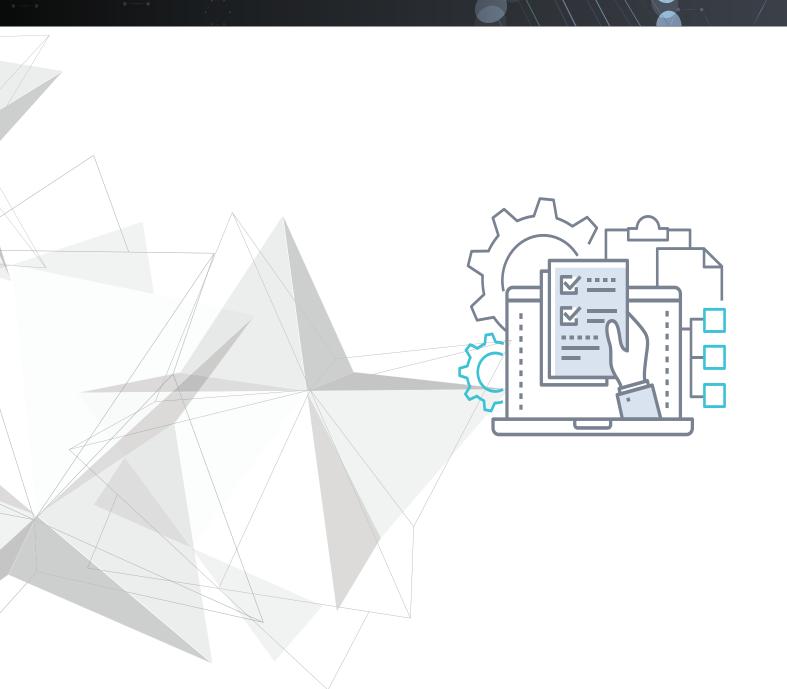
UNITRENDS

Deployment Guide for Unitrends Backup on Nutanix AHV

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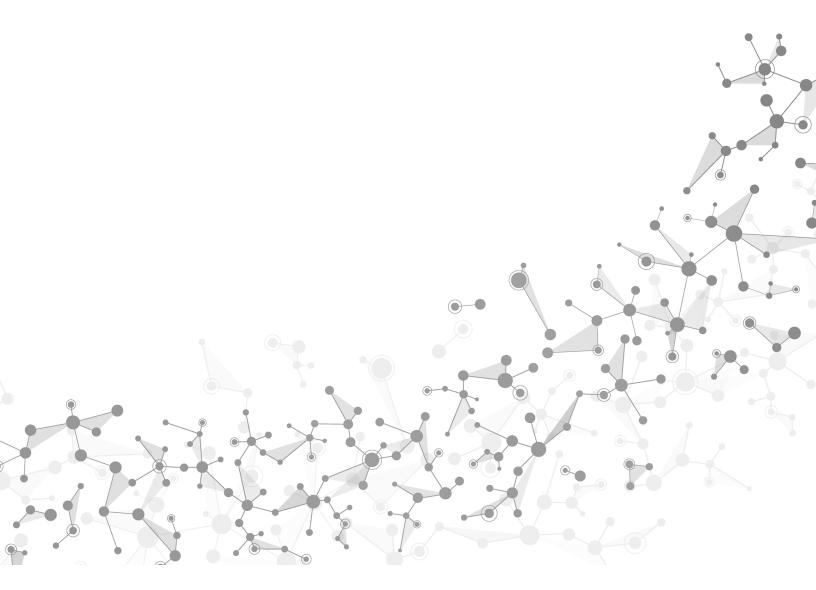


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Chapter 1: Introduction

Thank you for choosing the Unitrends Backup virtual appliance. You are minutes away from protecting your environment.

With Unitrends Backup deployments, the appliance's initial disk stores no unique data or backups. Storing this data on different disks or external storage arrays enables you to reattach the storage to a different Unitrends Backup appliance, so you can retain your original appliance's settings and backup data if you need to deploy a new Unitrends Backup appliance.

An initial disk of approximately 100GB is used to deploy the Unitrends Backup VM. You must also add a minimum of 200GB as the initial backup storage. You cannot complete deployment without adding the initial backup storage because this storage contains the appliance's unique data and is used to store backups.

This deployment guide includes instructions for deploying using new storage and for deploying using storage that contains backup data from another virtual appliance. The process is similar for both deployment types, and the applicable sections cover any variations.

Note: Attaching backup storage that contains backups from another Unitrends Backup appliance is supported only if the original appliance is running the same operating system as the newly deployed appliance. Appliances deployed with version 10.3.6 or higher run CentOS 7. Appliances deployed with older versions run CentOS 6.

Deployment consists of creating the Unitrends Backup virtual machine (VM), attaching backup storage, and configuring appliance settings. These and other terms used in this guide are defined in the following table:

Term	Definition
Added disk	vDisk virtual disk storage created by deploying the Unitrends Backup image, or by using the AHV host. Also called <i>attached disk storage</i> .
Appliance	The Unitrends Backup system that backs up and recovers data. Consists of the Unitrends Backup VM, Unitrends software, attached storage, and additional configuration settings.
Host	Nutanix AHV host cluster that houses the Unitrends Backup VM. Also called a hypervisor.
Initial backup storage	Storage you attach to the Unitrends Backup VM that is used to store appliance configuration settings and backups. You attach this storage after deploying the Unitrends Backup VM, but before you configure the appliance using the Quick Setup Wizard. The initial backup storage must be at least 200GB in size.
Initial disk	100GB disk used to create the Unitrends Backup VM. While deploying the Unitrends image, you select a container on the AHV host that the installer uses to create this disk.
Image file	Unitrends image file used to deploy the Unitrends Backup VM on your AHV host.



Term	Definition
Quick Setup Wizard	The Quick Setup Wizard automatically launches the first time you access the appliance UI from a web browser. Work your way through this wizard to configure additional appliance settings, such as date and time, hostname, and email.
Unitrends Backup VM	Virtual machine created by deploying the Unitrends Backup image file.



Chapter 2: Requirements and Considerations

Before deploying your Unitrends Backup appliance, verify the following requirements have been met:

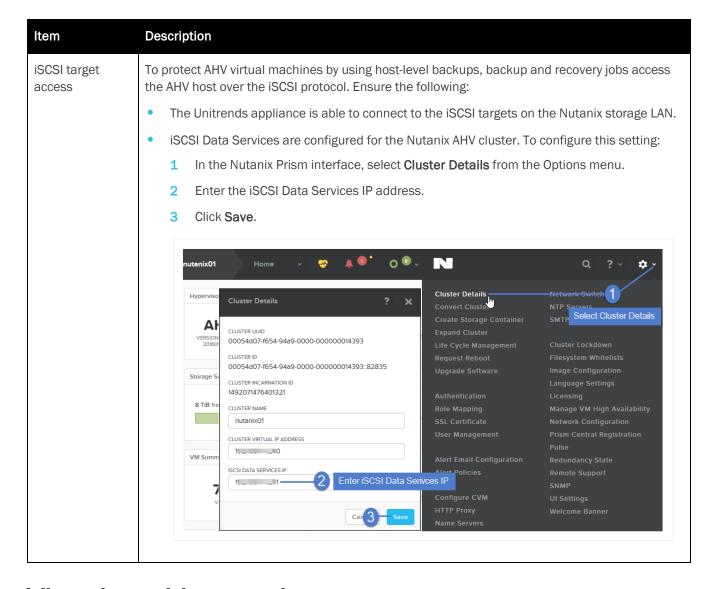
- "Hypervisor requirements and considerations"
- "Virtual machine requirements" on page 8
- "Network requirements" on page 9
- "Port requirements" on page 10
- "Web access" on page 11

Hypervisor requirements and considerations

The following requirements and considerations apply to the Nutanix AHV host cluster:

Item	Description
Nutanix AHV host cluster version	The AHV host must be running Acropolis Operating System (AOS) version 5.1.4 or a higher supported version listed in the <u>Unitrends Compatibility and Interoperability Matrix</u> .
AHV host for protected VMs	Unitrends recommends running your appliance and the VMs it protects on different hosts to avoid losing your VMs and their backups if one of the hosts fails.





Virtual machine requirements

Before deploying, verify that the Nutanix AHV host cluster has sufficient resources to create the Unitrends Backup VM. If minimum required resources are not available, deployment may fail.

The following resources are required to deploy the Unitrends Backup VM:

Note: These are the minimum resources required to deploy and begin using the Unitrends Backup appliance. As you add jobs and storage, be sure to monitor the system and add resources as needed over the lifetime of the appliance.

- A minimum of two virtual processors (VCPUs).
- A minimum of 8GB of RAM.



- 100GB of space for the VM's initial disk.
- At least 200GB of backup storage.

Network requirements

There are several addresses you should permit for all deployments. All of these ports are outgoing connections from the Unitrends appliance. We do not require incoming NAT of ports or exposing the unit to a public IP, only outgoing communication from a local source Unitrends appliance is needed.

IMPORTANT!

Never expose the appliance Web UI or SSH connections to open external ports. Doing so may void your support agreement until the appliance can be secured properly. Never deploy the Unitrends appliance on a public IP. All incoming ports to a Unitrends appliance must be firewall protected. Privately operated hot backup copy targets should be deployed in such a way as to secure the VPN connection to only trusted source external IPs.

Network requirements vary by whether DHCP is available in your environment.

DHCP is available

If DHCP is available in your environment, review these requirements and considerations before you deploy the appliance VM:

- If your environment goes offline for an extended period of time, your appliance may be assigned a new IP address from the DHCP server. This may cause a temporary loss of backup and recovery functionality. If this occurs, see How to resolve recovery issues related to appliance IP address changes for instructions on how to proceed.
- The eno1 adapter is, by default, configured for DHCP.
- DHCP cannot be a configured for more than one network adapter at any given time.
- A network adapter configured for DHCP cannot be managed via the appliance user interface (UI) unless you intend to assign it a static IP address.
- Unitrends appliances intended for use as backup copy targets must be assigned static IP addresses.

DHCP is not available

If DHCP is not available in your environment, or if you intend to use this appliance as a backup copy target, you must configure a static IP address for the appliance. Initially, the Unitrends Backup VM is created with the IP address 10.10.10.1 and the subnet mask 255.255.255.0. If this IP is currently being used in your environment, disable it until you bring the Unitrends Backup VM online and assign it a new IP address. During deployment, you must configure the following settings:

- An IP address and subnet. The IP address and the subnet enable communication between the appliance and other machines on your network.
- A gateway. A gateway enables communication between the appliance and machines on different subnets.
- Appliance DNS settings, required for the following:
 - To connect the appliance to the Internet.



- To add assets using only their hostnames (rather than by fully qualified domain names).
- To update your appliance from the user interface (UI).
- To access the Unitrends Community forums from the UI.

Note: You can obtain the above information from your network administrator.

Port requirements

Additional ports must be open for connectivity to the Internet and for connectivity to any hot backup copy target. See the following for details:

Note: Unitrends does not officially support backup through firewalls. For details, see this KB article: Backup fails through Router, DMZ, or Firewall.

- "Connectivity between the appliance and the Internet"
- "Connectivity between the appliance and a hot backup copy target"

Connectivity between the appliance and the Internet

Task	Port, Protocol, and Rule	Destination	Notes
Backup and backup copy operations	443/HTTPS Outbound from the Unitrends appliance	kaseyagroup-appliance- registry.jfrog.io	A secure docker container registry required to update backup and backup copy components.
Product Updates	443/HTTPS Outbound from the Unitrends appliance 22/SFTP Outbound from the Unitrends appliance	repo.unitrends.com sftp.unitrends.com	repo.unitrends.com is used by the Unitrends appliance to perform software updates. sftp.unitrends.com is used to collect files related to active support tickets.
Remote Support	443/HTTPS Outbound from the Unitrends appliance	support-itivity.unitrends.com	Used for opening a remote tunnel to the Unitrends support team.
Proactive Monitoring	161/UDP Outbound from the Unitrends	notifications.unitrends.com	Used for SNMP trap collection for all proactive monitoring.



Task	Port, Protocol, and Rule	Destination	Notes
	appliance 161/TCP Outbound from the Unitrends appliance 162/UDP Outbound from the Unitrends appliance 162/TCP Outbound from the Unitrends appliance		

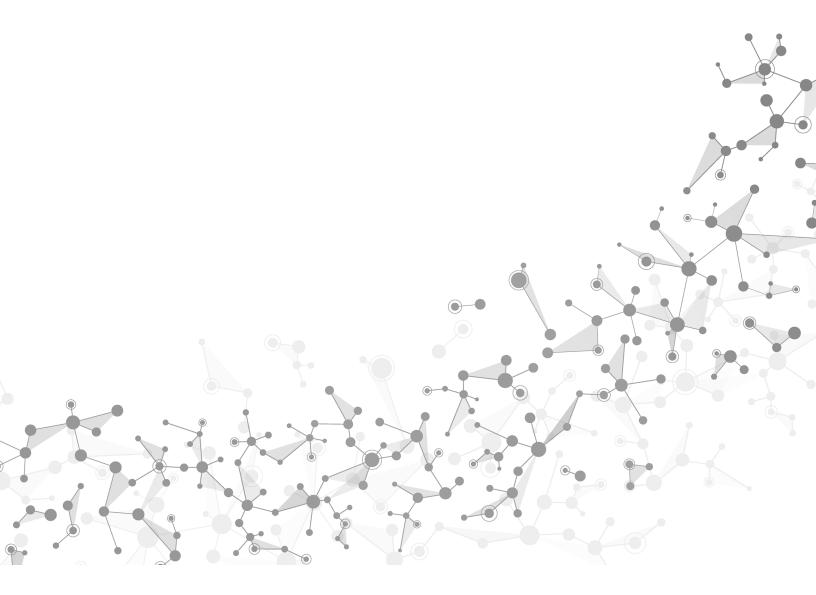
Connectivity between the appliance and a hot backup copy target

Task	Port, Protocol, and Rule	Destination	Notes
Backup copy to the Unitrends Cloud or your Unitrends target appliance.	The OpenVPN port provided by Unitrends Or The port number you have configured for the secure tunnel connection to the backup copy target appliance must be open Outbound for the TCP and UDP protocols. Port 443 must also be open Outbond for the UCP protocol.	For Unitrends Cloud, the public-facing IP address provided by Unitrends. Target appliance hostname and IP	Used for copying data to the Unitrends Cloud or your Unitrends target appliance.

Web access

Once you have configured network settings, you can access the appliance UI by entering its IP address in a Firefox or Chrome browser. (Internet Explorer is not supported.)

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Chapter 3: Deploying a Unitrends Backup Appliance

Deployment consists of creating the Unitrends Backup VM, attaching backup storage, and configuring appliance settings.

To create the Unitrends Backup VM, you deploy the Unitrends image file. During deployment, you define network and storage settings for the appliance.

The following steps summarize the procedures used to deploy your Unitrends Backup appliance. Detailed instructions for each procedure follow:

- "Step 1: Set up storage on the hypervisor"
- "Step 2: Download the Unitrends Backup image"
- "Step 3: Deploy the Unitrends Backup VM" on page 14
- "Step 4: Add a virtual disk to use as the initial backup storage" on page 19
- "Step 5: Set up the appliance using the Quick Setup Wizard" on page 31
- "Step 6: (Optional) Modify deduplication settings" on page 35
- "Step 7: Register and license the Unitrends Backup appliance" on page 36
- "Step 8: Start protecting your environment" on page 40

Step 1: Set up storage on the hypervisor

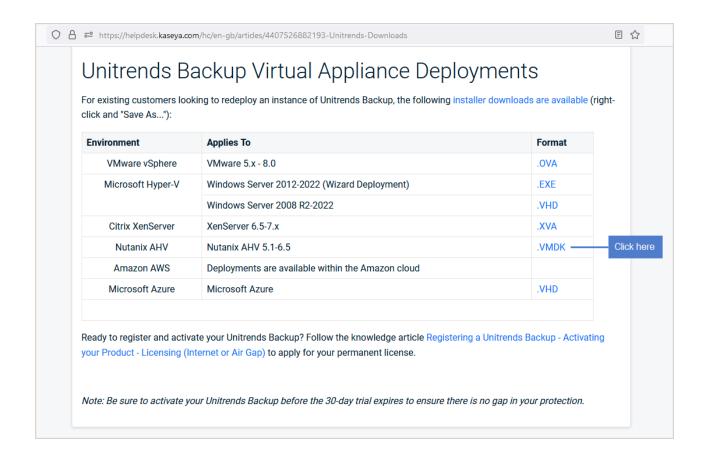
Verify that the hypervisor has enough storage available. If necessary, add storage. Minimum requirements are:

- 100GB for the Unitrends Backup VM's initial disk.
- At least 200GB for the initial backup storage.

Step 2: Download the Unitrends Backup image

- 1 Go to https://helpdesk.kaseya.com/hc/en-gb/articles/4407526882193-Unitrends-Downloads.
- 2 Scroll down to Unitrends Backup Virtual Appliance Deployments.
- 3 Click the .VMDK link in the Nutanix AHV row.





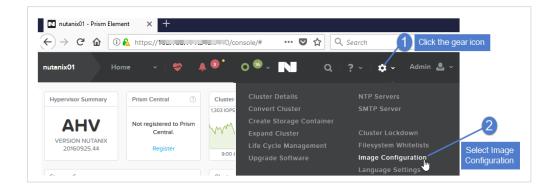
Step 3: Deploy the Unitrends Backup VM

Deployment instructions remain the same whether you are setting up Unitrends Backup with new storage or with storage that contains backups from another Unitrends Backup appliance. Use the following procedure to deploy the Unitrends Backup VM.

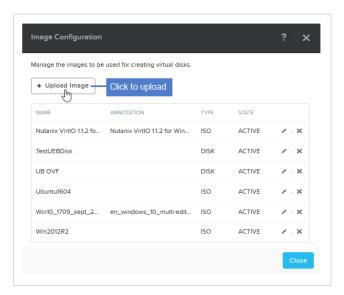
To deploy the Unitrends Backup VM

- Save the VMDK image file to the workstation you will use to access the Nutanix Prism Web Console.
- 2 Log in to Prism as a user with administrative privileges.
- 3 Upload the Unitrends image:
 - Click the gear icon and select Image Configuration.

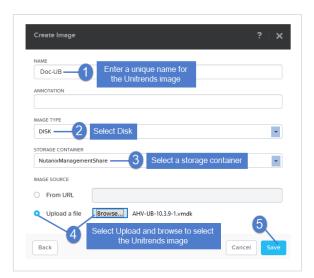




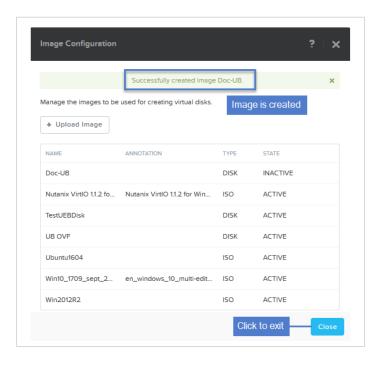
Click Upload Image.



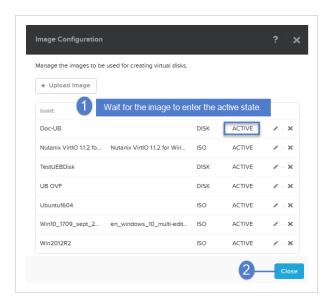
- Enter a unique name for the image.
- Select **Disk** in the Image Type list.
- Select a storage container that will be used to create the image.
- Select the **Upload a file** option, click **Browse** and select the Unitrends image.
- Click Save.



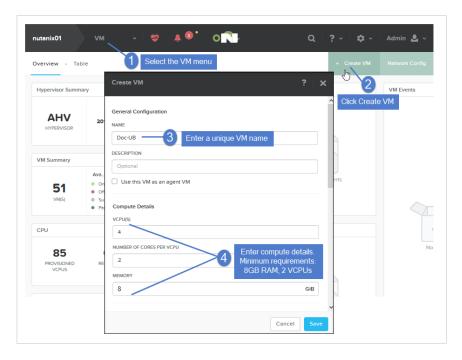
• The hypervisor uploads the file and creates the image. Click Close to exit.



4 After the image is created, it takes some time to become active. Re-open the Image Configuration dialog and verify that the image has entered the active state before continuing to the next step.

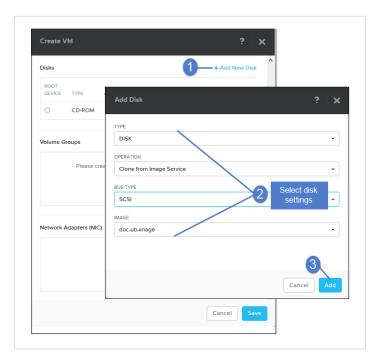


- 5 Create the Unitrends Backup VM:
 - Select the VM menu and click Create VM.
 - Enter a unique Name for the VM.
 - Enter Compute Details.



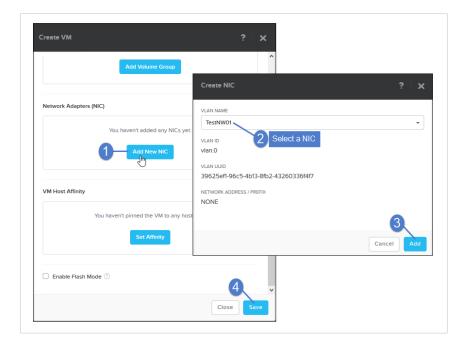
Scroll down and select Add New Disk.

- Select the following settings, then click **Add**:
 - Disk in the Type list.
 - Clone from Image Service in the Operation list.
 - SCSI in the Bus Type list.
 - The Unitrends image you created above in the Image list.



- Configure a NIC:
 - Scroll down and click Add New NIC.
 - Select a NIC from the VLAN Name list, then click Add.
- Click Save to create the VM.





Step 4: Add a virtual disk to use as the initial backup storage

Use one of the following procedures to add a virtual disk to the Unitrends Backup VM. This can be a new disk or a disk that contains backups from another AHV Unitrends Backup appliance.

"To add a new vDisk"

OR

"To add a vDisk that contains backups from another AHV appliance" on page 21

To add a new vDisk

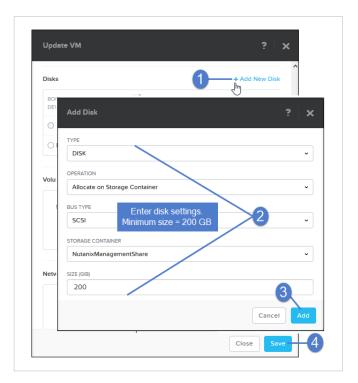
Use this procedure to use a new vDisk as the initial backup storage.

Select the VM and click Update.



- 2 Scroll down and click Add a New Disk.
- 3 Enter these disk settings, then click Add:
 - Select **Disk** from the Type list.
 - Select Allocate on Storage Container from the Operation list.
 - Select SCSI from the Bus Type list.
 - Select the Storage Container.
 - Enter a Size (200GB minimum).
- 4 Click Save to update the VM.





5 Do one of the following:

- If the VM's NIC has DHCP available, proceed to "Step 5: Set up the appliance using the Quick Setup Wizard" on page 31.
- If DHCP is not available or if you prefer to assign a static IP address, proceed to "To set up the appliance with a static IP address" on page 25.

Note: If you will be using the appliance as a hot backup copy target, you must assign a static IP address. Use the procedure "To set up the appliance with a static IP address" on page 25.

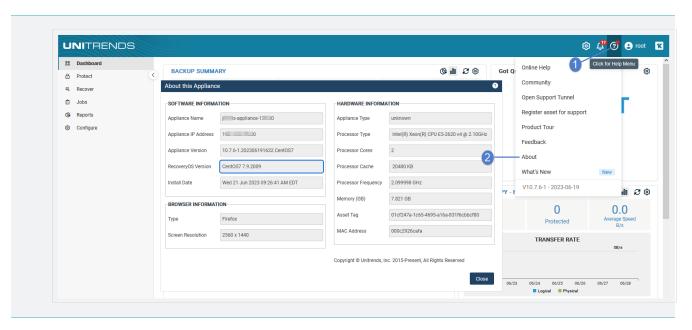
To add a vDisk that contains backups from another AHV appliance

Use this procedure to use a vDisk that contains backups from a different appliance as the initial backup storage.

IMPORTANT!

Attaching backup storage that contains backups from another Unitrends Backup appliance is supported only if the original appliance is running the same operating system as the newly deployed appliance. Appliances deployed with version 10.3.6 or higher run CentOS 7. Appliances deployed with older versions run CentOS 6. To check the appliance Recovery OS version, click on ? > About:





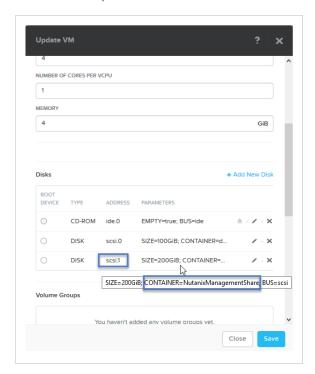
- 1 View the disks on the original AHV appliance to determine the SCSI ID of the vDisk you want to use:
 - Log in to Prism as a user with administrative privileges.
 - Select the original appliance VM (the appliance with the vDisk that contains Unitrends backups) and click Update.



- Scroll down to view VM disks. Find the container name and SCSI ID of the initial backup storage disk (typically scsi.1).
 - Do not add the 100GB disk. The 100GB disk was used to create the appliance VM. This disk does not store Unitrends backups.
 - The next disk that was added is the backup storage disk that you will add to the new appliance.



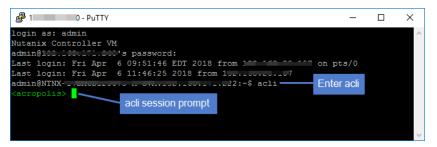
Hover over the disk to view the container name. Note this name and the disk size. You will need these
later in this procedure.



- 2 Log in to any Controller VM of the Nutanix AHV cluster through an SSH session.
- 3 Enter this command to start an AHV CLI session:

```
# acli
```

Example:



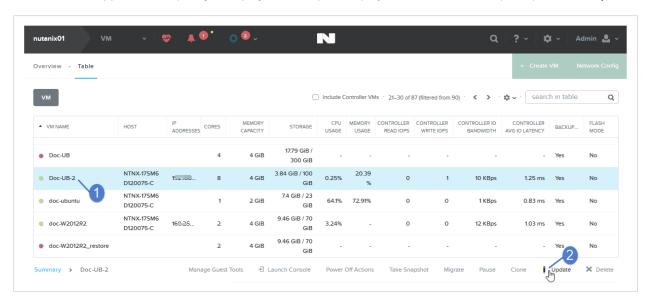
4 Enter the following command to find the vmdisk_uuid of the vDisk you identified in step 1. Note the vmdisk_uuid. You will need to supply this ID later in this procedure.

```
<acropolis> vm.disk_get <vm_name> disk_addr=scsi.<number>
```

Example:

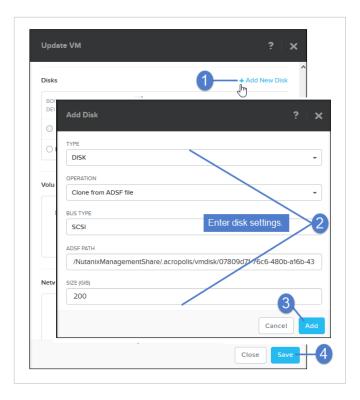
```
# 190.000.070.000 - PuTTY
                                                                                        Nutanix Controller VM
admin@1
                     iii s password:
ast login: Fri Apr 6 12:29:40 EDT 2018 from 1
                                                                      7 on pts/0
ast login: Fri Apr 6 12:30:06 2018 from 100
       olis> vm.disk_get Doc-UB disk_addr=scsi.1
csi.1 {
 addr {
   bus: "scsi"
                                                   SCSI disk address
                     Appliance VM name
    index: 1
 container_uuid: "63feb612-942c-443a-89fe-b5fcf39db5c5"
vmdisk_size: 214748364800
vmdisk_uuid: "07809d71-76c6-480b-a16b-43bd6e7fa331"
                                                                              VM disk UUID
 acropolis>
```

- 5 Return to the Prism Web Console.
- 6 Select the new appliance VM (that you deployed in "Step 3: Deploy the Unitrends Backup VM") and click Update.



- 7 Scroll down and click Add New Disk.
- 8 Enter these disk settings, then click Add:
 - Select **Disk** from the Type list.
 - Select Clone from ADSF File from the Operation list.
 - Select SCSI from the Bus Type list.
 - Enter the following in the ADSF Path field: /<containerName>/.acropolis/vmdisk/<vmdisk_uuid>
 - Enter the disk size.
- 9 Click Save to update the VM.





10 Do one of the following:

- If the VM's NIC has DHCP available, proceed to "Step 5: Set up the appliance using the Quick Setup Wizard" on page 31.
- If DHCP is not available or if you prefer to assign a static IP address, proceed to "To set up the appliance with a static IP address" on page 25.

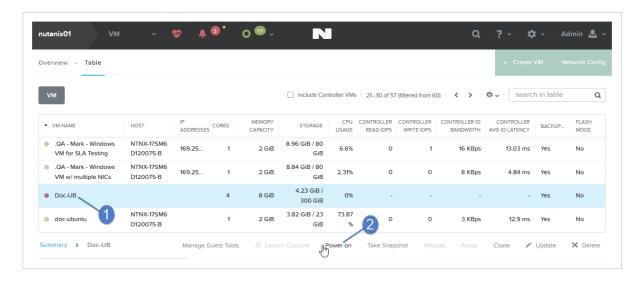
Note: If you will be using the appliance as a hot backup copy target, you must assign a static IP address. Use the procedure "To set up the appliance with a static IP address".

To set up the appliance with a static IP address

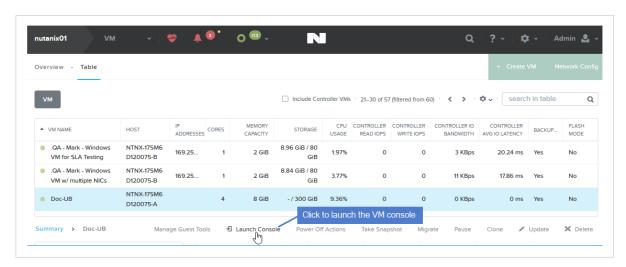
Note: If you are deploying using storage from another AHV Unitrends Backup appliance that contains backup data, you can enter the same network settings as the original appliance or use different network settings. If using the same network settings, be sure the original VM is powered off.

1 From the Prism VM menu, select the appliance VM and click **Power On**.





2 Launch the VM Console.

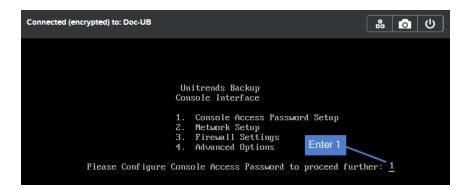


The remaining steps are run from the Unitrends Backup console interface. On these screens, you select a menu option by entering a number in the **Please enter choice** field.

Notes:

- As you complete each step in the Unitrends Backup Console Interface, you are presented with the next configuration screen.
- You can press Enter to accept the default or current setting.
- 3 On the Console Interface screen, enter 1 in the Please Configure Console Access Password... field.

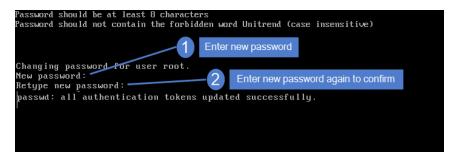




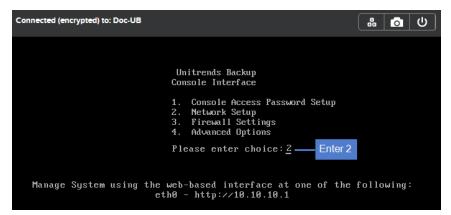
4 To change the direct console password, enter a new password, then enter the password again to confirm.

Notes:

- This is the root operating system password that accesses the console. This password does not access
 the UI. (You will change the UI password in "Step 5: Set up the appliance using the Quick Setup
 Wizard" on page 31.)
- All appliances are deployed with these default operating systems credentials: user *root*, password *unitrends1*. For appliance security, you must change this password.

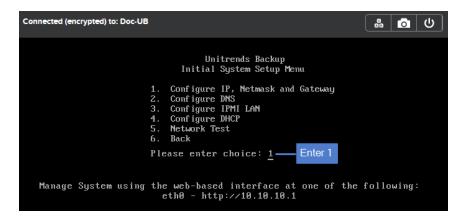


5 On the Console Interface screen, enter 2 in the Please enter choice field.

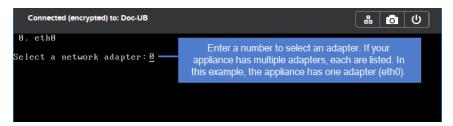


6 On the Initial System Setup Menu screen, enter 1 in the Please enter choice field.

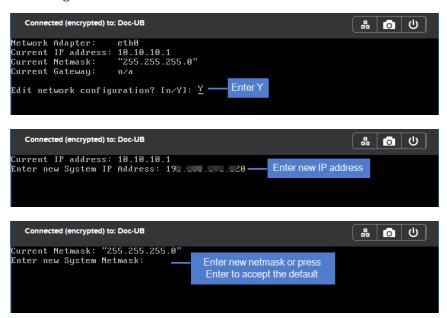




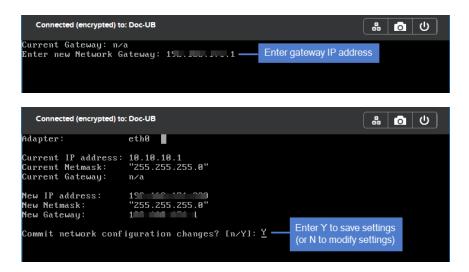
7 Enter a number in the **Select a network adapter** field. For example, enter **0** to select eth0.



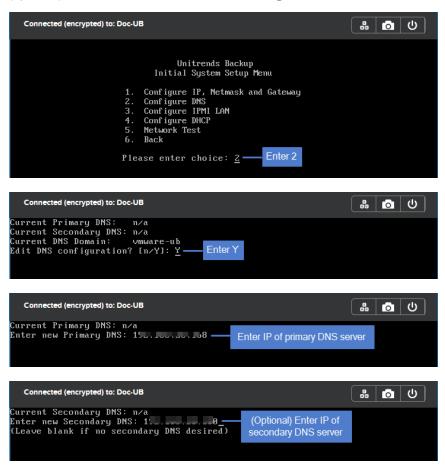
8 Enter Y in the Edit network configuration field. Then enter an IP address, Netmask, and Gateway. Review the settings and enter Y to save.



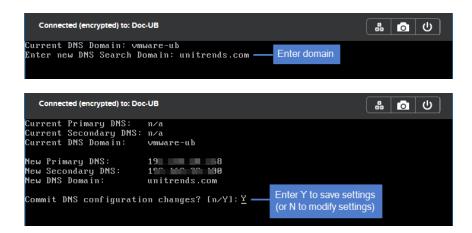




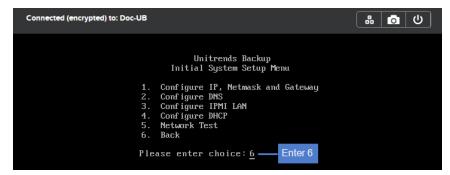
9 To configure DNS settings, enter **2**, then enter **Y** to edit. Enter the primary DNS IP address, a secondary DNS IP (optional), and a DNS domain. Review the settings and enter **Y** to save.



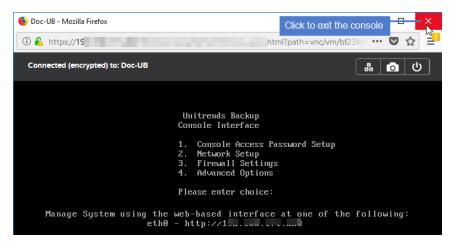




10 To exit network setup, enter 6.



11 Exit the VM console.



12 Proceed to "Step 5: Set up the appliance using the Quick Setup Wizard".



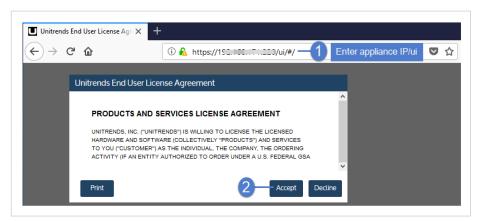
Step 5: Set up the appliance using the Quick Setup Wizard

To start the setup process, log in to the appliance UI from any machine on the same network by opening a browser and entering the appliance's IP address followed by /ui/. The Quick Setup Wizard launches when you access the UI for the first time.

To set up the appliance

Use this procedure to set up the appliance:

- Open a browser and connect to your appliance by entering: /ui">https://cappliancelP>/ui. For example: https://10.10.1/ui.
- 2 Click Accept to accept the license agreement.

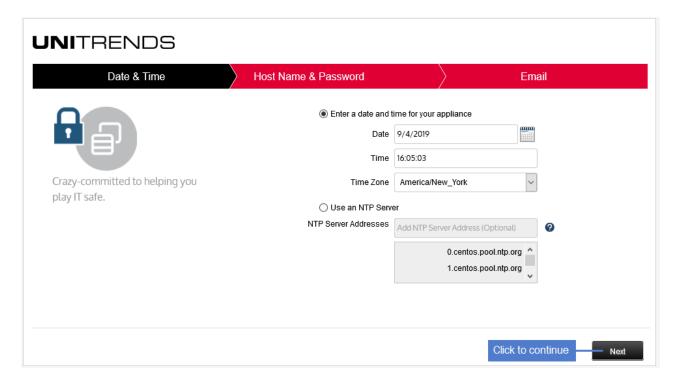


- 3 Set the appliance date and time by doing one of the following, then click Next:
 - Select a Timezone. If needed, modify the appliance Date and Time.

OR

 Check the Use an NTP Server box to sync to an NTP server. (Optional) Enter your preferred NTP server address.



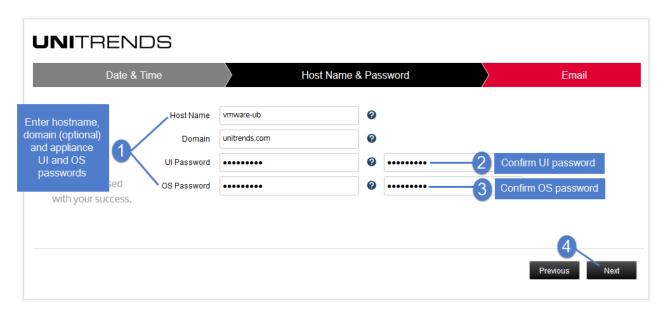


4 Enter a **Host Name**, a **Domain**, and a new **UI Password** for the appliance. If needed, enter a new **OS Password**. Confirm the passwords by entering them again in the fields to the right. Click **Next**.

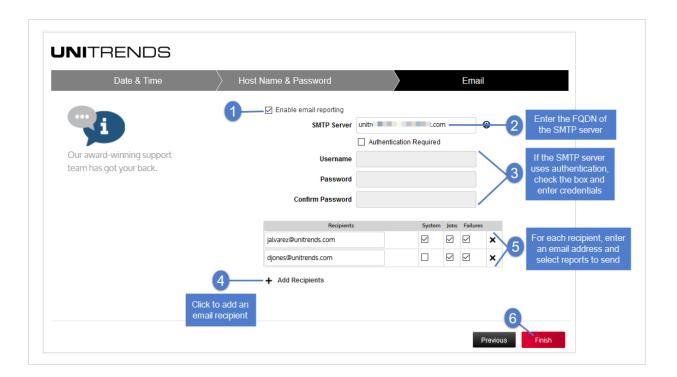
Notes:

- The hostname can contain only alphanumeric characters, dashes, and underscores.
- The appliance has a UI root user and an OS root user. These are separate accounts. Changing the
 password of one root user account does NOT change the password of the other root user account. The UI
 root user is used to log in to the appliance UI. The OS root user is used to log in to the appliance console or
 for command line access.
- If you have already set the OS password, these fields are disabled in the Quick Setup Wizard.
- Passwords cannot contain the word *Unitrend* (case insensitive).
- The OS password must contain 8 or more characters.
- All appliances are deployed with these default UI and OS credentials: user root, password unitrends1. For
 appliance security, you must change these passwords in the Quick Setup Wizard. For increased security,
 ensure that the OS password you enter is different than the UI user password.
- After you finish the deployment procedures in this guide, you can set up additional UI users for the appliance at any time. For details, see *Users and roles* in the <u>Administrator Guide for Recovery Series</u>, Recovery MAX, ION/ION+, and Unitrends Backup, Appliance settings topic.



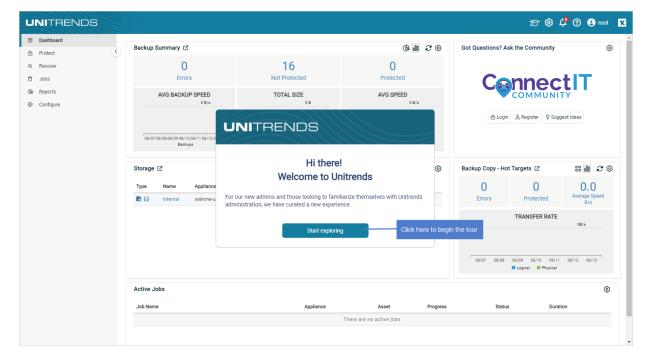


- 5 (Optional) To enable email from the appliance, check **Enable email reporting** and enter the following:
 - The fully qualified domain name of the SMTP server.
 - (If needed) If the SMTP server requires authentication, select Authentication required and enter a
 Username and Password.
 - Click + Add Recipients to add a an email recipient. Enter an email address in the Recipient field and select
 one or more of the System, Jobs, and Failures options to specify which reports the appliance will send to the
 recipient. Repeat as needed to add more recipients.
- 6 Click Finish.



7 Do one of the following:

If you deployed by using new storage for the initial backup storage, the Welcome to Unitrends dialog displays.
 Click Start exploring to view the interactive product tour. Then proceed to "Step 6: (Optional) Modify deduplication settings".





OR

If you deployed by using storage that contains backups from another Unitrends Backup appliance, click
Recover to add the backups to the appliance. Then proceed to "Step 6: (Optional) Modify deduplication
settings".





Step 6: (Optional) Modify deduplication settings

Deduplication is a data compression technique that eliminates duplicate data blocks. To yield fastest performance, the appliance is configured to use the Level 1 deduplication setting. You can opt to modify this setting to increase on-appliance retention. Keep in mind that increasing the deduplication level decreases job speed.

To modify the deduplication level

1 From the Global options at the top of the UI, select Options > Deduplication Settings.



- 2 Select one of the following deduplication settings:
 - Level 1 Use this setting to optimize performance.
 - Level 2 Use this setting to balance performance and on-appliance retention.
 - Level 3 Use this setting to optimize retention.
- 3 Click Apply Settings.





4 Proceed to "Step 7: Register and license the Unitrends Backup appliance".

Step 7: Register and license the Unitrends Backup appliance

Your appliance is now configured and you can begin using it to protect your environment. For details, see the Administrator Guide for Recovery Series, Recovery MAX, ION/ION+, and Unitrends Backup.

You must register and license the appliance within 30 days of deploying Unitrends Backup.

Each appliance requires an activation code and license key. Use the procedures below to register and license the appliance:

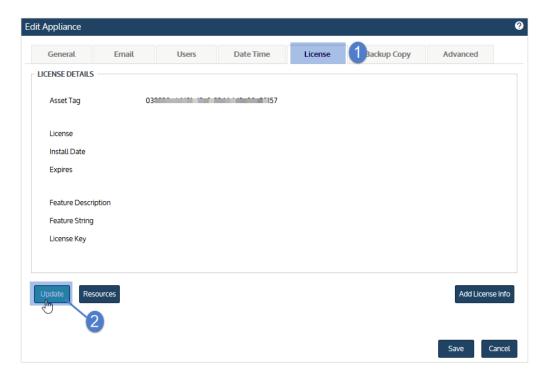
To register a Unitrends Backup appliance

1 On the **Configure > Appliances** page, select the appliance and click **Edit**.



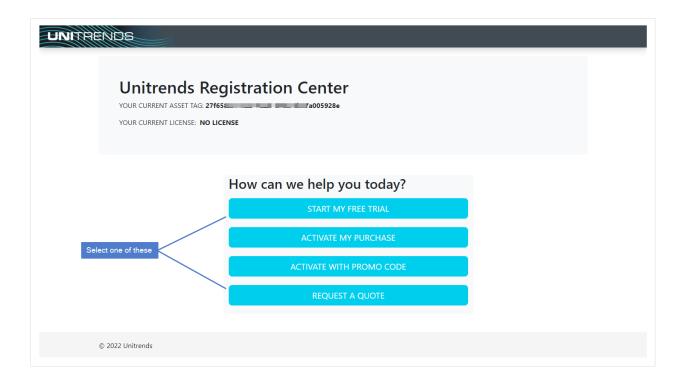
Select the License tab and click Update. The Registration Center displays.





3 Select one of the following:

Selection	Description
Start my free trial	Submit this form to start your free 30-day trial.
Activate my purchase	Enter your email address and activation code. You license key will be emailed to the address you enter here.
Activate with promo code	Enter your promotional code to register your product and receive your license key.
Request a quote	Request a license quote.



4 Complete and submit the applicable form.

Once you have purchased a license, Unitrends sends an email containing license details. Use the next procedure to apply this license information to the appliance.

To license a Unitrends Backup appliance

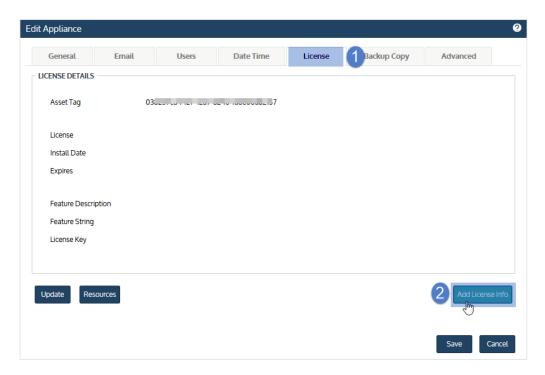
Use these steps to enter license information you have received from Unitrends.

1 On the **Configure > Appliances** page, select the appliance and click **Edit**.

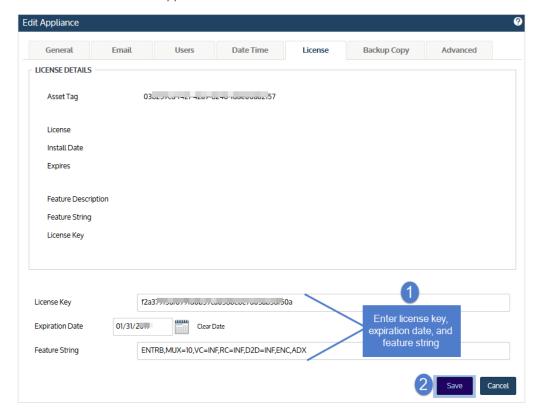


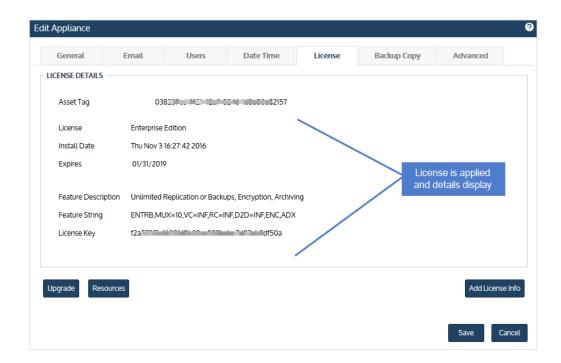
2 Select the License tab and click Add License Info.





- 3 Enter the License Key, Expiration Date, and Feature String.
- 4 Click Save. The license is applied.





Step 8: Start protecting your environment

Deployment is complete and you can get started protecting your environment. For details, see the <u>Administrator Guide</u> for Recovery Series, Recovery MAX, ION/ION+, and Unitrends Backup.

