

A guide to migrating from Citrix to Azure Virtual Desktop with Nerdio



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Introduction

As organizations strive to modernize their IT infrastructure and reduce costs, many are considering migrating from Citrix to Azure Virtual Desktop (AVD) with Nerdio. This guide covers the essential aspects of this migration, including motivations, licensing differences, architectural comparisons, image management, migration methods, connectivity options, and additional considerations.



Why are organizations moving from Citrix to Azure Virtual Desktop + Nerdio?

Several factors drive organizations to transition from Citrix to AVD with Nerdio:

- 1. Cost efficiency:** AVD offers more flexibility, lower licensing costs, and simplified pricing models compared to Citrix, reducing the total cost of ownership.
- 2. Integration with the Microsoft ecosystem:** AVD is a Microsoft product that seamlessly integrates with other Microsoft services, such as Entra ID, Microsoft 365, and security tools, providing a more cohesive experience.
- 3. Simplified management:** Nerdio enhances AVD by offering powerful management tools that simplify deployment, scaling, and optimization of virtual desktops, making it easier to manage than Citrix.
- 4. Scalability and flexibility:** AVD provides native cloud scalability, allowing organizations to quickly adjust resources based on demand, which is more challenging in traditional Citrix on-premises environments.
- 5. Performance and user experience:** AVD, leveraging Microsoft's global Azure infrastructure, offers robust performance and reliability, often surpassing traditional on-premises Citrix deployments.

Licensing differences between Citrix and Azure Virtual Desktop + Nerdio

1. Citrix licensing

Citrix offers complex licensing models for specific use cases.

- a. Universal Hybrid Multi-Cloud
- b. Citrix Platform
- c. Citrix for Private Cloud

Citrix is currently priced on a named user licensing model and offers customers 3-year minimum commit renewals. More information about Citrix licensing can be found [here](#).

A key factor to note is that if you are running Server OS workloads and use RDSH, that will need to be purchased and licensed separately. Azure Virtual Desktop uses the Windows 11 Multi-session Operating System, which does not require an additional RDS CAL license. The cost savings can be considerable, as a 5-user license can cost around \$749, or a perpetual per-server license can cost around \$300 per server.

2. Azure Virtual Desktop licensing

Azure Virtual Desktop licensing is more straightforward and typically included in Microsoft 365 and Windows 10/11 Enterprise subscriptions. Costs stem from Azure infrastructure usage, including virtual machines, storage, and networking. More information can be found [here](#).

3. Nerdio licensing

Nerdio's licensing model provides additional management layers for Azure Virtual Desktop. It is more straightforward and cost-effective due to its automation and optimization features.

For further licensing information, please visit this link for Nerdio Manager for Enterprise and this link for Nerdio Manager for MSP.

Nerdio licensing has no minimum commitment, so you will only be billed for what you consume.

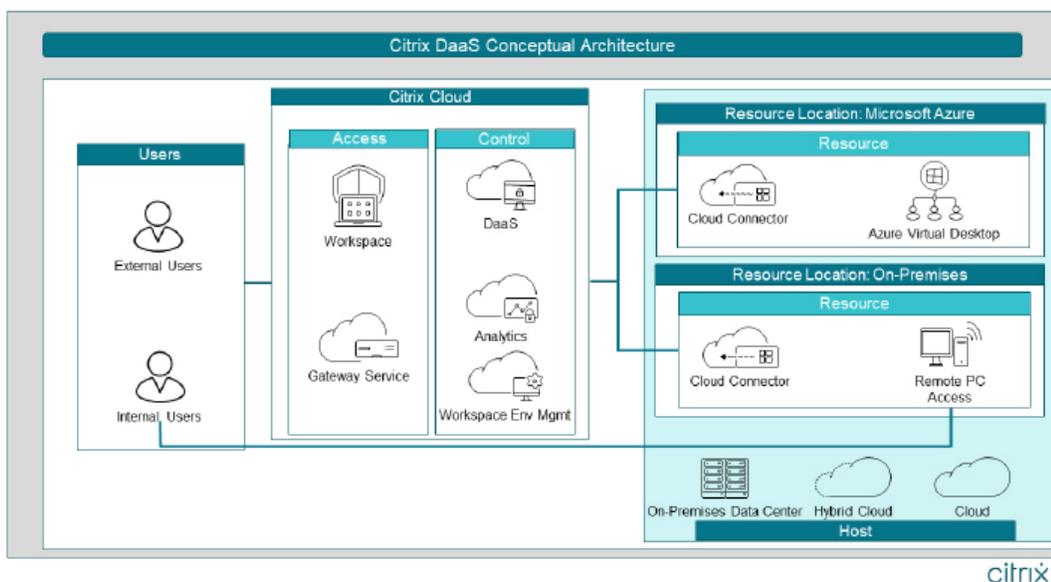
Architectural differences: Citrix vs. Azure Virtual Desktop + Nerdio

Citrix and Azure Virtual Desktop are similarly architected. Both brokering services rely on an agent on the session hosts to register against the back-end services. Once the session hosts register against the broker, they can be placed in either a machine catalog (Citrix) or a host pool (Azure Virtual Desktop), and they are then available for connections from users.

The diagram below shows the Azure Virtual Desktop architecture.

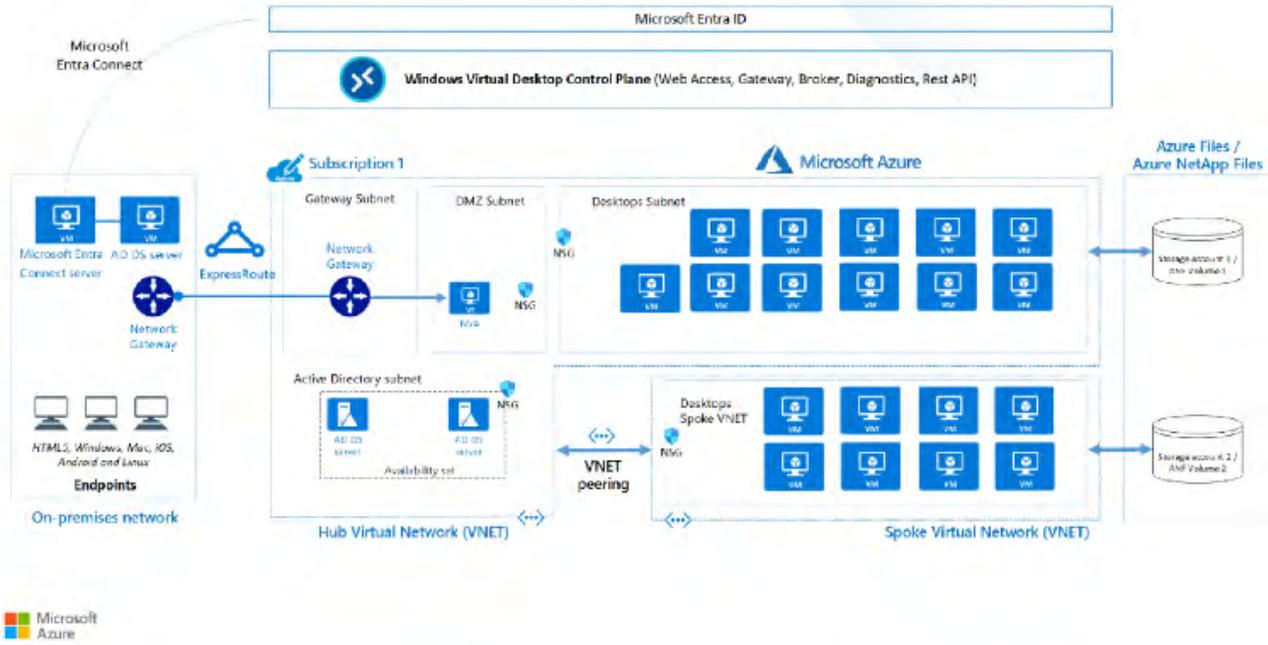
A key point to note is whether the Citrix environment could be hosted on-premises, in Amazon Web Services (AWS), Google Cloud Platform (GCP), or Microsoft Azure. Azure Virtual Desktop runs 100% in Azure, or you can run Azure Local (formerly Azure Stack HCI) to connect to on-premises workloads.

Microsoft controls and maintains the AVD brokering architecture, which can be managed in the Azure portal or via Nerdio. For further information, please visit this Microsoft help page.



This diagram shows the overall Citrix DaaS architecture.

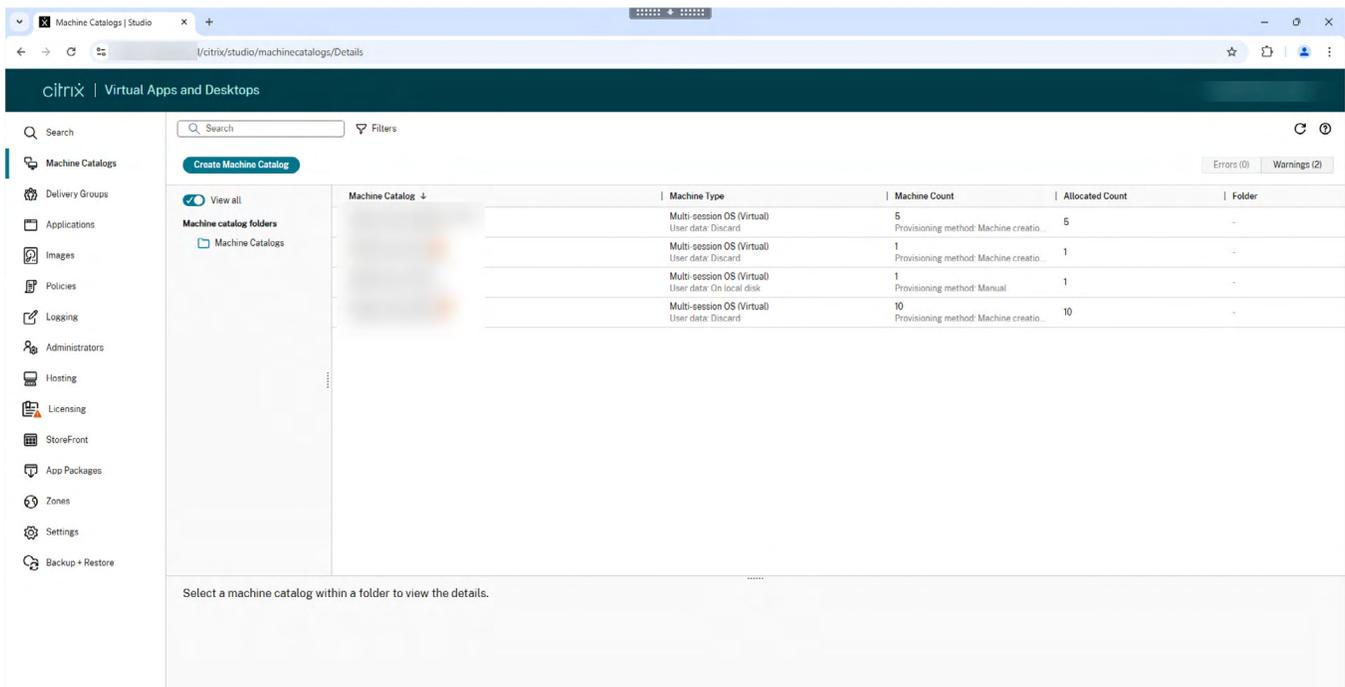
[View diagram](#)



Machine catalog/delivery groups vs. host pools

One of the critical differences between Citrix and AVD is how the session hosts are allocated and how sessions are then assigned to users.

Citrix uses a machine catalog to define collections of virtual machines. Once those virtual machines have been placed into a machine catalog, they can be put into different delivery groups and assigned to the relevant users.



Azure Virtual Desktop uses host pools, which are groups of identical VMs that provide resources for a specific group of users. A host pool can be considered a combined machine catalog and delivery group.

With Azure Virtual Desktop, we have something called Application Groups. When we create a host pool, the application group is created, and then when we assign a user to a host pool, the user is automatically added to the app group.

NAME	DESKTOP/APP EXPERIENCE	STATUS	AUTO-SCALE	IMAGE	MONTHLY SAVINGS & COSTS
APAC - AVD Demo	Multi user desktop (pooled) Breadth: first load balancing Max session limit: 99999 Assignment Type: Endpoint Analytics score: 0	User sessions: 0 Assigned users: 2 (2) Assigned groups: 0 Hosts: 0 ON / 1	▼ DEFAULT SCHEDULE Min: 0, Capacity: 1, Burst: 0 Scale trigger: shutdown after 10 minutes	APACGoldImagev2 D2as_v5 (2C & 8GB) P10 (128 GB Premium SSD) Dec 5, 2024	Monthly savings: \$137.73 (84.14%) Desktop user cost: \$12.98/month
API-Created-Hostpool	Multi user desktop (pooled) Breadth: first load balancing Max session limit: Unlimited (999,999) Assignment Type: Workspace: AVD Workspace	User sessions: 0 Assigned users: 1 (2) Assigned groups: 1 Hosts: 0 ON / 0	OFF	Windows 11 (23H2) Enterprise multi-session D2s_v3 (2C & 8GB) E10 (128 GB Standard SSD)	Insufficient data
AVD - Entra Domain Services	Multi user desktop & RemoteApp (pooled) Breadth: first load balancing Max session limit: Unlimited (999,999) Assignment Type: Workspace: WVD Workspace	User sessions: 0 Assigned users: 1 (1) Assigned groups: 1 Hosts: 0 ON / 1	▼ DEFAULT SCHEDULE Min: 0, Capacity: 1, Burst: 0 Scale trigger: shutdown after 10 minutes	Windows 11 (23H2) Enterprise multi-session D2s_v3 (2C & 8GB) E10 (128 GB Standard SSD)	Monthly savings: \$80.37 (93.1%) Desktop user cost: \$0.60/month
AVD Demo	Multi user desktop & RemoteApp (pooled) Breadth: first load balancing Max session limit: 5 Assignment Type: Endpoint Analytics score: 0	User sessions: 0 Assigned users: 84 (86) Assigned groups: 4 Hosts: 0 ON / 2	▼ DEFAULT SCHEDULE Min: 0, Capacity: 2, Burst: 0 Scale trigger: shutdown after 10 minutes	Windows 11 (23H2) Enterprise multi-session + Microsoft 365 Apps D4s_v5 (4C & 16GB) E10 (128 GB Standard SSD)	Monthly savings: \$316.28 (94.87%) Desktop user cost: \$0.20/month

Image management and VM provisioning

One of the major features of Nerdio Manager is the ability to manage images and applications, enabling you to manage the full lifecycle from within the Nerdio Console.

Historically via Citrix, administrators would need to manage their images and applications using third-party tools, such as SCCM, Packer, or similar technologies.

Citrix

Citrix uses a technology called Machine Creation Services to provision session hosts. Citrix Machine Creation Services can provision hosts quickly, as thin provisioning is used to create session hosts. A copy of the image is added to the resource groups in Azure, and each session host has an identity disk and a cache disk to which the temporary cached data is written. When the VMs are shut down or rebooted, the cache disk is reset, and the VM returns to its original state. This is known as non-persistent mode.

Image management is performed outside of Citrix, and then the master image is shut down. Citrix Machine Creation Services takes a snapshot of the image, which is then replicated to all resource groups.

Many Citrix deployments also leverage Citrix Provisioning Services. With Citrix PVS, the operating system is "streamed" to the virtual machines, which means that little local storage is required.

AVD + Nerdio

Nerdio leverages the existing image management capabilities used by Azure Virtual Desktop, which is slightly different from how Citrix operates. The most significant difference is that all the image management is performed inside the Nerdio console. Nerdio can perform all activities involved in the image management life cycle. There are a few important things to note:

1. Azure Virtual Desktop requires that images be in a sys-prepped state. Nerdio manages this process for administrators.
2. Azure Virtual Desktop can distribute images using the Azure Compute Gallery. This method provides advanced capabilities, such as version control, and the ability to distribute images to multiple Azure regions worldwide within a few clicks.
3. Nerdio can also perform application management against the session hosts and images, which Citrix cannot do.
4. Using Nerdio, users can quickly implement advanced image management with a few clicks, completely automating updating images, applications, and session hosts.

Protocol differences

The remote protocol used when connecting to a VDI desktop is one of the most critical factors in the desktop's performance. Let's compare the differences between the ICA protocol and the RDP protocols used for Citrix and Azure Virtual Desktop.

Citrix

Citrix uses the ICA protocol to deliver a solid desktop experience, even over high latency and low bandwidth connections. Historically, this has been the main driver for customers using Citrix, which has improved over the years to provide an optimized user experience. It also performs well in GPU environments by using the H.265 codecs. More recently, Citrix started using the AV1 codec.

The ICA protocol can also use Framehawk, which uses the UDP protocol. UDP can use much higher bandwidth, enabling a better user experience.

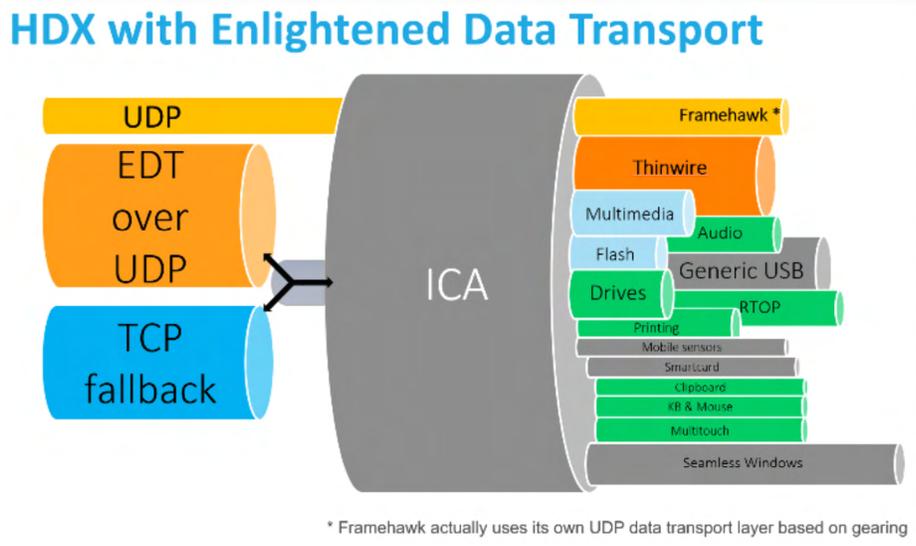
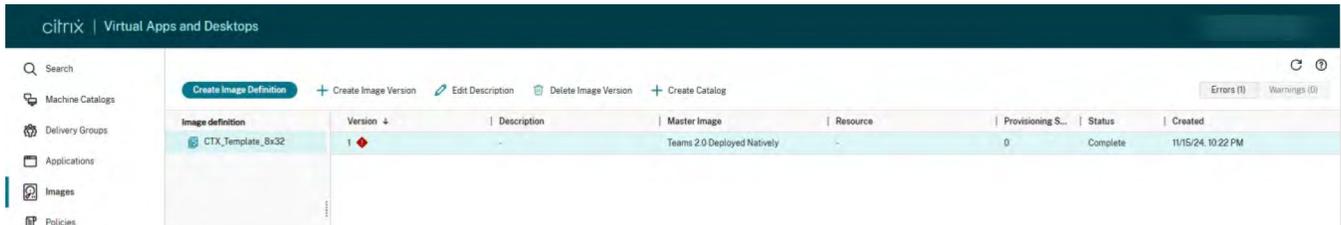
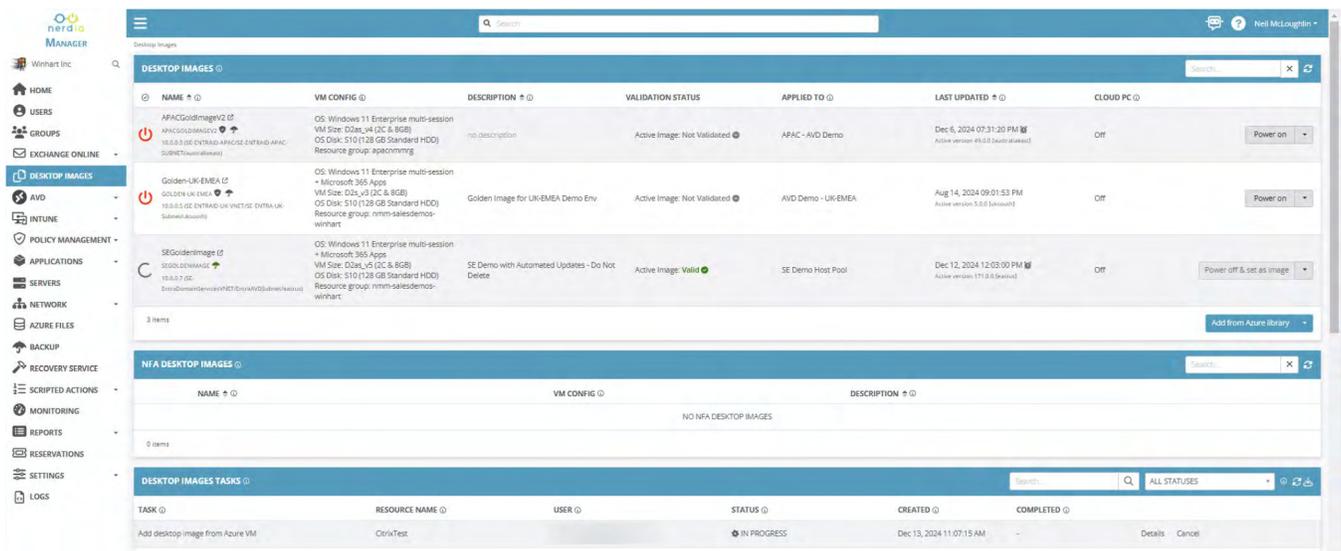


Image management capabilities

Citrix image management is handled through Citrix Studio, where administrators create, maintain, and update master images for VMs using Citrix Provisioning Services or Citrix Machine Creation Services.



AVD with Nerdio offers more robust image management capabilities. Nerdio allows for the creation, maintenance, and automated updates of master images directly in the Nerdio console. Nerdio simplifies this process with intuitive interfaces and automated workflows.



To manage Azure Virtual Desktop images using Nerdio:

- Utilize Nerdio Manager, which provides tools for image versioning, updating, and scaling across host pools.
- Schedule updates and automate rollouts to reduce downtime and maintain consistency across the virtual desktop environment.

Migrating Citrix images to Azure Virtual Desktop + Nerdio

When migrating images from Citrix to Azure Virtual Desktop, you first need to look at the operating system version and where that image is currently hosted. Generally, using Citrix, you will see the following types of operating systems:

- Windows Server 2012–2022 R2 RDSH
- Windows 10 Enterprise single-session
- Windows 11 Enterprise single-session

Ideally, you will want to build a new image and migrate to Windows 11 multi-session to ensure that you remain supported by Microsoft. However, you can also import an existing image into Nerdio. If your image is a Windows Server operating system image, you will still need to maintain RDS licenses and an RDSH licensing server, which is why it is recommended to migrate to Windows 11 multi-session images if possible.

In this section, we will cover both scenarios.

First, we will import an existing image into Nerdio and then create a brand-new image.

Discovery

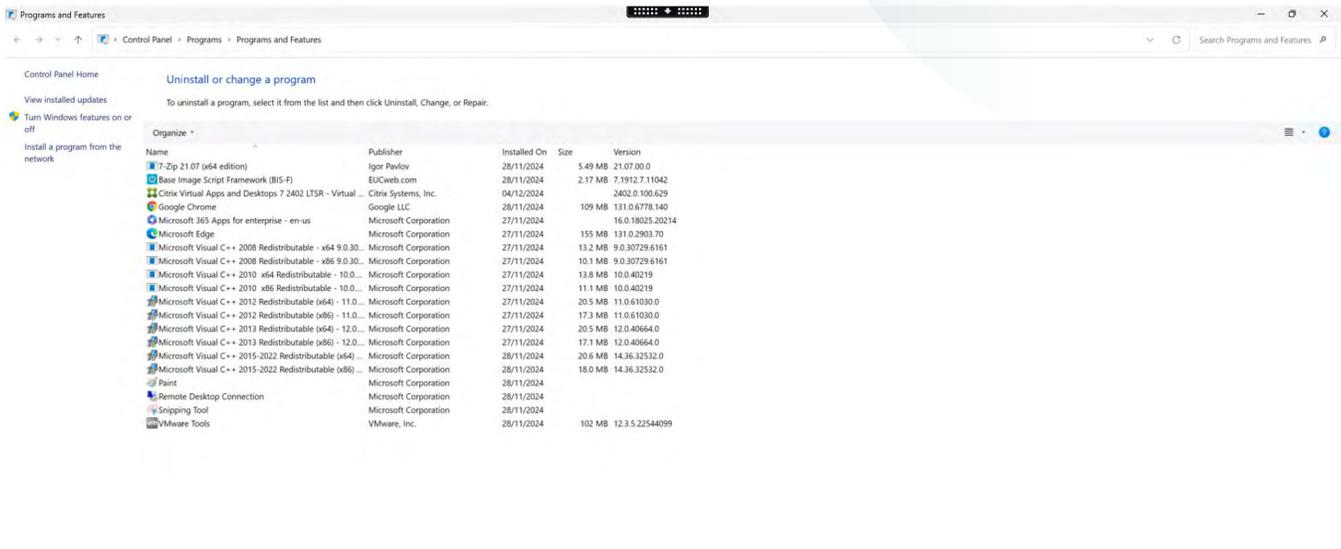
When migrating from one solution to another, e.g. Citrix to Azure Virtual Desktop, the first step should be an application discovery piece.

In most scenarios, migrating your applications from one solution to another will require the most effort. Factors may include operating system compatibility and the location of the backend infrastructure.

For example, databases hosted on-premises may need to migrate to Azure. If your desktop is in Azure and the database is on-premises, then users may experience slow responses from their applications.

The easiest way to discover what applications are installed on the image is to log onto your master image and see which applications need to be migrated to the new solution. Any applications that are not required can be removed from the image pre-migration.

If you use a tool like SCCM or Configuration Manager, you may also receive a list of applications currently used in your production environment.



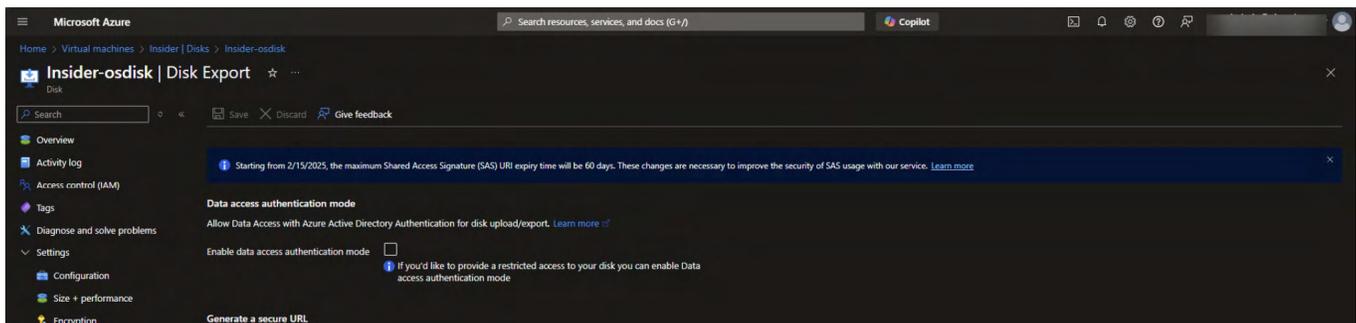
Creating a new image from your existing image

Once you have removed the applications you do not need from the master image, you will need to take a snapshot of it and create a SAS URL. You will use this SAS URL to import the image into Nerdio and create other images.

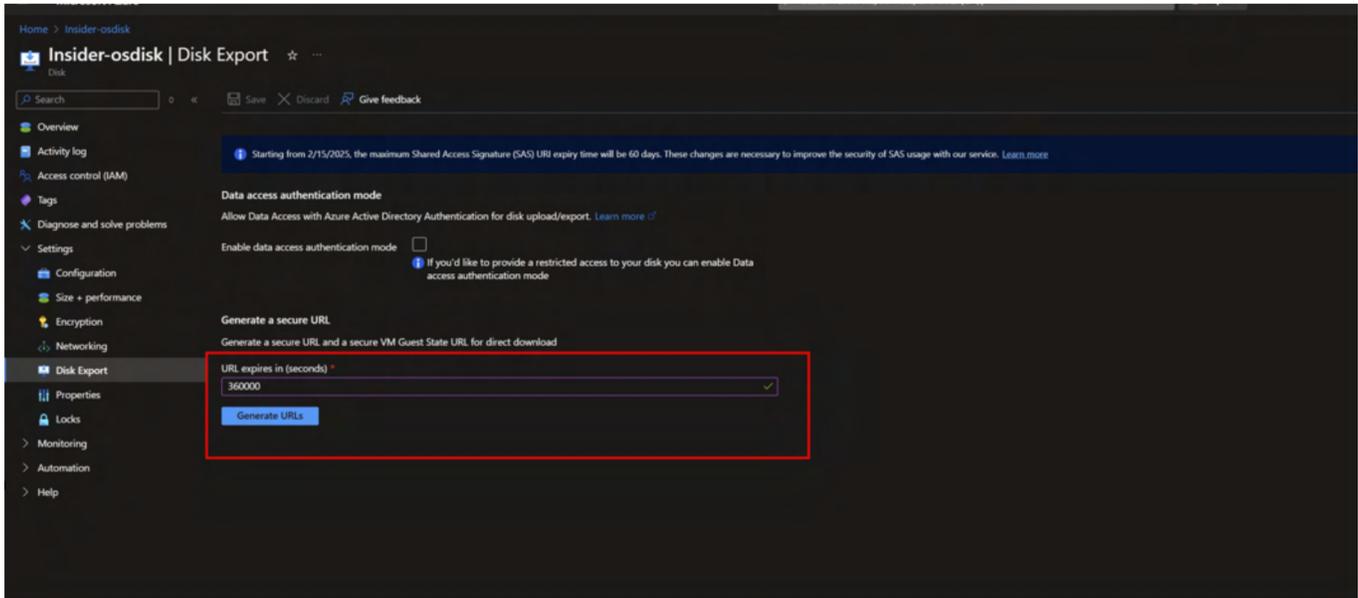
A SAS URL provides secure, delegated access to the storage account containing the snapshot of the image. It is secure because only the administrator knows the URL needed to retrieve the disk image.

To create the SAS URL, perform the following steps:

1. Head over to the Azure Portal and find your master image (assuming your image is in Azure—if not, you must migrate it from Hyper-V/VMware onto a VHD format and upload it to Azure).
2. Go to **Disks** and select the disk that contains your master image.

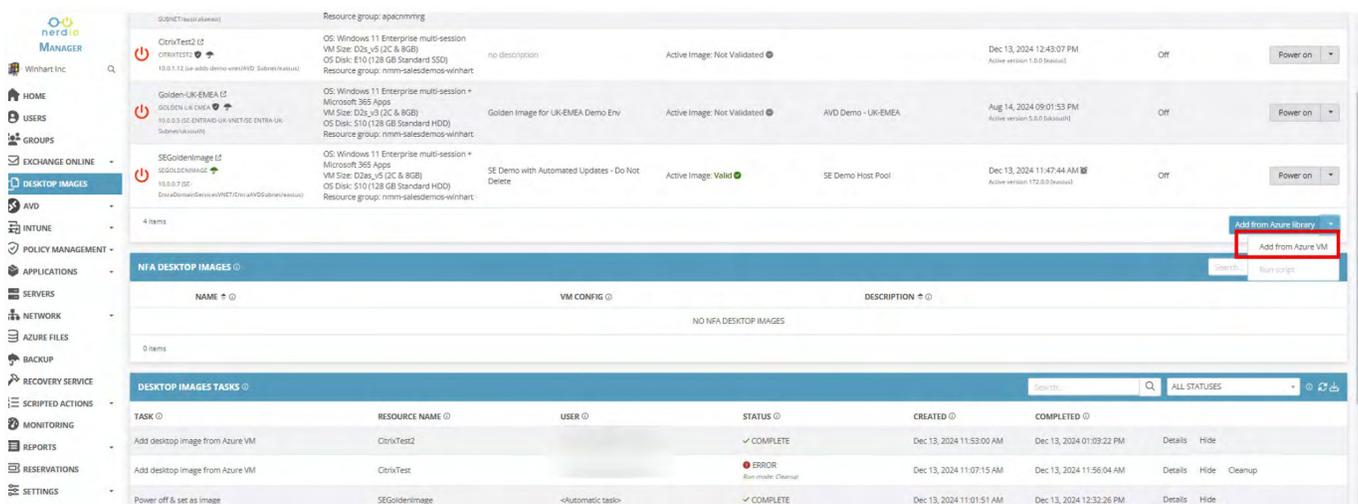


3. Select **Disk Export** and enter a URL that expires in **360000 seconds**.



This will generate a [URL](#) that you can use to import the image into Nerdio.

4. Log onto your **Nerdio Manager** instance, head over to **Desktop Images**, and select “**Add from Azure Library**.”



5. Fill in the required details and press **OK** to proceed.

ADD IMAGE FROM AZURE VM ⓘ

Would you like to add a desktop from Azure VM?

NAME: ⓘ

DESCRIPTION: ⓘ

SAS URL: ⓘ

NETWORK: ⓘ

OS: ⓘ

VM SIZE: ⓘ

OS DISK: ⓘ

RESOURCE GROUP: ⓘ

Create image VM as Gen2 ⓘ

Use Trusted Launch ⓘ

Join to AD ⓘ

Enable for cloud PCs ⓘ

Do not create image object ⓘ

Enable time zone redirection ⓘ

Set time zone: ⓘ

Uninstall FSLogix app ⓘ

Uninstall AVD agent ⓘ

Install all AVD enabled certificates ⓘ

Validate image ⓘ

Use Boot Diagnostic Insights ⓘ

Provide custom credentials for a local administrator user Off

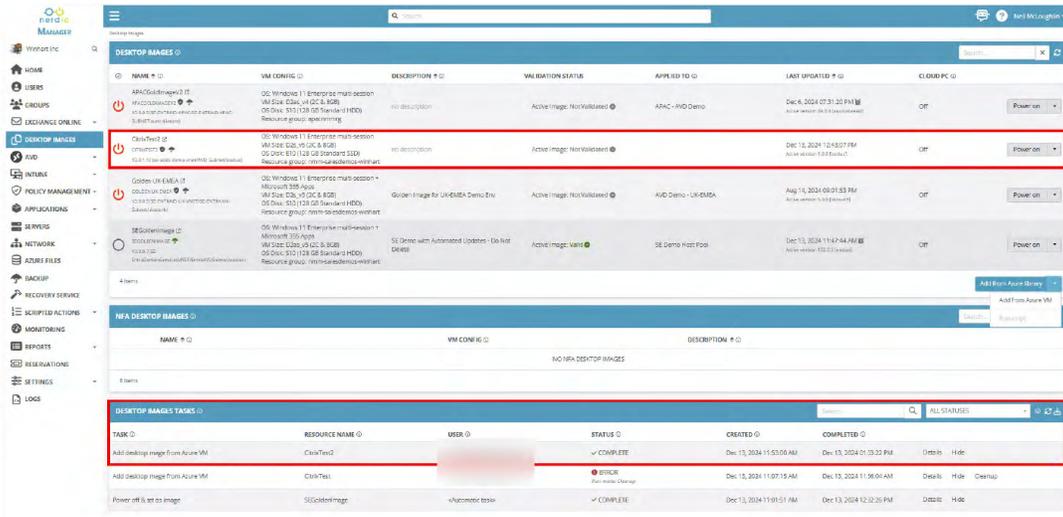
Geographic distribution & Azure compute gallery Off ⓘ

Run the following scripted actions: Off ⓘ

Applications Management Off ⓘ

In Azure Portal, stop the VM, go to its OS Disk and select Disk Export to generate the SAS URL.

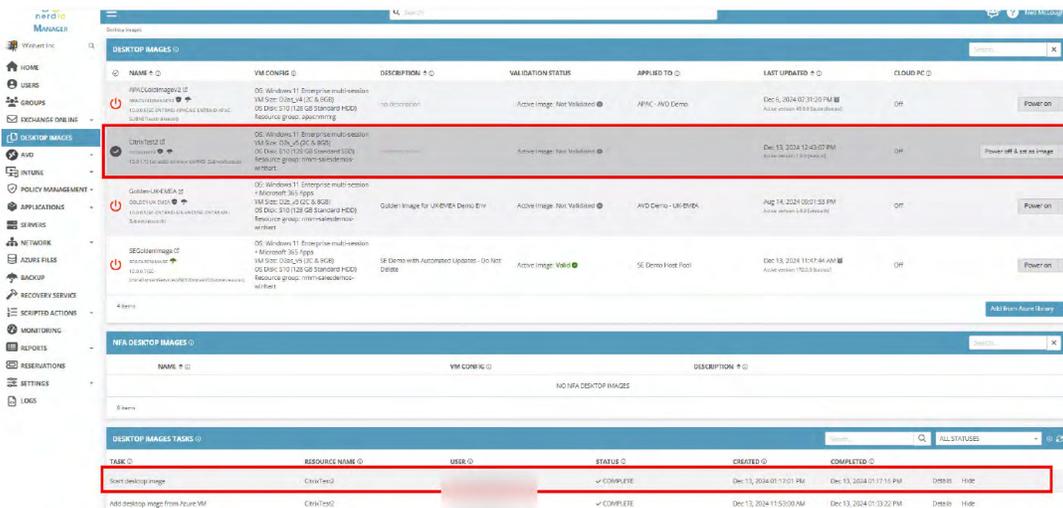
Your existing image will then be imported into Nerdio. To verify the process has been completed, you should see your image appear under **Desktop Images**, and the **“Add Desktop Image from Azure VM”** should show as **“Complete.”**



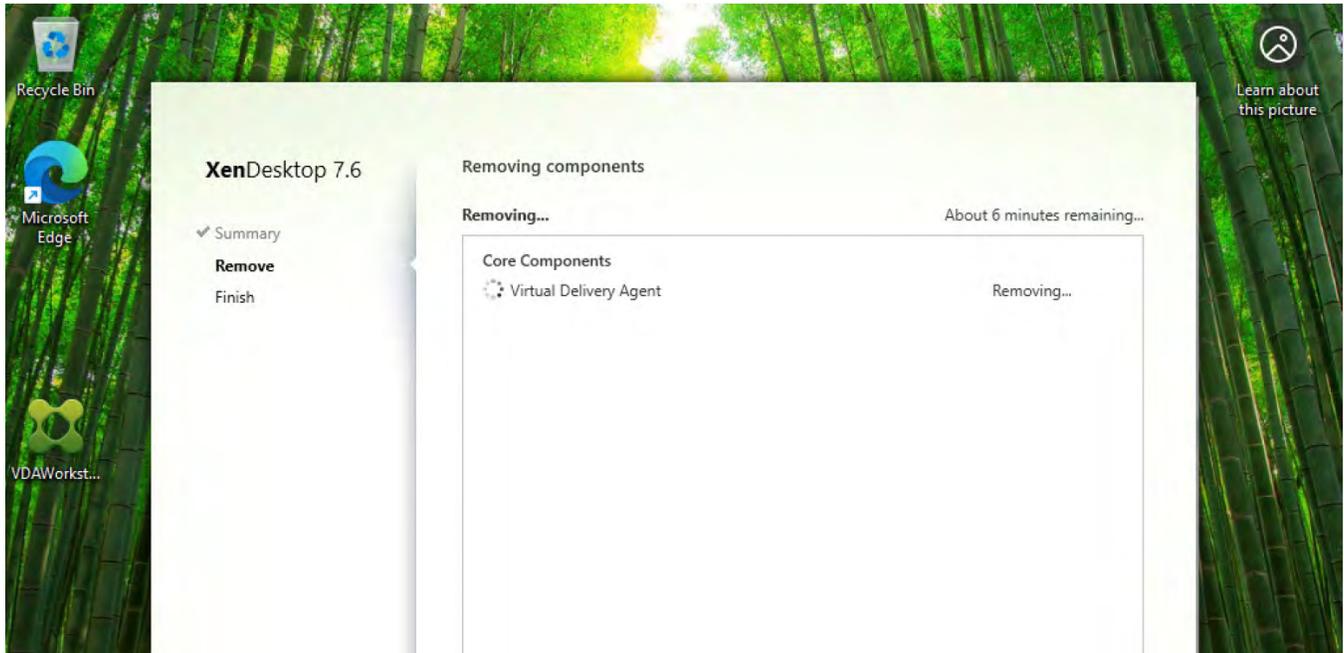
During the import process, the following things happen:

- The image will be upgraded to **Gen2** if that is selected so you can update to Windows 11.
- Any existing **FSLogix agents** will be uninstalled, as Nerdio will manage these going forward.
- Any existing **Azure Virtual Desktop agents** will be removed.
- The image will be **sys-prepped** and can be used immediately to deploy Azure Virtual Desktop session hosts.

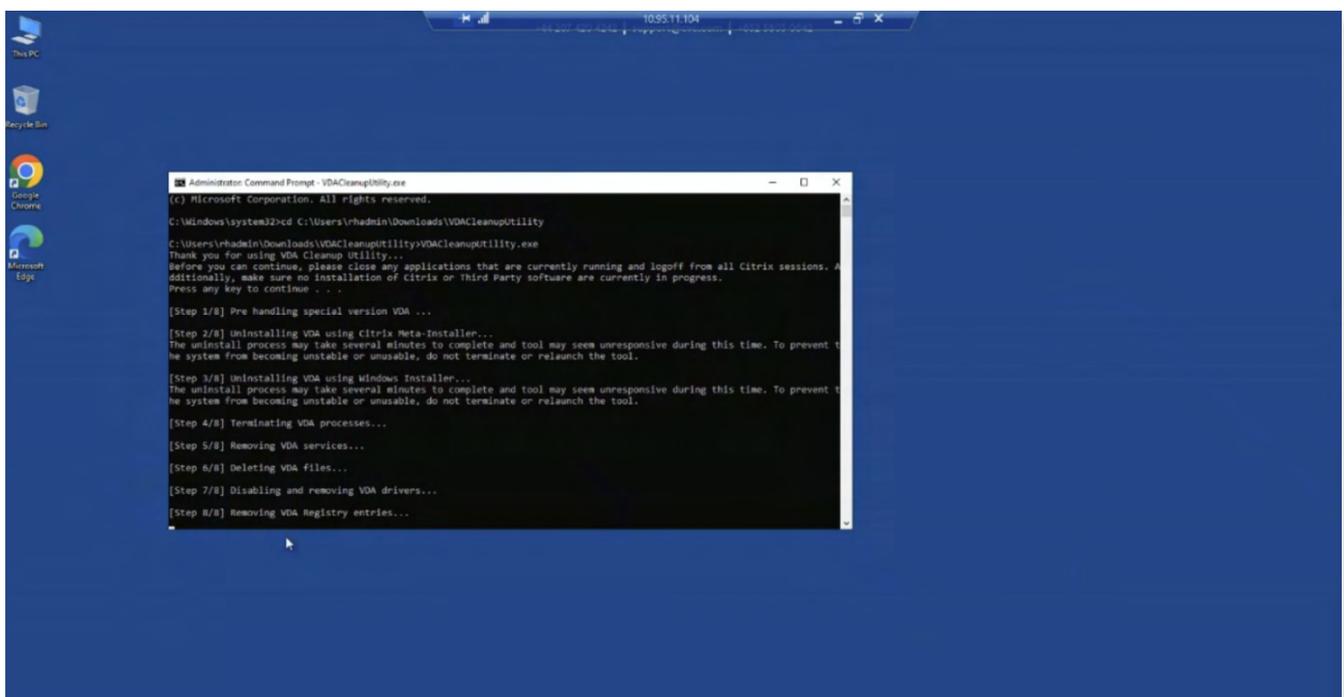
6. The next step is to **remove the Citrix agents** on the master image, as these can interfere with Teams redirection and multimedia redirection. To remove the Citrix agents, you will need to power on the virtual machine via the **Nerdio console**.



7. Once the master image is powered on, log onto the virtual machine and **uninstall the Citrix VDA agent**.



8. After uninstalling the Citrix VDA agent, **reboot the VM** and run the **Citrix VDA cleanup utility** to remove any remaining components.



9. Once the VM has been rebooted, select **“Power Off and Set as Image”** in Nerdio.

The screenshot shows the Nerdio Manager interface with the 'DESKTOP IMAGES' section. A table lists several images, with 'CitrixTest2' highlighted in red. The dropdown menu for 'CitrixTest2' is open, showing the option 'Power off & set as image'.

NAME	VM CONFIG	DESCRIPTION	VALIDATION STATUS	APPLIED TO	LAST UPDATED	CLOUD PC
APACGoldenImage2	OS: Windows 11 Enterprise multi-session VM Size: D2as_v4 (2C & 8GB) OS Disk: 510 (128 GB Standard HDD) Resource group: apacwinring	no description	Active Image: Not Validated	APAC - AVD Demo	Dec 6, 2024 07:31:20 PM Active version 1.0.0 (Default)	OFF
CitrixTest2	OS: Windows 11 Enterprise multi-session VM Size: D2as_v4 (2C & 8GB) OS Disk: 510 (128 GB Standard HDD) Resource group: nrm-winademos-winhart	no description	Active Image: Not Validated		Dec 13, 2024 12:43:07 PM Active version 1.0.0 (Default)	OFF
Golden-UK-EMEA	OS: Windows 11 Enterprise multi-session + Microsoft 365 Apps VM Size: D2as_v4 (2C & 8GB) OS Disk: 510 (128 GB Standard HDD) Resource group: nrm-winademos-winhart	Golden Image for UK/EMEA Demo Env	Active Image: Not Validated	AVD Demo - UK/EMEA	Aug 14, 2024 09:01:53 PM Active version 1.0.0 (Default)	OFF
SEGoldenImage	OS: Windows 11 Enterprise multi-session + Microsoft 365 Apps VM Size: D2as_v4 (2C & 8GB) OS Disk: 510 (128 GB Standard HDD) Resource group: nrm-winademos-winhart	SE Demo with Automated Updates - Do Not Delete	Active Image: Valid	SE Demo Host Pool	Dec 13, 2024 11:47:44 AM Active version 172.0 (Default)	OFF

10. If you want to publish the image to the **Azure Compute Gallery** to deploy across multiple regions, select that option.

The dialog box 'SET CITRIXTEST2 AS AN IMAGE' is shown. The 'AZURE COMPUTE GALLERY' option is selected. The 'AZURE REGIONS' dropdown is open, showing 'East US' and 'UK South'. Other options include 'STORAGE ACCOUNT TYPE' (Standard HDD) and 'Run the following scripted actions before set as image' (OFF).

11. The image processing is complete, and you can now deploy session hosts using the image.

The screenshot shows the Nerdio Manager interface with the 'DESKTOP IMAGES' section. The 'CitrixTest2' image is highlighted in red. Below the table, the 'DESKTOP IMAGES TASKS' section shows a task 'Power off & set as image' for 'CitrixTest2' with a status of 'COMPLETE'.

TASK	RESOURCE NAME	USER	STATUS	CREATED	COMPLETED
Power off & set as image	CitrixTest2		✓ COMPLETE	Dec 13, 2024 01:34:40 PM	Dec 13, 2024 01:48:10 PM
Start desktop image	CitrixTest2		✓ COMPLETE	Dec 13, 2024 01:17:01 PM	Dec 13, 2024 01:17:16 PM
Add desktop image from Azure VM	CitrixTest2		✓ COMPLETE	Dec 13, 2024 11:53:09 AM	Dec 13, 2024 01:39:22 PM

Creating a new image within the Nerdio console

The other method of preparing your image is to create a clean new image. This is the preferred method, as it ensures you start fresh and leave behind any potential issues from your previous image.

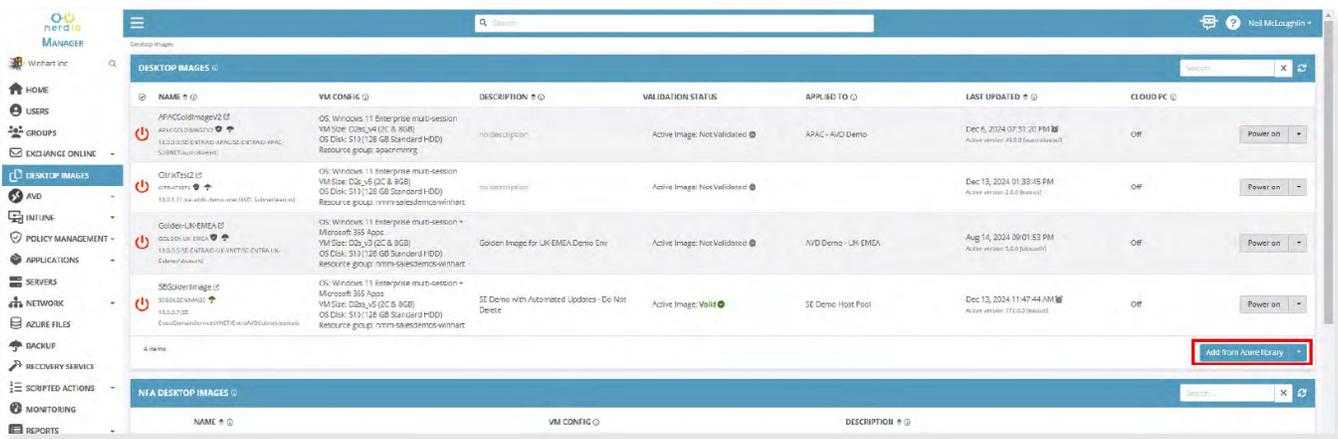
For more information about creating images in **Nerdio Manager**, please visit the following links:

MSP: [Nerdio Manager for MSP Help Center](#)

Enterprise: [Nerdio Manager for Enterprise Help Center](#)

To create a new image in Nerdio Manager:

1. Select **"Add from Azure Library"** in the Nerdio Manager console.



2. Fill in all the necessary details.

ADD DESKTOP IMAGE

Add desktop image from Azure image library

NAME: CitrixTest

DESCRIPTION:

NETWORK: se-addo-demo-vnet (AVD_Subnet)

AZURE IMAGE: Windows 11 (23H2) Enterprise multi-session - Gen2 (multi-session)

VM SIZE: D2as_v5 (2C & 8GB @ \$0.09/hr retail)

OS DISK: E10 (128 GB Standard SSD @ \$0.01/hr retail)

RESOURCE GROUP: NRM-SalesDemo-WinHart

Use Trusted Launch

Join to AD: NerdioSales.local

Enable for cloud PCs

Do not create image object

Enable time zone redirection

Set time zone: [UTC-09:00] Dublin, Edinburgh, Lisbon, London

Install all AVD enabled certificates

Universal PS-Login app

Validated image

Use Boot Diagnostic Insights

Provide custom credentials for a local administrator user

USERNAME: LOCAL\Administrator

PASSWORD: CitrixTest02

Geographic distribution & Azure compute gallery: OFF

Run the following scripted actions: OFF

Applications Management: OFF

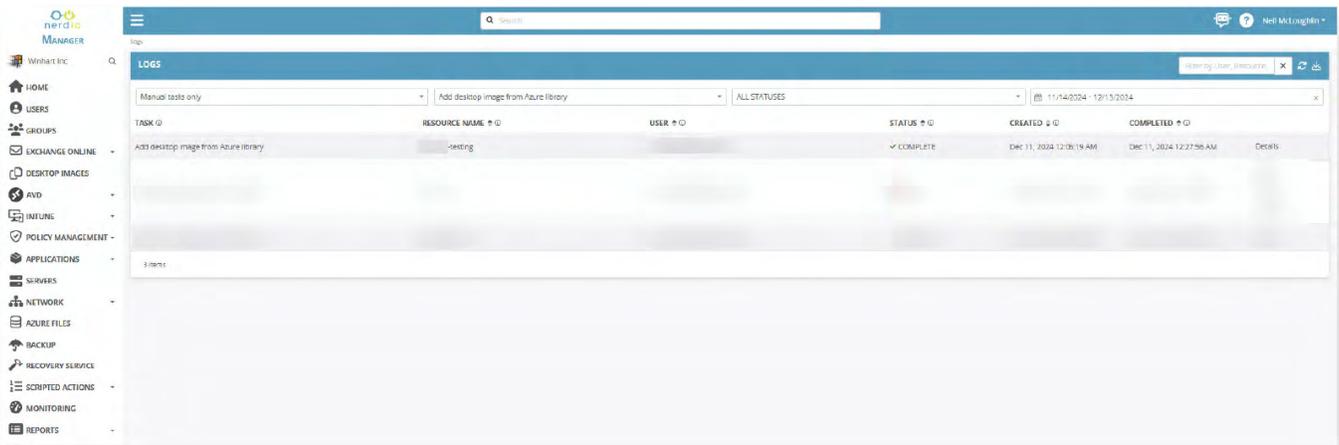
This task may take up to an hour to complete. You can monitor progress in the Desktop Images Tasks section.

Cancel OK

3. Press **OK** to begin the image creation process.

The process takes approximately 20 minutes and involves the following steps:

- **Nerdio creates an Azure VM** from an existing **Azure Marketplace** image to become the master image.
- **Nerdio takes a snapshot** of the master image and creates a temporary VM.
- **Nerdio runs the Sysprep process** on that VM and publishes the image to the **Azure Compute Gallery**.



Job Details - Add desktop image from Azure library

NAME	START / COMPLETE	STATUS	RESULT
Check image OS	Dec 11, 2024 12:06:29 AM Dec 11, 2024 12:06:29 AM	✓ COMPLETE	Image OS: Windows 11 Enterprise multi-session
Get Directory Profile	Dec 11, 2024 12:06:39 AM Dec 11, 2024 12:06:39 AM	✓ COMPLETE	Directory Profile id was not specified
Provide storage account	Dec 11, 2024 12:06:39 AM Dec 11, 2024 12:06:40 AM	✓ COMPLETE	Standard: [redacted]
Create network interface	Dec 11, 2024 12:06:40 AM Dec 11, 2024 12:06:41 AM	✓ COMPLETE	2edabdc08f/resourceGroups/NMM-SalesDemos-WinHart/providers/Microsoft.Network/networkInterfaces/ahickey-testing-nic
Create vm	Dec 11, 2024 12:06:41 AM Dec 11, 2024 12:10:43 AM	✓ COMPLETE	Market place image id: MicrosoftWindowsDesktop/windows-11win11-21h2-and-latest Trusted launch: Off
Enable timezone redirections	Dec 11, 2024 12:10:43 AM Dec 11, 2024 12:13:45 AM	✓ COMPLETE	Extension added successfully
Remove 'Enable timezone redirections' extension from VM	Dec 11, 2024 12:13:45 AM Dec 11, 2024 12:15:17 AM	✓ COMPLETE	Extension was removed
Uninstall FSLogix	Dec 11, 2024 12:15:17 AM Dec 11, 2024 12:18:50 AM	✓ COMPLETE	Configuration: Uninstall FSLogix agent: Yes Uninstall AVD agents: No Extension added successfully Extension was removed
Stop template VM	Dec 11, 2024 12:18:50 AM Dec 11, 2024 12:19:31 AM	✓ COMPLETE	Success
Copy template VM disk	Dec 11, 2024 12:19:31 AM Dec 11, 2024 12:19:33 AM	✓ COMPLETE	Template VM disk copied /subscriptions/[redacted]/resourceGroups/NMM-SalesDemos-WinHart/providers/Microsoft.Compute/disks/[redacted]-testing-temp-001disk
Provide storage account	Dec 11, 2024 12:19:33 AM Dec 11, 2024 12:19:34 AM	✓ COMPLETE	Standard: zpn829678040829f6cc3c44
Create network interface	Dec 11, 2024 12:19:34 AM Dec 11, 2024 12:19:35 AM	✓ COMPLETE	/subscriptions/[redacted]/resourceGroups/NMM-SalesDemos-WinHart/providers/Microsoft.Network/networkInterfaces/[redacted]-testing-temp-nic
Create vm	Dec 11, 2024 12:19:35 AM Dec 11, 2024 12:19:51 AM	✓ COMPLETE	VM created /subscriptions/[redacted]/resourceGroups/NMM-SalesDemos-WinHart/providers/Microsoft.Compute/virtualMachines/[redacted]-testing-temp
Remove users from temp VM	Dec 11, 2024 12:19:51 AM Dec 11, 2024 12:21:53 AM	✓ COMPLETE	Extension added successfully
Remove 'Remove users' extension from temp VM	Dec 11, 2024 12:21:53 AM Dec 11, 2024 12:23:24 AM	✓ COMPLETE	Extension was removed
Start sysprep process on temp VM	Dec 11, 2024 12:23:24 AM Dec 11, 2024 12:25:25 AM	✓ COMPLETE	Extension added successfully

Application deployment methods

Deploying applications on **Azure Virtual Desktop + Nerdio** differs from traditional **Citrix** deployment methods.

Citrix

Since Citrix master images are handled outside of Citrix, the platform does not have built-in application management features beyond publishing applications. Traditionally, Citrix applications have been deployed by:

- **Manual installation** onto the master images
- **Virtualization** using Microsoft App-V
- **Advanced scripting** with tools like Packer or Azure DevOps

Azure Virtual Desktop and Nerdio

Nerdio offers built-in functionality to deploy, manage, and update applications across images and session hosts. Nerdio's automation capabilities simplify application deployment, enabling a fully automated process with just a few clicks.

Recommended Nerdio application deployment methods:

1. **Scripted actions:** PowerShell scripts executed on images or session hosts using PowerShell DSC. Useful for deploying applications and configuring settings.
2. **Nerdio unified application management (UAM):** The preferred method for deploying applications. Supports multiple repositories such as SCCM, Intune, and Winget. Organizations can also create private Winget repositories for custom applications.
3. **ConfigMgr/Intune:** If you already use SCCM or Intune, you can integrate them with Nerdio to manage and deploy applications directly from the Nerdio console.

The screenshot displays the Nerdio Unified Catalog interface. The main content area shows a table of applications with the following columns: APP NAME, APP ID, REPOSITORY, VENDOR, REPOSITORY, and VERSIONS. The table lists various applications such as 7 Zip, Adobe Acrobat Reader, Bluebeam Revu, Google Chrome, Microsoft 365 Apps, and Mozilla Firefox. Each application has a 'Deploy' button next to it. The interface also includes a search bar, filters, and a 'Deploy' button at the bottom right.

APP NAME	APP ID	REPOSITORY	VENDOR	REPOSITORY	VERSIONS
7 Zip	7Zip.7Zip		Igor Pavlov	Windows Package Manager Community	12 (see: win, sub9)
Adobe Acrobat Reader DC (64-bit)	Adobe Acrobat Reader 64-bit		Adobe	Windows Package Manager Community	47 (see)
Bluebeam Revu 21	Bluebeam.Revu.21		Bluebeam, Inc.	Windows Package Manager Community	7 (20, 4x4)
Google Chrome	Google.Chrome		Google LLC	Windows Package Manager Community	1 (see)
Google Chrome (32-bit)	Google.Chrome.32		Google LLC	Windows Package Manager Community	44 (see)
Microsoft 365 Apps	UIID-ID		Nerdio	Shell Apps	N/A
Microsoft 365 Apps for enterprise	Microsoft.Office		Microsoft Corporation	Windows Package Manager Community	1 (see)
Microsoft 365 Apps - Enterprise	UIID-ID		Nerdio	Shell Apps	N/A
Mozilla Firefox	Mozilla.Firefox		C	Windows Package Manager Community	103
Notepad++	2418032.Notepad++		C	Windows Package Manager Community	19

Migrating Citrix profiles to FSLogix with Nerdio

Many Citrix environments already use **FSLogix**. If so, migration is straightforward. If **Citrix UPM** is in use, it is recommended to create **new profiles** when migrating to AVD.

Steps to deploy FSLogix profiles with Nerdio:

1. Create a storage account and file share

- Traditionally, profile data was stored on **Citrix Profile Management** or on-premises file services.
- In **AVD + Nerdio**, user profiles are stored in **Azure Files** or **Azure NetApp Files**.

The screenshot displays the Nerdio Manager console interface. The left sidebar shows navigation options like HOME, USERS, CLOUDS, EXCHANGE ONLINE, DESKTOP IMAGES, AVD, INTUNE, POLICY MANAGEMENT, APPLICATIONS, NETWORK, and AZURE FILES. The main content area is divided into two sections: 'AZURE FILES SHARES' and 'AZURE FILES TASKS'.

AZURE FILES SHARES table:

NAME	STORAGE ACCOUNT	USAGE & CAPACITY	AUTO-SCALE	MONTHLY SAVINGS & COSTS
profiles	edlogoflase (status)	3.21 GB Used / 100 GB Premium	OFF	Not available
profiles	entracompany (status)	3.71 GB Used / 100 GB Premium	OFF	Not available
profiles	edlogoflase (status)	4.21 GB Used / 100 GB Premium	OFF	Not available

AZURE FILES TASKS table:

TASK	RESOURCE NAME	USER	STATUS	CREATED	COMPLETED
Upload file share	profiles		✓ COMPLETE	Dec 11, 2024 08:07:30 PM	Dec 11, 2024 08:07:30 PM
Upload file share	entracompany		✓ COMPLETE	Dec 11, 2024 08:07:21 PM	Dec 11, 2024 08:07:22 PM
Upload file share	edlogoflase		✗ ERROR	Nov 15, 2024 06:00:58 AM	Nov 15, 2024 06:00:58 AM
Upload file share	profiles		✗ ERROR	Nov 14, 2024 07:06:29 AM	Nov 14, 2024 07:06:29 AM

2. Set up Azure Files for FSLogix storage

- Navigate to the **Nerdio Manager console**.
- Go to **Azure Files > Add Azure Files**.
- Enter the required details.

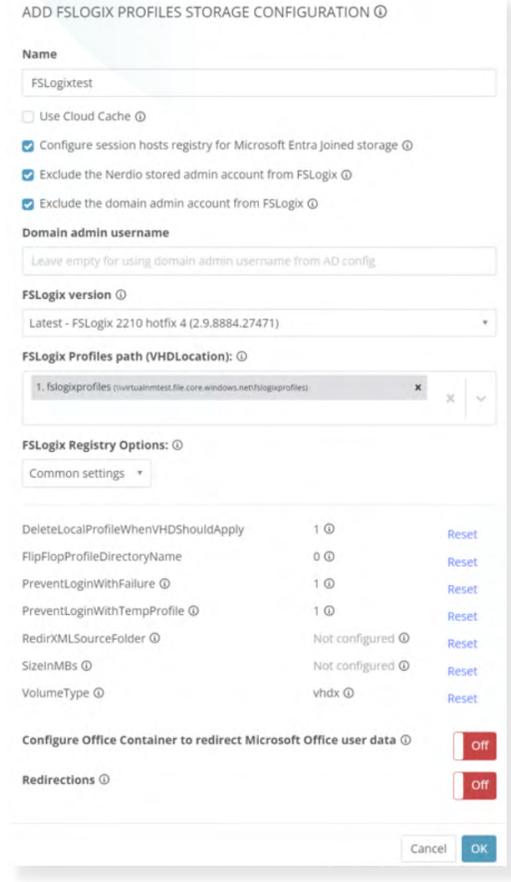
The screenshot shows the 'CREATE AZURE FILES SHARE' configuration form in the Nerdio Manager console. The form includes the following fields and options:

- Storage account:** randomstore876545
- Resource group:** NMM-SalesDemos-Wini-Hart
- Location:** UK South
- Performance:** Premium
- Redundancy:** Locally-redundant storage (LRS)
- File Share name:** fslogixprofiles
- Provisioned capacity (GB):** 100
- Permissions (SMB Share Contributors):** Type user or group name
- Add users/groups from host pools:** Select...
- Join to AD:** Entra ID (Entra ID)
- Assign NTFS file-level permissions**
- Enable SMB Multichannel**

Buttons for 'Cancel' and 'OK' are visible at the bottom right.

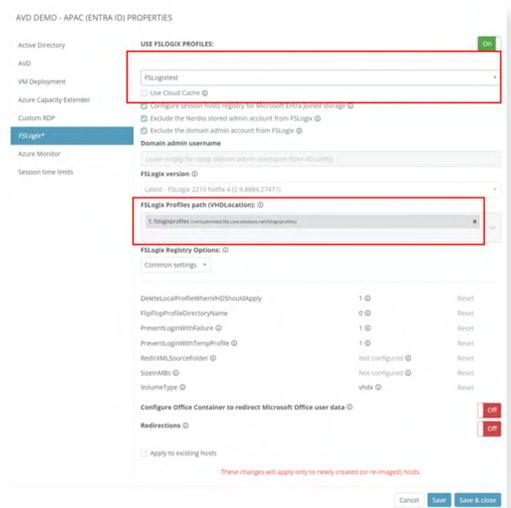
3. Configure FSLogix settings

- Once the Azure Files storage is created, configure FSLogix policies in **Nerdio Manager**.
- Assign FSLogix configurations to **host pools**.



4. Apply FSLogix settings to host pools

- In **Nerdio Manager**, navigate to **AVD > Host Pools > Properties**.
- Under **FSLogix settings**, apply the necessary profile configurations.



Creating session hosts and host pools

The next step in migration is to create a **host pool** where session hosts will be added. A host pool in **AVD** is equivalent to a **Citrix delivery group and machine catalog** combined.

To create a host pool in Nerdio:

1. Navigate to **AVD > Host Pools > Add Host Pool**.
2. Configure the required settings and save the pool.
3. Deploy session hosts within the host pool.

For more details, refer to the Nerdio documentation.

The screenshot shows the 'ADD HOST POOL' configuration page in Nerdio Manager. The form includes the following fields and options:

- NAME:** Finance
- DESCRIPTION:** Hostpool for the Finance Team
- DESKTOP/APP EXPERIENCE:** Multi user desktop (pooled) (selected)
- DIRECTORY:** Default (Entra ID)
- FSLOGIX:** Default
- WORKSPACE:** WVD Workspace
- NAME PREFIX:** finance-???? (Pattern)
- NETWORK:** nw (aadds-subnet)
- DESKTOP IMAGE:** Windows 11 (23H2) Enterprise multi-session - Gen2 (multi-se...)
- VM SIZE:** DBads_v5 (8C & 32GB @ \$0.47/hr retail)
- OS DISK:** E10 (128 GB Standard SSD @ \$0.01/hr retail)
- RESOURCE GROUP:** NMM-SalesDemos-WinHart
- QUICK ASSIGN:** Type user or group name
- Use Trusted Launch

A yellow warning box states: "There are several limitations, including limited support for FSLogix. Review Microsoft's MFA requirements for Microsoft Entra joined VMs. Learn more"

Configuring auto-scaling

One of the primary reasons organizations choose a **VDI or Daas solution** is to save money on operational expenses. **Citrix auto-scaling** is basic compared to **Nerdio's dynamic auto-scaling** capabilities.

Nerdio auto-scaling advantages:

- Built **directly into Azure App Service** for optimal efficiency.
- Uses **advanced algorithms** to adjust resources dynamically.
- Reduces **Azure costs** by automatically shutting down idle VMs.

To configure auto-scaling in Nerdio Manager:

1. Set **scaling thresholds** based on user activity and demand.
2. Define **power settings** to automatically start/stop VMs.
3. Align configurations with **business needs** to optimize cost efficiency.

For detailed auto-scaling instructions:

Nerdio Manager for MSP: [Auto-scaling guide](#)
Nerdio Manager for Enterprise: [Auto-scaling guide](#)

The screenshot shows the 'Host Pool Sizing' configuration page in Nerdio Manager. The page includes the following sections and settings:

- HOST POOL SIZING:**
 - Basic host pool capacity: 2 (Notified in the pool)
 - Min. active host capacity: 1 (Notified in the pool)
 - Max. suspended host capacity: 10 (Notified in the pool)
- SCALING LOGIC:**
 - Pool settings:
 - Stretch factor: 5
 - Maximum host pool capacity: 10
 - Load balancing: RoundRobin
 - Triggers (scale out on ANY condition, scale in on ALL conditions):
 - SWITCH RESOURCE trigger: Available resources
 - Maximum pool: 3 available resources
 - Scale in restrictions:
 - Stop or reduce scale: 1 (100% of the total) (Log level: Info)
 - Scale in aggressive: Info
- ROLLING DRAIN MODE**
- PRE-STAGE HOSTS**
- MESSAGING:**
 - Send a warning message in cases for the host: 1 (minutes) before scaling in host.
 - The message should stay: Info

Connectivity: Citrix vs. Azure Virtual Desktop

Citrix connectivity is managed through the Citrix Workspace app, which supports various protocols and offers features such as session roaming and high-definition user experiences.

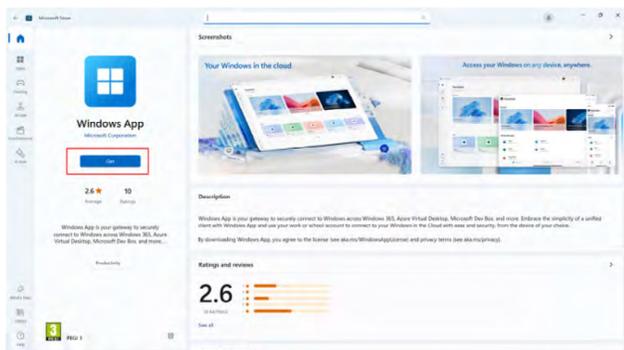
Azure Virtual Desktop uses the Windows App or browser-based access for connectivity. It supports RDP Shortpath, a feature that enhances RDP performance by optimizing the network path, reducing latency, and improving user experience.

Deploying the Windows App

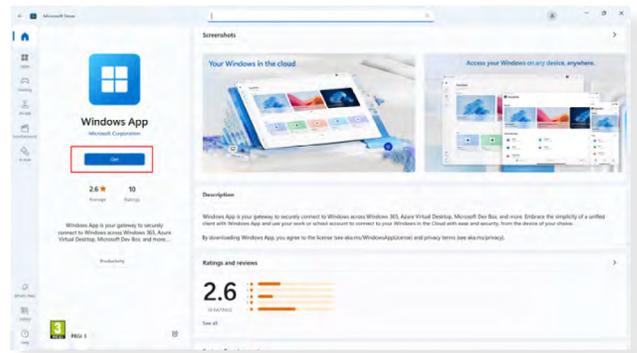
The preferred method of connecting to Azure Virtual Desktop or Windows 365 is via the Windows App. The Windows App is deployed from the Windows Store and can be deployed into Windows, macOS, iOS/iPadOS, Android/Chrome OS, and a browser version. It can also be deployed as an MSI application if required.

Installing from the Windows Store

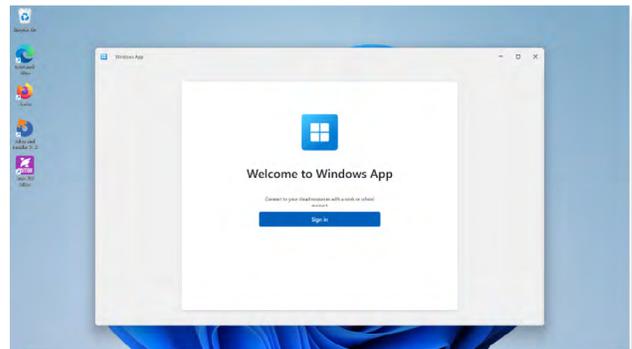
1. On the device that you want to install the Windows App on, head over to the Windows Store, search for “Windows App,” and select “Get.”



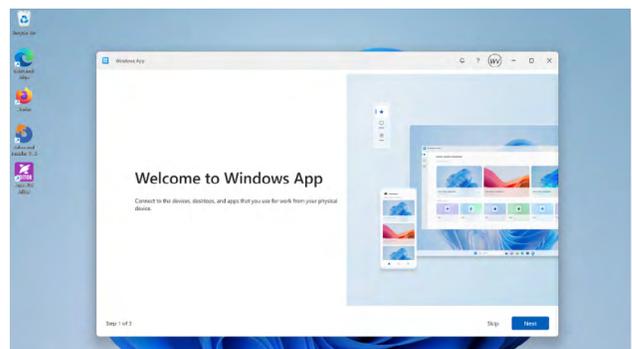
2. Once it has been installed, select “Open.”



3. You will be prompted for your sign-in credentials.



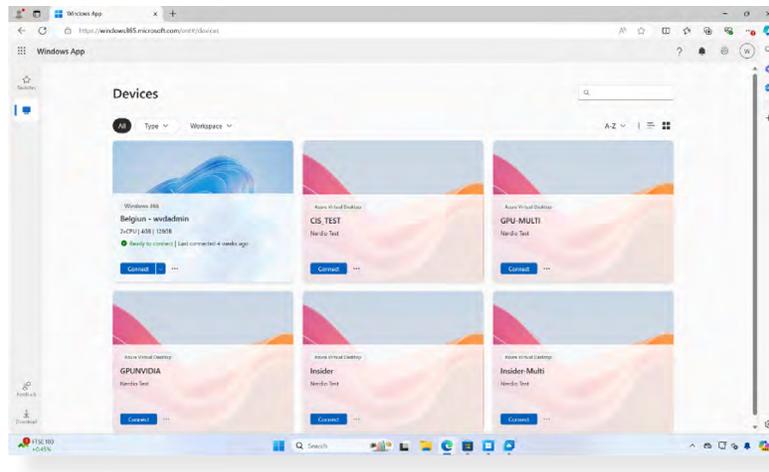
4. Once the credentials have been entered, you will receive a “Welcome to the Windows App” screen. Select next to continue.



Windows app web

A web URL can also be used to access the Windows app, like how Citrix customers used to connect to StoreFront. The web URL to use is <https://windows.cloud.microsoft/>.

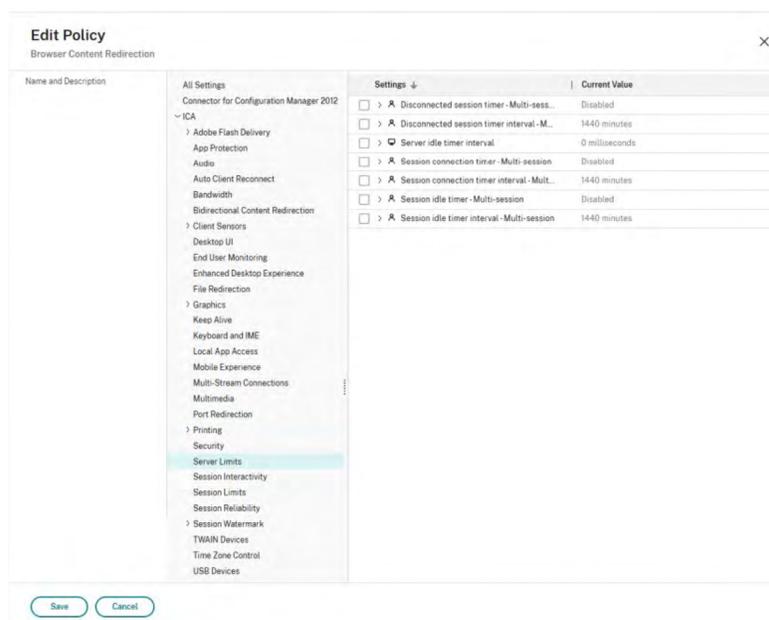
This has the same interface that the Windows App client uses.

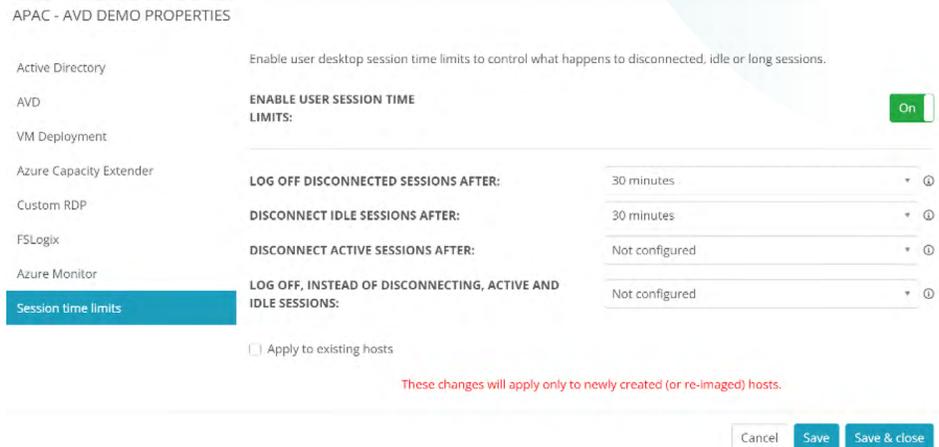


Policies

The way that user policy settings are applied via Citrix and Azure Virtual Desktop are quite different and need to be managed accordingly.

Citrix HDX Policies were very customizable, and you could target different machine catalogs, users, devices, etc.





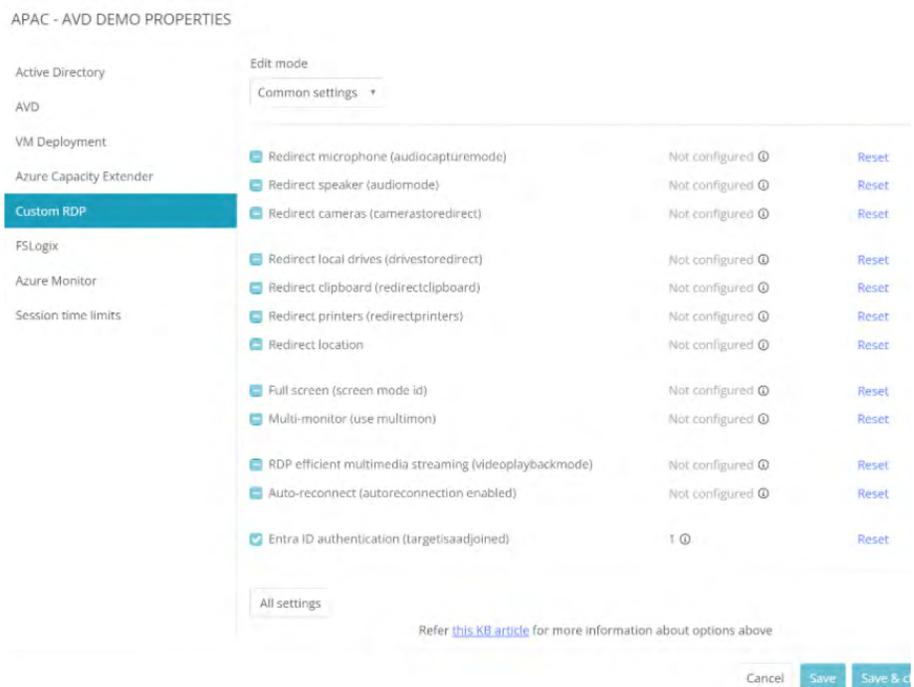
Azure Virtual Desktop policies can be managed via Nerdio, and a lot of the settings are similar, such as disconnection timeout settings. However, the most notable change is that you cannot manage user policies with Azure Virtual Desktop like you could with Citrix.

Any user-specific settings should be managed by Group Policy or Intune.

Within Nerdio, you can configure policies in two separate locations.

The first section is the properties of the host pool. The image to the right shows how to configure session time limits.

For a complete list of available policy settings, please [visit this page](#).





Summary

Migrating from Citrix to Azure Virtual Desktop with Nerdio provides a streamlined path to modernize virtual desktops, reduce costs, and boost performance. With careful planning and the support of Nerdio's powerful management tools, organizations can fully leverage Azure's cloud infrastructure.

Nerdio's comprehensive toolkit is designed to make the migration process as smooth and seamless as possible. For additional assistance, feel free to contact our team.

About Nerdio

Nerdio is a leading provider of powerful, simplified cloud management solutions for businesses of all sizes. Trusted by managed service providers (MSPs) and enterprise IT departments alike, Nerdio equips organizations with seamless, cost-effective management tools for Azure Virtual Desktop (AVD), Windows 365, and comprehensive Modern Work solutions.

With thousands of customers worldwide, Nerdio accelerates cloud adoption, enabling companies to thrive in an era of hybrid work by providing modern, future-proof technology that adapts to evolving workplace needs.

For more information, please visit www.getnerdio.com.