

Veritas Appliance Management Guide

Release 3.1

VERITAS™

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Release 3.1

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Introduction

This chapter includes the following topics:

- [Overview](#)
- [About the Appliance Management Console](#)
- [About the Appliance Management Server](#)
- [About the Appliance Management Agent](#)
- [About the AMS and the agent topology](#)

Overview

The Veritas Appliance Management Console is a centralized management interface for multiple appliances. It enables a single administrator to manage many appliances simultaneously. This functionality is available with NetBackup Appliance 3.1.

The Appliance Management Console is hosted on an Appliance Management Server (AMS). You can add or remove configured appliances from the Appliance Management Console.

From the Appliance Management Console, you can perform the following tasks:

- Upgrade selected appliances at the same time
- Install emergency engineering binary file (patch) on selected appliances
Emergency engineering binary files are customer-related fixes that are incorporated into each release.

The *Appliance Management Guide* provides the processes you need to manage multiple appliances within a centralized management interface.

About the Appliance Management Console

The Appliance Management Console is a web-based graphical user interface that lets you centrally manage multiple NetBackup appliances from a single pane. It provides enterprise-wide monitoring and management of NetBackup appliances. The console enables you to upgrade and install emergency engineering binary files (EEB) on multiple appliances at the same time.

A management interface saves time and money especially when you have multiple appliances in your environment. Logging on to each individual appliance for upgrades or installing EEBs is not required. The managed appliances can exist on one network or on segregated networks, which are visible to one management network.

With 3.1 and later, two web-based graphical user interfaces are available with the NetBackup appliances. You can choose to use either of the following based on your requirements:

- NetBackup Appliance Web Console
The NetBackup Appliance Web Console relates to management and configuration of an individual appliance.
- Appliance Management Console
If you configure an appliance as an AMS, you can access the Appliance Management Console for the specific appliance. The Appliance Management Console is a management interface that can be used for upgrading or installing EEBs on multiple NetBackup appliances.

The following are the capabilities of the Appliance Management Console:

- Display managed servers on the Home page.
- Upgrade multiple appliances with the same version.
- Apply an EEB to multiple appliances with the same version. Only a single EEB is applied at one time on multiple appliances.
- View all installations or upgrades that are currently in progress from the Activity Monitor. You can also view events on the Appliance Management Server from Monitor > Events.

Note: The installations or upgrades must be started from the Appliance Management Console for them to be visible in the Activity Monitor.

About the Appliance Management Server

The following components are key to appliance management:

- Appliance Management Server (AMS)
- Appliance Management Agents (Agents)

Any configured NetBackup appliance with version 3.1 or later can be set as an AMS. An AMS can be a master or a media server. AMS configuration does a number of things like creating a database and a repository. The AMS takes the operational data that is sent by agents and inserts it into the database. There is no limit on the maximum number of agents per AMS.

A single management server manages multiple agents in an environment. Any configured NetBackup appliance with version 3.1 or later can be set as agent. An agent can be a master or a media server. All the agents connect and communicate with the AMS on port 443 (https) via REST API calls. The agents can be located in a single enterprise datacenter or in multiple enterprise datacenters. If agents are in multiple datacenters, all agents are assumed to belong to the same enterprise network infrastructure, that is, they can all connect to each other's IP addresses directly by some form of enterprise-wide VPN. Communication between all components in the same system is secure, based on trusted identity certificates and security tokens. This secure communication infrastructure is deployed during AMS installation and when agents are added to the Appliance Management Console. The security is maintained as certificates and tokens expire or are revoked when agents are removed from the Appliance Management Console.

Note: An appliance can either be an agent or an AMS and not both.

Only authenticated and authorized AMS administrators can issue AMS commands and control agent nodes. All agents periodically send some state information to the AMS. The flow of information from agents to the AMS is secure and continuous, supporting collection of key time-series data, such as storage consumption, and significant events.

The AMS user role manages appliances from a web-application that is hosted on the AMS. This is called the Appliance Management Console. The Appliance Management Console provides enterprise-wide monitoring and management of NetBackup appliances. It enables you to upgrade and install EEBs on appliances that have the same version. You can always log on to a dedicated appliance and use the NetBackup Appliance Web Console for all the other tasks.

About the Appliance Management Agent

Once an AMS is configured, an `AMS` user must add the appliances to the Appliance Management Console. A NetBackup appliance must register with the Appliance Management Console as an agent. The agent registration process involves

generating an access key from the Appliance Management Console and pasting this key into the agent shell menu.

See [“Adding an appliance to the Appliance Management Console”](#) on page 19.

Once the agents are added, the AMS user can then manage the agents from the Appliance Management Console. All the agents connect and communicate with the AMS on port 443 (https) via REST API calls.

Note that an appliance can either be an agent or an AMS.

The following scenarios are not supported:

- Elevating an agent to become an AMS is not supported.
- Changing the management role of an AMS to agent is not supported.

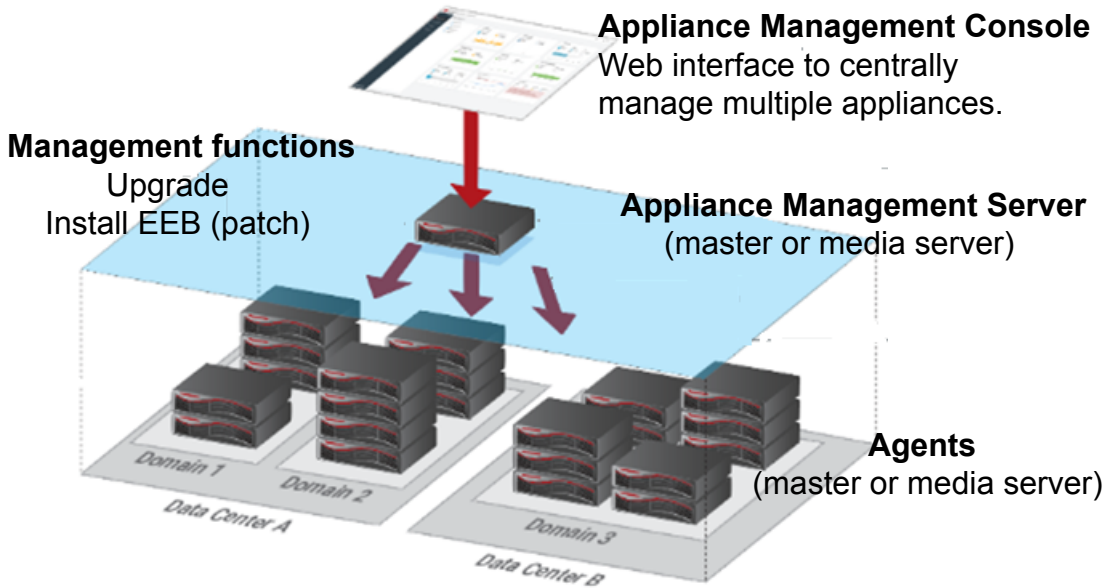
About the AMS and the agent topology

This topic explains how you can set the topology to enable central management of appliances.

A topology consists of one AMS that manages multiple agents. You can have multiple such topologies in your environment depending on workload and performance.

[Figure 1-1](#) shows the AMS and the agent topology.

Figure 1-1 AMS and agent topology



Note: Only one AMS is supported in a topology.

Configuring an appliance as an AMS

This chapter includes the following topics:

- [Configuring an appliance as AMS](#)
- [Setting the management role of an appliance as AMS](#)
- [About the AMS user role](#)
- [Granting the AMS role to a user or a user group](#)
- [Logging on to the Appliance Management Console](#)

Configuring an appliance as AMS

You can configure any 3.1 NetBackup appliance as an Appliance Management Server. The AMS can be a master or a media server.

Use the following procedures to configure an appliance as AMS:

Table 2-1 Configuring an appliance as AMS

Step No.	Description	Link to topic
1.	Set the management role of the appliance as AMS.	See "Setting the management role of an appliance as AMS" on page 11.
2.	Grant the AMS role to a user or a user group.	See "About the AMS user role" on page 12.

Table 2-1 Configuring an appliance as AMS (*continued*)

Step No.	Description	Link to topic
3.	Access the NetBackup Appliance Web Console login page on the AMS and log on with the AMS user credentials. You can access the Appliance Management Console.	See “Logging on to the Appliance Management Console” on page 14.
4.	Add the appliances that you want to manage.	See “Adding an appliance to the Appliance Management Console” on page 19.

Setting the management role of an appliance as AMS

You can set the management role for a NetBackup appliance. If you want to centrally manage multiple NetBackup appliances in your environment from the Appliance Management Console, you must set the management role of the appliances. In an environment, you can have one AMS that manages multiple agents.

Review the following prerequisites before setting the management role of an appliance as AMS:

- Any appliance with version 3.1 or later can be set as an Appliance Management Server (AMS).
- The appliance must be configured as a master or media server.
- You can either set the management role of an appliance as AMS or an agent and not both.
- Once an appliance is set as an AMS, you cannot change the management role. The management role is reset only when a factory reset is performed on the appliance.
- If you install your own certificate on the AMS or change the hostname of the AMS, then all the agents that were already registered must be added again. Similarly if you install your own certificate on the agent or change the hostname of the agent, then the agent must be added again to the AMS.

To set the management role of an appliance as AMS

- 1 Log on to the NetBackup Appliance Shell Menu. This should be the appliance that you want to set as AMS. The appliance must be version 3.1 or later.
- 2 Navigate to the **Appliances** menu.
- 3 Run the following command:

```
Management Server
```

- 4 The following message is displayed:

```
[INFO] The Appliance Management Server is successfully configured.  
Use the NetBackup Appliance Shell Menu to create an appliance user  
(Local/LDAP/AD)with the AMS role.  
Log on to the NetBackup Appliance Web Console with this account.
```

About the AMS user role

To enhance security, each user can be assigned a different role. Roles enable you to restrict system access to a set of privileges. A role can be applied to an individual user, or it can be applied to a group that includes multiple users. The user roles that are described in this topic are specific to LDAP, Active Directory (AD), and NIS users.

The following describes the user roles and their associated privileges:

User role	Privileges
Administrator	User can access the following: <ul style="list-style-type: none">■ NetBackup Appliance Web Console■ NetBackup Appliance Shell Menu■ NetBackup Administration console
AMS	Appliance Management Console that is hosted on the AMS
NetBackupCLI	NetBackup command line

Review the following considerations for an AMS user:

- An AMS user can access the Appliance Management Console on the AMS. An AMS user cannot access the NetBackup Appliance Shell Menu or the NetBackup Appliance Web Console on the AMS.
- Only an Administrator can grant the AMS role to a user from the NetBackup Appliance Shell Menu on the AMS.

- Before you grant the `AMS` role, you must configure AMS on the appliance. See [“Configuring an appliance as AMS”](#) on page 10.

Granting the AMS role to a user or a user group

You can grant the **AMS** role to a user from the NetBackup Appliance Shell Menu on the AMS. Ensure that AMS is configured on the appliance where you want to grant an AMS user role.

To know more about creating a user or a user group, see the *NetBackup Appliance Administrator's Guide*.

To grant AMS role to a user

- 1 Log on to the NetBackup Appliance Shell Menu on the AMS as an Administrator. Only an Administrator can grant an AMS user role.
- 2 Navigate to Main > Settings > Security > Authorization.

- 3** You can grant the AMS role to a user or a group. Use either of the following commands:

```
Grant AMS Users users
```

Example: `Grant AMS Users garry`

Here, *users* is a comma-separated list of local users, or registered users that have been added to the appliance from a configured remote directory service (such as LDAP, AD, or NIS).

```
Grant AMS Group groups
```

Here, *groups* is a comma-separated list of registered user groups that have been added to the appliance from a configured remote directory service (such as LDAP, AD, or NIS).

- 4** You can use the `List` command to verify the role of the user or user group.

Example:

```
nbapp.Authorization> List
```

Principal Type	Name/login	Access	Role	Principal Source
User	garry	Allowed	AMS	Local
Group	NBALocalAdmins	Allowed	Administrator	Local
Group	AMSadmin-grp	Allowed	AMS	Local

Logging on to the Appliance Management Console

You must do the following before you can access the Appliance Management Console:

- Set the management role of an appliance as AMS.
 See [“Setting the management role of an appliance as AMS”](#) on page 11.
- Grant `AMS` role to a user on the AMS
 See [“About the AMS user role”](#) on page 12.
 See [“Granting the AMS role to a user or a user group”](#) on page 13.

Once you meet these prerequisites, open the NetBackup Appliance Web Console login page on the AMS by using a supported browser and log on as an `AMS` user to access the Appliance Management Console. The login page can be used for logging

on to the Appliance Management Console and also the NetBackup Appliance Web Console. You must enter `AMS` user credentials to access the Appliance Management Console. If you enter the regular admin credentials on the login page, you can access the NetBackup Appliance Web Console for the specific appliance.

[Table 2-2](#) lists the recommended browsers for accessing the Appliance Management Console.

Table 2-2 Recommended browsers for Appliance Management Console

Browser	Supported version
Mozilla Firefox	52.0.0 and later
Google Chrome	57.0.2987 and later

Note: Internet Explorer 11.0 and later versions are also supported.

The procedure to access the Appliance Management Console from the login page is described as follows.

To log on to the Appliance Management Console

Note: Before logging on the Appliance Management Console, you must set the appliance as AMS. You must also grant an AMS role to a user from the AMS shell menu.

- 1 On a system that has a network connection to the appliance, start a web browser.

[Table 2-2](#) lists the recommended browsers for accessing the Appliance Management Console.

In the web browser address bar, enter the following:

https://host.domain where host.domain is the fully qualified domain name (FQDN) of the AMS and can also be an IP address.

The hostname is the label that is assigned to your appliance to identify the device in your network.

- 2 Enter the credentials of a user with an AMS role.

You can access the Home page on the Appliance Management Console.

Note: You must enter AMS user credentials to access the Appliance Management Console. If you enter the regular admin credentials on the login page, you will access the NetBackup Appliance Web Console for the specific appliance.

Managing appliances from the Home page

This chapter includes the following topics:

- [Home page](#)
- [Adding an appliance to the Appliance Management Console](#)
- [Removing one or more agents from the Appliance Management Console](#)
- [Managing the Repository](#)
- [Changing passwords from the AMS](#)
- [Managing appliance software upgrades](#)
- [Managing EEB installation](#)
- [Logging out of the Appliance Management Console](#)

Home page

When you open the NetBackup Appliance Web Console login page and log in as an `AMS` user, you can access the home page on the Appliance Management Console. This page is displayed after you have configured the appliance role as a media server or a master server.

From the Home page, you can add the appliances that you want to manage (agents). Only NetBackup 3.1 appliances that are configured as a master or a media server can be added.

Figure 3-1 Home page

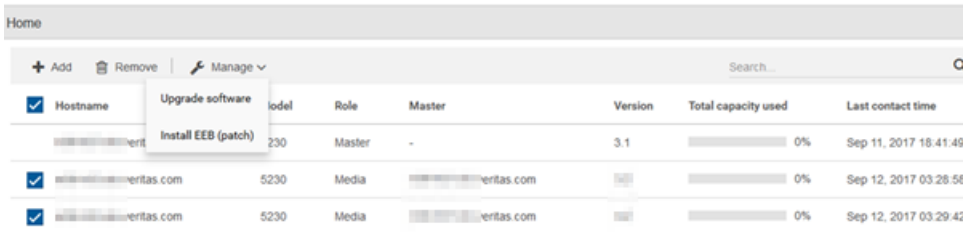


Table 3-1 describes each column that appears on the Home page.

Table 3-1 Home page

Column	Description
Hostname	Displays the hostname (FQDN) of the agents that are managed from the Appliance Management Console.
Model	Displays the hardware model of the agent
Role	Role of the agent like master or media
Master	Associated master server of the agent. This field is blank if the agent itself is a master server.
Version	Version of the appliance software.
Total capacity used	Used capacity on the agent. This includes all partitions like MSDP, AdvancedDisk, Shares, Configuration, and so on. The used capacity is shown graphically in percentage.
Last contact time	Displays the time when either of the following occur: <ul style="list-style-type: none"> ■ EEB is installed ■ Upgrade is performed ■ Inventory data is received from the specific agent

You can add the appliances that you want to manage by clicking **Add**. You can also remove the selected agents by clicking **Remove**.

Use **Manage** to upgrade software or install EEB (patch) on selected agents. You can also search for specific hostnames, versions, or models on this page.

Note: You cannot upgrade or install EEB on an AMS.

See [“Adding an appliance to the Appliance Management Console”](#) on page 19.

See [“Removing one or more agents from the Appliance Management Console”](#) on page 21.

Adding an appliance to the Appliance Management Console

You can add multiple appliances to be managed by an AMS. You can add these appliances from the Appliance Management Console. Only 3.1 or later appliances that are configured as a master or media server can be added.

Adding an appliance requires that mutual authentication be performed between agent and management server before the exchange of information between them. To secure the authentication process between the two, each agent must be registered to the AMS by using an access key. The access key should be copied from the **Add Appliance** page on the Appliance Management Console and then pasted it into the shell menu of each agent. This leads to secure communication between AMS and the agent.

Review the following pointers about the access key:

- The access key is 32 characters in length.
- You can use the same access key for multiple agents.
- The access key does not expire unless you click **Regenerate**.
- You can always regenerate the access key and command as needed. Once you regenerate the access key, the previous access key and command are not valid.

Review the following considerations before adding an appliance to the Appliance Management Console:

- You must add an appliance to only one AMS. Adding an appliance to two or more different management servers is not supported
- If an appliance is already managed by the AMS and you add the same appliance to the same AMS again, it does not result in an error message. The AMS and agent will continue to work normally.
- Consider a scenario where an agent is being managed by an AMS and then a factory reset is performed on the specific agent. In this case, the agent is still displayed on the Home page in the AMS but some of the operations performed on that agent will fail. There will be no other indication on the AMS that the agent is no longer added to the AMS. To resolve this issue, you can remove the agent

from the Appliance Management Console and then add the agent again to the specific AMS.

- Once an appliance is configured as an agent, changing its management role to AMS is not supported.

To add an agent

- 1 Open the NetBackup Appliance Web Console login page on the AMS. Log on as a user with `AMS` role to access the Appliance Management Console.

See “[Logging on to the Appliance Management Console](#)” on page 14.

- 2 On the **Home** page, click **Add**.
- 3 On the **Add Appliance** page, you have the option of either copying the full command or only the access key. Do one of the following:
 - Click **Copy Command** to copy the full command.
 - or
 - Click **Copy Access Key** to copy only the access key. With this option, you need to type the command into the agent shell menu in step 4.

Add Appliance

Copy the access key or the command, log on to the agent, then paste into the shell menu. You can use the same access key for multiple agents.

```
4477733421e038a99c34903f5db2d971
```

Copy Access Key

Paste this key into the Appliance menu

OR

```
Management Agent Register @msdemo.esgba.veritas.com 4477733421e038a99c34903f5db2d971
```

Copy Command

Paste this command into the Appliance menu.

You can click **Regenerate** if you want to generate a new access key. Once you regenerate the access key, the previous access key and command are not valid.

- 4 Log on to the NetBackup Appliance Shell Menu on the agent appliance. Do one of the following based on if you copied the access key or the whole command:
 - If you clicked **Copy Command**, browse to the **Appliance** menu and then right-click to paste the command. Proceed to step 5.
 - If you clicked **Copy Access Key**, browse to the **Appliance** menu.

Type the following command to configure the appliance as an agent:

```
Management Agent Register <server> <access key>
```

Here <server> is the hostname or IP address of the AMS. Paste the access key into the shell menu.

- 5 The following information is displayed on the agent shell menu:

```
[INFO] Preparing to set this appliance as an agent...  
[INFO] Establishing a secure connection with the AMS...  
[INFO] This appliance is now set as an agent and registered  
to the AMS <hostname>.
```

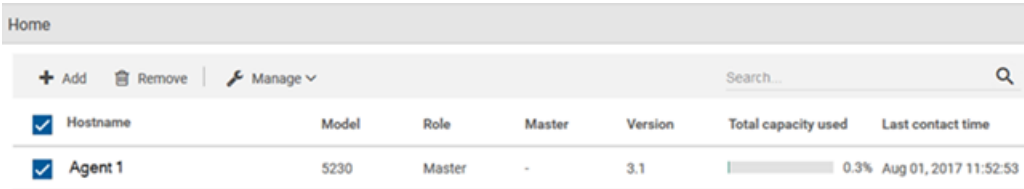
- 6 Go to the Appliance Management Console and refresh the browser. The agent should be there in the list of appliances on the Home page.

Removing one or more agents from the Appliance Management Console

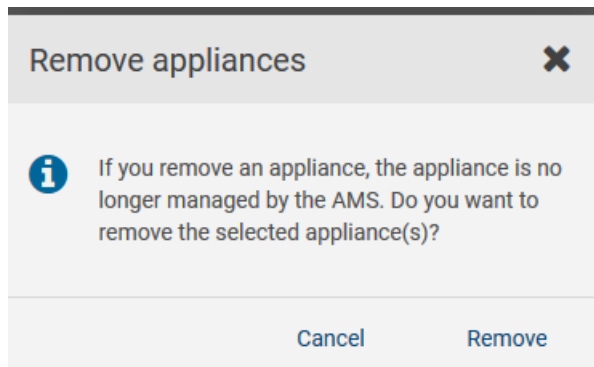
Use the following procedure to remove one or more agents from the Appliance Management Console.

To remove one or more agents

- 1 On the Home page, select the agents that you want to remove.



- 2 Click **Remove**.
- 3 The following dialog box is displayed:



Click **Remove** to remove the selected appliances. The appliance is removed and is no longer managed from the Appliance Management Console.

Managing the Repository

The **Repository** page lets you manage the upgrade packages and the Emergency Engineering Binary (EEB) files that you can store on the Appliance Management Server (AMS).

The following provides a brief description of each package:

- Upgrade package (Release Update)
 These packages upgrade all appliance applications including the operating system, the appliance software, and NetBackup software.

- **EEB file (Patch)**

These files fix a specific problem for a specific appliance software version.

The following describes the functions for managing the repository and the details that appear for packages or files that reside in the repository:

- **Add** Opens a dialog box where you can locate and select a package or a file to add to the repository. When adding packages or files to the repository, the most recent addition appears at the top.
- **Remove** Lets you remove selected packages or files from the repository.
- **File name** The complete package or file name.
- **Type** The package or the file type; **Upgrade** or **EEB**.
- **Size** The package or the file size.
- **Version** The software version of the upgrade package or the appliance software version that pertains to the EEB file.

The following shows an example of an empty repository before any files or packages have been added:



The following shows an example after an upgrade package has been added:



Guidelines for adding packages or files to the Repository

Use the following guidelines when adding packages to the Repository:

- Add upgrade packages or EEB files that have been downloaded only from the Veritas Support site.
- Do not change or modify the upgrade or EEB file names.
- Do not add a package or a file that is larger than 10 GB.
- Before adding a package or a file, make sure that the repository has enough space to accommodate it.

Note: After an upgrade to version 3.1, before adding any packages or files to the repository you must first increase the size of the `/config` partition to 150 GB. Log in to the NetBackup Appliance Shell Menu and navigate to the `Main_Menu > Manage > Storage` view. Next, run the following command to resize the partition to 150 GB:
`Resize Configuration 150GB.`

Adding upgrade packages or EEB files to the Repository

Adding upgrade packages or EEB files to the repository consists of the following tasks:

- Download the package or the file from Veritas.
- From the AMS, locate the downloaded package or file and add it to the Repository.

Use the following procedure to download and add upgrade packages or EEB files to the Repository.

To download and add upgrade packages or EEB files to the Repository

- 1 From a computer within your appliance domain, download the appropriate package or file from Veritas.
- 2 From the same computer, open another browser window and log in to the **AMS** as the AMS user.
- 3 On the **Home** page, click **Settings**.
- 4 On the **Settings** page, click **Repository**.
- 5 On the **Repository** page, click **Add**.
- 6 In the dialog box that appears, do the following:
 - At the top of the dialog box, click on the drop-down and navigate to the location where you downloaded the package or the file from Veritas.
 - Select the downloaded package or file from the list of items that appears, then click **Open**.
The package or the file should appear at the top of the list on the **Repository** page.

Removing upgrade packages or EEB files from the Repository

Use the following procedure to permanently remove any upgrade packages or EEB files from the **Repository**.

To permanently remove upgrade packages or EEB files from the Repository

- 1 Click the check box next to any packages or files that are no longer needed. To select all packages and files, click the check box that appears above the first item in the list.
- 2 Click **Remove**.

Changing passwords from the AMS

The **Change password** page allows a logged-in user to change their password. New passwords must meet the requirements of the password policy that is currently enforced.

By default, all NetBackup appliances enforce the following password rules:

- Eight or more characters
- At least one lowercase letter
- At least one number (0-9)

Note: Uppercase letters and special characters can be included, but they are not required.

- Dictionary words are considered weak passwords and are not accepted.
- The last seven passwords cannot be reused, and the new password cannot be similar to previous passwords.

Use the following procedure to change the password for the current user.

To change the current user password

- 1 On the **Home** page, in the left column, click **Settings**.
- 2 On the **Settings** page, click **Change password**.
- 3 On the **Change password** page, enter the following information:
 - **Old password:** Enter the current password.
 - **New password:** Enter a new password.

- **Confirm new password:** Enter the new password again for confirmation.

4 Click Save.

If the new password is accepted, the following message appears: **Password changed successfully.**

If the new password is not accepted, the following message appears: **Password change failed.** Repeat the procedure and enter a valid password.

Managing appliance software upgrades

The **Upgrade software** page lets you manage and deploy software upgrades for multiple appliances, simultaneously.

The top of the page provides a description of each required task. As you complete a task and continue to the next one, the page refreshes with details and new column headings for the next step.

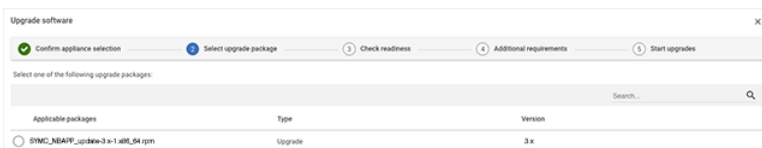
The following describes the details column headings for each task:

1 Confirm appliance selection



- **Selected appliances (n)** The host name of each appliance and the total number of selected appliances.
- **Role** The configured role for the selected appliance.
- **Master** The name of the associated master server for the selected appliance.
- **Version** The current software version on the selected appliance.

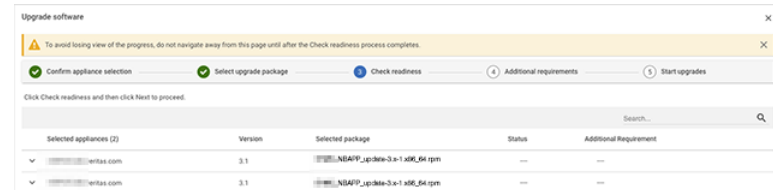
2 Select upgrade package



- **Applicable packages** The full name of each compatible upgrade package that resides in the **Repository**.

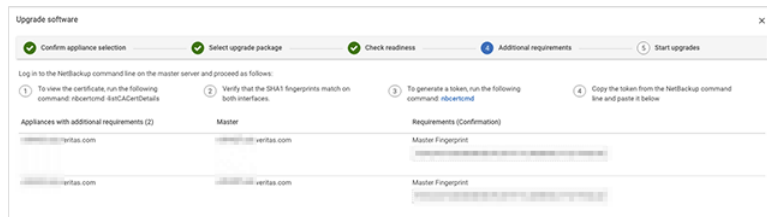
- **Type** The package type; **Upgrade**.
- **Version** The software version of each listed upgrade package.

3 Check readiness



- **Selected appliances (n)** The host name of each appliance and the total number of selected appliances.
- **Version** The current software version on the selected appliance.
- **Selected package** The name of the selected upgrade package for the appliance.
- **Status** The progress of the readiness check and the result after completion.
- **Additional requirements** Any requirements that are needed for a specific appliance, before the upgrade. Click **Next** to see the details.

4 Additional requirements



- **Appliances with additional requirements (n)** The host name of the affected appliance and the total number of affected appliances.
- **Master** The name of the associated master server for the selected appliance.
- **Requirements (confirmation)** A description of any required tasks to perform before the upgrade.
- **Requirements (input)** A data entry field to provide any required information.

5 Start upgrades



- **Selected appliances (n)** The host name of each appliance and the total number of listed appliances.
- **Version** The current software version of the appliance.
- **Selected package** The name of the selected upgrade package for the appliance.

Guidelines for multiple appliance upgrades

Use the following guidelines when planning for multiple appliance upgrades:

- Before you begin the upgrade process, download the appropriate upgrade package and add it to the Repository.
- When selecting the appliances to upgrade, select only those that use the same software version.
- Select only one upgrade package to deploy for all selected appliances. Simultaneous upgrades of different version upgrade packages are not supported.

Upgrading appliance software

Before you start any upgrades, make sure that you have already added the appropriate upgrade package to the Repository.

See [“Managing the Repository”](#) on page 22.

Use the following procedure to upgrade the appliance software.

To upgrade appliance software

- 1 On the **Home** page, select the appliances that you want to upgrade. All selected appliances must use the same software version. After completing the appliance selections, click **Manage > Upgrade software**.
- 2 On the **Upgrade software** page (**1 Verify appliance selection**), review and verify the displayed information for the appliances that you selected on the **Home** page. If the list is correct, click **Next**.

To make any changes, go back to the **Home** page and make them. Return to this page to verify your selections and click **Next**.

- 3 On the refreshed page (**2 Select upgrade package**), select the appropriate upgrade package in the **Applicable packages** column and click **Next**.

Note: Only one package can be selected.

- 4 On the refreshed page (**3 Check readiness**), click **Check readiness** to initiate the preflight upgrade check.

Note: Do not click **Back**, **Next**, or try to refresh the page during this task.

Watch the **Status** column for the progress and the results of the preflight check for each appliance. To see the detailed status of a single appliance, click on the down arrow next to the appliance name to expand that row.

After completion, the result for each appliance appears in this column. The **Additional requirements** column may also indicate if other action is needed. The following results are possible:

- **Successful**
The appliance has passed the readiness check and is ready for an upgrade.
- **Successful, Click Next for details.**
The appliance has passed the readiness check, but other tasks are required before the upgrade.
- **Failed**
The appliance has failed the readiness check and is not ready to upgrade. Click **Next**.

- 5 On the refreshed page (**4 Additional requirements**), review the information for any additional requirements. For appliances that require a certificate, a token, or both, steps to obtain these items appear above the table on the page. The following describes the steps.

Log in to the NetBackup command line on the master server and proceed as follows:

- **1 - To view the certificate, run the following command: nbcertcmd -listCACertDetails**
- **2 - Verify that the SHA1 fingerprints match on both interfaces.**
- **3 - To generate a token, run the following command: nbcertcmd.**
- **4 - Copy the token from the NetBackup command line and paste it below.**

Enter a valid token for each appliance that needs one.

Note: A valid token can only be obtained from the master server and it cannot be modified. An error appears if an invalid token is entered for any appliance and prevents you from clicking **Trust and continue**.

After you have entered a valid token for all of the affected appliances, click **Trust and continue**.

- 6** On the refreshed page (**5 Start upgrades**), click **Start upgrades**.

The **Activity monitor** appears so that you can watch the upgrade progress for all of the selected appliances. Expand the row of any appliance during the upgrade progress to see the step by step progress, as follows:

```
Step 1 of 8: hh:mm:ss, Performing the preflight check---
Step 2 of 8: hh:mm:ss, Performing the pre-upgrade self-test---
Step 3 of 8: hh:mm:ss, Creating the pre-upgrade checkpoint---
Step 4 of 8: hh:mm:ss, Performing the pre-upgrade tasks---
Step 5 of 8: hh:mm:ss, Upgrading the appliance software---
Step 6 of 8: hh:mm:ss, Upgrading NetBackup---
Step 7 of 8: hh:mm:ss, Performing the post-upgrade tasks---
Step 8 of 8: hh:mm:ss, Performing the post-upgrade self-test---
```

- 7** For any appliance that shows the state as **Paused**, expand that appliance row for complete details about how to proceed. A message prompts you to log in to the IPMI console and select one of the following options:

- Press the **A** key to attempt the self-test again.
- Press the **R** key to roll back the appliance to the previous software version. If you press **A** and the self-test fails again, press **R** to roll back to the previous version, or contact Technical Support for assistance.

Note: A rollback occurs automatically after one hour if you do not log in to the IPMI console and make a selection.

Managing EEB installation

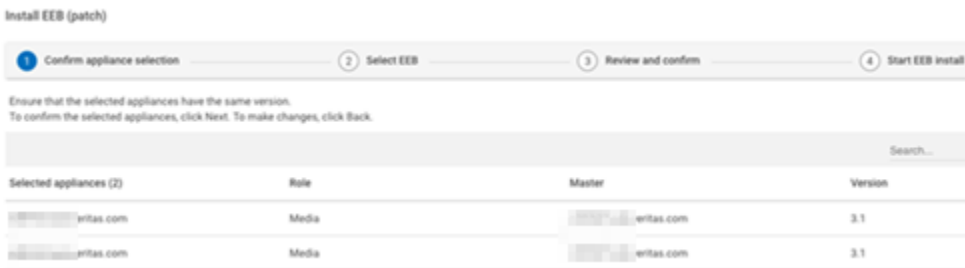
Each release of NetBackup incorporates fixes to several known issues that affected previous versions of NetBackup. Several of the customer-related fixes that are incorporated into each release are also made available as emergency engineering binaries (EEBs).

The **Install EEB (patch)** page lets you manage and deploy EEB software for multiple appliances.

Note: Ensure that there is no other EEB being installed simultaneously.

The top of the page provides a description of each required task. As you complete a task, the page refreshes with details for the next step. The following describes the page details for each task:

1 Confirm appliance selection



- **Selected appliances (n)** The host name of each appliance and the total number of listed appliances.
- **Role** The configured role for each appliance.
- **Master** The associated master server for any listed appliance media server.
- **Version** The current software version of the appliance.

2 Select an EEB



- **Applicable packages** The full name of each compatible EEB that resides in the AMS Repository.
- **Type** The package type; EEB.
- **Version** The software version of each listed EEB.

3 Review and confirm

Install EEB (patch)

✔ Confirm appliance selection
✔ Select EEB
4 Review and confirm

Review the README for the selected EEB (patch), then click Next.

README - NBAPP_EEB_17312180-3.1.0.0-2.x86_64.rpm

```

This is a testing EEB for HarborBackup appliances 3.1
[[@]](x)submitter
/patch/appliance/management/backup/310000rpm
/patch/NBAppAppliance/management/backup/310000.pl
/patch/NBAppAppliance/management/progress_normal_310000.pl
Recommended service links:
All HarborBackup services can remain running.
Additional notes:
This is a testing EEB for HarborBackup appliances 3.1
[[@]](x)JAMES
NOTE: These licenses are provided as-is. As such, they are intended solely for the
recipient and shall not be further distributed to other parties. Their use is
subject to the terms and conditions of your VERITAS HarborBackup license and
agreement. They have not been fully tested by VERITAS Technologies and, as
such, are being provided "as-is" without any guarantees or warranty of any
kind, either express or implied. VERITAS reserves the right to require the
removal of these licenses in order to troubleshoot and/or resolve any subsequent
issues that are reported.

This internal EEB is not for use by customers. It is only for testing purposes
and should never be used unless directed to do so by the submitting engineer.
    
```

4 Start EEB install

✔ Confirm appliance selection
✔ Select EEB
✔ Review and confirm
4 Start EEB install

Click Update to start the EEB (patch) installation and launch the AMS Activity Monitor.

Search...		
Selected appliances (3)	Version	Selected Package
appliance.eng.veritas.com	3.1	NBAPP_EEB_17312180-3.1.0.0-2.x86_64.rpm

- **Selected appliances (n)** The host name of each appliance and the total number of listed appliances.
- **Version** The software version of the listed EEB.
- **Selected package** The name of the selected EEB for the appliance.

To install EEB (patch)

1 On the **Home** page, select the appliances where you want the EEBs installed. All selected appliances must have the same software version. After completing the appliance selections, click **Manage > Install EEB (patch)**.

2 On the **Install EEB (patch)** page, (**1 Confirm appliance selection**) review and verify the displayed information for the appliances that you selected on the **Home** page. If the list is correct, click **Next**.

To make any changes, go back to the **Home** page and make them. Return to this page to confirm your selections and click **Next**.

3 On the **Select EEB** page, select the appropriate EEB package in the **Applicable packages** column and click **Next**.

Note: Only one package can be selected.

4 On **Review and confirm** page, review and confirm the information in the Readme file. Then click **Next**.

5 On the **Start EEB install** page, click **Install EEB (patch)** to start the installation. On the **Activity Monitor**, watch the **State** column for the progress and the results of the EEB installation for each appliance, as follows:

Activity Monitor

	Hostname	Task	State	Detail
▼	🌐 192.168.1.100 veritas.com	Upgrade	✔ Successful	---
▼	🌐 192.168.1.101 veritas.com	Upgrade	✔ Successful	---

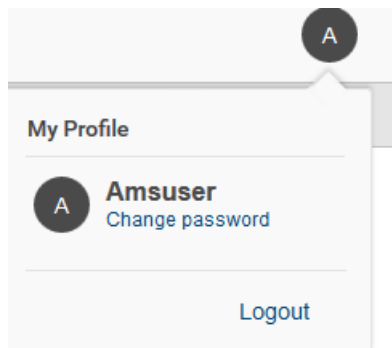
- **In queue**
The EEB installation will begin.
- **In progress**
The EEB installation has begun.
- **Successful**
The EEB installation is complete.
- **Failed**
The EEB installation has failed.

Logging out of the Appliance Management Console

You must log out to exit the Appliance Management Console. Use the following procedure to log out:

To log out of the Appliance Management Console

- 1 Click the icon on the upper-right corner of the Appliance Management Console. The icon is the initial letter of the user name.



- 2 Click **Logout**.

Note: A user is logged out automatically after 60 minutes of inactivity.

Using Activity Monitor and Events

This chapter includes the following topics:

- [About the Activity Monitor](#)
- [Accessing the Activity Monitor](#)
- [Monitoring events](#)

About the Activity Monitor

Use the Activity Monitor in the Appliance Management Console to monitor all the tasks within the last 90 days. The Activity Monitor also lists the hostname of appliances that are being upgraded or updated. Apart from the hostname, it also lists the details about the task, state, detail, and the time when the task started.

Activity Monitor

Hostname	Task	State	Detail	Time started
▼  veritas.com	Upgrade	✓ Successful	---	Sep 12, 2017 03:05:30
▼  veritas.com	Upgrade	✓ Successful	---	Sep 12, 2017 03:05:30

Updates to the Activity Monitor occur as upgrades or EEB installations are initiated, are in progress, failed, or completed. Without a refresh cycle, updates occur instantaneously.

The EEB installations or upgrades must be started from the Appliance Management Console for them to be visible in the Activity Monitor.

Note: You cannot monitor the tasks that are older than 90 days.

Accessing the Activity Monitor

The Activity Monitor shows a summary of all the tasks that occurred in the last 90 days. It shows all tasks like failed and completed tasks, and also the tasks that are in progress.

To access the Activity Monitor

- 1 Log on to the Appliance Management Console on the AMS. Log in by using your **AMS** user credentials.
- 2 Click the **Monitor** icon.
- 3 Under **Activity Monitor**, click **View**.

Monitoring events

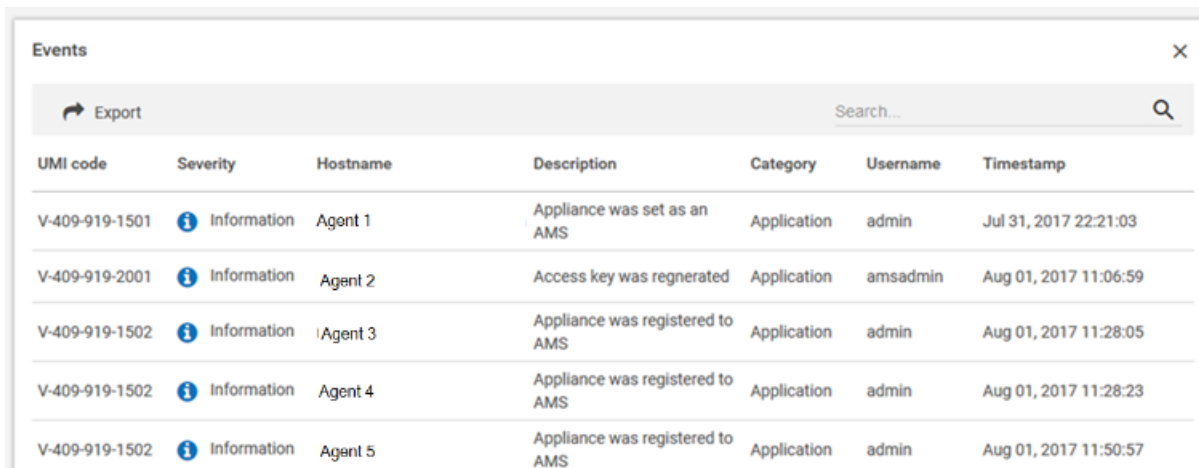
Use the Monitor > Events page in the Appliance Management Console to monitor the events that occur on the AMS and the agents that are managed.

Events that occurred in the last 6 months are displayed. You can also export events from the last 90 days in a CSV file.

Click **Export** to export events from the last 90 days in a CSV file.

[Figure 4-1](#) shows a sample Events page.

Figure 4-1 Events page



UMI code	Severity	Hostname	Description	Category	Username	Timestamp
V-409-919-1501	Information	Agent 1	Appliance was set as an AMS	Application	admin	Jul 31, 2017 22:21:03
V-409-919-2001	Information	Agent 2	Access key was regenerated	Application	amsadmin	Aug 01, 2017 11:06:59
V-409-919-1502	Information	Agent 3	Appliance was registered to AMS	Application	admin	Aug 01, 2017 11:28:05
V-409-919-1502	Information	Agent 4	Appliance was registered to AMS	Application	admin	Aug 01, 2017 11:28:23
V-409-919-1502	Information	Agent 5	Appliance was registered to AMS	Application	admin	Aug 01, 2017 11:50:57

Examples of some events that can occur are:

- Appliance was set as an AMS
- Appliance was added to the AMS
- Packages were added to the repository
- Packages were deleted from the repository
- Upgrade has started
- Upgrade is complete
- Upgrade has failed
- Preflight check has started
- Preflight check is complete
- Preflight check has failed
- EEB installation has started
- EEB installation is complete
- EEB installation has failed
- User password was changed
- Access key was regenerated
- Access key could not be regenerated

Each event is attached to a specific host (AMS or agent) and has a severity. The event severity can be one of the following:

Event Severity	Description
Information	Information about normal system operation
Error	Indicates the problems that do not require immediate attention.
Warning	Indicates the activity or the problems that may require administrator intervention.

You can search for the UMI code column (Unique Message Identifier) on the Support site to learn more about the event. Visit the Support site at:

<https://www.veritas.com/support>

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