



nerdio

# MSP Foundations

*Day 2*

# Today's Agenda

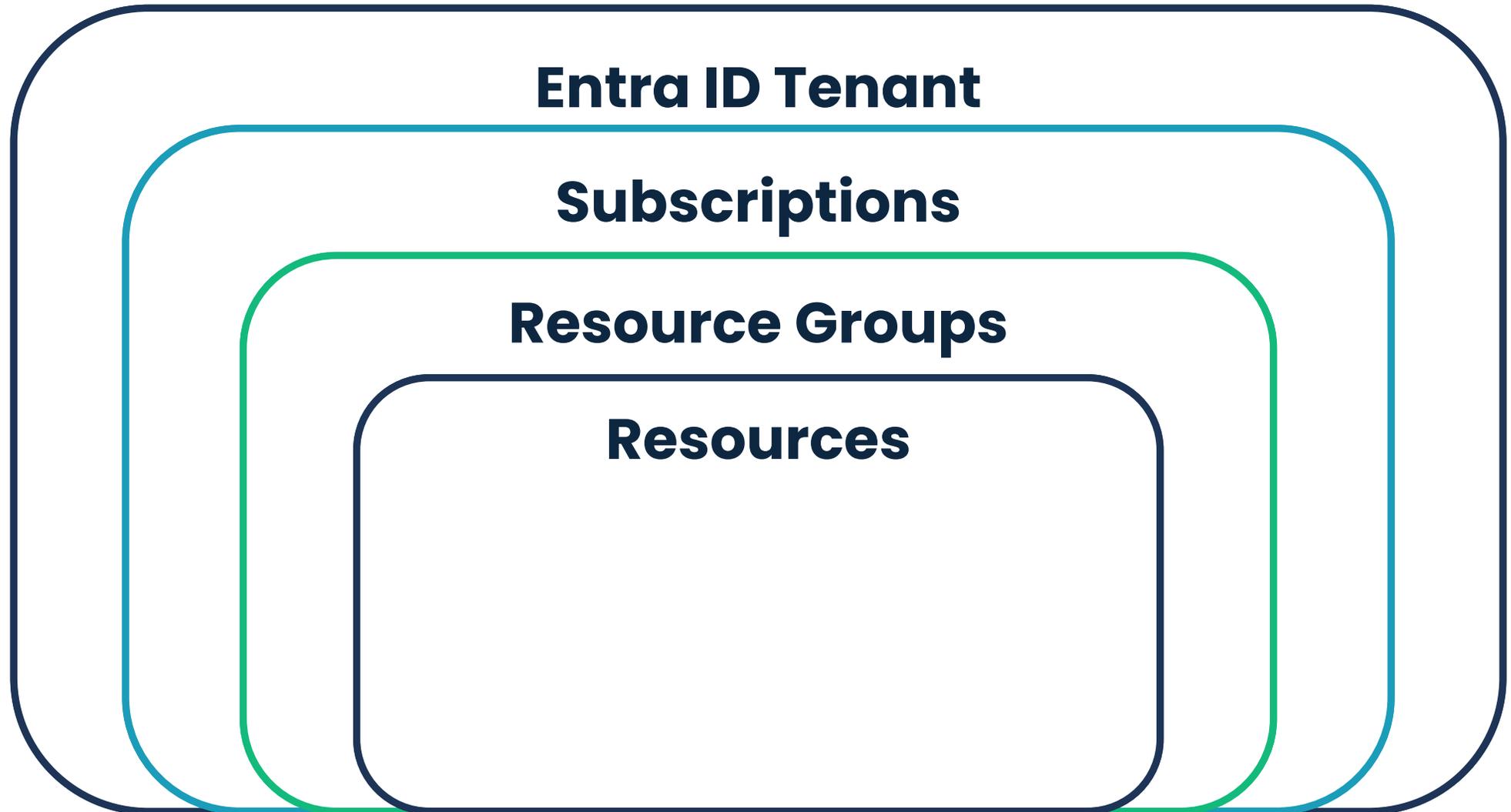
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- |          |                             |          |                            |           |                                |
|----------|-----------------------------|----------|----------------------------|-----------|--------------------------------|
| <b>1</b> | Azure overview              | <b>5</b> | Desktop images in Nerdio   | <b>9</b>  | Unified Application Management |
| <b>2</b> | The Nerdio user hierarchy   | <b>6</b> | Host pools & session hosts | <b>10</b> | Auto-scale                     |
| <b>3</b> | Workflows and notifications | <b>7</b> | Image lifecycle management | <b>11</b> | Backup & recovery              |
| <b>4</b> | Foundational AVD settings   | <b>8</b> | Updating production hosts  | <b>12</b> | Next steps                     |

# Azure overview

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# The Azure hierarchy



# Entra ID Tenant

- An Azure Tenant is a globally unique reserved Azure service Instance.
  - Can also be referred to as an Azure Account or a Directory.
- Your unique tenant is tied to a globally unique identifier (GUID).
- Tenants are created when you sign up for a Microsoft Cloud Service.
  - *(E.g., Azure, Microsoft 365)*

# Subscriptions

- Subscriptions are associated within your Azure tenant.
- Each subscription has a globally unique identifier (GUID) of its own.
  - A subscription and its GUID can only be associated with a single tenant.
- Every tenant must have at least one subscription to add resources.

Entra ID Tenant

Subscriptions

# Resource Groups

- Resource Groups live inside of Subscriptions.
- Used to create logical groupings of resources within subscriptions.
- Consider *why* resources should belong together logically when creating these.

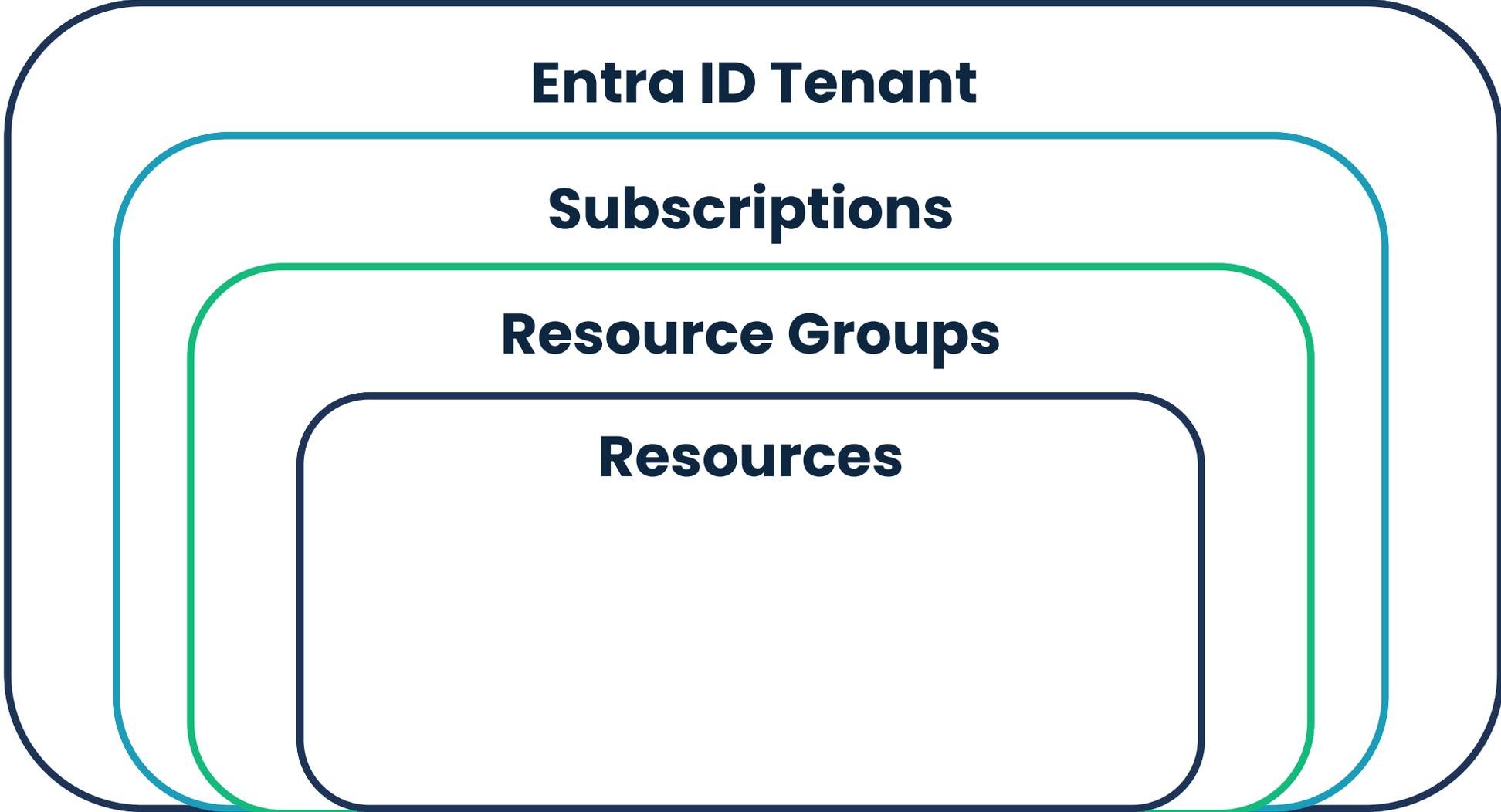
Entra ID Tenant

Subscriptions

Resource Groups

# Resources

- Resources are functional – assets that do something.
- Resources can be: Virtual Machines, Virtual Networks, Disks, Network Cards, VPN Gateways, IP Addresses and more.
- Resources are the building blocks that make up an environment.



**Entra ID Tenant**

**Subscriptions**

**Resource Groups**

**Resources**

# VM series use cases

## B-Series

*For low-CPU intensive workloads. These accumulate credits used to burst CPU capacity to 100%. (Web servers, Small databases).*

## D-Series

*For general computing requiring consistent CPU and low Memory usage. (App servers, Medium traffic web servers).*

## E-Series

*For more RAM-intensive workloads (E.g., Database servers, RDS session hosts).*

## DI-Series

*Virtual cores for more CPU-intensive workloads requiring less RAM (E.g., Web servers, Gaming, Video encoding, etc.).*

## F-Series

*Non-virtual single core processors for CPU-intensive workloads.*

## N-Series

*These series include GPUs. If you need a GPU, start with these.*

# Storage use cases

## Standard HDD

*Great for low disk I/O applications (E.g., test environments, proxy servers, archived servers).*

## Standard SSD

*Use for non-disk, I/O heavy applications (E.g., domain controllers, file servers, most VDI workloads).*

## Premium SSD

*For disk I/O-intensive applications (E.g., virtual desktops, SQL servers).*

## Ultra SSD

*Optimized for disk-intensive workloads (E.g., SAP HANA, top-tier databases).*

# Calculating Throughput

*Throughput is the measurement of the volume of data in transit.*

## IO Size

*The size of an application's requests.*



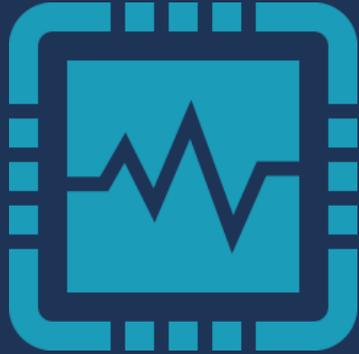
## IOPS

*The total input / output generations per second.*

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**Throughput**

## Compute



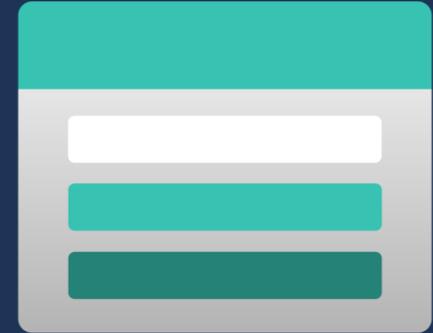
15,000 IOPS

## Application



IO Size: 10,000 IOPS

## Storage



5,000 IOPS

**So, we have 20,000 IOPS total.**

We should be good, right?

**We're Not!**

Maximums are not cumulative. This setup will still experience bottlenecks unless we change our storage

# IOPS & Throughput Limits

## Compute Series

Size	vCPU	Memory: GiB	Temp storage (SSD) GiB	Max data disk	Max uncached disk throughput: IOPS/MBps	Max burst uncached disk throughput: IOPS/MBps <sup>2</sup>	Max NICs	Max network bandwidth (Mbps)
Standard_D2s_v5	2	8	Remote Storage Only	4	3750/85	10000/1200	2	12500
Standard_D4s_v5	4	16	Remote Storage Only	8	6400/145	20000/1200	2	12500
Standard_D8s_v5	8	32	Remote Storage Only	16	12800/290	20000/1200	4	12500
Standard_D16s_v5	16	64	Remote Storage Only	32	25600/600	40000/1200	8	12500

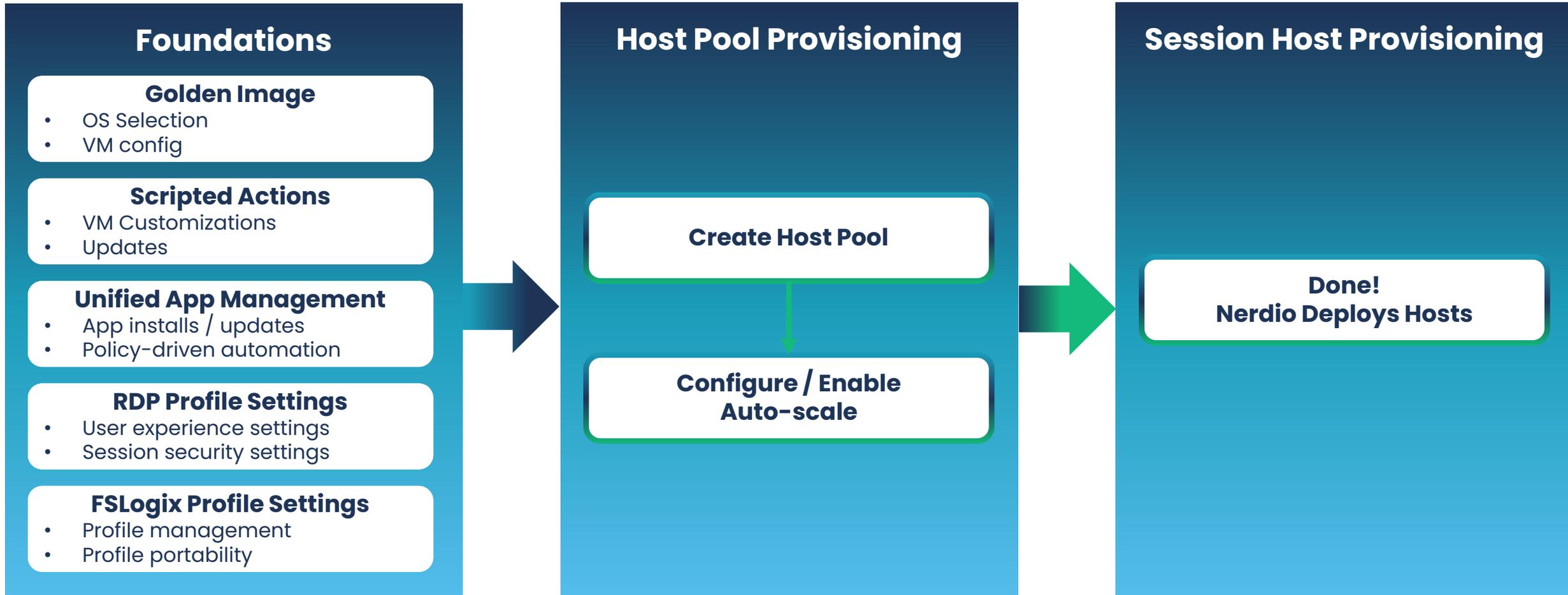
	Ultra disk	Premium SSD v2	Premium SSD	Standard SSD	Standard HDD
<b>Disk type</b>	SSD	SSD	SSD	SSD	HDD
<b>Scenario</b>	IO-intensive workloads such as <a href="#">SAP HANA</a> , top tier databases (for example, SQL, Oracle), and other transaction-heavy workloads.	Production and performance-sensitive workloads that consistently require low latency and high IOPS and throughput	Production and performance sensitive workloads	Web servers, lightly used enterprise applications and dev/test	Backup, non-critical, infrequent access
<b>Max disk size</b>	65,536 GiB	65,536 GiB	32,767 GiB	32,767 GiB	32,767 GiB
<b>Max throughput</b>	4,000 MB/s	1,200 MB/s	900 MB/s	750 MB/s	500 MB/s
<b>Max IOPS</b>	160,000	80,000	20,000	6,000	2,000, 3,000*



**Any Questions?**

# Adoption management & framework

# Adoption & Management Framework



# The Nerdio user hierarchy

## MSP / Global Level Users

This is the parent level in Nerdio.

- Items created here can be cascaded into the customer account level (one-to-many).
  - *E.g., Images, Scripts, Applications*

Users created here are given permissions to manage customer accounts in Nerdio.

- E.g., users created here can create account-level users.

## Customer Account Level Users

This is the child level in Nerdio.

- Items are inherited from the MSP level.
- Items created here are account-specific (one-to-one).
  - *E.g., Auto-scale configurations, application deployment policies.*

Users created here are the end users within the customer environment.

- E.g., users created here can log into session hosts.



	MSP / Global Level									Customer Account
	Account Selection	Global Images & Scripted Actions	Cost Estimator	Users & Roles	Notifications	Billing	Logs	Settings	Updates	Modules
Account Admin	-	-	-	-	-	-	-	-	-	Full access
Account Help Desk	-	-	-	-	-	-	-	-	-	Home, Users, Groups, User Sessions, Monitoring, Reports
End user	-	-	-	-	-	-	-	-	-	Desktop Management



# Lab 1

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- **Walkthrough – Add an MSP user in Nerdio**
- **Lab – Add yourself as a user in Nerdio**

# Workflows & notifications

# Workflows

## Task Categories

- Choose a pre-canned category or create a custom one.
- Choose from different task categories, like cost impacting, destructive, etc.
- Create custom category by choosing different tasks, like add host, delete desktop, etc.

## Approval Rules

- Create an approval rule based on pre-canned or custom categories.
- Choose to create the rule at the MSP (global) or customer (account) level.
- Assign staff to “submitters” and “approvers” groups.

# Notifications

## Conditions

- You can set up conditions for tasks, behaviors and statuses.
- These can be applied to individual accounts, all accounts or a group of accounts.
- Conditions can also be focused to specific users.

## Actions

- Creating Actions will let you define notification behaviors by selecting destination emails and condition(s) to trigger a notification event.
- You can also choose to be notified via Rest API.
  - *(API must be within Reach of the NMM install).*

# Using logs to resolve errors

The screenshot displays the Nerdio Manager interface with a task log. The log contains four entries:

Task Name	Start Time	End Time	Status	Details
Create network interface	Jun 29, 2023 04:23:06 PM	Jun 29, 2023 04:23:06 PM	✓ COMPLETE	/subscriptions/da1a2fbb-3c08-48dc-bef8-2edabdc08f3f/resourceGroups/nmm-salesdemos-winhart/providers/Microsoft.Network/networkInterfaces/AVDSalesDemo-tmp-nic
Create vm	Jun 29, 2023 04:23:06 PM	Jun 29, 2023 04:23:22 PM	✓ COMPLETE	VM created: /subscriptions/da1a2fbb-3c08-48dc-bef8-2edabdc08f3f/resourceGroups/nmm-salesdemos-winhart/providers/Microsoft.Compute/virtualMachines/AVDSalesDemo-tmp
Get temp VM	Jun 29, 2023 04:23:22 PM	Jun 29, 2023 04:23:22 PM	✓ COMPLETE	Success
Remove users from temp VM	Jun 29, 2023 04:23:22 PM	Jun 29, 2023 04:39:24 PM	❌ ERROR	<p><a href="#">Request Remove users logs</a></p> <p>Error: An error occurred during Custom Script extension installation: One or more errors occurred. (Long running operation failed with status 'Failed'. Additional Info: VM has reported a failure when processing extension 'AVDSalesDemo-tmp-remove-users-ext'. Error message: "Failed to download all specified files. Exiting. Error Message: The remote name could not be resolved: 'nmmstorageaccount.blob.core.windows.net'" More information on troubleshooting is available at <a href="https://aka.ms/VMExtensionCSEWindowsTroubleshoot">https://aka.ms/VMExtensionCSEWindowsTroubleshoot</a> ). With extension result: {"name": "AVDSalesDemo-tmp-remove-users-ext", "type": "Microsoft.Compute.CustomScriptExtension", "typeHandlerVersion": "1.9.5", "substatauses": null, "statauses": [{"code": "ProvisioningState/failed/3", "level": "Error", "displayStatus": "Provisioning failed", "message": "Failed to download all specified files. Exiting. Error Message: The remote name could not be resolved: 'nmmstorageaccount.blob.core.windows.net'", "time": "0001-01-01T05:00:00Z"}]}</p> <p>Removing 'Remove users' extension Extension was removed 'Remove users' extension removed Extension was removed Error: An error occurred during Custom Script extension</p>

The left sidebar shows navigation options: HOME, USERS, GROUPS, DESKTOP, AVD, INTUNE, APPLICATIONS, SERVERS, NETWORK, AZURE FILE, BACKUP, SCRIPTED, MONITORING, REPORTS, and SETTINGS. The right sidebar shows a user profile for Will Ominsky and a list of actions: Details, Resume, and Cleanup.

# Contacting Nerdio Support

## When to contact Nerdio Support

- If you see and cannot resolve an error in Nerdio, reach out!

## Contact Methods

- [nmm.support@getnerdio.com](mailto:nmm.support@getnerdio.com)

## What to include

- A full screenshot of any error messages.
- Steps to replicate the issue.
- Any steps you've taken so far.

## Common items we cannot solve\*\*\*

- FSLogix errors, Hosts showing “unavailable”, host deployment failures.\*

*\*\*\*We are in the process of launching our “Enhanced Support” -talk to your rep*



# Lab 2

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- **Walkthrough - workflows and notifications**
- **Walkthrough - logs and tasks**

# Foundational AVD settings

# Introduction to FSLogix

## What is FSLogix?

- A user profile container technology.
- Allows user profiles to roam without losing their customizations.

## How does it work?

- Requires a storage service for profile containers.
  - *(E.g., Azure Files).*
- Installation of the FSLogix application.
  - *Nerdio automatically installs by default when a new session host is created.*
- Create FSLogix configuration profiles in Nerdio.
  - *Assign these profiles to customer accounts for centralized management.*

# Best Practices for FSLogix

## Azure Files

- Microsoft recommends Premium storage in Azure Files.
- Premium Storage for Azure Files is Nerdio auto-scale compatible.
- Nerdio auto-scaling ensures there is always enough storage available.
- Lower tiers of storage may cause errors in daily operations.

## Storage Options

- UNC Path (File Server)
- Azure Files (Premium)

# Introduction to RDP Profile Settings

## What is an RDP Profile?

- A configuration created in Nerdio that defines the RDP experience for users.

## How do RDP Profiles work?

- Can be created at the global level and then cascaded to customer accounts.
  - *RDP profiles can also be created at the customer account level for granular customization.*
- Once created, RDP Profiles are assigned to host pools, which are then inherited by all hosts within the pool.

# Best Practices for RDP Profile Settings

## Key items to configure

### **audiocapturemode**

- *Defines whether audio input can be redirected from the local device to the session.*

### **camerastoredirect**

- *Makes the local webcam / camera available in the session.*

### **devicestoredirect**

- *Allows plug in devices to appear in the session (E.g., flash drives).*

### **drivestoredirect**

- *Redirects drives from the local machine to the session.*

### **redirectprinters**

- *Allows local printers to be made available in the session.*

### **redirectclipboard**

- *Allows clipboard sharing between the local device and session.*

Remember, always consider compliance requirements!



# Lab 3

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- **Walkthrough - FSLogix**
- **Walkthrough - RDP Profiles**

# Desktop images in Nerdio

# Overview of Golden Images

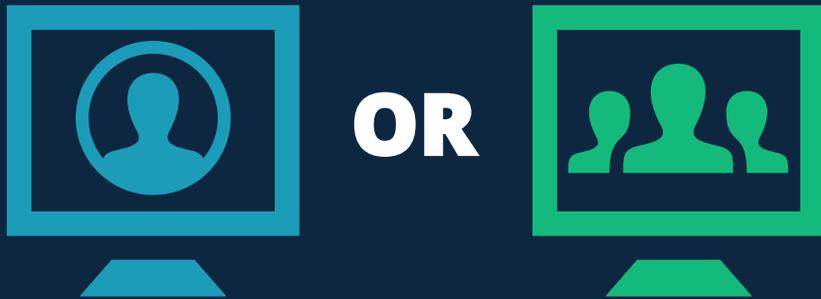
## What is a golden image?

- An ideal configuration state for VMs.
- Enables centralization for deploying and updating hosts.

## How are they created?

- From a template via the Azure Marketplace.
- From an existing Azure VM with the correct configuration. (url)

# Scoping Images



## What type of image should you use?

**Single-user image:** One-to-one, cannot be used for multi-session hosts later.

**Multi-session image:** Can be used for multi-session or single-session (personal hosts).



## How many variants does the environment need?

Maintain an image for each variant type in the customer account.

# Items to avoid on Images



**Do not join an image source VM to the domain or to Intune.**

- If you do, GPOs will be in play, which can break Sysprep.
- Intune policies can also break Sysprep.



**RMM tools should be installed on production hosts, not the image source VM(s).\***

- This helps to avoid duplicate entries in your RMM solution.
- ***\*RMM tools can be installed on image source VMs for updates, but must be uninstalled before set as image.***



**Avoid installing security solutions on the image source VM(s).**

- This helps to avoid duplicate entries in your security solution.
- Some security solutions may also break Sysprep.

# The image source VM is the engine

## Image source VM

- Target for changes
- Patches/Updates
- One-to-many

## Desktop Image

- Used to deploy hosts
- Versioning supported
- Use to rapidly scale

## Automations

- Custom app installs
- Customizations
- Intune Policies



# Lab 4

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- **Walkthrough - image Source Creation Options**
- **Lab - add an image source VM**

# Host pools & session hosts

# Host Pool Overview

**Host Pools are a grouping of session hosts (VMs) that share common attributes. These VMs serve the end user experience.**

# Session Hosts & Load Balancing

## Host Pool + Breadth-first



# Session Hosts & Load Balancing

## Host Pool + Depth-first



# Overview: AVD Workspaces

These are logical groupings of application groups and virtual desktops in Azure.

- Each host and host pool must be associated with a workspace.

How are they created?

- You can create them in Azure natively and then link to Nerdio.
- You can also create them in Nerdio.



# Lab 5

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- **Walkthrough – AVD Workspaces**
- **Lab – create a host pool**
- **Lab – host pool settings**

# Image lifecycle management

# Applying Updates and Changes

## Image source VM

- Target for changes
- Patches/Updates
- One-to-many

## Desktop Image

- Used to deploy hosts
- Versioning supported
- Use to rapidly scale

## Automations

- Custom app installs
- Customizations
- Intune Policies

# Update Methodologies

## Via Scripted Actions

*(Preferred)*

- Automated!
- Use these with WUfB.

## Via RMM

*(Preferred)*

- Automated!\*
- \*Uninstall RMM tool prior to image creation.*

## Manually

*(Do this only if you have to!)*

- Time-consuming.
- Error-prone.

# Create an image – the Nerdio way!

1

## Image Source VM

Access the original VM

Apply Updates & Changes

Power Off / Deallocate



Clone the VM



2

## Clone of Image Source VM

Remove Local Accounts



Sysprep the cloned VM



Capture as an image



Deallocate / Delete



# Scripted Actions in Nerdio

## Scripted Actions are collected in repositories.

- Nerdio provides a default repository.
- You can connect your own GitHub.

## Two types of Scripted Actions

- Azure Runbooks – these are for the Azure environment itself.
- Windows Scripts – these are scripts for VMs.

## Scripts can be generalized and use variables

- Secure variables
- Inherited variables
- Environment variables

# Variables in Nerdio

## Secure Variables

- Created at the global / MSP level or the customer level.
- Stored in the key vault. Only available for scripted actions (NO Intune policies).
- Cannot be shared between accounts or levels.

## Inherited Variables

- Created at the global / MSP level.
- Are inherited by customer accounts.
- Allow you to centrally manage common scripts and Intune policies.
- Can be overridden at the customer account level.



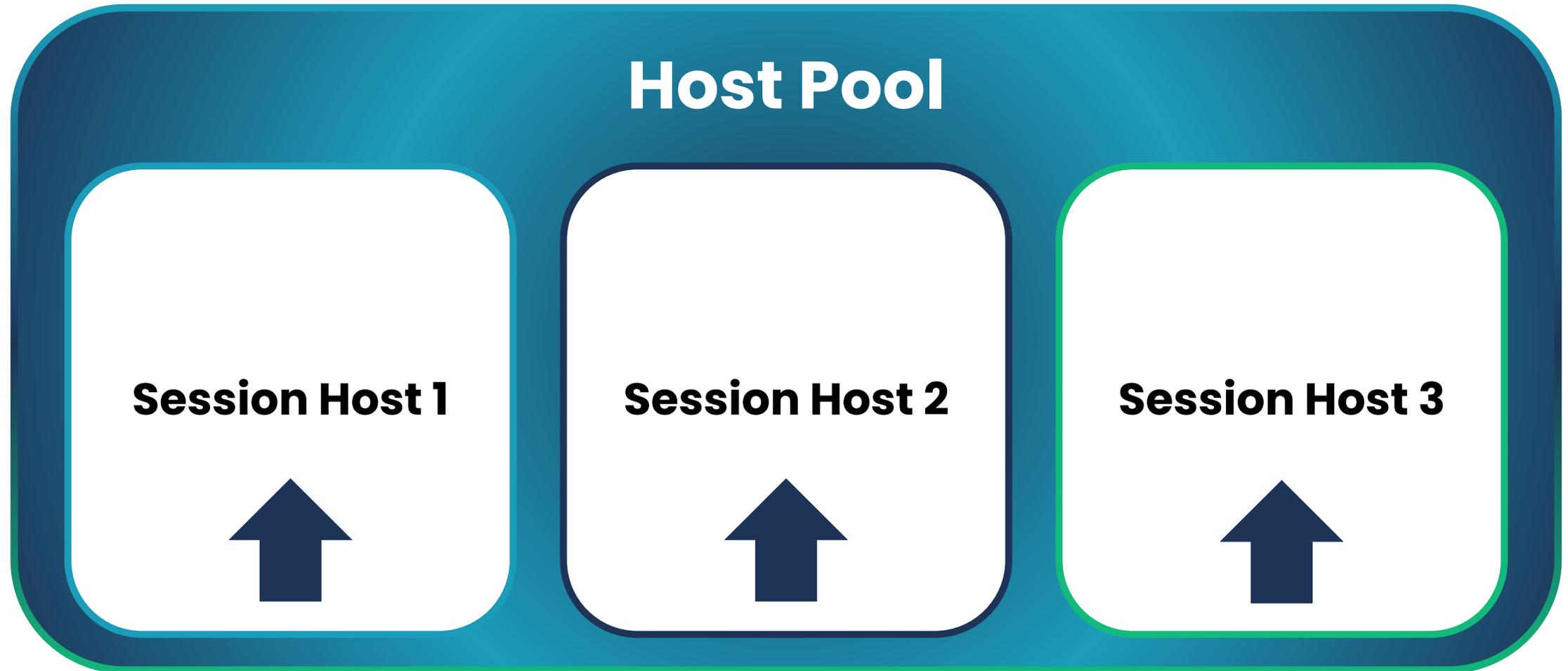
# Lab 6

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- **Walkthrough - Scripted**
- **Actions**
- **Lab - updating the image source VM**
- **Lab - creating an image**

# Updating production hosts

# Re-Imaging to Update Session Hosts





# Lab 7

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- **Lab - manually re-image  
Session Hosts & Host Pools**

# Unified Application Management

# Application Deployment Policies

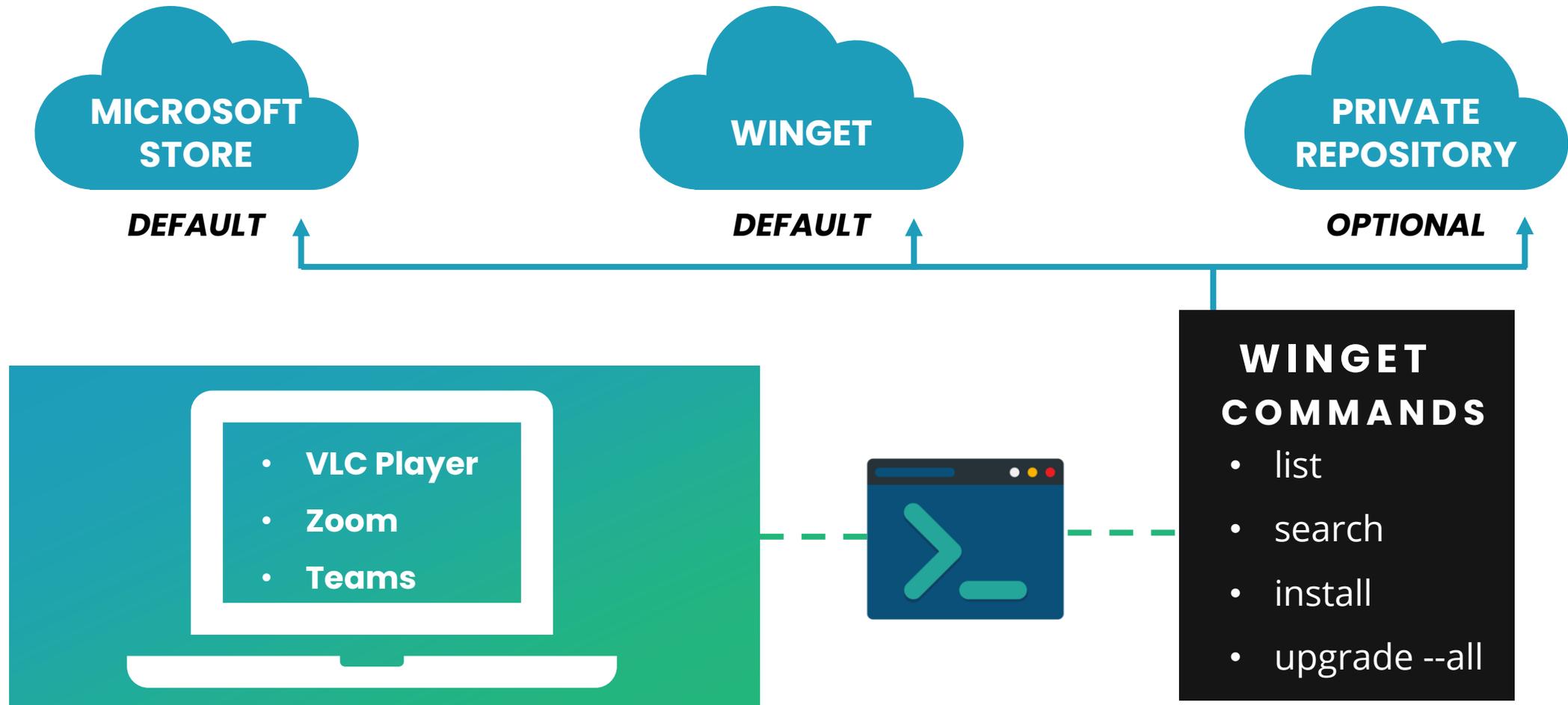
## Connect Repositories:

- Microsoft Public Winget Repo\*
- Microsoft App Store\*
- iOS Store\*
- Create your own!
  - *\*Available by default*

## Use policies to automate:

- App installation on session hosts.
- App maintenance and updates.

# Overview: Winget





# Lab 8

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- **Lab – WinGet commands**

# Launch Winget via PowerShell

## *Winget --info*

- Shows the version of winget and the default locations of install folders, etc.

```
Windows PowerShell
PS C:\Users\tony> winget --info
Windows Package Manager v1.6.2771
Copyright (c) Microsoft Corporation. All rights reserved.

Windows: Windows.Desktop v10.0.22621.2361
System Architecture: X64
Package: Microsoft.DesktopAppInstaller v1.21.2771.0

Winget Directories
-----
Logs                                     %LOCALAPPDATA%\Packages\Microsoft.DesktopAppInstaller_8wekyb3d8bbwe\LocalState\Diag...
User Settings                           %LOCALAPPDATA%\Packages\Microsoft.DesktopAppInstaller_8wekyb3d8bbwe\LocalState\sett...
Portable Links Directory (User)          %LOCALAPPDATA%\Microsoft\WinGet\Links
Portable Links Directory (Machine)       C:\Program Files\WinGet\Links
Portable Package Root (User)             %LOCALAPPDATA%\Microsoft\WinGet\Packages
Portable Package Root                    C:\Program Files\WinGet\Packages
Portable Package Root (x86)              C:\Program Files (x86)\WinGet\Packages
Installer Downloads                      %USERPROFILE%\Downloads

Links
-----
Privacy Statement   https://aka.ms/winget-privacy
License Agreement   https://aka.ms/winget-license
Third Party Notices https://aka.ms/winget-3rdPartyNotice
Homepage             https://aka.ms/winget
Windows Store Terms https://www.microsoft.com/en-us/storedocs/terms-of-sale

Admin Setting      State
-----
LocalManifestFiles Disabled
```

# View Winget Sources

## *Winget source list*

- Use this command to list and manage sources for Windows Package Manager.
- You can add, remove, update, reset or export repositories.

```
Windows PowerShell
PS C:\Users\tony> winget source list
Name      Argument
-----
msstore   https://storeedgefd.dsx.mp.microsoft.com/v9.0
winget    https://cdn.winget.microsoft.com/cache
PS C:\Users\tony> |
```

# List Winget Apps on PC

## *Winget list*

- Lists all the applications on your computer, its versions and whether or not there is an available manifest in winget's sources.
- All applications can be managed regardless of whether they were first installed with winget.

```
Windows PowerShell
PS C:\Users\tony> winget list
```

Name	Id	Version	Available Source
HubSpot Sales for Outlook	6C5E90BB606C5CAB5254045AB06A642244B963E...	3.0.1.310	
7-Zip 23.01 (x64)	7zip.7zip	23.01	winget
HubSpot for Windows	9afbc8c9443d1363	1.0.0.142	
AMD Chipset Software	AMD_Chipset_IODrivers	4.06.10.651	
Adobe Media Encoder 2023	AME_23_4	23.4	
AORUS ENGINE	GIGABYTE.AORUS-ENGINE	1.9.5.0	2.1.2.0 winget
ASRRGBLED v2.0.71	ASRock RGB LED_is1	2.0.71	
Adobe Creative Cloud	Adobe Creative Cloud	5.10.0.573	
Adobe Genuine Service	AdobeGenuineService	8.3.0.61	
Adobe Notification Client	AdobeNotificationClient_enpm4xejd91yc	3.0.1.1	
Battle.net	Battle.net	Unknown	
Logitech Capture	Capture	2.06.12	
Microsoft Clipchamp	Clipchamp.Clipchamp_yxz26nhyzhsrt	2.7.10.0	
Adobe Dreamweaver 2021	DRWV_21_3	21.3	
Discord	Discord.Discord	1.0.9018	winget
EVGA Unleash RGB	EVGA Unleash RGB	1.0.25.0	
Messenger	FACEBOOK.317180B0BB486_8xx8rvfyw5nnt	1950.4.225.0	
FileZilla 3.65.0	FileZilla Client	3.65.0	
f.lux	flux.flux	4.126	winget
GIMP 2.10.34-2	GIMP.GIMP	2.10.34	winget
GoToMeeting 10.19.0.19950	LogMeIn.GoToMeeting	10.19.0.19950	winget
Google Chrome	Google.Chrome	117.0.5938.150	winget
Greenshot 1.2.10.6	Greenshot.Greenshot	1.2.10.6	winget
Adobe InDesign 2023	IDSN_18_3	18.3	
Adobe Illustrator 2023	ILST_27_6_1	27.6.1	
Logitech Options	Logitech.Options	10.10.58	winget
Microsoft Teams (work or school)	MSTeams_8wekyb3d8bbwe	23257.2618.2432.4374	

# List Apps with Available Upgrades

## *Winget upgrade*

- Returns a list of any installed applications with a newer version available for upgrade.

```
Windows PowerShell
PS C:\Users\tony> winget upgrade
```

Name	Id	Version	Available	Source
AORUS ENGINE	GIGABYTE.AORUS-ENGINE	1.9.5.0	2.1.2.0	winget
Windows Terminal	Microsoft.WindowsTerminal	1.17.11461.0	1.18.2681.0	winget
OBS Studio	OBSProject.OBSStudio	26.1.1	29.1.3	winget
Microsoft .NET Runtime - 6.0.16 (x64)	Microsoft.DotNet.Runtime.6	6.0.16	6.0.22	winget
EA app	ElectronicArts.EADesktop	13.18.0.5531	13.27.0.5540	winget

```
6 upgrades available.

The following packages have an upgrade available, but require explicit targeting for upgrade:
Name                Id                Version           Available         Source
-----
Teams Machine-Wide Installer Microsoft.Teams 1.3.0.28779 1.6.00.27573 winget
PS C:\Users\tony> |
```

# Upgrade all Applications

## *Winget upgrade --all*

- Upgrades all applications on your upgrade list to the latest version shown in the manifest.

```
Windows PowerShell
PS C:\Users\tony> winget upgrade --all
```

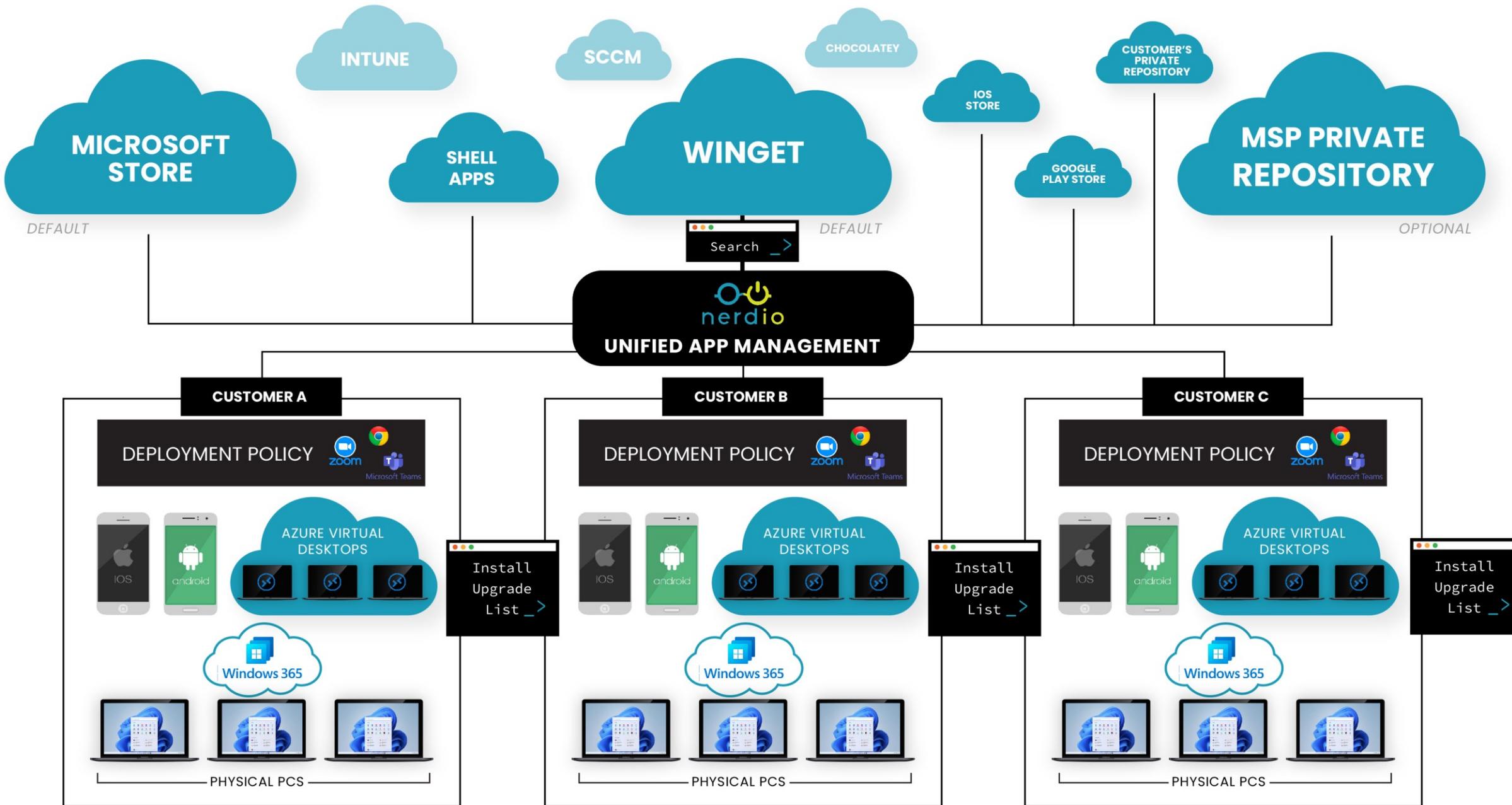
Name	Id	Version	Available	Source
AORUS ENGINE	GIGABYTE.AORUS-ENGINE	1.9.5.0	2.1.2.0	winget
Windows Terminal	Microsoft.WindowsTerminal	1.17.11461.0	1.18.2681.0	winget
OBS Studio	OBSProject.OBSStudio	26.1.1	29.1.3	winget
Microsoft .NET Runtime - 6.0.16 (x64)	Microsoft.DotNet.Runtime.6	6.0.16	6.0.22	winget
EA app	ElectronicArts.EADesktop	13.18.0.5531	13.27.0.5540	winget

```
6 upgrades available.

The following packages have an upgrade available, but require explicit targeting for upgrade:
Name                Id                Version    Available    Source
-----
Teams Machine-Wide Installer Microsoft.Teams 1.3.0.28779 1.6.00.27573 winget

Installing dependencies:
This package requires the following dependencies:
- Packages
  Microsoft.UI.Xaml.2.8 [>= 8.2306.22001.0]
  Microsoft.VCRedist.2015+.x64
(1/5) Found AORUS ENGINE [GIGABYTE.AORUS-ENGINE] Version 2.1.2.0
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://download.gigabyte.com/FileList/Utility/vga_utility_aorus_setup_v2.1.2.exe
An unexpected error occurred while executing the command:
Download request status is not success.
0x80190194 : Not found (404).

(2/5) Found Windows Terminal [Microsoft.WindowsTerminal] Version 1.18.2681.0
This application is licensed to you by its owner.
```





# Lab 9

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- **Walkthrough - assigning applications**
- **Lab - creating UAM Policies**

# Auto-scaling

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# Auto-scale in Nerdio Manager

**Automate the volume of resources based on capacity.**

- Avoid overspending during times of less demand.
- Add capacity when it counts.

**Automatically heal broken hosts.**

**Create schedules for weekends, holidays, and more.**

**Automatically update / re-image host pools.**

# Auto-scale

## Default Schedule

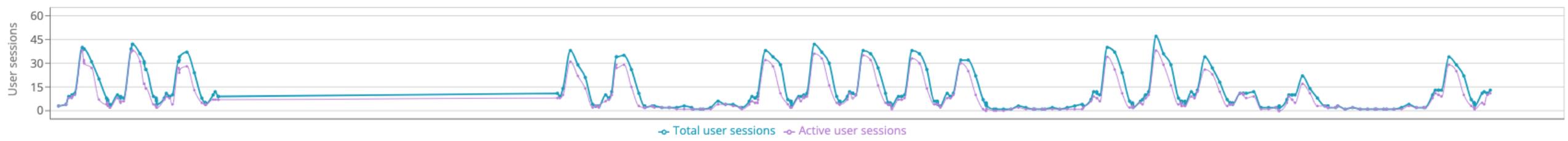
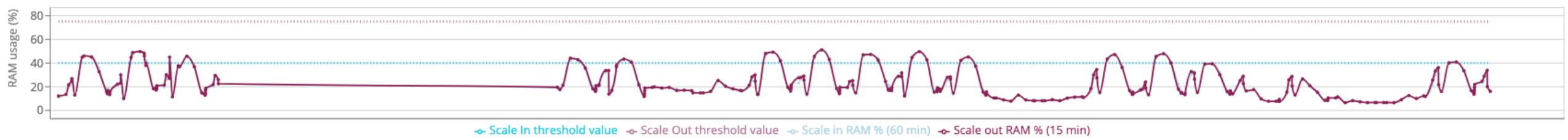
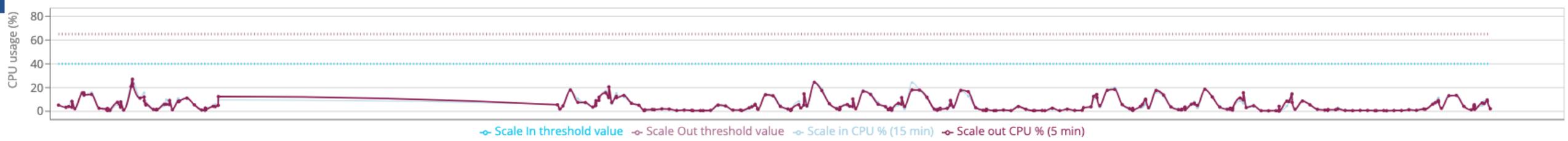
Your default schedule defines how auto-scale operates daily.

- How many hosts to maintain
- Peak hour time frames
- Common changes in capacity needs

## Alternative Schedule

This changes how auto-scale works in situations such as:

- Holidays
- Planned changes in capacity needs
- Any other pre-planned change in activity



# Auto-*Scale History*

**\*30-day history pictured.**



# Lab 10

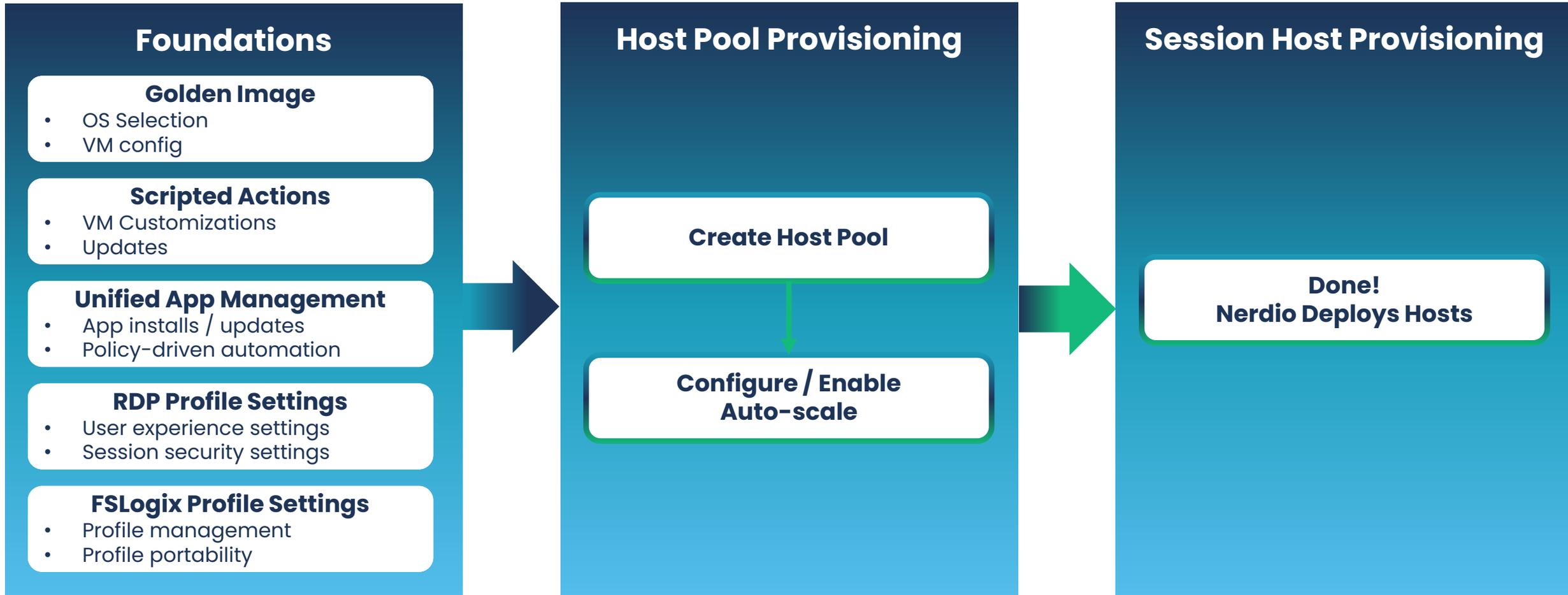
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- **Walkthrough - Azure Files  
Auto-scale**
- **Lab - configuring host pool  
Auto-scale**

# Auto-scaling

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# Adoption & Management Framework



# Backup & recovery

# Backups

Allows you to administer backups for your critical AVD resources, including:

- Session hosts for person and pooled desktops
- Desktop images
- Servers (virtual machines)
- Azure file shares

More details:

- Uses native Azure, as well as native Azure policies (backups once a day or every 4 hrs)
- You can specify retention for daily, weekly, monthly, and yearly
- Can now see boot diagnostics or “Validation Status” on backups page
- Ability to restore from our portal\* – Azure File shares allows files and folders / VMs restore entire contents

# Recovery Services

Allows you to restore Intune policies, policy baselines, and user/device assignments that have changed or were removed

- Daily snapshots of customer and MSP (global) level
- Includes custom policies, assignments, baselines, configs, and tags (MSP)
- Includes user/group assignments (customer)

# Boot diagnostic insights (validation)

Uses Azure AI OCR tech to verify the bootability of server and desktop image backups

- Ensuring the reliability of your backups and images

## Core benefits

- Automatically validate successful boot to Windows login screen
- Prevent potential issues with backups and images proactively



# Lab 11

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- **Walkthrough - how backup works for resources in Nerdio Manager (Hosts, images, etc.)**
- **Walkthrough - what Recovery Services looks like**

# Console Connect

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# Console Connect

## Challenges

- Ability to provide remote support in distributed or hybrid environments.
- Costly & time-consuming physical access to servers or devices.

## Solution

- Unattended access that allows MSPs to remotely connect to client devices or servers without needing on-site visits.

# Console Connect

## Outcomes

- Resolve issues quickly without needing to visit client sites.
- Reduce travel costs & increase efficiency.
- Provide faster, more responsive support & improve customer satisfaction.

The screenshot shows the 'Accounts' page in the Nerdio Manager for MSP-QA console. The page features a search bar at the top right and a navigation menu on the left. The main content area displays a table of accounts with the following columns: ID, NAME, ADDITIONAL INFO, USAGE, and STATUS. Each account entry includes a profile picture, name, creation date, and a 'Manage' button.

ID	NAME	ADDITIONAL INFO	USAGE	STATUS
1	Nube Hart, Inc. Created: Sep 14, 2021 12:08 PM	Azure tenant: nerdiioxtrot.onmicrosoft.com Subscription(s): FY22 MPN Sponsored (Tiny sub) (b7... Azure region(s): northcentralus, westus2, francecentral, eastus, southcentralus Identity: Active Directory App Registration: 8c8976fd-25b8-4e92-b6fb-261c4037854c AD User Management Connection: <a href="#">continue configuration</a>	Current AVD users: 27 (+1) Current CPC-only users: 1 (-2) Current Intune-only users: 3 Host Pools: 14 CPU cores: 17 IUL: No	Active <a href="#">Manage</a>
7	Ganar Hart, Inc. Created: Oct 26, 2021 05:43 PM	Azure tenant: nerdiioindia.onmicrosoft.com Subscription(s): Subscription Bravo (ae51ae63-398a-... Azure region(s): northcentralus, brazilsouth, centralus, southcentralus Identity: Entra ID App Registration: bde74c7f-85ca-4965-b375-a71d2e81cca6	Current AVD users: 10 Current CPC-only users: 2 Current Intune-only users: 1 Host Pools: 16 CPU cores: 22 IUL: No	Active <a href="#">Manage</a>
91	Nerdio Golf Inc. Created: Jan 24, 2023 08:13 AM	Azure tenant: nerdiogolf.onmicrosoft.com Subscription(s): Azure subscription 1 (8a8a834c-a7b... Azure region(s): eastus Identity: Entra Domain Services App Registration: 2df225ce-79a1-4a4d-92e0-127a9114f98c	Current AVD users: 0 Host Pools: 1 CPU cores: 0 IUL: No	Active <a href="#">Manage</a>

# Partner benefits and changes

# Partner Benefits

## 3 New Options

	Partner Launch	Success Core	Success Expanded
Microsoft 365 Business Premium	5 Seats	15 Seats	35 Seats
Azure Credits	USD 700	USD 2,400	USD 4,000
Visual Studio Professional	1 Subscription	8 Subscriptions	15 Subscriptions
Microsoft Dynamics 365 Sales Enterprise	4 Seats	15 Seats	35 Seats
Microsoft Dynamics 365 Business Central	4 Seats	15 Seats	35 Seats
<b>Total retail value+</b>	<b>USD 13,792</b>	<b>USD 62,068**</b>	<b>USD 390,684***</b>
<b>Annual fee***</b>	<b>USD 345</b>	<b>USD 895</b>	<b>USD 3,995</b>

# Partner Benefits

## Microsoft Action Pack – \$475 per year

Microsoft product name or description	Type	Quantity
Azure AD Basic	Cloud Service	5
Microsoft Azure	Azure credit	US\$100 per month
Microsoft Visual Studio Professional Subscription	Cloud Service	3
Microsoft product name or description	Type	Quantity
Enterprise Mobility + Security E3 (formerly known as Enterprise Mobility Suite)	Cloud Service	5
Microsoft Intune Plan 1 (formerly known as Microsoft Intune)	Cloud Service	5
Microsoft Office 365 E3	Cloud Service	5

After January 21st 2025, MAP will no longer be available. If you purchase on or before, you get another year.

# THINGS TO CONSIDER

## Notes for partner benefits

- ✓ New benefits use Azure bulk credits instead of monthly (MAP).
- ✓ MS states you CAN have MAP and new Partner Benefits Packages.
- ✓ If you choose to purchase new Partner Benefits packages, and not renew your legacy GOLD or SILVER, you will LOSE the status.
- ✓ Even with a current MAP and legacy status, you can purchase new Partner Benefits packages at any time. No need to wait.
- ✓ If you have renewed a MAP or legacy, you cannot get a refund if wanting to change to the new packages.
- ✓ You CANNOT purchase more than one of the same packages.
- ✓ You CAN purchase more than one level in separate subscriptions.

# NCE Changes

## Partners can transfer NCE subscriptions between indirect providers and direct bill partners.

- This allows two separate MSPs and two separate distributors to transfer NCE subscriptions if the originals agree.
  - Transfers must be approved by the current IP / DB and the new IP / DB within 30 days.
- If the transfer is mid-term, this will not open a seven-day window.
  - The subscription keeps the same terms and end date.

## The future partner is responsible for payments to Microsoft for the remainder of the term.

- If the current partner is billed monthly for an annual term subscription, the current partner will no longer receive invoices.
- If the current partner made up-front payments for the entire subscription, they will receive a prorated refund.
- Seems to be for net new as well as existing – per MS blog post



# Thank You!

## *What's Next?*

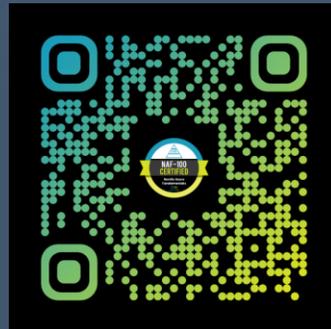
### Ready to get started?

Connect with Nerdio here!



### New to Azure?

Try our NAF-100 certification!



### Stay updated

Join our product webinar!

