
<th>Resources</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPUs</td>
<td>4 CPU cores for the container</td>
</tr>
<tr>
<td>Memory</td>
<td>16GB in total</td>
</tr>
<tr>
<td>Disk Size</td>
<td>10GB for NexentaFusion admin</td>
</tr>
<tr>
<td></td>
<td>80GB for analytics database</td>
</tr>
</tbody>
</table>

Network Requirements

The following Ports must be open:
- TCP 8457 - Web Server
- TCP 2000 - Private API
- TCP 9200 – Elasticsearch
- TCP 8443/8080 - REST API

Deployment Using Docker Install Script

https://nexenta.github.io/ provides access to a script that will walk you through the installation of NexentaFusion as a docker container.

If you already have a NexentaFusion docker container, this script will allow you to remove the old container and use the new one. Replacing the old container with the new one will not impact NexentaFusion data.

Note: If you need to configure a web proxy, deploy using the docker run command described in the next section instead of the install script.

Prerequisites

The following table lists the resource requirements for our container.

Table 4: System Requirements

<table>
<thead>
<tr>
<th>Resources</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Docker</td>
<td>Must be installed</td>
</tr>
<tr>
<td>Systems</td>
<td>Must have one of the following systems to run the script</td>
</tr>
<tr>
<td></td>
<td>• Ubuntu</td>
</tr>
<tr>
<td></td>
<td>• Red Hat</td>
</tr>
<tr>
<td></td>
<td>• CentOS</td>
</tr>
</tbody>
</table>

Deployment Procedure

1. Select the NexentaFusion entry in https://nexenta.github.io/ to access the script.
2. Copy and paste the curl string to your terminal to run the install utility.

   The script will start the NexentaFusion Installer as sudo and you will be prompted with the list of IP addresses.
3. Select the management address to be used by the appliance to push analytics data, logs and events to NexentaFusion by typing a number and press enter.

```
Please select the management address:
-----------------------------
This IP address is used by appliances for pushing analytics data, logs, events
-----------------------------
1) 172.17.0.1
2) 10.3.31.30
3) 127.0.0.1
Type a number and press enter
```

4. Now you will be prompted with the defaults for the following parameters.

```
ESDB heap size: 3970m
Timezone: America/Los_Angeles
NexentaFusion folders path: /home/fusion/fusion
```

5. Type “Y” to accept the defaults or type “n” to change the parameters.
   - ESDB heap size is the memory reserved for the analytics database. The default recommendation for this parameter is half of the total system memory with a minimum of 1g and a maximum of 32g.
   - Timezone is used for the correct processing of logs and analytics data.
   - NexentaFusion folder path: Directory used for storing NexentaFusion and ESDB data.

6. Type “Y” to retain the data from the previous NexentaFusion container (if applicable)

7. The above steps when executed will start the NexentaFusion container – this can take a few minutes.

```
Checking the NexentaFusion container image...
Using default tag: latest
latest: Pulling from nexenta/fusion
Digest: sha256:4e45acb898767f36637134a6a1bcabbf4bd21fcf0ealbba6dd1e1fc8c4d7acb4
Status: Image is up to date for nexenta/fusion:latest
Running the NexentaFusion container...
Container with name nexenta-fusion was created
Waiting for NexentaFusion to start
..........................
NexentaFusion is available at https://10.3.31.30:8457
```

8. After a successful installation you should be able to log into the NexentaFusion GUI by pointing the browser to https://<Management IP: 8457> in a supported web browser.

9. The initial login credentials are admin/nexenta.

## Deployment Using the Docker Command Line

Use the steps listed here to start NexentaFusion GUI on a machine running Docker. Depending on the environment, you may need to add sudo at the beginning of the docker commands, and provide your user password when requested.

## Deployment Procedure with Internet Connection

1. Open the terminal of the machine running Docker.
2. Pull the NexentaFusion container.
$ docker pull nexenta/fusion

3. Ensure that the image is pulled by running the following command:
$ docker images

Example:

<table>
<thead>
<tr>
<th>REPOSITORY</th>
<th>TAG</th>
<th>IMAGE ID</th>
<th>CREATED</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>nexenta/fusion</td>
<td>latest</td>
<td>271d1073a551</td>
<td>4 weeks ago</td>
<td>1.19GB</td>
</tr>
</tbody>
</table>

4. NexentaFusion requires two persistent volumes for server data and the analytics database.

1 persistent volume of minimum size 10GB for NexentaFusion server data to be mapped to /opt/docker/fusion

Another persistent volume of minimum size 80GB for the analytics database to be mapped to /opt/docker/esdb

5. Run the container.
A sample run command is shown below:

- Use the -v flag to map the persistent volume to the container.

$ docker run --name fusion
-v /opt/docker/esdb:/var/lib/elasticsearch
-v /opt/docker/fusion:/var/lib/nef
-e MGMT_IP="0.0.0.0"
--ulimit nofile=65536:65536 --ulimit memlock=-1:-1
-e TZ="America/Los_Angeles"
--memory=16g
-e ES_HEAP_SIZE="8g"
-i -t
nexenta/fusion

Notes:
- Replace 0.0.0.0 shown in the example above with your management IP.
- Use the -v flag to map the persistent volume to the container.
- The --ulimit parameters are required to set OS values properly for the elasticsearch database.
- Adjust the network settings, and/or use -p to map ports, as appropriate for your environment.
- -e TZ="America/Los_Angeles" is an optional parameter to set timezone. Default is UTC.
- Heap size should be limited to half the total memory size.

Let the system start the container – This can take a few minutes.

6. You can configure a proxy server for use by NexentaFusion to upload support bundles by adding the following to the run command:
   -e web_proxy = <your proxy address>

7. After a successful installation you should be able to log into the NexentaFusion GUI by pointing the browser to https://<Management IP: 8457> in a supported web browser.

8. The initial login credentials are admin/nexenta.
On the first login into the NexentaFusion GUI you will be asked to configure a new password.

Note: When the NexentaFusion GUI is started shortly after starting up the container, you may see an error indicator on the main menu bar, indicating high CPU usage. This should disappear in a few minutes after the database startup completes.

Deployment Procedure without Internet Connection

1. On a machine that does have Internet access and docker installed, pull the container from Docker hub and save the tar file, and put it onto removable media.
   
   $ docker pull nexenta/fusion
   
   $ docker save --output nexenta-fusion_image.tar nexenta/fusion

2. On the target machine where you wish to install NexentaFusion, with no Internet access and docker already installed, load the container image from the tar file
   
   $ docker load --input nexenta-fusion_image.tar

3. Proceed with Step 3 from the previous section.

Table 6: Some configurable parameters when deploying NexentaFusion Docker.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>--name</td>
<td>Use this parameter to assign a name to the container.</td>
</tr>
<tr>
<td>-v /opt/docker/esdb</td>
<td>This folder will contain the elasticsearch database and logs.</td>
</tr>
<tr>
<td>-v /opt/docker/fusion</td>
<td>This folder will contain the server data, the localdb and the NexentaFusion logs.</td>
</tr>
<tr>
<td>-e MGMT_IP</td>
<td>Management IP</td>
</tr>
<tr>
<td></td>
<td>The container’s IP that is used for communication between NexentaFusion and NexentaStor appliances for appliance events, logs and analytics data.</td>
</tr>
<tr>
<td></td>
<td>If you do not set this parameter, the NexentaFusion container will appear to function properly but the registered NexentaStor appliances will not send analytics, alerts, events and so on.</td>
</tr>
<tr>
<td>--ulimit</td>
<td>Required to set OS values properly for ESDB.</td>
</tr>
<tr>
<td>nofile=65536:65536 --ulimit memlock=-1:-1</td>
<td></td>
</tr>
<tr>
<td>-e TZ</td>
<td>Optional parameter to set the timezone. If not set, it will default to UTC.</td>
</tr>
<tr>
<td>--memory</td>
<td>Limits the maximum amount of memory the container can use.</td>
</tr>
<tr>
<td>-e ES_HEAP_SIZE</td>
<td>Heap size should be limited to half the total memory size.</td>
</tr>
<tr>
<td>-p port#:port#</td>
<td>Sets the environment variable specifying the proxy server.</td>
</tr>
<tr>
<td>-e web_proxy=&lt;your proxy address&gt;</td>
<td>Optional. Sets the address to use as the web proxy for support bundles.</td>
</tr>
<tr>
<td>nexenta/fusion</td>
<td>The container image name.</td>
</tr>
</tbody>
</table>
Advanced Actions Using the Docker Command Line

Depending on the environment, you may need to add sudo at the beginning of the docker commands, and provide your user password when requested.

Create and Upload a Support Bundle

After you deployed NexentaFusion using Docker container, use the “bundle” command at the docker command line to create and upload a support bundle.

```bash
$ docker exec <container-name> bundle <args>
```

usage: bundle [-q|-v|-d] [-u] [-c path] [-t "description"] [-n name]

options:
- q - quiet mode, all warning and diagnostic messages will be suppressed
- v - verbose mode, print all messages to stdout
- d - dialog mode, display messages using dialog boxes

default mode: quiet
- u - upload the bundle to the Nexenta Support server
- c path - bundle destination directory, default: /var/lib/nef/bundles
- t text - bundle description text, default: ""
- n name - bundle name, default: random UUID

Bundle Examples
```bash
bundle -u --- Create bundle and upload it to the Nexenta Support server
bundle -t "My bundle" -u --- Create bundle with description and upload
```

Note: Changing the support bundle name may impact uploading the bundle to the Nexenta Support server.

Bundles created using the docker command line will be visible in the NexentaFusion UI on the Support screen for later removal only if they were created in the default destination directory.

Reset Self-signed Certificate

NexentaFusion uses a default HTTPS certificate. After you deployed NexentaFusion using Docker container, use the following command at the docker command line to reset the currently installed HTTPS certificate to a default self-signed certificate.

1. Type:
   ```bash
   $ docker exec -it <container-name> fusion-reset-ssl
   ```

2. Enter “y” when asked if you want to continue.
Upgrading to the Latest NexentaFusion

Nexenta recommends making a copy of the directory used for storing NexentaFusion and ESDB data prior to the upgrade. To verify the folder path that was specified, enter the following at the docker command line:

1. Type:
   $ docker inspect <container-name>

2. Scroll to the “Mounts” section, to locate the current folder path.

Upgrade using the Docker Command Line

Use the same procedure to update your NexentaFusion image as you did to install NexentaFusion. When using the command line, make sure you are doing a docker pull nexenta/fusion to get the latest NexentaFusion image from the docker hub. Run docker pull before running a container.

If you specify the same paths, your code containers will be updated, and your NexentaFusion and ESDB data will not be impacted.

Upgrade using the Docker Install Script

If you deployed NexentaFusion as docker container using the Docker install script, run the install script again to upgrade NexentaFusion. Follow the system prompts as you did for a fresh install. When upgrading to the latest NexentaFusion, make sure you specify the same directory you used for storing NexentaFusion and ESDB data of your old container. Using a different directory will deploy a separate NexentaFusion container and will not upgrade the existing one.

Downgrading to a Prior Release

1. Pull the desired NexentaFusion version from the repository, via:
   $ docker pull nexenta/fusion:<tag name>

2. Copy the folders you had previously backed up to the desired location.

3. Use the Run command to install the container, including the tag in the container image name.
NexentaFusion Installed as an OVA

This section covers the following topics:

- The prerequisites for a successful NexentaFusion deployment in a virtual environment.
- Instructions on how to download and deploy NexentaFusion using the OVA in any of the following ways:
  - Upgrade to the latest version from a previously installed version.
  - Perform a new installation.

System Requirements

Table 3: System Compatibility

<table>
<thead>
<tr>
<th>Resources</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMware ESXi</td>
<td>6.0</td>
</tr>
<tr>
<td>VMware Workstation</td>
<td>12.x</td>
</tr>
<tr>
<td>VMware Fusion</td>
<td>8.x</td>
</tr>
<tr>
<td>VMware Player</td>
<td>12.x</td>
</tr>
<tr>
<td>Browsers</td>
<td>Latest Chrome and Firefox v47 or newer</td>
</tr>
</tbody>
</table>

Table 4: System Requirements for VM Installation

<table>
<thead>
<tr>
<th>Resources</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPUs</td>
<td>4vCPU</td>
</tr>
<tr>
<td>Memory</td>
<td>16GB in total</td>
</tr>
<tr>
<td>Disk Size</td>
<td>80GB (Thin Provisioned)</td>
</tr>
<tr>
<td>Port Groups</td>
<td>1 or 2 (ensure that they are on different subnets)</td>
</tr>
</tbody>
</table>

Network Requirements

The following Ports must be open:

- TCP 8457 - Web Server
- TCP 2000 - Private API
- TCP 9200 - Elasticsearch
- TCP 8443/8080 - REST API

Deploying NexentaFusion OVA

For deploying the OVA, refer to the appropriate VMware documentation based on your infrastructure. The following example covers the steps to deploy the OVA using the vSphere 6.0 client or the vSphere Web Client. To deploy the OVA, ensure that you have the right VMware hardware version, and proper network mapping.

Before deploying NexentaFusion ensure that the ESXi time is set properly.

1. Download the OVA from the link provided in the NexentaStor Fulfilment Email or from the customer support portal.
2. In the vSphere client, click on File → Deploy OVA
   Or in the vSphere Web Client, right click on the hosts or cluster → Deploy OVA
   - Browse the OVA file, begin the OVA import
   - Map the networks used in this OVF template to networks in your inventory
3. Power On the VM
Note: If you need to deploy the OVA on the node without internet connection, use the same steps to deploy the OVA from the CDROM or thumb drive.

Configuring Network

About NexentaFusion Network Interfaces
NexentaFusion OVA is created with two defined interfaces eth0 and eth1. As a result NexentaFusion 1.1.1 supports configuration with two separate networks and also supports configuration with a single network for both the management access and public access.

- Management access: Interface to be used for communication from the NexentaStor appliance to NexentaFusion, for appliance events and analytics data.
- Public access: Interface to be used to access the NexentaFusion GUI.

Proposed Configuration
There are 2 methods to configure the network interfaces:

Using a single interface and IP address for management and UI access
- NexentaFusion OVA is created with two defined interfaces eth0 and eth1, and by default one of the interfaces will not be connected/ powered ON. This allows you to use a single interface and IP address for management and public access after the OVA is successfully deployed.
  To configure this single interface, see “Using a Single Interface”.

Using both interfaces to separate the management access from the Web access
To utilize this capability, you need to have 2 separate networks:
- A public network for web access to the GUI
- A private network, not accessible to the public, on which you configure the management address, for communication from the NexentaStor appliance to NexentaFusion, for appliance events and analytics data.

To use both the interfaces, follow these steps prior to powering on the VM and after deploying the OVA:

In vSphere client:
1. Select the VM
2. Click “Edit Settings”
3. Under the Hardware tab, select the Network adapter 2
4. Navigate to the Device Status
5. Select the checkbox Connected and Connect at power on
6. Click Ok
In vSphere Web client:
1. Right click the VM in the inventory
2. Select Edit Settings
3. On the Virtual Hardware tab, select the Network adapter 2
4. Select the checkbox Connected
5. Click OK.

To configure both the interfaces, see “Using Both the Interfaces”.
Using a Single Interface

After deploying the OVA and powering on the VM, switch to the Console window to monitor the startup of NexentaFusion and the Console wizard. The NexentaFusion startup code will query the network interfaces and their addresses. NexentaFusion will set the management address as the first non-loopback address. This reconfiguration process can take several seconds.

When the wizard startup is complete, it will display the current network configuration.

Note: If the management address still displays as 127.0.0.1, wait a few seconds to allow NexentaFusion startup to complete, then click “Reconfigure Network” and “Cancel” to refresh the configuration settings.

This default configuration can be edited to, for example, use a fully-qualified host name as the management address.

Follow the steps below to reconfigure:

1. Click Reconfigure Network to configure the interface
2. Type the “admin” password: nexenta
3. Click OK to reconfigure eth0
4. Follow the prompts in the wizard
   The wizard provides you with the options to configure the interfaces as static or DHCP, and set up the netmask, gateway, DNS and search domain.
5. Now you will be prompted to configure the management address
6. If you have configured your interface with dhcp, it is recommended that you select the hostname as the management address. The hostname must be resolvable
7. Optionally change the hostname
Using Both Interfaces
To utilize this capability, you need to have 2 separate networks:
- A public network for web access to the GUI
- A private network, not accessible to the public, on which you configure the management address, for communication from the appliance to the elasticsearch database, and between NexentaFusion and the database.

To configure both the interfaces:
1. After you deploy the OVA, power-on the VM
2. Open the console window
3. Select ‘Reconfigure Network’ to configure the interfaces
4. Select both the interfaces for reconfiguration
5. Configure one of the interfaces for web access to the GUI
6. Configure the other for communication from the appliance to the elasticsearch database, and between NexentaFusion and the database
7. Now you will be prompted to configure the management address. Select the interface that you configured for communication between NexentaFusion and database.
8. Follow the prompts in the wizard
9. The wizard provides you with the options to configure the interfaces as static or DHCP, and set up the netmask, gateway, DNS and search domain.

Note: If you configure a NexentaFusion server that has more than one network adapter on the same physical network and protocol subnet, you may experience unexpected results.

Advanced Actions Using the Console Wizard
The following functions are available in the Advanced Actions section of the Console Wizard
- Setting the proxy server
- Collecting a support bundle
- Creating a self-signed HTTPS certificate
- Setting the Elasticsearch heap size

Follow these steps to perform these actions.
1. After you deploy the OVA, power-on the VM
2. Open the console window
3. Select Advanced Actions to perform the advanced actions
Configure a Proxy Server
The proxy server that will be used when upgrading NexentaFusion software or uploading a support bundle.

1. Select Set proxy server
2. Enter the proxy URL
3. Click OK

Create and Upload a Support Bundle
A support bundle (SB) is an archive containing important system information for Nexenta support service (system configuration files, database logs and so on). From the console, support bundles can be created even when the NexentaFusion management layer is not functioning, which makes bundles useful for troubleshooting purposes.

4. Select Collect Support Bundle
5. Click Ok
6. Select Yes to upload this bundle to Nexenta

7. Optionally enter bundle description and click OK. The bundle gets successfully uploaded using https.
Reset Self-signed Certificate
NexentaFusion uses a default HTTPS certificate. Choose this option to reset the currently installed HTTPS certificate to a default self-signed certificate.

1. After you deploy the OVA, power-on the VM
2. Open the console window
3. Select Advanced Actions to create self-signed certificate
4. Select Create self-signed HTTPS certificate
5. Click OK
6. Click Yes to reset
7. This recreates the self-signed certificate

Upgrading to the Latest NexentaFusion
Power off the NexentaFusion VM and then create a snapshot on your hypervisor before upgrading. Consult your hypervisor product documentation for specifics on creating snapshots.

With Internet Connection
1. Using VMware, take a snapshot of the NexentaFusion VM before proceeding.
2. Open the NexentaFusion VM console.
3. Click on Upgrade Fusion button.
4. Configure the proxy server if you need to use one to access the repositories for upgrading NexentaFusion software packages.
5. Optionally, provide the user name and the password as part of the URL as shown in the example below.
   https://user:pass@ip:port
   or just use http as shown below
   http://ip:port
6. If upgrade is available, click OK to continue with the upgrade.
7. After successful upgrade, click OK to reboot the NexentaFusion server.
8. Validate that the version has changed by checking the version number on the top left of console wizard.

Without Internet Connection
Upgrading without an internet connection requires the use of a special dark site upgrade ISO, available from support@nexenta.com. Contact Nexenta Support for assistance upgrading NexentaFusion without Internet access.

Once you have the dark site upgrade ISO:
1. Using VMware, take a snapshot of the NexentaFusion VM before proceeding.
2. Mount the ISO to NexentaFusion VM.
3. Log in as admin, open console or SSH into NexentaFusion VM.
4. Backup and clear all the old repos from `/etc/apt/source.list.d/` directory and `/etc/apt/sources.list` file before adding the new one from the `/media/cdrom` using the following commands:
   
   ```
   sudo mkdir /etc/apt/sources.bak
   sudo mv /etc/apt/sources.list sources.bak
   sudo touch /etc/apt/sources.list
   sudo mv /etc/apt/sources.list.d/* .
   ```

5. Mount cdrom `sudo mount /dev/cdrom/media/cdrom`. 

6. Add the NexentaFusion repository using the command:
   
   ```
   sudo apt-add-repository "deb file:///media/cdrom fusion main"
   ```

7. Update and upgrade using `sudo apt-get update -y && sudo apt-get upgrade fusion`. 

8. Reboot the NexentaFusion server.

9. Validate that the version has changed by checking the version number on the NexentaFusion console wizard tab.

Figure: Validating the Upgrade

---

Note: In case of unsuccessful upgrade, please contact support@nexenta.com.
NexentaFusion in AWS launched as an Amazon AMI

NexentaFusion can be launched as an AMI instance from the AWS marketplace.

Preparing the AWS Environment

The following will describe the steps to take prior to launching the NexentaFusion instance.

- In the AWS Marketplace, subscribe to NexentaFusion. Review the regions where NexentaFusion is available, and the pricing.
- Using the AWS Services Console VPC feature, configure your Amazon Virtual Private Cloud (VPC) and subnets for the desired region.
- Using the AWS Services Console, configure a security group that allows access to the following ports used by NexentaFusion. The security group acts as a virtual firewall that controls traffic to the NexentaFusion instance.
  - TCP 8457 – Web Server
  - TCP 2000 – Private API
  - TCP 9200 – Elasticsearch
  - TCP 8443/8080 – REST API
  - TCP 22 – SSH
- Using the AWS Services console IAM feature, create an access key for your account and download it. The access key is used to ssh to the console, to access the console-wizard to upgrade software

Launching the NexentaFusion instance

- In the AWS Marketplace, where you have subscribed to NexentaFusion, review the Eula, then click Continue to Configuration.
- Select the region. Click Continue to Launch.
- Select the EC2 (CPU) instance type. Nexenta recommends r3.xlarge.
- Select the VPC, subnet, security group, and the access key pair setting that has been previously configured. Click Launch.
- After the instance is successfully deployed, navigate to the EC2 console to view information about the newly-launched instance. Note the assigned IPs and the instance id. Nexenta recommends assigning a name to the instance.
- Once the instance state is displayed as “running”, login to NexentaFusion with https://<assignedIP:8457> in a supported web browser.
- The initial login credentials are admin /<instance ID>.

Upgrading to the Latest NexentaFusion

Upgrading to the latest NexentaFusion version is done using the console-wizard running on the Fusion console.
- ssh to the NexentaFusion console. On the EC2 console, select the NexentaFusion instance, and click Connect for instruction on how to use your access key file to connect. Use the username “fusion” to connect.
- On the console, type fusion-wizard. The NexentaFusion Console Wizard will be displayed.
• Tab to highlight Upgrade Fusion, click Enter, and follow the prompts.
The NexentaFusion GUI

Accessing NexentaFusion GUI

After a successful installation, the console wizard displays the URL for accessing the NexentaFusion from the supported web browser. Point your browser to the URL that is displayed. The initial login credentials are admin/nexenta.

Note: On the first login into the Web UI you will be asked to configure a new password.

Registering the NexentaFusion GUID

To receive technical support for NexentaFusion, you must register the server GUID at the Nexenta support portal.

1. Log in to NexentaFusion as an Administrator, click the Main COG at the top of the window.
2. Select Support from the drop-down list.
3. Copy the hardware GUID displayed for the Fusion server.
4. Login to the Nexenta Support portal, https://portal.nexenta.com, with your account
5. Register the NexentaFusion instance using the copied machine GUID.

This registering feature is available beginning with the NexentaFusion 1.1.0 release.

Configuring NTP and TimeZone

If you installed NexentaFusion as a Docker container, use the tz parameter in the Docker run command to change the timezone. It cannot be changed using the Fusion UI.

If you installed NexentaFusion as an OVA or as an AWS AMI, you can edit the NTP server. You can synchronize the NexentaFusion time setting with the NTP server, or manually configure the time in the server time zone. To synchronize the NexentaFusion time setting with the NTP server, you must add a reachable NTP hostname. This section demonstrates how to automatically synchronize the NexentaFusion time setting with the NTP server, as well as how to manually configure the date and time.

Use the following sequences to configure date and time for the NexentaFusion server:

1. Log in to NexentaFusion as an administrator, click the Main COG in the top right corner of the window, and select Settings from the drop-down list.
2. In the left panel, select Date/Time.
To set the server timezone:
1. Click the pencil icon to display the change timezone dialog. Select the server timezone country and locale.
2. Enter your login name, and click Save & Reboot.

To synchronize with the NTP server:
3. Click the time synchronization with NTP check box.
4. Enter the URL for the NTP server of your choice.
5. Click Save.

To set the date and time if NTP servers have been configured:
6. Click “SYNC NOW” to set the server time with the time retrieved from the NTP server.

To manually set the date and time:
7. Deselect the time synchronization with NTP check box.
8. In the Time in server timezone field, enter the hour, minutes, and seconds (hh:mm:ss)
9. Click inside the Date field, and select a date from the pop-up calendar.
10. Click Save.

Configuring NexentaFusion

For details on setting up the following, refer to Chapter 3: Configuring NexentaFusion in NexentaFusion User Guide.
• NexentaFusion SMTP email server,
• Local UI user accounts,
• Installing NexentaFusion SSL Certificates.

Registering NexentaStor Appliances

Follow these steps to connect the NexentaStor appliances you want to manage with the NexentaFusion interface.

Note
To register an appliance using NexentaFusion, the appliance must be licensed.

Clustered appliances must be licensed and configured using the CLI before they can be registered with NexentaFusion. Both clustered nodes must be up and running to successfully complete the registration process.

1. Log in to the NexentaFusion application.
2. Go to the Appliance List view and click on the Register Appliance button.
   • To register clustered nodes: If both nodes have the same credentials, enter FQDN or the IP address of one of the nodes in the cluster. Otherwise, you will be prompted for the IP of both nodes in the cluster.
   • To register a single node: enter its IP address.
3. You can edit the port number to override the default value and provide the associated details.
4. Follow the wizard prompts. See the NexentaFusion documentation for more details.
5. Verify the information on the Registration screen. You can enter additional settings now or later.
6. Click Confirm.
7. Repeat steps 2 to 6 for each additional NexentaStor appliance you want to manage.
Deploying NexentaCloud Appliances

For details on configuring and deploying a NexentaCloud instance in AWS using the NexentaFusion management console, refer to Chapter 6: Deploying NexentaCloud Appliances in NexentaFusion User Guide.

Reconfiguring the Network

This section is applicable only if you deployed NexentaFusion as an OVA.

To reconfigure the NexentaFusion network via the UI

1. Navigate to Fusion Main COG -> Fusion Settings -> Network
2. Make necessary network changes

To reconfigure NexentaFusion network via console wizard

1. Open NexentaFusion VM console
2. Click on "Reconfigure Network"
3. Make necessary network changes

Troubleshooting

- Unable to retrieve appliance events and analytics data:
  Make sure the management address is accessible by the Appliance. If you have used the hostname as the management address, make sure it is resolvable.
  Run the following command from the Appliance to verify if the node is bound to NexentaFusion.

  CLI@node> node status

  FUSION IP    LOG SEVERITY  ESDB SERVERS
  10.3.73.132  error         10.3.73.132 2

  If the appliance failed to bind, navigate to the NexentaFusion GUI and under Appliance list, select the relevant appliance, click on its COG and click Rebind appliance.

- Unable to access the UI after configuring the network:
  Check your network, make sure you have access to the IP address you are trying to use. Ensure that the gateway is configured.
Additional Resources

After installing NexentaFusion 1.2, use the resources listed here for more information. These documents are posted in https://nexenta.com/products/documentation.

**NexentaStor & NexentaFusion Unified Block & File Software-Defined Storage Product Guide**
This document includes an overview of NexentaStor and its core components, describes key features. This manual is intended as a guide to NexentaStor concepts and not as a configuration guide.

**NexentaStor 5.x Hardware Certification List (HCL)**
This document provides a list of certified hardware for NexentaStor 5.x and is intended for Nexenta Partners and Nexenta customer-facing organizations.

**NexentaStor 5.1 Installation Guide - RevA**
This document includes the instructions to install and upgrade NexentaStor.

**NexentaFusion 1.2 Installation Guide - RevA**
This document includes the instructions to install and upgrade NexentaFusion.

**NexentaStor 5.1 Data-At-Rest Encryption Configuration QuickStart - RevA**
This guide covers the details to protect the data at rest.

**NexentaFusion 1.2 User Guide and Online Help - RevA**
This user guide provides easy to follow step-by-step instructions for common configuration and monitoring tasks.

**NexentaStor 5.1 CLI Configuration Guide - RevA**
This configuration guide demonstrates the basic steps and commands to configure and manage NexentaStor 5.1 appliances.

**NexentaStor 5.1 CLI Reference Guide - RevA**
This reference guide provides a summary of the CLI commands. Use it in conjunction with the *NexentaStor 5.1 CLI Configuration Guide*.

**NexentaStor 5.1 HA CLI QuickStart - RevA**
This quickstart demonstrates the basic steps and commands to configure and manage the NexentaStor 5.1 High Availability (HA) cluster using the NexentaStor 5.1 Command Line Interface (CLI).

**NexentaStor 5.1 vCenter Plugin QuickStart - RevA**
This quickstart includes instructions to install NexentaStor 5.1 vCenter Web Client Plugin (vCenter Plugin), which enables VMware customers to configure and manage storage and virtualization through a single interface. You can use this plugin to access summary and detailed analytics and real time status monitoring of single and clustered NexentaStor appliances.

**NexentaStor 5.1 VVOL Admin Guide - RevA**
This admin guide describes the NexentaStor Virtual Volume (VVOL) solution. It provides instructions on how to deploy VVOL, integrate it with VMware vSphere, and enumerates storage operations it supports.

**NexentaStor 5.1 High Performance Replication (HPR) User Guide - RevA**
This user guide demonstrates how to configure High Performance Replication (HPR) to replicate datasets using the NexentaStor Command Line Interface (CLI).