



DefendX Software Mobility™ Proxy Service for EMC™

Installation Guide Version 8.2

This guide provides quick instructions for the installation of DefendX Software NAS Proxy Service, from an administrator's perspective. Upon completion of the steps within this document, DefendX Software NAS Proxy Service will be installed within your enterprise community.

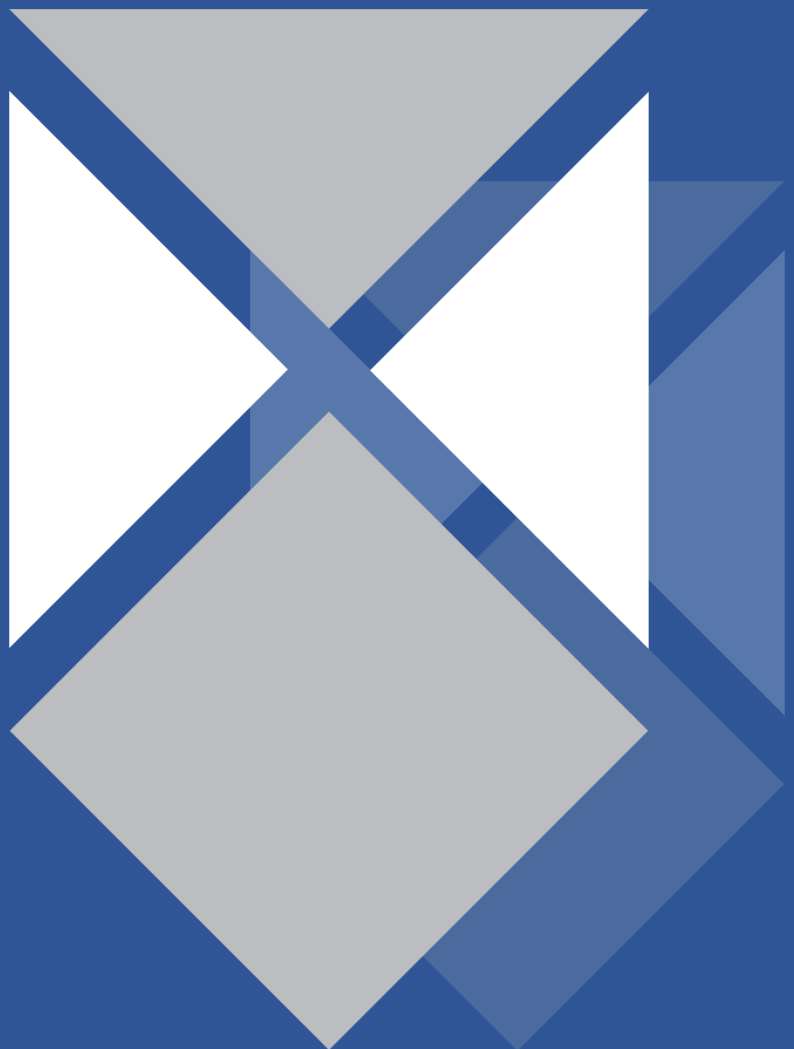


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Executive Summary

Thank you for your interest in DefendX Software Mobility™. The latest addition to the DefendX Software product portfolio, DefendX Software Mobility enables employees to archive files; users can select from a predefined set of criteria such as file size, age of last access, or other criteria (Right-Click Data Movement™), and organizations can also establish policies that automatically archive files once users reach their storage limits (Event-Driven Data Movement™). Both methods enable companies to control storage and operating costs and to expedite backups by moving files from a primary storage environment to lower-cost tiered storage.

DefendX Software Mobility, in its simplest form, moves the contents of a file to a storage medium and leaves behind a stub to identify where its contents are located so the file can later be restored by DefendX Software Mobility. This gives customers the ability to reduce storage requirements by providing old files only when needed.

The DefendX Software NAS Proxy Service is required to support tiering from one or more EMC VNX and Unity servers, using the Task Service for VNX/Unity, and leaving active stubs behind. An active stub is a file on primary storage that was tiered and replaced with a stub having the offline file attribute set. The offline file attribute enables the auto-recall feature.

Note: The EMC VNX should have a version of 8.1.5 or later otherwise active stubs and EMC CAVA events will not be supported; however, some earlier versions between 7.1.74.500 and 8.1.5 will work but not all.

The EMC Unity should have a version of 4.3 or later otherwise active stubs and EMC CAVA events will not be supported.

The DefendX Software NAS Proxy Service is not required in the following cases:

- When you do not want to tier files from any EMC VNX/Unity servers on the network.
- When none of the EMC VNX/Unity servers on the network have a supported version as stated above.
- When active stubs will not be used for tiering files from any EMC VNX/Unity servers on the network.

Requirements

This section highlights the main hardware and software requirements needed for a successful installation of DefendX Software NAS Proxy Service.

Hardware Specification

Your hardware should be appropriate for the services running on the machine. If the system is used only for file and print services, DefendX Software recommends the following:

- 1 GHz CPU
- 1 GB RAM
- 10 GB free disk space

Software Specification

Note: Only a single installation of the DefendX Software NAS Proxy Service will be needed on your network. The single instance is capable of supporting multiple EMC VNX and Unity servers. Each DefendX Software NAS Proxy Service server must be running:

- Microsoft Windows® Server 2012 or 2012 R2 and higher
- EMC CAVA service, (latest version, for example 8.2).
- EMC CIFS Management Tools

Note: The EMC CAVA service, the DefendX Software NAS Proxy Service and the DefendX Software Task Service for VNX/Unity are not required to be installed on the same Windows server. These three applications can be installed on separate Windows servers or they all can be installed on the same server or any combination.

Note: To avoid potential communication issues, The NAS Proxy service and the Task Service for VNX/Unity should run with the same service account.

EMC CAVA Service Installation

Note: .NET Framework 3.5 is required to be installed first before installing the EMC CEE service.

Install the latest EMC CEE service. After installation is complete, do the following:

- Run “Regedt32” and edit the registry key:

Note: If you installed the 32 bit version of CAVA then include the **Wow6432Node** in the path otherwise exclude it from the path.

- a. “HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\EMC\CEE\CEPP\CQM\Configuration”
- b. Change the “EndPoint” to a value of “ntp”
- c. Restart the EMC CAVA service.
- d. The EMC CEE Monitor service is not required and can be left in a stopped state if not desired.

EMC VNX Configuration

Verifying Dart Version, CIFS license and XML API Server:

1. The EMC VNX servers should be version 8.1.5 or later to support active stubs and EMC CAVA events; however, some earlier versions between 7.1.74.500 and 8.1.5 will work but not all.

To verify:

- a. SSH to the control station
- b. Type “server_version ALL” to view all dart versions

2. The control station must also have the CIFS license enabled.

To verify:

- a. Type “nas_license -l”
- b. If “CIFS online” is not displayed then to enable it type: “nas_license -c cifs”

3. The control station must also have the XML API Server enabled.

Note: Super User is required.

To see if it is started type:

- a. “cd /nas/sbin”
- b. “ps -A | grep -e 'start_xml_api*'”

To start it type:

- a. “cd /nas/sbin”
- b. “./start_xml_api_server”

Enabling Support for the Offline File Attribute on EMC VNX Servers:

By default, VNX servers do not support the offline file attribute, which is required for active stubs. To enable offline support perform the following steps:

1. SSH to the control station
2. Edit the "param" file located in "/nas/server/slot_2"
3. Set "param shadow offlinebitfilter=0"
4. Save the file

A sample param file contents using: "tail param" is shown here

```
param config cs_external_ip=10.30.3.221
param shadow offlinebitfilter=0
```

5. To have this change take affect you must run this command (Note: include the dbl-quotes):

```
.server_config server_2 -v "param shadow offlinebitfilter=0"
```
6. To Verify the value run this command (Note: include the dbl-quotes)

```
.server_config server_2 -v "param shadow"
```

Note: After running the command in Step 5, the VNX server does not need to be rebooted.

Enabling Support for Offline Events on EMC VNX Servers:

The EMC CAVA service must be configured to send events for files that have been stubbed and set with the offline file attribute. These events will be sent to the DefendX Software NAS Proxy Service.

To enable perform the following steps:

Note: This assumes the data mover name is “server_2”.

1. SSH to the control station.
2. Create a directory or use an existing one to copy the cepp.conf file to.
3. cd <directory>
4. Copy the cepp.conf using: “server_file server_2 -get cepp.conf cepp.conf”
5. Edit the “cepp.conf” file.

Note: If the cepp.conf file does not exist then follow the instructions for “Create the cepp.conf file” in <https://www.emc.com/collateral/TechnicalDocument/docu48055.pdf>

- The Windows server where the DefendX Software NAS Proxy Service is or will be installed must be entered in the list of “servers”. Multiple servers are delimited with a vertical bar.
 - The “preevents=OpenFileReadOffline|OpenFileWriteOffline” must be set so that only events for offline files will be sent to the DefendX Software NAS Proxy Service.
 - The “reqtimeout” and “retrytimeout” should be set to their maximum values of 5 seconds (5000 milliseconds).
 - An example cepp.conf file contents is shown here:
pool name=cqm \
servers=10.20.2.100 \
preevents=OpenFileReadOffline|OpenFileWriteOffline \
option=ignore \
reqtimeout=5000 \
retrytimeout=5000
6. Copy the cepp.conf back using: “server_file server_2 -put cepp.conf cepp.conf”
 7. Stop and Start the cepp service
 - a. “server_cepp server_2 -service -stop”
 - b. “server_cepp server_2 -service -start”
 8. Verify the status of cepp.
 - a. After the DefendX Software NAS Proxy Service has been installed, then you can verify that the EMC CAVA service and the DefendX Software NAS Proxy Service are communicating by typing:
“server_cepp server_2 -pool -info”
 - b. The state should show as “online” and the IP and server name should also reflect the Windows host where the DefendX Software NAS Proxy Service is installed.

Enabling “check\$” access on each of the EMC VNX Servers:

CAVA events for offline files are sent to the DefendX Software NAS Proxy Service containing the check\$ form of the path of the file’s location. When the DefendX Software Task Service for VNX receives the event it must have permissions to access the file using the check\$ path otherwise the auto-recall will fail.

To allow check\$ permissions perform the following steps:

1. Install or access the EMC CIFS Management Tools MMC snap-in.
2. For each Data Mover assign User Rights to the Windows login account used by the applicable DefendX Software Task Service for VNX service within the:
 - a. EMC Virus Checking
 - b. EMC Event Notification Bypass
3. Each Windows server containing a DefendX Software Task Service for VNX/Unity service must also be included in the list of servers in the cepp.conf file. This is also required for check\$ access.

Note: When displaying the cepp status using “server_ cepp server_2 -pool -info” on the control station, the state will appear as “offline” except for the Windows server having the DefendX Software NAS Proxy Service installed. The state of “offline” will not affect the other Windows servers; however, it will allow those Task Service for VNX service accounts access to check\$.

EMC Unity Configuration

Verifying Version and NAS Servers:

1. The EMC Unity servers should be version 4.3 or later to support active stubs and EMC CAVA events.

To verify:

- a. Type in the IP Address of the storage system into the address bar of your browser.
- b. View the software version shown on the “System – System View” page.

2. DefendX Software Mobility supports NAS Servers that have the SMB protocol enabled or both SMB and NFS protocols enabled.

To verify:

- a. Type in the IP Address of the storage system into the address bar of your browser.
- b. Choose the “NAS Servers” tab located on the “Storage – File” page.
- c. View columns “SMB Server”, “NFS Server” and “Multiprotocol”.

Enabling Support for the Offline File Attribute on EMC Unity Servers:

By default, Unity servers do not support the offline file attribute, which is required for active stubs. The Unity servers require version 4.3 or later. To enable offline support perform the following steps:

1. SSH to the Unity storage system. Note: To enable SSH:
 - a. Type in the IP Address of the storage system into the address bar of your browser.
 - b. Check to see if “SSH Protocol” is enabled in “System – Service – Service Tasks”
 - c. If not then select “Enable SSH” in the service list and press the Execute button.

2. The offline bit filter must be set to zero by running this command:

```
svc_nas ALL -param -facility shadow -modify offlinebitfilter -value 0
```

3. To Verify the value was set to zero run this command:

```
svc_nas ALL -param -facility shadow -list
```

Note: After running the command in Step 2, the Unity server does not need to be rebooted.

Enabling Support for Offline Events on EMC Unity Servers:

The EMC CAVA service must be configured to send events for files that have been stubbed and set with the offline file attribute. These events will be sent to the DefendX Software NAS Proxy Service.

To enable perform the following steps:

1. Type in the IP Address of the storage system into the address bar of your browser.
2. Choose the “NAS Servers” tab located on the “Storage – File” page.
3. Edit the applicable NAS Server.
4. Choose the “Protection & Events” tab.
5. Choose the “Events Publishing” tree selection.
6. Add the FQDN name or IP address of the Windows server that has the DefendX Software NAS Proxy service installed for the CEPA Server column. Note: If the NAS Proxy service is located on a different host than the DefendX Software Task Service for VNX/Unity then you must also add the FQDN or IP address of that Windows server too.
7. Configure Pre-Events and check the “OpenFileReadOffline” and “OpenFileWriteOffline” events. Therefore only events for active stub files will be generated, i.e. active stub files are those files having the offline file attribute set.

Enabling “check\$” access on each of the EMC Unity Servers:

CAVA events for offline files are sent to the DefendX Software NAS Proxy Service containing the check\$ form of the path of the file’s location. When the DefendX Software Task Service for VNX/Unity receives the event it must have permissions to access the file using the check\$ path otherwise the auto-recall will fail.

To allow check\$ permissions perform the following steps:

1. Install or access the EMC CIFS Management Tools MMC snap-in.
2. For each NAS Server assign User Rights to the Windows login account used by the applicable DefendX Software Task Service for VNX/Unity service within the:
 - a. EMC Virus Checking
 - b. EMC Event Notification Bypass
3. Each Windows server containing a DefendX Software Task Service for VNX/Unity service must also be included in the “Events Publishing” list of CEPA Servers. This is also required for check\$ access; therefore if the Windows server was not added in the previous section of “Enabling Support for Offline Events”, then follow the steps in that section to add it.

Installing DefendX Software NAS Proxy Service

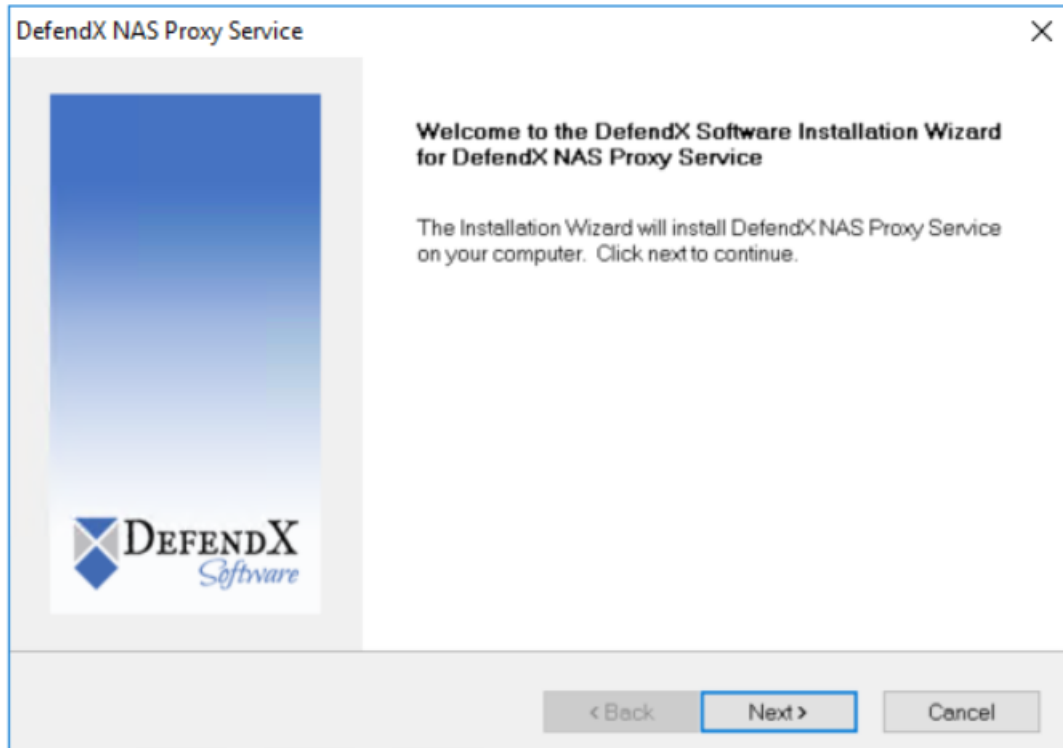
Prior to installing DefendX Software NAS Proxy Service, DefendX Software recommends verifying that the installation server meets the requirements listed in the *Requirements* section of this document.

A single instance of the DefendX Software NAS Proxy Service is required. If the DefendX Software NAS Proxy Service has already been installed on your network, then you can skip this step.

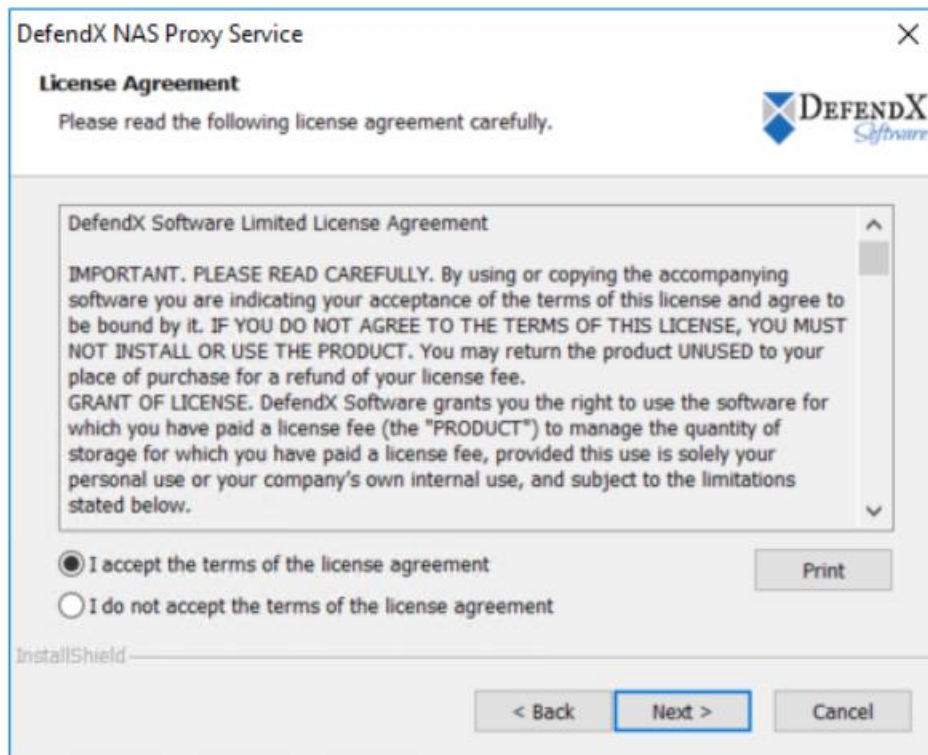
Note: The NetBIOS name of this Windows server containing the DefendX Software NAS Proxy Service must be entered into the DefendX Software Mobility Administration – Additional Configuration – Default NAS Proxy Server page.

To install DefendX Software NAS Proxy Service, perform the following steps:

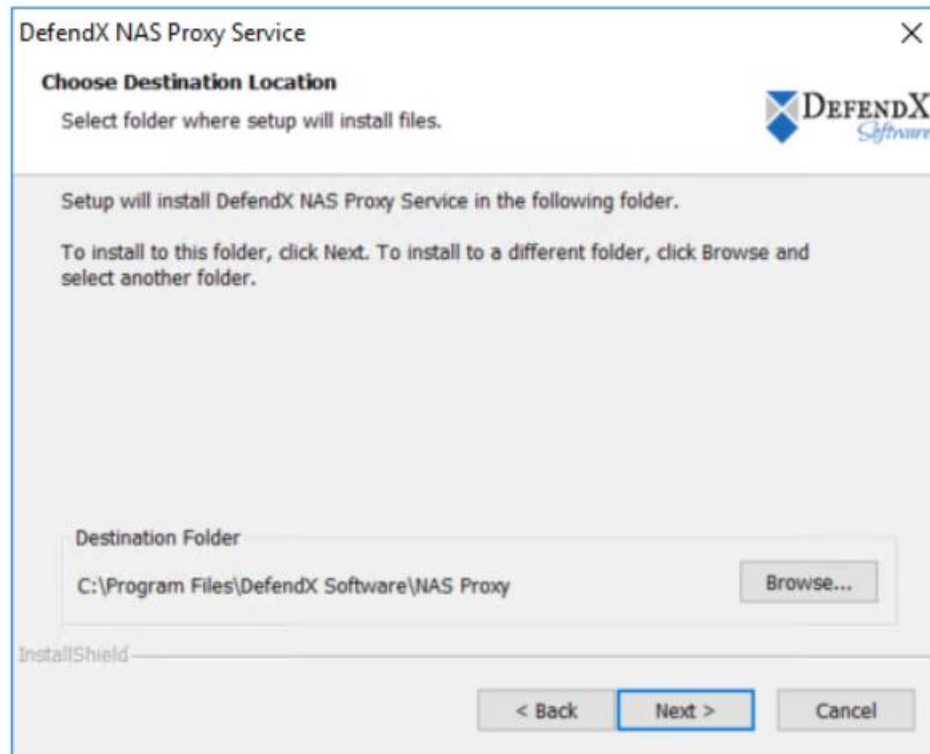
1. Log on to your Windows machine by using an account with administrator privileges.
2. Launch the **Setup.exe** file.
3. When the **Welcome** dialog box appears, click **Next**.



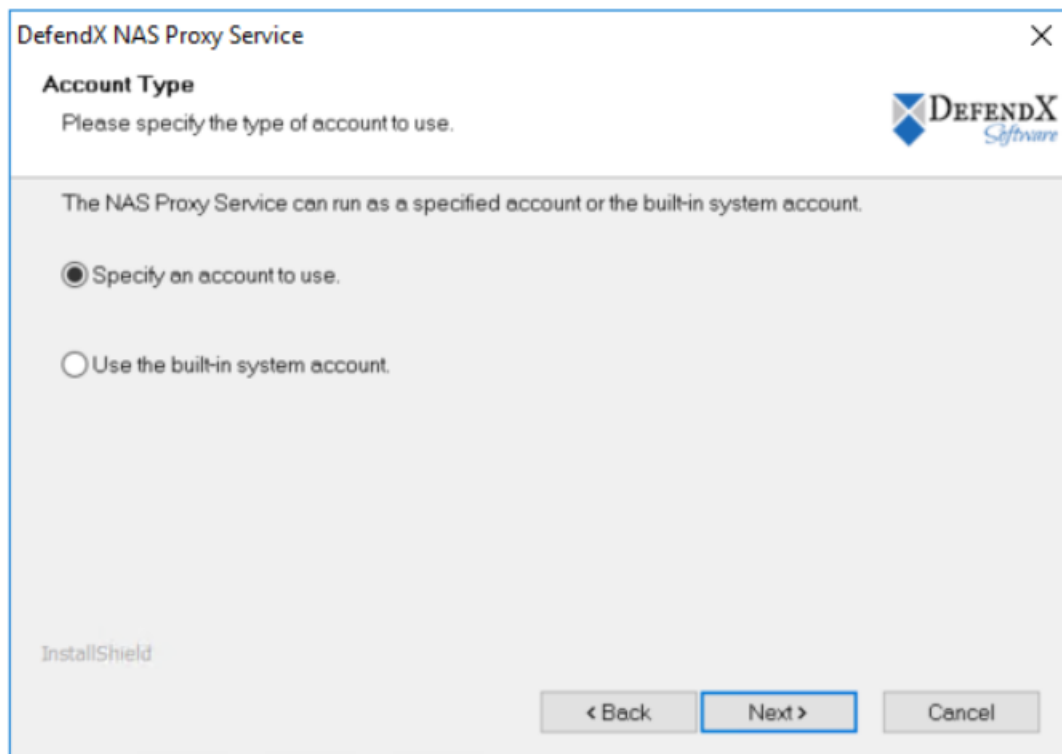
4. In the **License Agreement** dialog box, read the end-user license agreement. If you agree to the terms, select **I accept the terms of the license agreement** and then click **Next**. If you do not accept the terms, click **Cancel** to exit the installation.



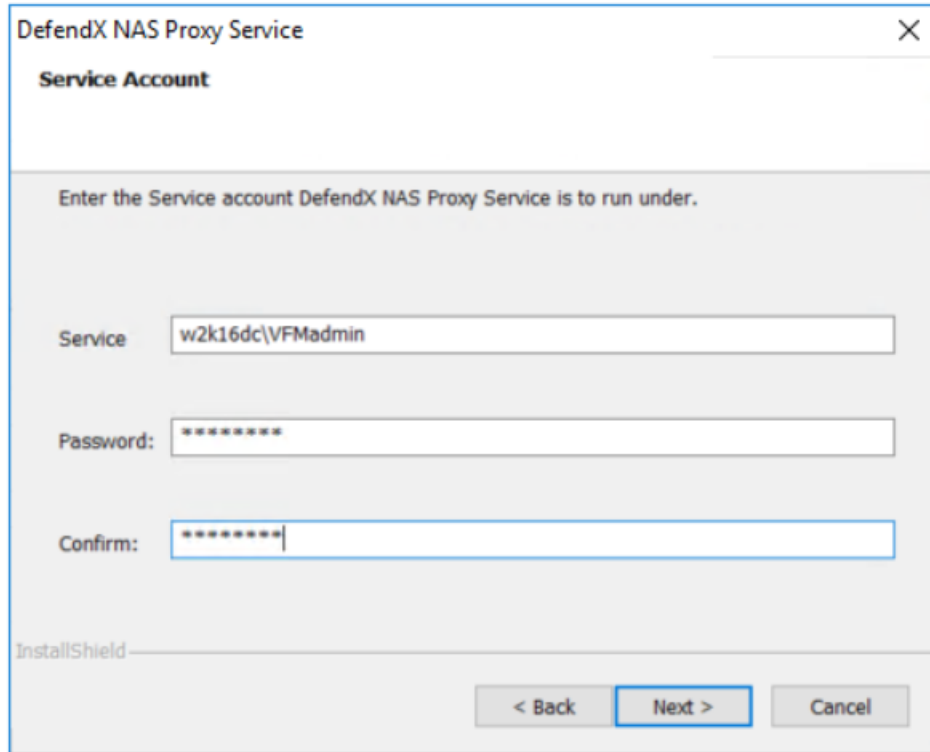
5. In the **Choose Destination Location** dialog box, click the **Browse** button to specify the destination location for the software installation. Click **Next**.



6. In the **Account Type** dialog box, specify the account type to use. Click **Next**.



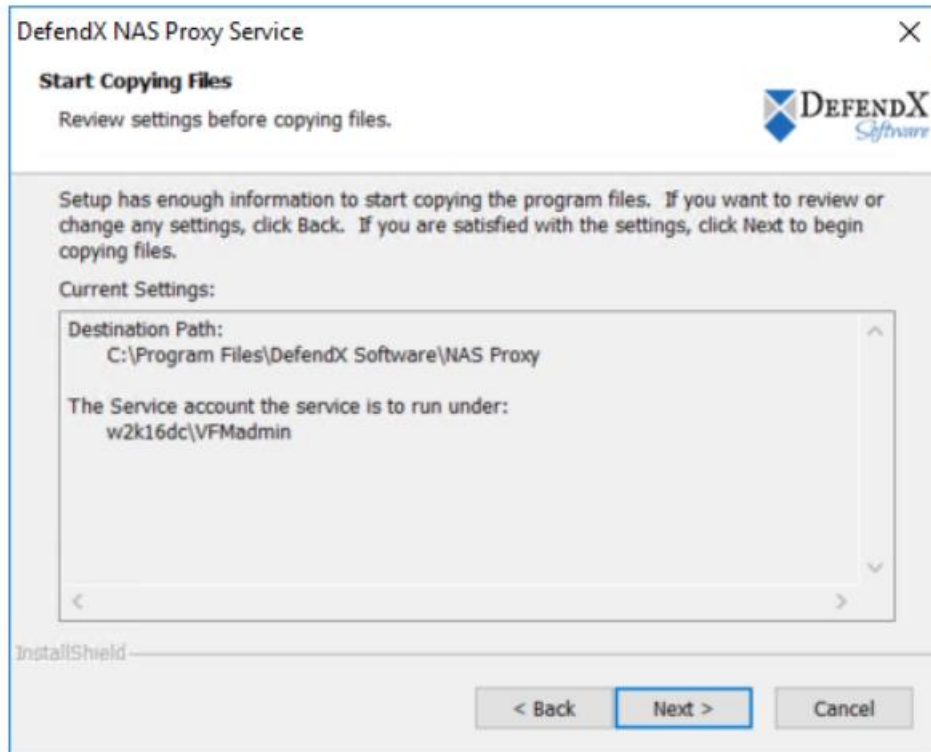
7. In the **Service Account** dialog box, specify the service name and password under which the NAS Proxy Service should run, and click **Next**.



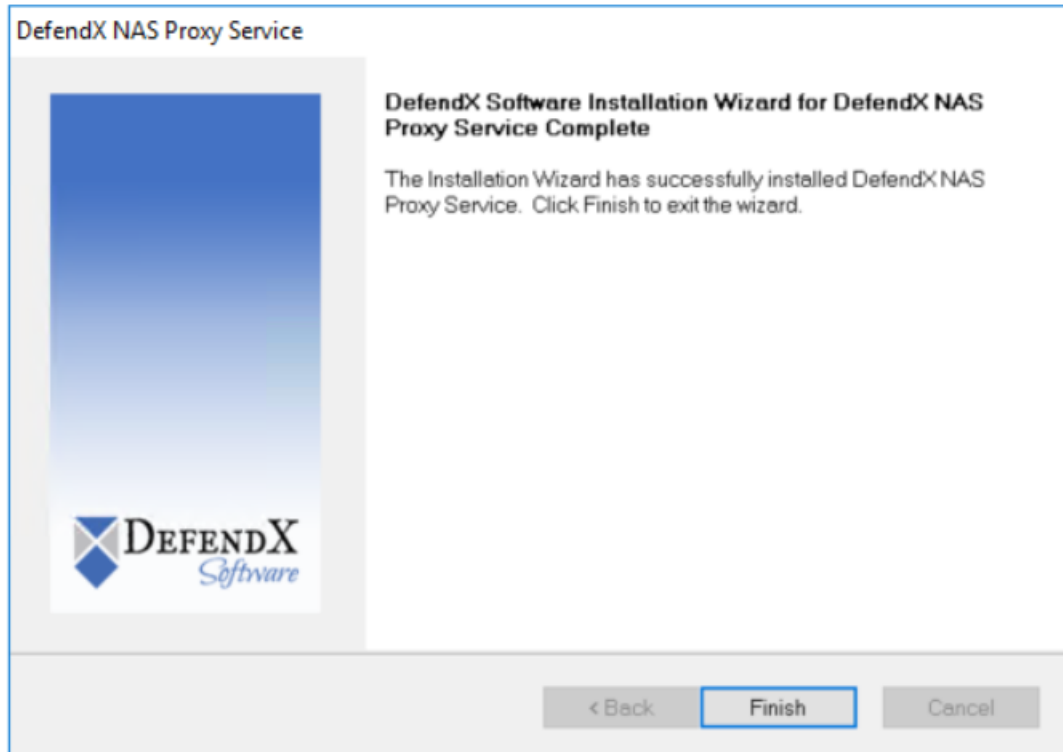
The screenshot shows a dialog box titled "DefendX NAS Proxy Service" with a close button (X) in the top right corner. Below the title bar, the text "Service Account" is displayed. A horizontal line separates this from the main content area, which contains the instruction "Enter the Service account DefendX NAS Proxy Service is to run under." Below this instruction are three input fields: "Service" containing "w2k16dc\VFAdmin", "Password:" containing "*****", and "Confirm:" containing "*****". At the bottom left of the dialog, the text "InstallShield" is visible. At the bottom right, there are three buttons: "< Back", "Next >" (which is highlighted with a blue border), and "Cancel".

NOTE: This step will only display when "Specify an account to use" was chosen on the previous step.

8. In the **Start Copying Files** dialog box, review your settings. Click **Back** to make any changes; otherwise, click **Next** to begin copying the files.



9. When all files are copied, a final screen informs you that the installation is complete. Click **Finish** to complete the process.



About DefendX Software

DefendX Software helps organizations secure their critical business files and maximize the value of their enterprise file storage resources. From comprehensive intelligence, modeling, costing and chargeback to seamless file movement, protection and archiving, DefendX provides industry-leading capabilities to eliminate waste and align the value of files with the storage resources they consume. With DefendX, important file locations and the users who access them can be monitored to provide governance, protect against theft and enforce compliance policies. For more than 20 years, DefendX Software has been helping public and private sector customers around the world save money and eliminate risk every day.

DefendX Software Professional Services

DefendX Software's Professional Services offers consulting, training, and design services to help customers with their storage management challenges. We have helped hundreds of customers to implement cost-effective solutions for managing their storage environments. Our services range from a simple assessment to in-depth financial analyses.

For further assistance in creating the most cost-effective Storage Management Infrastructure, please contact your DefendX Software Representative at 800-390-6937.

Legal & Contact Information

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