



# Nutanix AHV

## Overview

**Frame's integration with Nutanix AHV** allows customers to seamlessly connect their AHV clusters to the Frame Platform, enabling them to run virtual desktops and applications directly within their on-premises infrastructure. By registering their AHV cluster with their Frame tenant, customers gain the flexibility to manage workloads locally while leveraging Frame's remote desktop delivery and orchestration capabilities. This hybrid model empowers organizations to maintain full control over their virtual environment while offering end-users a high-performance experience across any device.

## Setup

### Requirements

In order to register your AHV cluster with Frame, you need to ensure that you have addressed the following before proceeding:

1. The Nutanix hyperconverged cluster must have:

- Acropolis Operating System (AOS) 5.15 LTS (minimum), 5.20.1 LTS (recommended) or newer
- Acropolis Hypervisor (AHV) compatible with the cluster hardware and AOS version
- Prism Central 2021.9 or newer, with your Prism Central VM configured with at least 26 GB of RAM

For further details on the supported combinations of AOS, AHV, and Prism Central for a given Ubuntu or Windows guest OS, consult with Nutanix's [AOS Software Interoperability Matrix](#) and [AHV Guest OS Compatibility and Interoperability Matrix](#).

#### NOTE

Frame, unlike other Nutanix services hosted on a Prism Central-managed cluster, does not require any additional compute resources for Prism Central. Frame uses:

- Prism Central APIs to query categories, obtain the list of template images tagged with Frame-specific categories, and query for the list of available VLANs in the AHV cluster.
- Prism Element APIs to manage AHV cluster-based resources (e.g., provision/deprovision VMs/storage, power on/off VMs, attach/detach disks, replicate backups, etc.)

For sizing the Prism Central VM, consider your specific number of virtual machines across your AHV cluster(s). Refer to the [Nutanix KB article](#) as a reference for right sizing your Prism Central VM.

2. If vGPUs are to be used, then the following NVIDIA components must be installed, as documented in the [Nutanix AHV Administration Guide](#):

- NVIDIA vGPU Software License Server with a valid NVIDIA license file

- NVIDIA GRID vGPU Host drivers
- NVIDIA GRID vGPU Guest OS drivers

AHV-compatible host drivers are available for download from [Nutanix Portal](#). All other NVIDIA components are obtained via NVIDIA Licensing Software Downloads site.

3. Network has been configured for the AHV cluster to communicate with the Frame control plane and for users to access the workload VMs on the AHV cluster following one of two network deployment models, as described in [Private Networking](#) or [Private Networking with SGA](#).
4. DHCP must be available for the Frame workload VMs.
5. At least one template OS image installed with Frame Agent.

## Supported NVIDIA GPUs

Frame supports the following NVIDIA GPUs with Nutanix AHV.

- L4
- M10
- M60
- P4
- P40
- P100
- T4
- RTX 6000
- RTX 8000
- A16
- A40

### NOTE

Depending on the specific HCI hardware model and the Nutanix AHV/AOS version to be used, the hardware and/or AHV version may or may not support all of the GPU cards above.

## Preparation

Adding your AHV cluster to your Frame customer or organization entity in order for you to create Frame account(s) on your AHV cluster requires the following 3 tasks:

1. Preparing your Nutanix AHV cluster
2. Preparing at least one template image
3. Connecting your AHV cluster to Frame

This section discusses the two preparation tasks that are required before you can connect your AHV cluster to Frame.

## Nutanix Cluster

You will start by creating **one** (1) Prism Element user account, **one** (1) Prism Central user account, and **two** (2) Prism Central categories to be used by Frame for provisioning and infrastructure management.

AOS 6.8 or greater

AOS 6.7 or earlier

### Prism Element service user

1. You will need to create a new user account from the Prism Element of the Nutanix AHV cluster which will be used for Frame desktops and applications. Log in to your Prism Element Management Console and access the Prism Element settings by clicking on the gear menu in the top right corner of the management console.
2. Click on "Local User Management" from the menu on the left-hand side. Click the "New User" button.

Settings

- Users and Roles
- Authentication
- Local User Management
- Role Mapping

Email and Alerts

- Alert Email Configuration
- Alert Policies
- SMTP Server

Appearance

- Language Settings
- UI Settings
- Welcome Banner

Create User

Enter the attributes for this user. Passwords must be at least eight characters long. Username is the name that is used by the user to sign into the Nutanix console.

Username

FrameSvcAcct

First Name

Frame

Last Name

Service Account

Email

framesvcacct@mail.com

Password

.....

Language

< Back Cancel Save

Prism Element - Create User

3. Fill out the "Create User" form that appears.
4. Ensure that both "User Admin" and "Cluster Admin" boxes are checked before submitting the information.

Create User

?

Username

FrameSvcAcct

First Name

Frame

Last Name

Service Account

Email

framesvcacct@mail.com

Password

\*\*\*\*\*

Language

en-US

Roles

☒ User Admin
 ☒ Cluster Admin

< Back

Cancel

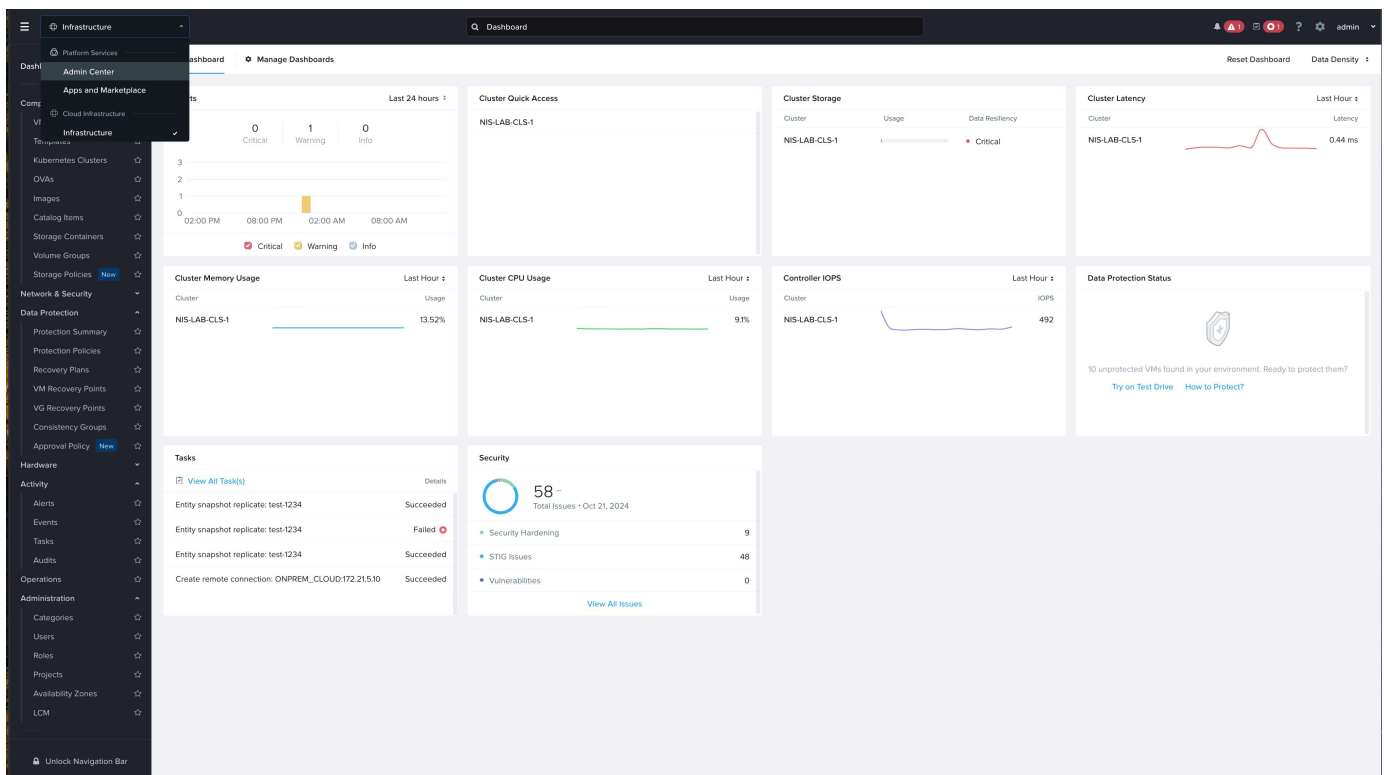
Save

## Prism Element - Enable User Roles

- Save your Prism Element user name and password. You will need this Prism Element user name and password later on in the process.

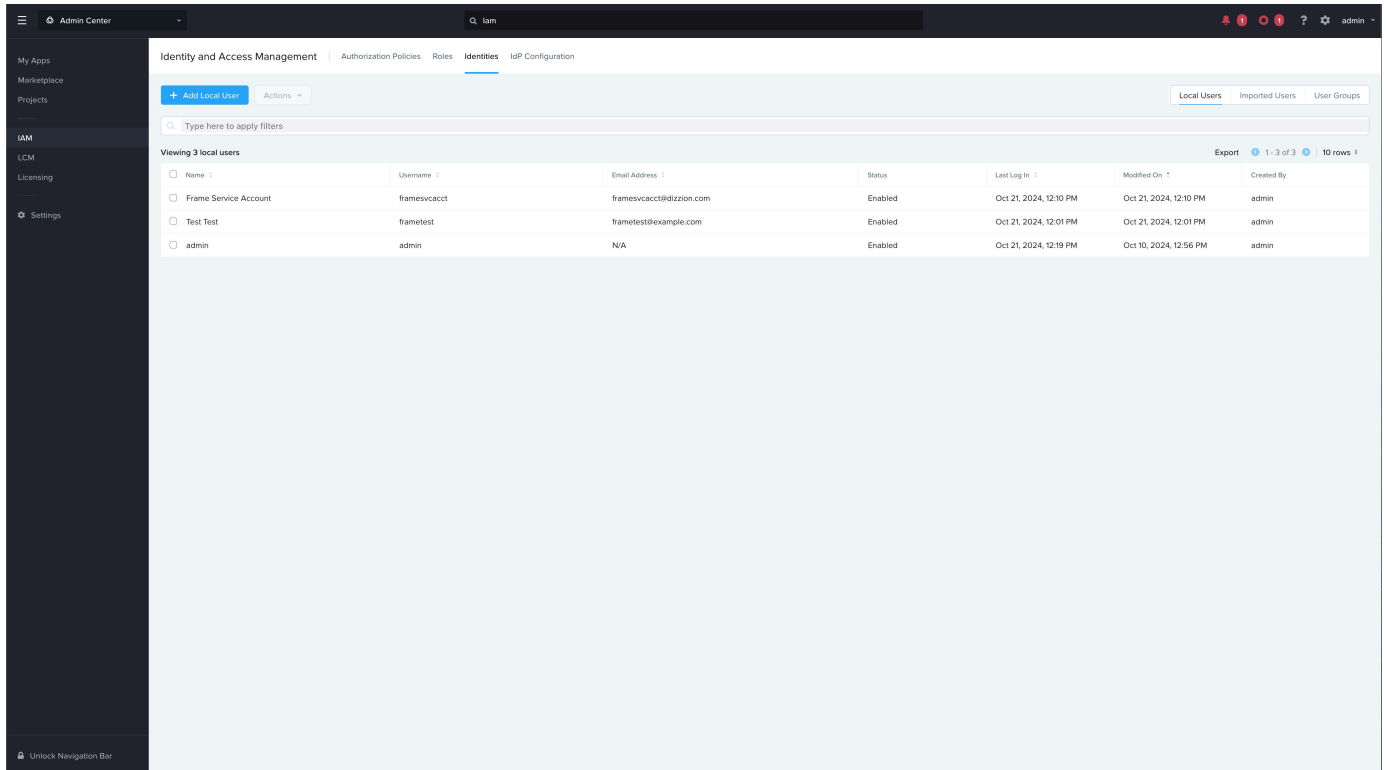
## Prism Central service user

- Log in to your Prism Central Management Console and go to your Prism Central settings by clicking on the "Admin Center" drop down menu in the top left corner of the management console.



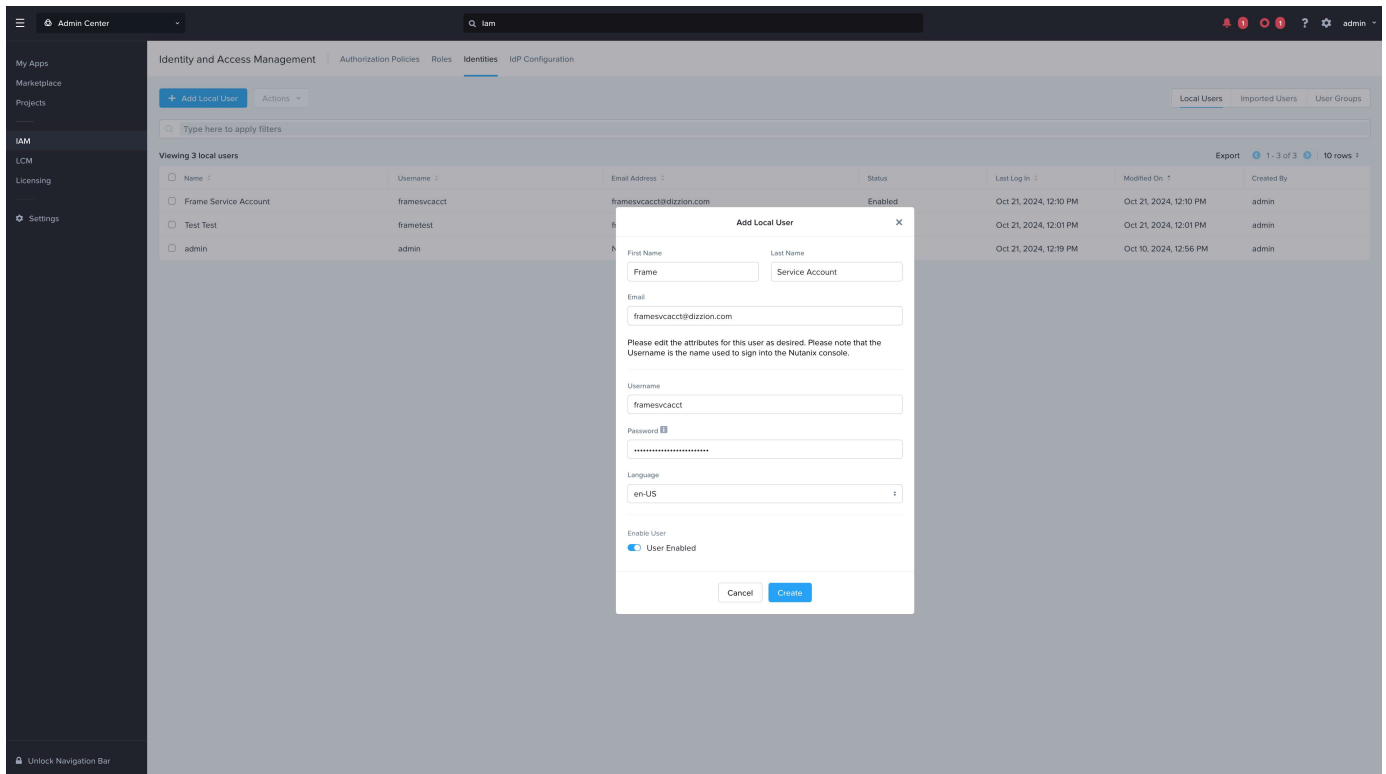
## Prism Central - Admin Center

7. Click on “IAM” from the menu on the left-hand side and then "Identities". Click the "+ Add Local User” button.



## Prism Central - Local User Management

8. Fill out the "Add Local User” form that appears and click on the "Create" button.



## Prism Central - Add Local User

9. Save your Prism Central user name and password. You will need this Prism Central user name and password later on in the process.

10. Next, create a new Authorization Policy for this service user by navigating from "IAM" to "Authorization Policies". Click on the "+ Create new Authorization Policy" button.

a. In the **Choose Role** step, enter "Super Admin" for the role to add to this policy.

Create New Authorization Policy

FrameSvcAccount

Guided Experience

1 Choose Role

2 Define Scope

3 Assign Users

Select the role you'd like to add to this policy

Super Admin

Role selected: Super Admin

Role Details 1018 operations in role

Account 5 Operations

Action Template 5 Operations

Action Trigger Type 1 Operation

Action Type 1 Operation

Address Group 4 Operations

AHV VM 83 Operations

Alert 3 Operations

Alert Email Config 2 Operations

Alerts Policy 4 Operations

Analysis Session 5 Operations

API Key 3 Operations

App 16 Operations

App Icon 3 Operations

App Protection Policy 4 Operations

App Runlog 2 Operations

Next

## Prism Central - Add Super Admin

b. In the **Define Scope** step, select "Full Access" and "Future Access".

Create New Authorization Policy ? X

FrameSvcAccount ✎ Guided Experience

☒ Choose Role
   
☒ Define Scope
   
☐ Assign Users

Select the entity types and instances you'd like to give access to ?

☒ Full access: all entity types & instances
 ☐ Configure access: select entity types & instances

Users and user groups associated with this policy will have access to all instances of all entity types that are part of the Super Admin role.

[View entity types](#)

---

Future Access ?

☒ Automatically grant access to new entity types that are added to this role in the future.

Back Next

## Prism Central - Enable User Roles

c. In the **Assign Users** step, add the local user you created in Step 8.

Create New Authorization Policy ? X

FrameSvcAccount ✎ Guided Experience

☒ Choose Role
   
☒ Define Scope
   
☒ Assign Users

Select users or user groups to assign to FrameSvcAccount

Local User

Please select

Local User Remove All

framesvcacct X

Back Save

## Prism Central - Enable User Roles

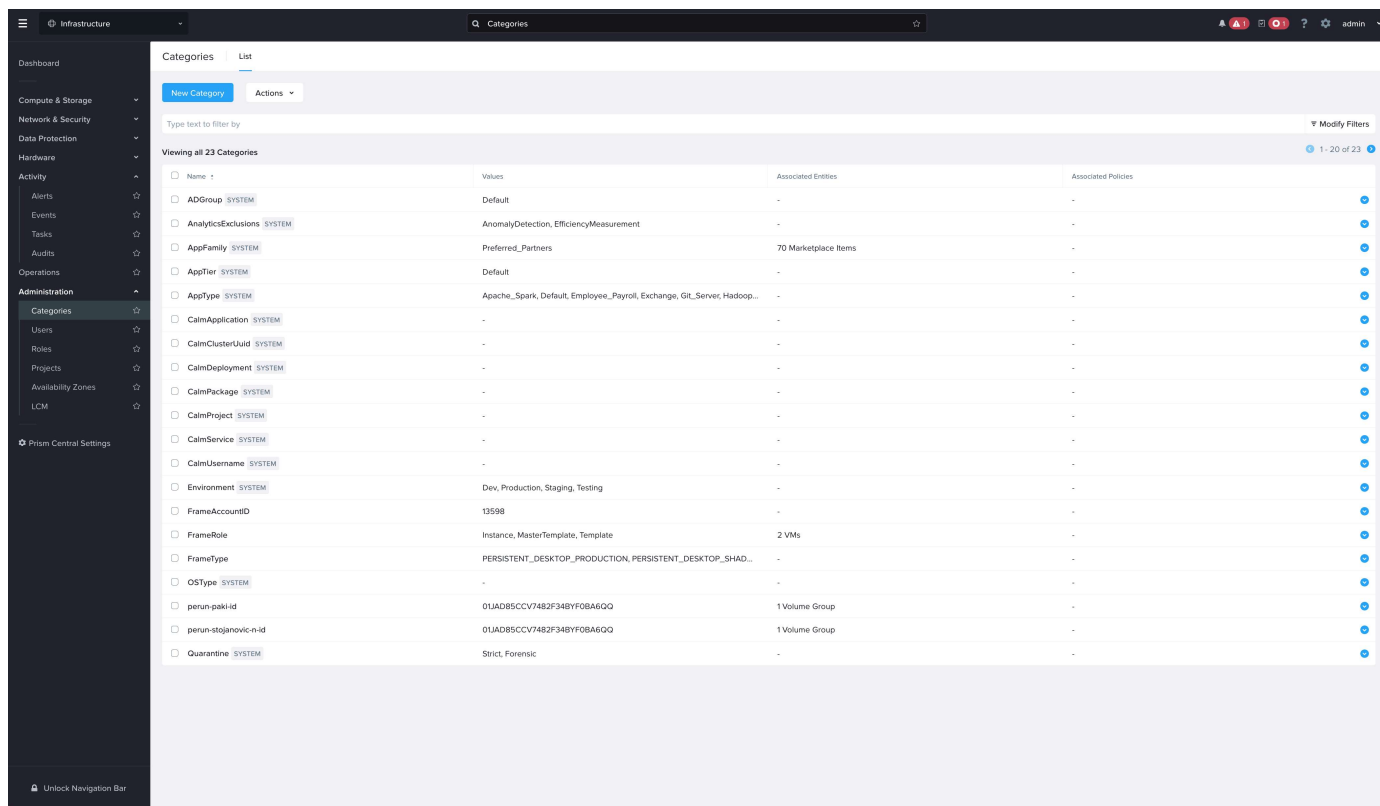
d. Click "Save" to save the authorization policy configuration.

## Prism Central Categories

11. Click on the hamburger menu icon in the upper left portion of your Prism Central interface.

12. Expand the "Administration" menu item and select "Categories."

13. Click on the "New Category" button.



## Prism Central - Categories

14. Fill in the form with the following values:



**General**

**Name** ⓘ

Name of the category

**Purpose** ⓘ

Purpose of the category

**Values** ⓘ

Value of the category X

Cancel Save

### Prism Central - Create Category

- **Name:** FrameRole
- **Purpose:** Categorizes VMs as Frame managed workload VMs
- **Values:** Instance, Template, and MasterTemplate - Add each value on separate lines using the plus symbol.

15. Click "Save" to save your first Category definition.

16. Create a second Category with the following values:

- **Name:** FrameGuestAgentKind
- **Purpose:** Categorizes VMs using Frame Guest Agent
- **Values:** fga

17. Click "Save" to save your second Category definition.

#### CAUTION

Both categories are critical to enable Frame control plane to orchestrate Frame-managed workload VMs and to identify the template images use for creating Frame accounts on Nutanix AHV clusters. Adding your Nutanix AHV cluster to Frame will fail if these two categories are not created properly in Prism Central.

## Template Image

Frame supports the use of Windows client/server operating systems and Ubuntu on Nutanix AHV. To bring a specific template OS image to Frame, refer to our [BYO Image](#) documentation for details on how to prepare one or more template OS images for Frame.

# Adding your Cloud Account

## AUTOMATED CCA DEPLOYMENT

For customers who have Prism Central 2023.3 or earlier, you can use the Prism Central 1-click Connect to Frame feature to automate the deployment of the Frame Cloud Connector Appliance (CCA) in your AHV cluster. Refer to [this guide](#) for further details.

## Connecting your AHV Cluster to Frame

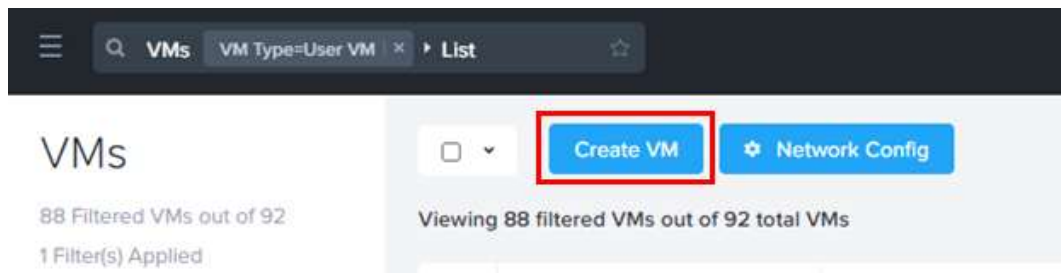
Once you have satisfied the prerequisites, you are ready to register your AHV cluster on Frame. This section provides a step-by-step guide for how to create a CCA VM in Prism Central, as a first step of the AHV cluster registration process.

### CCA ISO Download

You must first download the Frame Cloud Connector Appliance (CCA) ISO from our [Downloads page](#) and upload it to your Prism Image Library. You will use this CCA ISO to create a CCA VM in Prism Central.

### Create a CCA VM

1. First, in your Prism Central console, navigate to your VMs page and select "Create VM."



Prism Central - Create VM

2. Create a new VM for the Frame Cloud Connector Appliance (CCA) in a VLAN that meets the network requirements, as described in [Private Networking](#) or [Private Networking with SGA](#).

Create VM?×

Name

CCA01

Description

Cloud Connector Appliance

Timezone

(UTC) UTC

☐ Use this VM as an agent VM

Compute Details

vCPU(s)

1

Number Of Cores Per vCPU

2

Memory ?

4

GiB

Cancel

Save

Prism Central - Specify VM Configuration

**NOTE**

For use cases with up to 500 concurrent users, Frame recommends configuring your CCA with 1 vCPU, 2 cores, and 4 GB RAM. For additional concurrent users, add additional CCA VMs after you have registered your AHV cluster.

3. Click "+ Add New Disk" in the upper right corner of the window.

Disks

+ Add New Disk

TYPE	ADDRESS	PARAMETERS	
CD-ROM	ide.0	EMPTY=true; BUS=ide	

Boot Configuration

Legacy BIOS

Set Boot Priority

Default Boot Order (CD-ROM, Disk, Network)

UEFI

Network Adapters (NIC)

Cancel

Save

#### Prism Central - Add Disk

4. Add a 0.1 GB Disk with a SCSI Bus Type and select the appropriate container. Then, click "Add."

Add Disk

?

×

Type

DISK

Operation

Allocate on Storage Container

Bus Type

SCSI

Storage Container

default-container-88035195349787 (17.68 TiB free)

Size (GiB)

0.1

Index

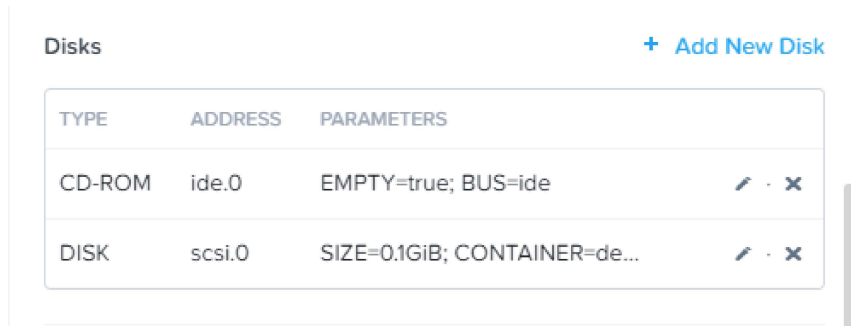
Next Available





Cancel

Add

## Prism Central - Add 0.1 GiB Disk

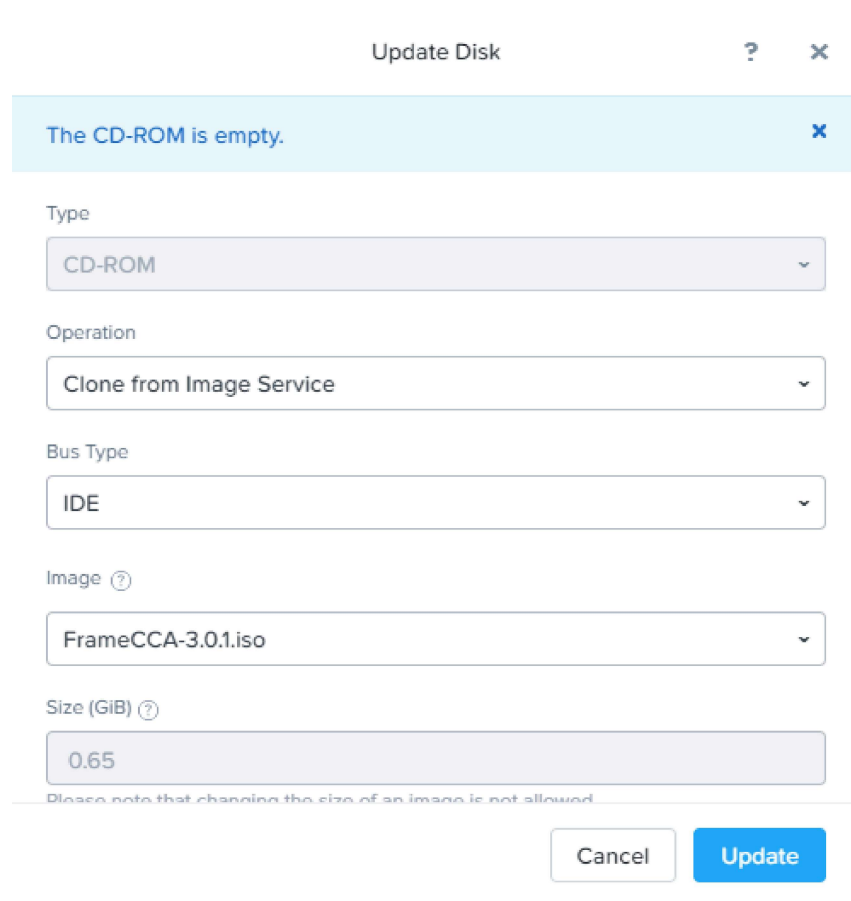
5. Under the "Disks" section, click on the edit (pencil) icon next to the CD-ROM entry.






TYPE	ADDRESS	PARAMETERS	
CD-ROM	ide.0	EMPTY=true; BUS=ide	 
DISK	scsi.0	SIZE=0.1GiB; CONTAINER=de...	 

## Prism Central - Edit CD-ROM

6. Select the CCA ISO you downloaded and added to your Prism Image Service previously. This will mount the CCA ISO from the "Clone from Image" operation for the VM. Verify that the Bus Type as "IDE." Click "Update."




**Update Disk**  


The CD-ROM is empty. 

Type  
CD-ROM

Operation  
Clone from Image Service

Bus Type  
IDE

Image   
FrameCCA-3.0.1.iso

Size (GiB)   
0.65

Please note that changing the size of an image is not allowed.

Cancel Update

## Prism Central - Update Disk

7. The Boot Configuration should be set to "Legacy BIOS" (default).

**Boot Configuration**

☒ Legacy BIOS

Set Boot Priority

Default Boot Order (CD-ROM, Disk, Network) ▼

☐ UEFI ⓘ

Prism Central - Legacy BIOS

8. Next, select "+ Add New NIC."

**Network Adapters (NIC)**

You haven't added any NICs yet.

+ Add New NIC

Prism Central - Add New NIC

9. Select your network for the CCA VM, then click "Add." In this example, we're using `vm_network_ipam` VLAN as the network. Your network configuration may be different.

Create NIC

Network Name

vm\_network\_ipam ▼

VLAN ID

Network Connection State

☒ Connected

☐ Disconnected

Network Address / Prefix

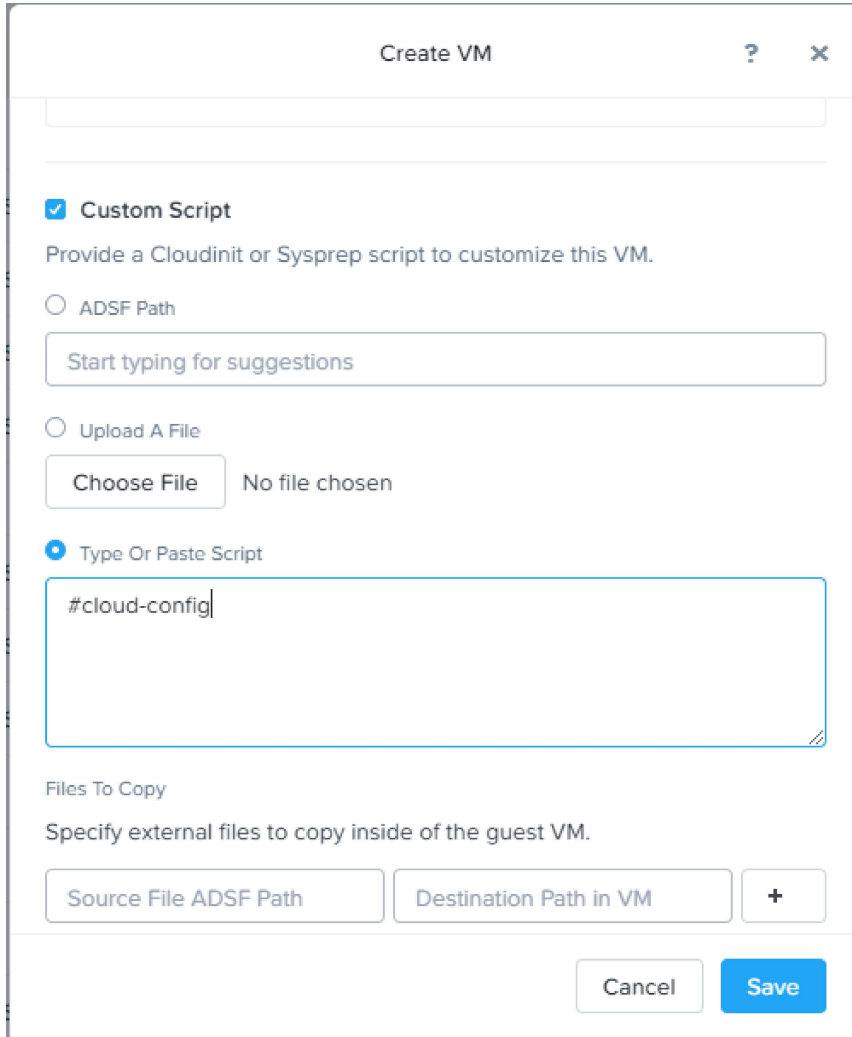
10.42.192.0/24

IP Address ⓘ

Cancel Add

Prism Central - Create NIC

10. Next, check the “Custom Script” check box and click on the “Type or Paste Script option.” Enter `#cloud-config` as shown below. Click “Save” and close the VM.



The screenshot shows the 'Create VM' dialog box. At the top, there's a title bar with 'Create VM', a help icon (?), and a close icon (X). Below the title bar, there's a search bar. The 'Custom Script' checkbox is checked. Below it, the text 'Provide a Cloudinit or Sysprep script to customize this VM.' is displayed. There are three radio button options: 'ADSF Path' (unselected), 'Upload A File' (unselected), and 'Type Or Paste Script' (selected). Under 'Upload A File', there's a 'Choose File' button and the text 'No file chosen'. Under 'Type Or Paste Script', there's a large text area containing the text '#cloud-config'. Below the text area, there's a section titled 'Files To Copy' with the text 'Specify external files to copy inside of the guest VM.' and three input fields: 'Source File ADSF Path', 'Destination Path in VM', and a '+' button. At the bottom right, there are 'Cancel' and 'Save' buttons. The 'Save' button is highlighted in blue.

Prism Central – Add Custom Script

**CAUTION**

If `#cloud-config` is not entered under the script field, the “Nutanix” root level user will have no way to log in.

11. Save the VM with the preferences specified and power it on. By default, the CCA will try to acquire an IP address from a DHCP server. To set a static IP, follow the [CCA Static IP Address instructions](#).
12. Once the VM is powered on, continue with the step-by-step procedure for [Configuring Your CCA VM](#) for a new AHV Cloud Account or [Adding a CCA to an Existing AHV Cloud Account](#).

### Configuring your CCA VM

1. Once the CCA VM has been successfully created, use your browser to go to `https://<CCA VM IP address>/` to connect to the CCA wizard.
2. To login to the CCA wizard, use the Prism Central user credentials that you created earlier for Frame and specify the Prism Central URL.

**Login with Prism Central Credentials**

Provide credentials for a Prism Central user account. As best practice, we recommend setting up a dedicated user account for Frame instead of using your personal account. The account credentials will never leave your data center.

Username

Ex. frame\_user

Password

.....

Prism Central URL

https://172.0. ....

Log In

#### Cloud Connector Appliance - User Authentication

- CCA can communicate via an HTTPS proxy server to the Frame control plane. If a proxy server is not required, just click Continue. Otherwise, enable "Use proxy" slider.

**Configure this CCA to use a Proxy Server**

When a CCA is configured to use a Proxy Server, any communication between Xi Frame & your private cloud goes through the Proxy Server. This makes the connection more secure by reducing the number of connections to the Internet.

☐

 Use proxy

Continue

#### Cloud Connector Appliance - Proxy Server Option

- Specify the proxy server URL which the CCA will use to reach the proxy server. If the proxy server requires a service username and password, specify the service username and password required for the CCA to authenticate to the proxy server. Otherwise, leave the proxy username and password blank. Use the "Verify" button to validate your proxy server configuration.



The screenshot shows the 'Proxy setup' window in the Frame Cloud Connector application. At the top left is the 'Frame Cloud Connector' logo, and at the top right is the 'admin' user profile. The window has a title bar 'Proxy setup'. Inside, there is a toggle switch for 'Use proxy' which is currently turned on. Below this are three input fields: 'Proxy username' with a placeholder 'E.g. frame\_user', 'Proxy password' with a masked password '\*\*\*\*\*', and 'Proxy URL' with the value 'https://172.0.0.1:9440'. At the bottom left is a 'Verify' button, and at the bottom right is a 'Setup proxy' button.

### Cloud Connector Appliance - Proxy Server Configuration

5. If you are creating a new AHV cloud account, choose the option **Connect Appliance to Frame**. If you have an AHV cloud account already and want to set up high availability (two or more CCA VMs) or migrate your AHV cloud account to a later CCA software version, chose the option **Attach Appliance to Frame** and refer to [Adding the CCA to an Existing Frame AHV Cloud Account](#) for more details.

The screenshot shows a dialog box titled 'Would you like to Connect or Attach appliance to Frame?'. It has a back arrow button on the top left. There are two columns of options. The first column is titled 'New setup' and contains the text: 'Setup a new connection for Frame on AHV. This will connect your private cloud running Nutanix AHV infrastructure with Frame. You will be able to create Frame accounts and edit them through the Frame platform.' Below this text is a blue button labeled 'Connect Appliance to Frame'. The second column is titled 'Existing configuration' and contains the text: 'Add additional appliances to an existing connection of Frame for AHV. If you already have an appliance connected to Frame, this will enable high availability for the link from your Nutanix AHV infrastructure to the Frame platform.' Below this text is a blue button labeled 'Attach Appliance to Frame'.

### Cloud Connector Appliance - New or Existing AHV Cloud Account

6. Specify the AHV cluster, workload VLAN (as defined within Prism Central), cloud account name, and Prism Element service user credentials.

## Cloud Connector Configuration

- 1 Select Cluster
- 2 Define Instance Types
- 3 Select Sandbox Templates
- 4 Connect to Frame

You are few steps away... To continue, please select Nutanix cluster and provide it's Prism username and password along with the network that you want to use with Frame.

Cluster for virtual desktops

XiFrame\_AHV

Network for virtual desktops

vlan0

Cloud account name

RC28\_New\_Cloud\_Account

Prism Element Username

admin

Prism Element Password

.....

Verify

☐ Enable enterprise profiles and personal drives

## Cloud Connector Appliance - Cluster Configuration

### **i** NOTE

The Cloud account name will default to the cluster name. It is important to choose a Cloud account name which is unique to easily identify the cloud account, especially if more than one cloud account will be set up in the same cluster on Frame or if you will have more than one AHV cluster on Frame.

7. In order to create Enterprise Profiles and/or Personal Drives, check the designated check box. Choose the storage container to store the data for Personal Drives and/or Enterprise Profiles.

## Cloud Connector Configuration

- 1 Select Cluster
- 2 Define Instance Types
- 3 Select Sandbox Templates
- 4 Connect to Frame

You are few steps away... To continue, please select Nutanix cluster and provide it's Prism username and password along with the network that you want to use with Frame.

Cluster for virtual desktops

XiFrame\_AHV

Network for virtual desktops

vlan0

Cloud account name

AMD-HPE-11

Prism Element Username

admin

Prism Element Password

.....

Verify

☒ Enable enterprise profiles and personal drives

Storage container for profile disks/personal drives

default-container-112133

Next

### Cloud Connector Appliance - Enterprise Profiles and Personal Drives

#### NOTE

The decision to use (or not use) enterprise profiles and/or personal drives can be changed by creating a new CCA VM and attaching the appliance to Frame. In addition, for persistent data like the profile disk, personal drive and persistent VMs, you should use a container that has compression and dedup enabled. For non-persistent data and VMs, choose a container with compression only and no dedup.

8. Click on "Add Instance Type" to define and add the VM instance types to use for your AHV-hosted Frame account. You can specify additional instance types later within Frame Console. Refer to [Cloud Account Management](#) for additional information.

Cloud Connector Configuration

1 Select Cluster

2 Define Instance Types

3 Select Sandbox Templates

4 Connect to Frame

Instance types are predefined VM profiles for your virtual desktops. To get you going, we prepared an instance type with 2 VCPUs and 4 GB of RAM that we called Air 4 GB. You can add as many instance types as you like.

Instance types

+ Add instance type

<input checked="" type="checkbox"/>	Name	VCPUs	Cores	Memory	Actions	
<input checked="" type="checkbox"/>	Air 4GB	1	2	4 GB	Edit	Delete
<input checked="" type="checkbox"/>	Air 8GB	2	2	8 GB	Edit	Delete

Back

Next

#### Cloud Connector Appliance – Define Instance Types

9. Within the Edit instance type page, specify the following information:

## Edit instance type



Name

Air 4GB

VCPU(s)

1

Cores per VCPU

2

Memory

4

GiB

GPU Instance

GRID M60-1B (1024) MB

- ✓ GRID M60-1B (1024) MB
- GRID M60-4Q (4096) MB
- GRID M60-2B4 (2048) MB
- GRID M60-2Q (2048) MB
- GRID M60-1A (1024) MB
- GRID M60-2B (2048) MB
- GRID M60-4A (4096) MB
- GRID M60-1B4 (1024) MB

- **Name:** Name of the instance type that will appear to administrators and users within Frame Console and Launchpad, respectively.
- **vCPU(s):** Number of vCPUs for this instance type.
- **Cores per vCPU:** Number of cores for each vCPU.
- **Memory:** Amount of memory in GiB.
- **GPU instance:** If you have NVIDIA vGPUs configured in Prism, the list of vGPU profiles will be displayed. You may pick a vGPU profile if you wish for the instance type to have a vGPU when VMs of this instance type are provisioned.

10. After creating the desired instance type(s), you now need to choose gold images (or template images) for the Sandbox VMs that will be created when you create Frame accounts.

### Cloud Connector Configuration

- 1 Select Cluster    2 Define Instance Types    **3 Select Sandbox Templates**    4 Connect to Frame

Select one or more Sandbox Template VMs (also referred to as Gold Master Template) and select an operating system. These templates are used to create Sandbox VM when you are creating a new Frame account. Only one Template VM should be created per Operating System.

#### Template VMs

[Refresh](#)

<input type="checkbox"/> Name	Created on	OS
<input type="checkbox"/> W_VM-2016	Wed Dec 18 2019	<div> <div></div> <div>CentOS 7</div> <div>Ubuntu</div> <div>Windows 10</div> <div>Windows 2016</div> </div>

[Back](#)

### Cloud Connector Appliance - Template Images

#### **i** NOTE

If the CCA does not list the template VMs you expect, then verify that the FrameRole category and MasterTemplate value has been set on the template image VM in Prism Central. You can refresh this page once the template VMs have been properly categorized in Prism Central.

#### **i** NOTE

To ensure a smooth setup, please make sure you logged in to your Frame customer entity or organization entity (either through “My Nutanix” or your identity provider) in a separate browser window tab before

proceeding to the next step. If you do not see your Customer or Organization entity in Step 4, login to <https://console.nutanix.com/> in a separate tab. Then, switch to the CCA wizard in your other browser tab, return to Step 3 using the Back button, and then go to Step 4. Your Customer or Organization entity should be visible as you have been authenticated and authorized to your Customer or Organization entity.

11. Select the Customer or Organization entity you want the AHV cluster to be associated with in Frame. Click "Connect".

**Cloud Connector Configuration**

1

Select Cluster

2

Define Instance Types

3

Select Sandbox Templates

4

**Connect to Frame**

Connect dans\_nulab\_ahv cluster to:

☐ Nutanix Demo ☒ Organization

darl

Dan Simmons BYO AWS

**Dan Simmons Test Org**

Back

Finish

#### Cloud Connector Appliance - Customer or Organization

12. The wizard should inform you that your cluster has been registered successfully on Frame.

**Congratulations! Your appliance setup is done!**

Continue to the Frame cloud platform to manage your cloud account or host your apps, desktops, and user data on your private cloud running Nutanix **AHV** infrastructure.

To see the appliance stats and status, continue to the Dashboard page.

Go to Frame

Go to Dashboard

#### Cloud Connector Appliance - Registered

13. Log in to your Frame account to check the cloud account creation status. The "C" status indicates that the cloud account is being configured.

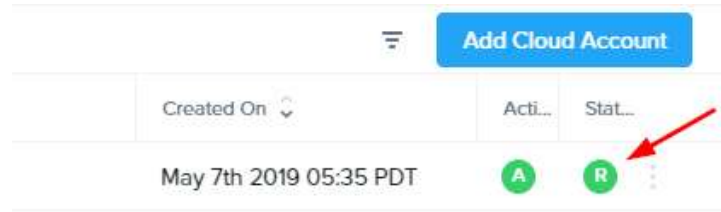
nulab	No description	nulab	0 - 0 - 0	<div><div>A</div><div>C</div><div></div></div>
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#### Frame Console - Connecting Status

**NOTE**

You may need to refresh your browser page to update the AHV Cloud Account status. If your account status hasn't changed after an hour, please create a ticket through your Frame support portal and provide your cloud account's display name. You can locate the cloud account's display name by navigating to the Customer or Organization entity's "Cloud Accounts" tab.

14. The account status should change from "C" (Creating) to "R" (Ready).



	Created On	Acti...	Stat...
	May 7th 2019 05:35 PDT	A	R

Frame Console - Ready Status

## CCA Static IP Address

By default, CCA VMs are assumed to obtain their IP address from a DHCP server provided by you. If a static IP address is required for the CCA, then the IP address of the VM will need to be manually configured.

1. After the CCA has been provisioned, open the console of the CCA VM from Prism Central (or Prism Element) and login as `netconfig` user (no password).
2. Make necessary changes to the CCA VM network settings.



Edit Connection

Profile name

enp0s3

Device

enp0s3 (08:00:27:5F:2E:0C)

ETHERNET

<Show>

IPv4 CONFIGURATION

<Manual>

<Hide>

Addresses

192.168.1.10/24

<Remove>

<Add...>

Gateway

192.168.1.1

DNS servers

192.168.1.2

<Remove>

192.168.1.3

<Remove>

<Add...>

Search domains

yallalabs.com

<Remove>

<Add...>

Routing (No custom routes)

<Edit...>

Never use this network for default route

Require IPv4 addressing for this connection

IPv6 CONFIGURATION

<Automatic>

<Show>

Automatically connect

Available to all users

<Cancel>

### Prism Central - Network Configuration

- **Address:** Static IP address of the CCA VM. Make sure to append the correct /XX to the IP address.
- **Gateway:** IP address of the gateway for the CCA VM.
- **DNS servers:** IP address(es) of the DNS server(s) which can resolve public DNS records, including the FQDNs for the Frame control plane.

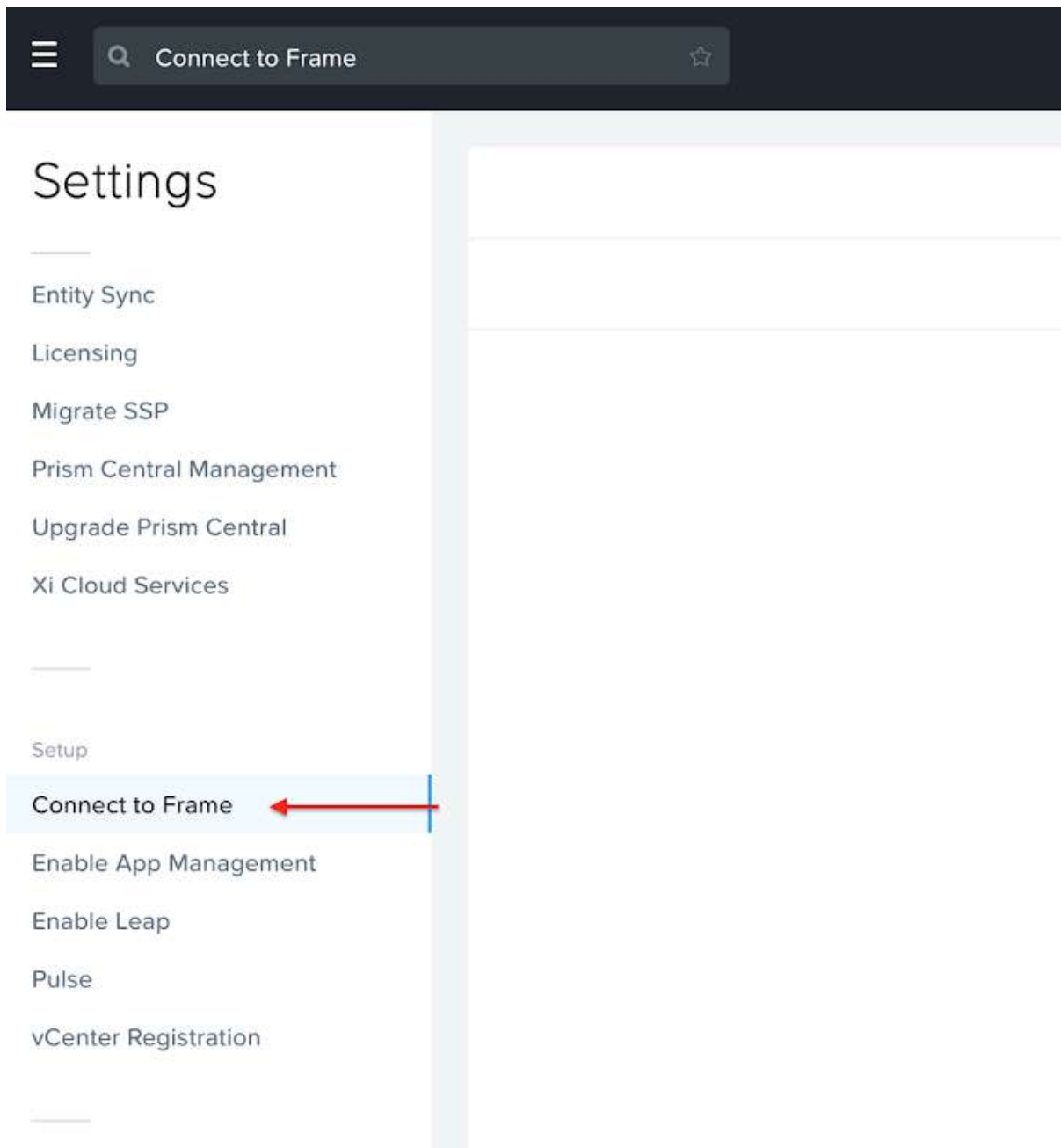
3. Make sure to save your setting changes.

## Automated CCA Deployment

Prism Central 2023.3 and earlier versions has a 1-click Connect to Frame feature which allows Nutanix AHV administrators to easily deploy one or more CCA VMs on your Nutanix AHV cluster hosting the Frame workload VMs.

### 1-Click CCA Creation

1. Log in to Prism Central Management Console. From your Prism Central drop-down menu on the left, click “Settings.”
2. Under the “Setup” section of the “Settings” menu, click “Connect to Frame.”



Prism Central - Settings

**⚠ CAUTION**

Each time "Connect to Frame" is clicked, Prism Central will attempt to provision a new CCA VM. Do not click the link more than once unless you wish to create more than one CCA VM. You can delete a CCA VM from Prism Central or Prism Element, provided:

- i. The AHV cluster has not yet been registered in Frame, or
  - ii. You have at least one working CCA VM after you delete a CCA VM for your AHV Cloud Account.
- Otherwise, you may cause a service outage with your Frame workload VMs as Frame control plane is

unable to communicate with Prism Central and Prism Element through a functional CCA VM.

3. On this page, specify the following:

Connect to Frame

1 Initialize

2 Prepare

3 Configure

Connect to Frame to run virtual desktops in your private datacenter. Make sure you have an active Frame subscription and a dedicated AHV cluster before starting the process.

Select Frame service

☒ Commercial ☐ Government ☐ Custom

Dedicated AHV cluster

XiFrame\_AHV

Network connected to Prism Central

vlan0

#### Prism Central - Connect to Frame

- **Select Frame Service:** This is your Frame service deployment type. Select "Commercial" for Frame.
- **Dedicated AHV cluster:** Select the cluster where the Frame workload VMs will reside from the drop-down menu. The CCA VM will be deployed in the same cluster.
- **Network connected to Prism Central:** Specify the VLAN where the CCA VM will be installed from the drop-down menu. The CCA VM must be able to access both Prism Central and Prism Element VMs from this VLAN.

#### CAUTION

Prism Central, Prism Element, and the CCAs should be deployed in a separate VLAN from the Frame workload VMs for network security reasons.

#### NOTE

DHCP must be configured for the "Network connected to Prism Central" in order for CCA to be automatically provisioned and functional. If you do not have DHCP configured, you will need to connect to the CCA console (once the CCA VM has been configured) and configure a static IP address for the CCA. Please refer to [Configuring CCA/WCCA for Static IP Addresses](#).

4. Click "Next." The image for the current CCA version will be downloaded from Nutanix and deployed on the Nutanix AHV cluster specified in the previous step. The progress can be monitored in the status bar. Once complete, click on the "Configure" button.

Connect to Frame

1 Initialize

2 Prepare

3 Configure

We are downloading the connector image to the cluster and will start it when ready.

**Progress**

Fetching image...

25%

**Your settings**

Frame service	frame.nutanix.com
AHV cluster	XiFrame_AHV
Network	vlan0

## Prism Central - Installing CCA

If the progress bar stops at:

- 25%: Prism Central was unable to download the CCA image. Please verify your network connectivity from Prism Central to the Internet and Frame control plane for the AHV deployment modes, as described in our [network requirements documentation](#).
- 50%: Prism Central was unable to create the CCA VM. Check Prism Central to determine why the CCA VM was not successfully provisioned.
- 75%: The CCA VM was successfully provisioned but does not have an IP address. Verify your DHCP server for the VLAN or manually assign the CCA VM with a static IP address.

5. Once the VM is powered on, continue with the step-by-step procedure for [Configuring Your CCA VM](#) for a new AHV Cloud Account or [Adding a CCA to an Existing AHV Cloud Account](#).

# Adding a CCA to an Existing AHV Cloud Account

This section describes the workflow if you have an existing AHV Cloud Account and would like to perform any of the following operations:

- Setup a highly available CCA configuration
- Update the version of a CCA VM

- Changed the AHV cluster's IP address and need to create a new CCA VM
- Enable Enterprise Profiles, Personal Drives, or proxy server for an existing AHV Cloud Account
- Modify settings for Enterprise Profiles, Personal Drives, or an existing proxy server configuration

First, create a new CCA VM following the instructions in the [Create a CCA VM](#) procedure.

Once your new CCA VM is powered on and you have logged in to your new CCA VM using your Prism Central user credentials, as described in [Configuring your CCA VM](#), Steps 5-6, you can use the following workflow to update your proxy server settings (Steps 1 and 2 below) or make additional configuration changes (Steps 3 through 7).

1. If you want to update the CCA configuration for your existing AHV Cloud Account to use a proxy server, then click on the slider to "Use Proxy."

**Configure this CCA to use a Proxy Server**

When a CCA is configured to use a Proxy Server, any communication between Xi Frame & your private cloud goes through the Proxy Server. This makes the connection more secure by reducing the number of connections to the Internet.

☐ Use proxy

Continue

#### Cloud Connector Appliance - Proxy Server Option

2. Specify the proxy server URL which the CCA will use to reach the proxy server. If the proxy server requires a service username and password, specify the service username and password required for the CCA to authenticate to the proxy server. Otherwise, leave the proxy username and password blank. Use the "Verify" button to validate a valid proxy server configuration.

The screenshot shows the 'Proxy setup' window in the Frame Cloud Connector application. The window has a title bar with the application name and a user icon labeled 'admin'. Inside the window, there is a section titled 'Proxy setup' with a toggle switch for 'Use proxy' which is currently turned on. Below this, there are three input fields: 'Proxy username' with a placeholder 'E.g. frame\_user', 'Proxy password' with a masked password '\*\*\*\*\*', and 'Proxy URL' with the value 'https://172.0.0.1:9440'. At the bottom left of the form is a 'Verify' button, and at the bottom right is a 'Setup proxy' button.

### Cloud Connector Appliance - Proxy Server Configuration

3. Since you are adding a CCA instance to an existing AHV cloud account, choose the Attach Appliance to Frame option.

The screenshot shows a dialog box titled 'Would you like to Connect or Attach appliance to Frame?'. It has a back arrow button on the top left. The dialog is divided into two columns. The left column is titled 'New setup' and contains the text: 'Setup a new connection for Frame on AHV. This will connect your private cloud running Nutanix AHV infrastructure with Frame. You will be able to create Frame accounts and edit them through the Frame platform.' Below this text is a blue button labeled 'Connect Appliance to Frame'. The right column is titled 'Existing configuration' and contains the text: 'Add additional appliances to an existing connection of Frame for AHV. If you already have an appliance connected to Frame, this will enable high availability for the link from your Nutanix AHV infrastructure to the Frame platform.' Below this text is a blue button labeled 'Attach Appliance to Frame'.

### Cloud Connector Appliance - New or Existing AHV Cloud Account

4. Confirm the AHV cluster and specify its Prism Element credentials. At this step, you can update the Enterprise Profiles and Personal Drives settings as well for the existing AHV Cloud Account.

## Cloud Connector Configuration

- 1 Select Cluster
- 2 Define Instance Types
- 3 Select Sandbox Templates
- 4 Connect to Frame

You are few steps away... To continue, please select Nutanix cluster and provide it's Prism username and password along with the network that you want to use with Frame.

Cluster for virtual desktops

XiFrame\_AHV

Network for virtual desktops

vlan0

Cloud account name

AMD-HPE-11

Prism Element Username

admin

Prism Element Password

.....

Verify

☒ Enable enterprise profiles and personal drives

Storage container for profile disks/personal drives

default-container-112133

Next

### Cloud Connector Appliance - Enterprise Profiles and Personal Drives

5. Select the Customer or Organization entity you created earlier in the Frame account setup. Choose the AHV Cloud Account for which high availability configuration is required and Click "Attach."

**Cloud Connector Configuration**

---

1 Select Cluster   2 Define Instance Types   3 Select Sandbox Templates   **4 Connect to Frame**

---

Connect dans\_nulab\_ahv cluster to:

☐ Nutanix Demo   ☒ Organization

Dan Simmons BYO AWS

**Dan Simmons Test Org**

Back   Finish

#### Cloud Connector Appliance - Customer or Organization

6. The wizard should inform you that your CCA VM has successfully connected to Frame control plane.

**Congratulations! Your appliance setup is done!**

---

Continue to the Frame cloud platform to manage your cloud account or host your apps, desktops, and user data on your private cloud running Nutanix **AHV** infrastructure.

**Go to Frame**

To see the appliance stats and status, continue to the Dashboard page.

**Go to Dashboard**

#### Cloud Connector Appliance - Registered

7. Once you have attached the new version of the CCA to the AHV cloud account, you can power off the CCA VM running the older version of CCA and terminate the VM. You can perform the above steps again to add additional CCA VMs of the new version for high availability and scalability.

## High-Availability CCA

If you create at least two Cloud Connector Appliance (CCA) VMs for an AHV Cluster, the CCA VMs will automatically be used in a high-availability configuration by Frame control plane. Up to 16 CCA VMs can be provisioned for an AHV Cluster.

When a CCA VM powers on, it will establish a Secure WebSocket connection to the Frame control plane and register itself. Frame control plane will then use a round-robin algorithm to send messages to one of the connected CCA VMs in the CCA VM pool. The CCA VM will forward the request, in the form of an HTTPS request, to either Prism Element (PE) or Prism Central (PC), wait for the response, and return the response back to Frame control plane.



If one of the CCA VMs loses its connection to the Frame control plane, the Frame control plane will detect the loss of connection and stop sending messages to the unconnected CCA VM.

If all CCA VMs lose their connection due to an issue with the network between the CCA VMs and Frame control plane or all CCA VMs do not respond to Frame control plane requests, then Frame control plane will send an alert to Notification Center and update the AHV Cloud Account status as "Unavailable". Depending on the reason for the lack of communication, the AHV administrator may need to power on or reboot the CCA VMs manually in Prism Element or the Frame Administrator may need to manually reconnect the AHV Cluster in the list of cloud accounts.

Frame administrators can update the CCA pool by provisioning new CCA VMs using the image for the new CCA version, add them to an existing AHV Cloud Account, and then terminate the VMs for the previous CCA version.

## Service Limits

Unlike public cloud infrastructure, Nutanix AHV clusters have no service limits. They do have resource capacity constraints, based on the hardware cluster's compute, memory, storage, and network resources.

Customers do need to monitor through Prism Central and Prism Element the overall AHV cluster health to ensure the infrastructure is performant for the end users as they work within their Frame workload VMs.

## Instance Types

Nutanix AHV clusters allow customers to define their own instance types and are therefore not restricted to the instance type configurations offered by public cloud infrastructure as a service providers.

For vGPU-based instance types, you do not attach the vGPU to the template image or Sandbox in Prism Element. Frame will automatically request a vGPU from Prism when a vGPU-backed VM is provisioned.

## Troubleshooting

### CCA Connectivity

To troubleshoot CCA issues, administrators can review logs or access network configuration via AHV's VNC console. If the CCA page does not display the "Prism Central URL" field, verify the following:

- Ensure that there is a 0.1 GB attached disk on the CCA.
- Ensure that a "volume group" is not attached to the VM.

CCA 3.0 Dashboard can provide details on connection between CCA and Frame or CCA and Prism Central. It also shows the latest API requests to Prism Central and a summary of the Prism Central API calls since the CCA 3.0 VM was last powered on. This can be accessed by going to <https://<CCA VM IP address>/> and logging in using your Prism Central service username/password.

Frame Cloud Connector

dan

Latest requests

Refresh

Path	Method	Status Code	Duration
api/nutanix/v3/users/me	GET	200	310ms
api/nutanix/v3/vms/list	POST	200	320ms
/PrismGateway/services/rest/v2.0/vms/7bc4187c-da04-42b9-8568-c06724f89d4d?include_vm_disk_config=true&include_vm_nic_config=true	GET	200	63ms
/PrismGateway/services/rest/v2.0/vms/06274506-7bb4-4bc4-843b-cf2195e21208/set_power_state	POST	201	79ms
/PrismGateway/services/rest/v2.0/vms/ac27888f-88dd-489d-a399-	DELETE	201	71ms

Endpoints status

Refresh

Path	Number of requests	Status Code					Duration		
		1XX	2XX	3XX	4XX	5XX	Average	Minimum	Maximum
/PrismGateway/services/rest/v2.0/tasks/poll	151	0	137	0	0	14	1219	47ms	5002ms
api/nutanix/v3/users/me	82	0	82	0	0	0	141	19ms	312ms
/PrismGateway/services/rest/v2.0/volume_groups/013692a3-a6fb-4f2e-9ac7-5cd2846ca258	22	0	21	0	1	0	70	52ms	177ms
/PrismGateway/services/rest/v2.0/vms?filter=hypervisor_specific_id%3D%3Df6b0f950-9c98-4c8f-99c5-	22	0	22	0	0	0	93	76ms	260ms

Appliance info

Version: 3.0.0

Identity: 388505ec-6c07-4e22-b646-61fe613297e7

Backplane connection status: CONNECTED

Appliance registration status: REGISTERED

Detected Machine IP: 10.42.192.253

Cloud Connector Appliance - Dashboard

RESOURCES

AHV Prerequisite Checklist

Tags: 

AHV

BYO AHV

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