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MSP Foundations

Day 1

Today's Agenda

1 Nerdio Optimization Journey

2 Why move to the cloud?

3 Modern Work for MSPs

4 Pricing Best Practices

5 Margin Optimization

6 Packing your cloud offering

7 Entra / AD Management

8 Solution Baselines

9 Enrollment Strategies

10 Microsoft Intune Policy Management

11 Policy Baselines

12 Security for Modern Work

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Traditional MSP Sales Cycle

Step 6
Creating & Delivering Proposal

Step 5
Pricing Your Cloud Offering

Step 4
Packaging Cloud Offering

Step 3
Architecting & Building Plan

Step 2
Discovery Call & Scoping Current Environment

Step 1
Prospecting & Lead Generation

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Goals for today

You will end the day understanding...

The value of Modern Work and how to implement
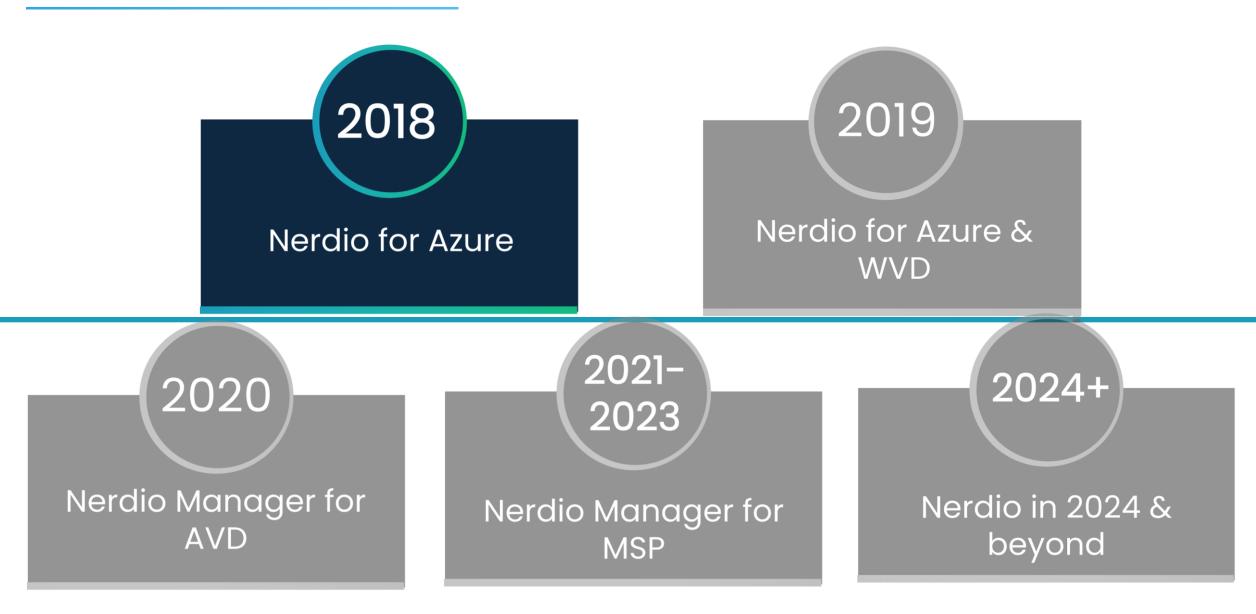
Important cloud sales strategies and details

Why and how the cloud will work for you and your clients
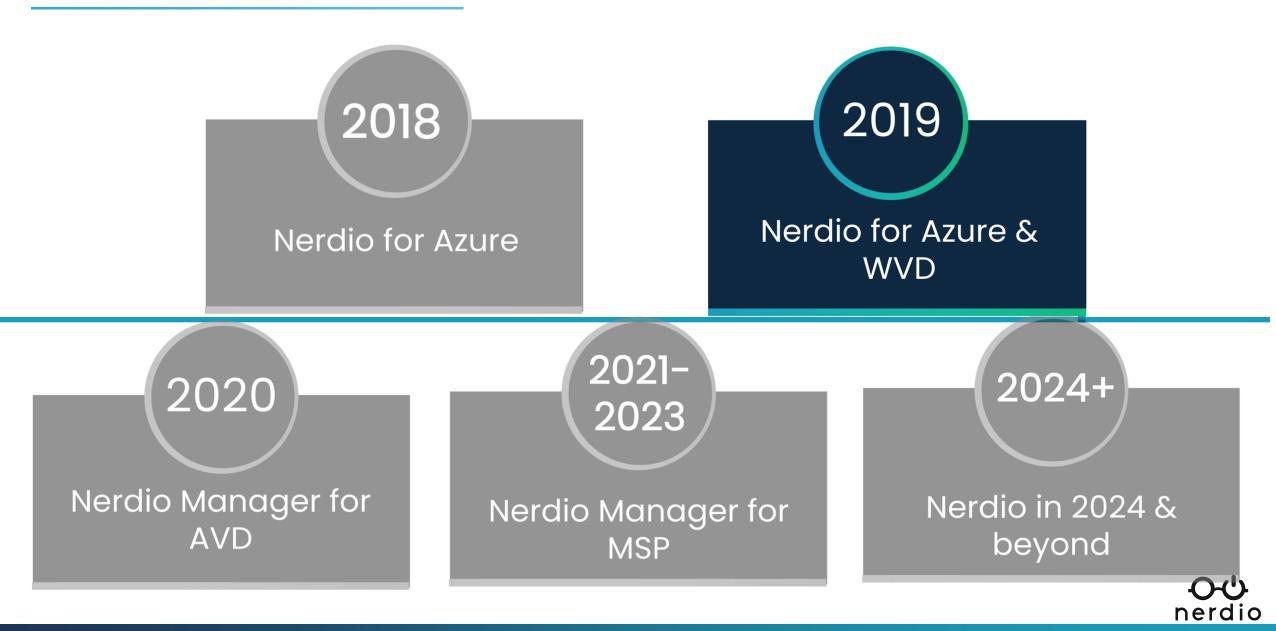
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Who is Nerdio?

Nerdio's evolution

2018
Nerdio for Azure

2019
Nerdio for Azure & WVD

2020
Nerdio Manager for AVD

2021-2023
Nerdio Manager for MSP

2024+
Nerdio in 2024 & beyond

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AVD: A virtual desktop revolution
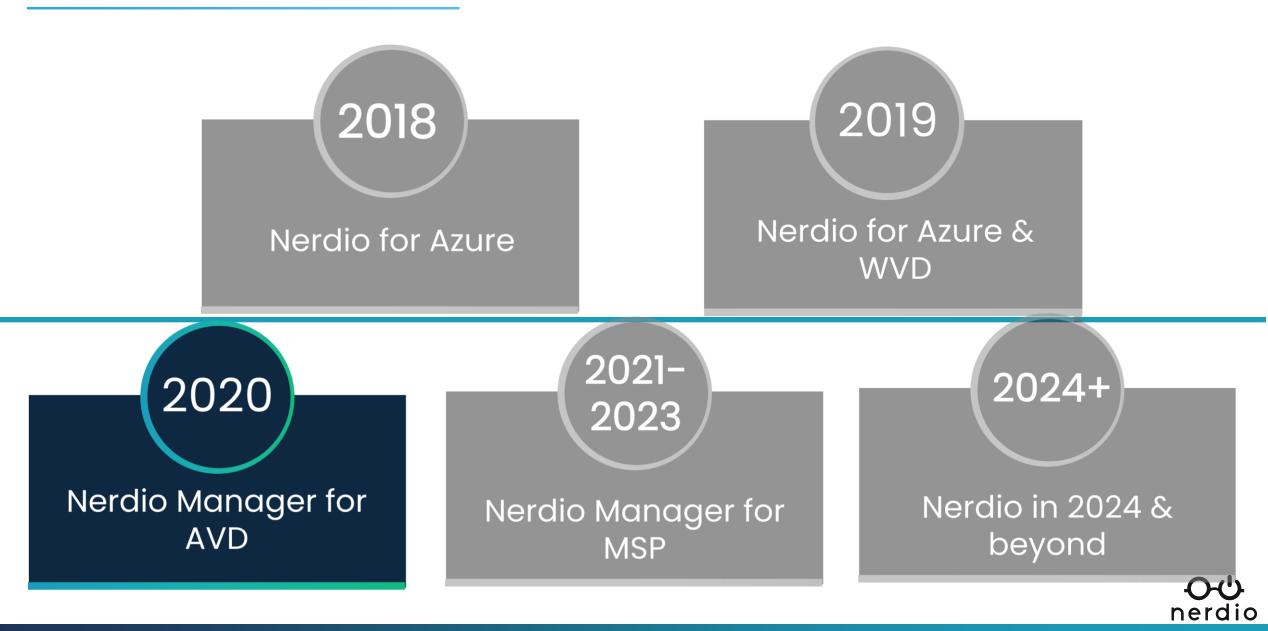
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Azure Virtual Desktop

What is it?

A set of technologies that allow an individual to stream his/her own Windows 10/11 desktop to any device in any location.

Why use it?

- **Easy access** – Remote access from anywhere.

- **Scalability** – Speed / quick launch or tweak of infrastructure in minutes.

- **Cost control** – Budget consistency & planning.

- **Simplification** – Removes additional technology.

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Nerdio's evolution

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Nerdio's key AVD management features

Host Pool Management

Session Host Auto-Scaling

Custom RBAC Roles

AVD Cost Estimator

Backup and Restore

AVD Lifecycle Image Management

User Profile Management

PowerShell Scripting

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Why AVD remains important

AVD remains a vital asset for MSPs due to its ability to deliver robust, scalable, and secure virtual desktop solutions to increasingly diverse and distributed workforces.
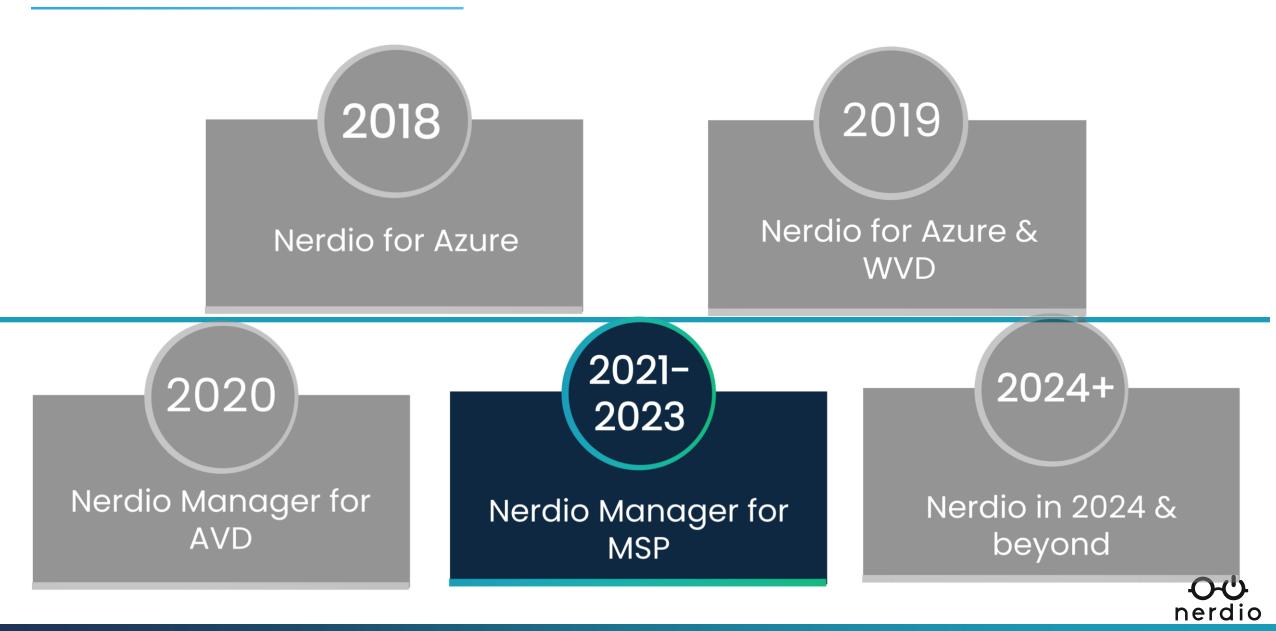
Robust & scalable

Simplified IT management

Competitive advantage

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Nerdio's evolution

2018

Nerdio for Azure

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Nerdio Manager for AVD

2021-2023

Nerdio Manager for MSP

2024+

Nerdio in 2024 & beyond

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The shift: More than AVD

What is Modern Work?

Modern Work focuses on using technologies like **Microsoft 365** to **enhance** productivity, collaboration, and security for a **flexible** and **hybrid** workforce, enabling **seamless work from anywhere**.

Why Modern Work matters for you

Virtual desktops
Not always wanted or needed

Distributed workforce
Existing tools don't offer Modern Work management

Diverse environments
Protecting access to customer data and systems

Security is key
Managing Modern Work is vital for a strong posture

Return on investment
MSPs miss out on full M365 value, leaving money on the table

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Windows 365

Also called CPC or "Cloud PC"

Under the hood, both AVD and Windows 365 leverage a similar set of Microsoft Cloud technologies.

Technically, Windows 365 is built on top of existing AVD components but has a different transactional model (fixed price vs. consumption-based).

Why use it?

- **Easy management** – all mgmt through Intune.

- Ease of use – persistent desktops.

- **Cost control** – Budget consistency & savings.*

- **Simplification** – MS manages infrastructure.

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Windows 365

There are two versions -

Enterprise Cloud PCs are designed for organizations that have invested in Microsoft Intune and are using this powerful platform to manage their existing, physical Windows 10/11 desktops.

Business Cloud PCs are designed for individual users and very small businesses who typically go to their local Best Buy when they need a new PC. Now, instead of visiting Best Buy, they can go to Microsoft and subscribe to a new Cloud PC and have it ready to use in an hour.

The main differences?

- Enterprise CPCs requires an Intune license for each

- Enterprise CPC require Entra or Hybrid joined (no Entra DS)

- Business CPCs does NOT require Intune license

- Business CPCs are natively Entra-joined w/no AD or Entra DS

In most cases MSPs use Enterprise

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What is it?

A set of technologies that securely manages identities, applications and devices (physical and virtual).

Why use it?

- Included in most M365 plans.

- Augments RMM.

- Helps to consolidate MSP tools.

Microsoft Intune

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What are MSPs using Intune for?

Eliminating Domain Controllers
- Small businesses that have servers onsite may no longer need them.
- If you are no longer hosting any client/server applications, Intune can be a great replacement for a server.

Replacing Group Policy
- IT has been using GPO since the early 2000's.
- Intune has now surpassed most of what you can do using legacy GPOs with Intune Configuration Policies.

Implementing Zero Trust
- Enforce Zero Trust policies across your physical endpoint devices
- Set policies to never trust and always validate when accessing corporate data (conditional access policies).

Endpoint Management
- Intune allows the MSP to offer RMM-like functionality out of the box.
- Manage Desktops, Laptops, Mac, Android, iOS devices in many ways, helping to augment existing tools.

Enabling Work-from-Anywhere
- Truly work from anywhere, Intune enables secure remote work without a use of a VPN client of any kind.
- Access corporate data from any compliant enrolled device.

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M365 Business Premium
June 2023

Office 365

Activity Reports	Adoption Score	Alert Policies	Audio Conferencing (free add-on)	Audit (standard)	Basic Mobility & Security
Bookings	Briefing Email	Compliance Manager	Content Search	Data Loss Prevention	Defender for Office 365 Plan 1
eDiscovery (standard)	Exchange Online Archiving	Exchange Online Plan 1	Information Protection for M365	Message Encryption (basic)	Microsoft 365 Apps for Business (with SCA)
Microsoft 365 Mobile App	Microsoft Dataverse for Teams	Microsoft Forms	Microsoft Lists	Microsoft Search	Microsoft Teams
Microsoft To Do	Microsoft Whiteboard	Office for the web (incl. Visio)	OneDrive for Business Plan 1	Planner	Power Apps for Office 365
Power Automate for Office 365	Power Virtual Agents for Teams	Project & Roadmap View Access	Secure Score	SharePoint Online Plan 1	Stream for Office 365
Sway	Viva Connections	Viva Engage	Viva Insights – Personal (basic)	Viva Learning (basic)	Webinars

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M365 Business Premium
June 2023

M365maps.com

Enterprise Mobility + Security

Intune Plan 1 for Business

Application Management	Device Management	Endpoint Analytics

Information Protection

Azure AD Premium Plan 1

Administrative Units	Advanced Security Reports & Alerts	App Proxy, including PingAccess	Azure AD Connect Health	Cloud App Discovery	Conditional Access
Custom Security Attributes (preview)	Customized Sign-in Page	Dynamic Groups	Enterprise State Roaming	External Identities	Microsoft Identity Manager
Multi-Factor Auth (MFA)	Password Protection	Passwordless Authentication	Self-Service Group Management	Self-Service Password Reset in AD	Self-Service Activity Reports
Service Level Agreement	Shared Account Password Roll-Over	Signle-Sign-On to other SaaS	SMS Sign-in	Temporary Access Pass	Terms of Use
Verified ID	Windows Autopilot	3rd Party MFA Integration			

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M365 Business Premium
June 2023

M365maps.com

Windows Pro

Universal Print	Application Control	Application Guard	AppLocker	Assigned Access	Windows Information Protection (retiring)	24 months support for Windows 11
Unbranded Boot	Microsoft Entra Join	BitLocker	BitLocker to Go	Cortana	Windows Update for Business	Windows Hello for Business
Power Automate Attended Desktop Flows	Defender Antivirus	Domain Join	Edge for Business	LAPS	Windows Conditional Access	Windows Firewall
Manage by MDM

Microsoft 365 Business Premium includes Windows Pro upgrade from earlier Pro versions + Universal Print.

| Automated Investigations | Enhanced ASR | Threat Analytics | Block at First Sight | Mobile Threat Defense | Vulnerability Management (core) |
| Cross-Platform Support | Next Gen Protection | Web Content Filtering | Endpoint Detection & Response | Tamper Protection |

Defender for Business

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Nerdio & Modern Work

THE BEGINNING
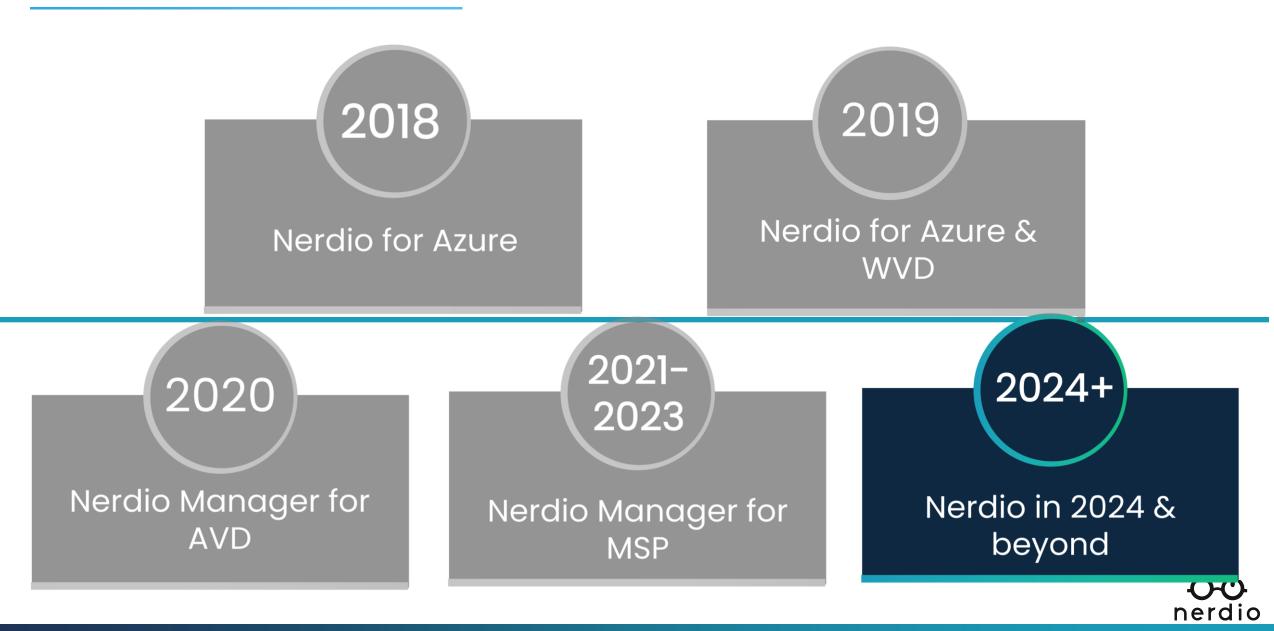
- ENTRA ID & AD
- Intune & Endpoints
- Windows 365
- Defender XDR
- Policies & Baselines
- Microsoft 365 Apps
- Unified App Management
- OneDrive & SharePoint
- License Management

Create ONCE, manage MANY

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Nerdio numbers

$250M
Microsoft Azure influenced revenue for trailing 12 months

300
New deployments every month

217
Global employees spanning 23 countries and 31 states

4.5
Average rating on G2

65%
Average Azure cost savings

1,000+
Channel partners

4.5M +
Users worldwide under mgmt

10K+
Customer deployments

5.0
Rating on Azure Marketplace

2018
Working closely with Microsoft Engineering

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Envision a world where managing all Microsoft Cloud solutions is seamless and centralized....

Nerdio Manager for MSP

The ONLY complete management platform for Azure and Modern Work technologies in the Microsoft Cloud.

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Microsoft 365 & Modern Work

Modern Work (M365)

ENTRA ID & AD

Intune & Endpoints

Windows 365

Defender XDR

Policies & Baselines

Microsoft 365 Apps

Unified App Management

OneDrive & SharePoint

License Management

Nerdio Manager for MSP
Modern Work Capabilities

Console Connect

AD User Management

SharePoint & OneDrive Settings Baselines

Microsoft Defender for Endpoint

Partner Center Integration

User Onboarding/Offboarding

Intune Management

Entra ID Settings Baselines

Risky & Stale User Reports

Windows365 Management

Templates for Policy Assignment to Groups

CIS Intune Policies

Vulnerability Management

Exchange Online Settings Baselines

Microsoft Teams Settings Baselines

Unified App Management

Secure Score Management

Configuration Drift Management

Microsoft Defender for Cloud

Defender Settings Baselines
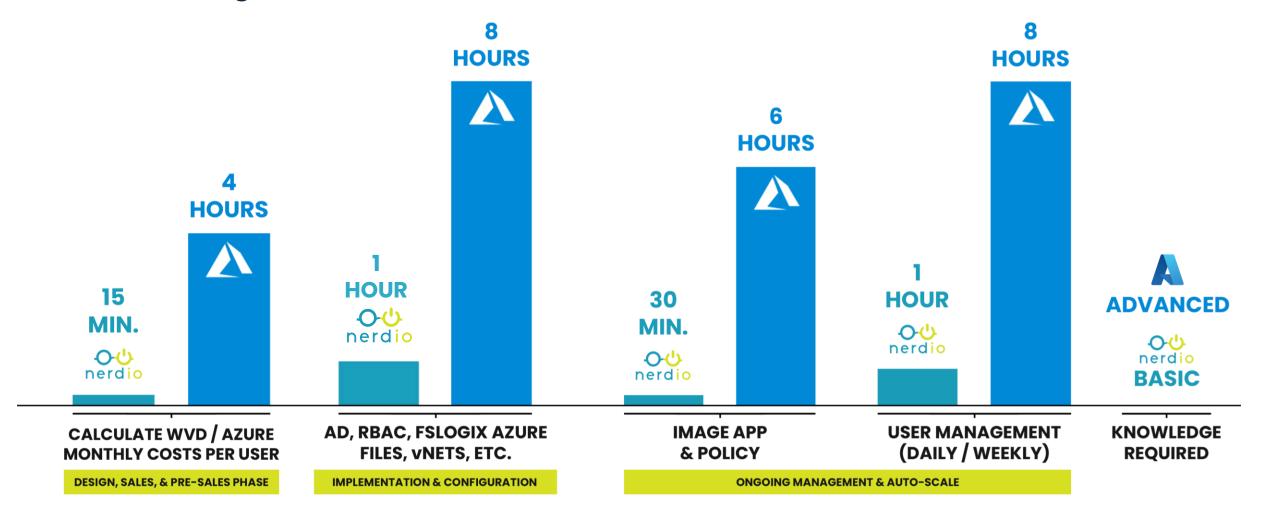
Intune Settings Baselines

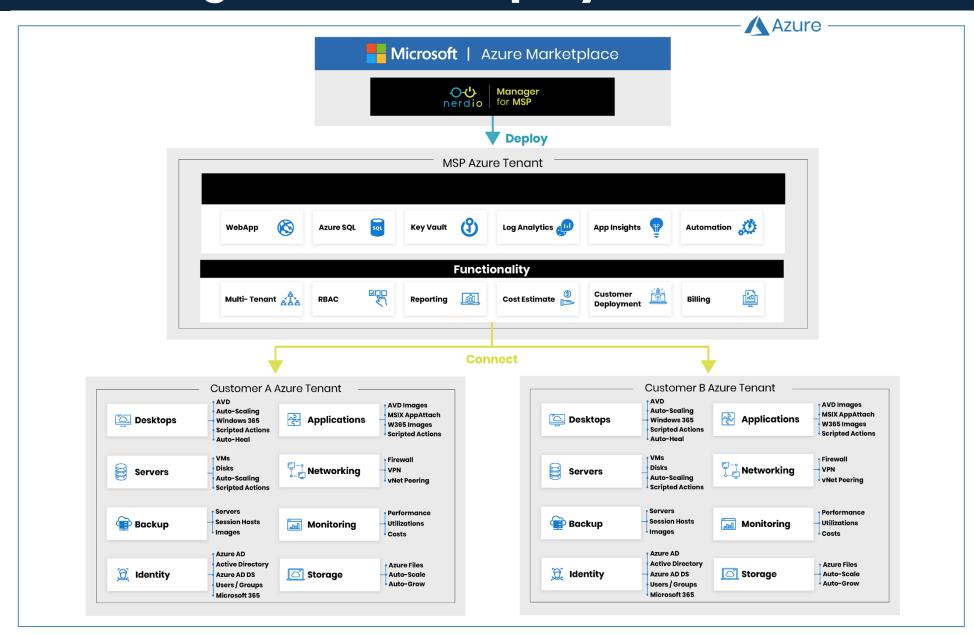Multi-Tenant Microsoft Management

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Time savings comparison
Nerdio Manager for MSP vs Microsoft Azure Native

15 MIN. nerdio

4 HOURS

1 HOUR nerdio

8 HOURS

30 MIN. nerdio

6 HOURS

1 HOUR nerdio

8 HOURS

ADVANCED nerdio **BASIC**

CALCULATE WVD / AZURE MONTHLY COSTS PER USER

AD, RBAC, FSLOGIX AZURE FILES, vNETS, ETC.

IMAGE APP & POLICY

USER MANAGEMENT (DAILY / WEEKLY)

KNOWLEDGE REQUIRED

DESIGN, SALES, & PRE-SALES PHASE

IMPLEMENTATION & CONFIGURATION

ONGOING MANAGEMENT & AUTO-SCALE

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Nerdio Manager for MSP deployment architecture

Azure

Microsoft | Azure Marketplace

nerdio | Manager for MSP

↓ **Deploy**

MSP Azure Tenant

| WebApp | Azure SQL | Key Vault | Log Analytics | App Insights | Automation |

Functionality

| Multi-Tenant | RBAC | Reporting | Cost Estimate | Customer Deployment | Billing |

Connect

Customer A Azure Tenant

Desktops
- AVD
- Auto-Scaling
- Windows 365
- Scripted Actions
- Auto-Heal

Applications
- AVD Images
- MSIX AppAttach
- W365 Images
- Scripted Actions

Servers
- VMs
- Disks
- Auto-Scaling
- Scripted Actions

Networking
- Firewall
- VPN
- vNet Peering

Backup
- Servers
- Session Hosts
- Images

Monitoring
- Performance
- Utilizations
- Costs

Identity
- Azure AD
- Active Directory
- Azure AD DS
- Users / Groups
- Microsoft 365

Storage
- Azure Files
- Auto-Scale
- Auto-Grow

Customer B Azure Tenant

Desktops
- AVD
- Auto-Scaling
- Windows 365
- Scripted Actions
- Auto-Heal

Applications
- AVD Images
- MSIX AppAttach
- W365 Images
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- Firewall
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Monitoring
- Performance
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Identity
- Azure AD
- Active Directory
- Azure AD DS
- Users / Groups
- Microsoft 365

Storage
- Azure Files
- Auto-Scale
- Auto-Grow

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WHY MSPs CHOOSE NMM?

BENEFITS

EASE OF AVD DEPLOYMENT AND MANAGEMENT

COST OPTIMIZATION WITH AUTO-SCALING

SIMPLE & INTUITIVE MULTI-TENANT INTERFACE

WHAT MSPs SAY

"By using Nerdio we were **able to shave days off an AVD environment setup** and also **reduce the amount of time** we have to spent managing and maintaining the environment as the automation processes do a lot for us."

"Nerdio has been a game changer for our organization. The platform is user friendly and has reduced the time our engineers take to deploy any Azure workload. From 3 to 5 users to hundreds of users in very little time. **Even my three year old knows how to use Azure by utilizing the automation that Nerdio offers.**"

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Any Questions?

Objectives

1. **Understand where we are today.**
   - What's working well?
   - What could be better?

2. **Chart a course forward.**
   - How can we be more efficient?
   - How can we scale?

3. **Start optimizing your business back home.**
   - What can you do today to drive scalable value?
   - How can you prepare for the future?

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The Road Ahead

Foundational MSPs

These are MSPs who...

- Are working to centralize.

- Are automating manual functions.

- Are positioning to scale.

- Are working toward optimization.

Optimized MSPs

These are MSPs who...

- Use centralized golden images.

- Use automations for efficiency.

- Can rapidly take on new customers.

- Continuously improve as they work.

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The Nerdio Optimization Journey

1 2 3 4 5 6 7 8 9 10 11 12

● Foundations   ● Optimizations

The Nerdio Optimization Journey

● Foundations   ● Optimizations

1. Sales Foundations

Implement a packaged sales model.

- What do your core packages offer?

- What things define a consistent discovery process?

- Create a pre-to-post sales handoff process.

Define a Sales
Discovery
practice

1 2 3 4 5 6 7 8 9 10 11 12

The Nerdio Optimization Journey

○ Foundations   ○ Optimizations

2. User Experience Foundations

Create scalable templates around the user experience.

- Configure FSLogix settings for use in host pools in customer accounts.

- Build an RDP Settings Profile to homogenize the user experience.

Configure UX settings

2

1   3   4   5   6   7   8   9   10   11   12

The Nerdio Optimization Journey

Foundations   Optimizations

3. Image Foundations

Build a tool for rapid deployment and easy management.

- Scope per-customer needs for your golden image(s).

- Identify overlap in needs to consolidate.

- Keep images light to simplify and expedite updates and patches.

Create
Desktop Images

3

1   2   4   5   6   7   8   9   10   11   12

The Nerdio Optimization Journey

Foundations   Optimizations
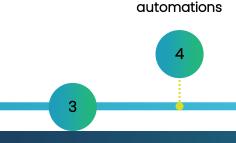
4. Automation Foundations

Create scalable automations for centralized management.

- Inventory and consolidate orphaned scripts, then generalize them.

- Create secure / inherited variables in Nerdio Manager.

- Connect your GitHub repository or build natively in Nerdio Manager.

Implement
automations

4

1   2   3   5   6   7   8   9   10   11   12

The Nerdio Optimization Journey

● Foundations   ● Optimizations

5. Host Pools Foundations

Create host pools and adjust the properties.

- Safeguarding budgets and margins by configuring user thresholds for autoscaling.

- Use triggers to execute Scripted Actions on hosts, simplifying customizations for groups.

Create
Host Pools

5

1   2   3   4   6   7   8   9   10   11   12

The Nerdio Optimization Journey

Foundations   Optimizations
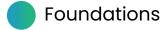
6. Unified Application Management Foundations

Implement automated policy-driven application management.

- Inventory general applications and unique applications.

- Determine what can be automated via Winget.

- Create and connect an in-house Winget repository.

Leverage
UAM

6

1   2   3   4   5   7   8   9   10   11   12

The Nerdio Optimization Journey

Foundations   Optimizations
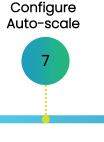
7. Auto-scale Foundations

Setup and configure Auto-scale for host pools.

- Create Auto-scale policies to help save you money.

- Use Auto-scale to auto heal hosts that have issues.

- Use Auto-scale to grow and shrink your host pools as needed.

Configure
Auto-scale

7

1   2   3   4   5   6   8   9   10   11   12

The Nerdio Optimization Journey

Foundations   Optimizations

8.   Extend beyond AVD with Modern Work

9.   Deliver updates via the Foundations Pipeline

10. Add new customers using the Foundations framework

11. Make iterative changes

12. Implement Nerdio API

New to Azure

- Just getting started with Azure internally.
- No Azure customer tenants (yet!).

You have Azure customers, but…

- Golden Images are all one-to-one or not used at all.
- Assets aren't yet scalable / cross-tenant.
- Updates / Patches are applied manually.
- You're doing the same work multiple times for each customer.

Why use the cloud?
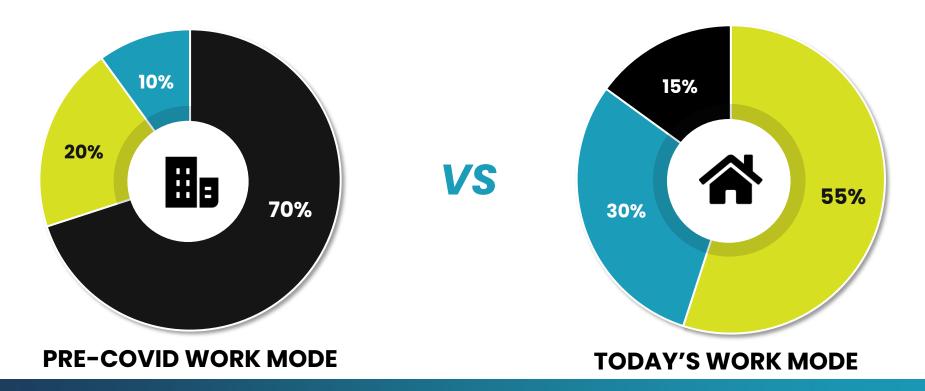
Security

Challenges	Solution

Hard to protect systems and data in a work from home environment.

- MS employs over 8,500 security experts that work 24/7.
- Modern work products keep data secure.
- Built-in security with Conditional Access and 2FA.

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Scalability

Challenges	Solution
On-prem hardware isn't very upgradable or scalable. Which makes it hard to plan and budget, esp with shortages.	• Pay for just the right amount of compute and storage resources. • Easily grow and shrink on the fly. • Easier to budget and strategize for changes.

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Costs

Challenges	Solution

Keeping IT costs low and predictable. On-prem hardware requires continual refreshes and costs $ to support.

- Predictability – confidently budget for IT.
- OPEX.
- No more hardware or real estate costs.
- Fewer servers to pay to support.

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Productivity

Challenges	Solution

Challenges

Need high and consistent performance with accessibility of systems for users from anywhere.

Solution

- Use any different CPU / RAM / Disk combination in Azure to build the right environment.
- Access the environment from any device, anywhere, at any time.

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Availability

Challenges	Solution
Need services to be available. DR / BC is hard and expensive, esp with local threats (fire, power, outages, etc).	• MS enterprise level reliability built-in. • Built-in DR / BC. • Protected data centers & redundant setups.

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Management

Challenges	Solution

Hard to securely manage

multiple remote devices for staff

with no corporate control over

the user experience.

- Allow secure access to remote users on corporate and personal devices.
- Microsoft's Zero Trust rights help to keep the experience clean and consistent.
- Intune can create policies for applications, device settings and more.

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Support

Challenges	Solution

Hard to support with technology changes, employee turnover, and specialized staff.

- Easier to stay up to date on AVD and Intune with Nerdio.
- Easier to learn and train using Nerdio -less technician expertise needed.
- Less staff needed with the automation, scripting and tools built into NMM.
- Fewer truck rolls

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Any Questions?

Why Azure?

TRADITIONAL
DATACENTERS

1
- Rent a rack at your local datacenter.
- Buy hardware to mount to your racks.

2
- You fully manage your own rack.
- Replace hardware and manage maintenance windows and downtime.
- You build your own resiliency, backup and DR.

3
- If you need new hardware, you are responsible for procuring it, setting it up and planning around cutting over.
- You maintain and patch your own networking gear and hypervisors.

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AZURE
REGIONS

1

65+ Regions in Azure Globally

- Underwater fiber connecting all regions.
- Most regions have 3 or more datacenters.
- More datacenters than AWS and Google combined.

2

Microsoft Security

- Over 8500 security professionals work to secure Azure infrastructure.
- Shared Responsibility Model.

3

We already use Azure every day!

- M365 and Exchange
- XBOX Online
- Teams
- ChatGPT

Azure Datacenter Region North Europe Dublin

DB3,4,5

Future Campus works

DUB 07

DUB 08

DUB 06
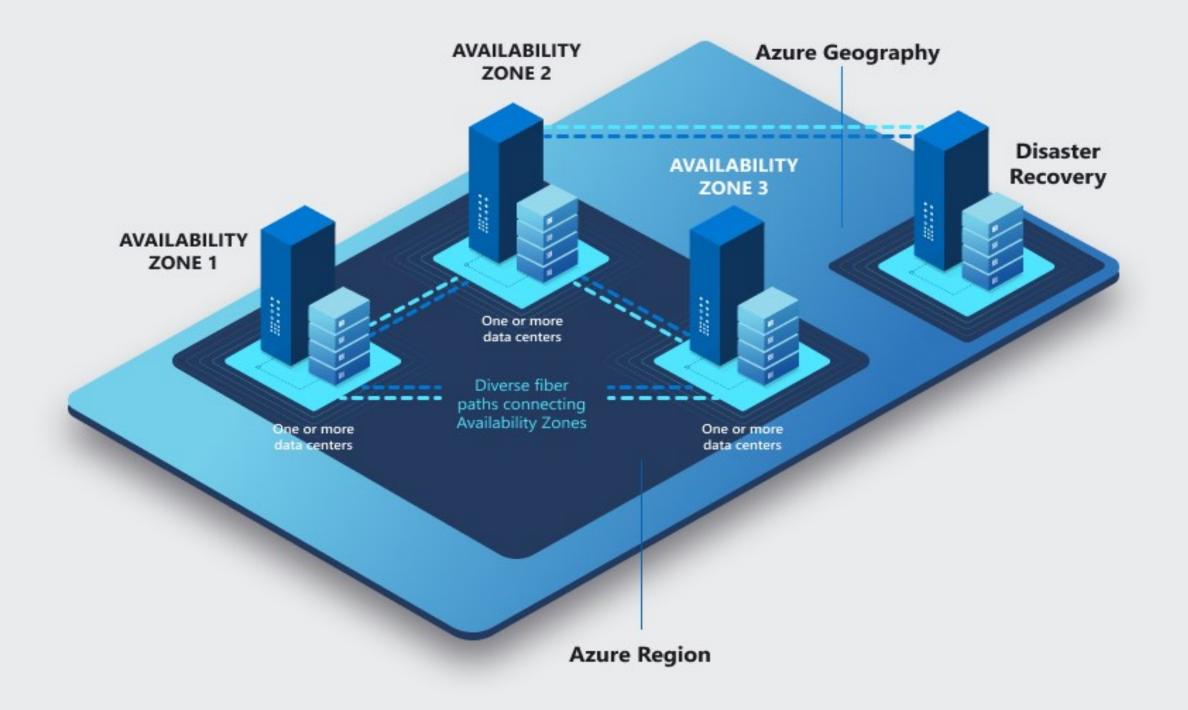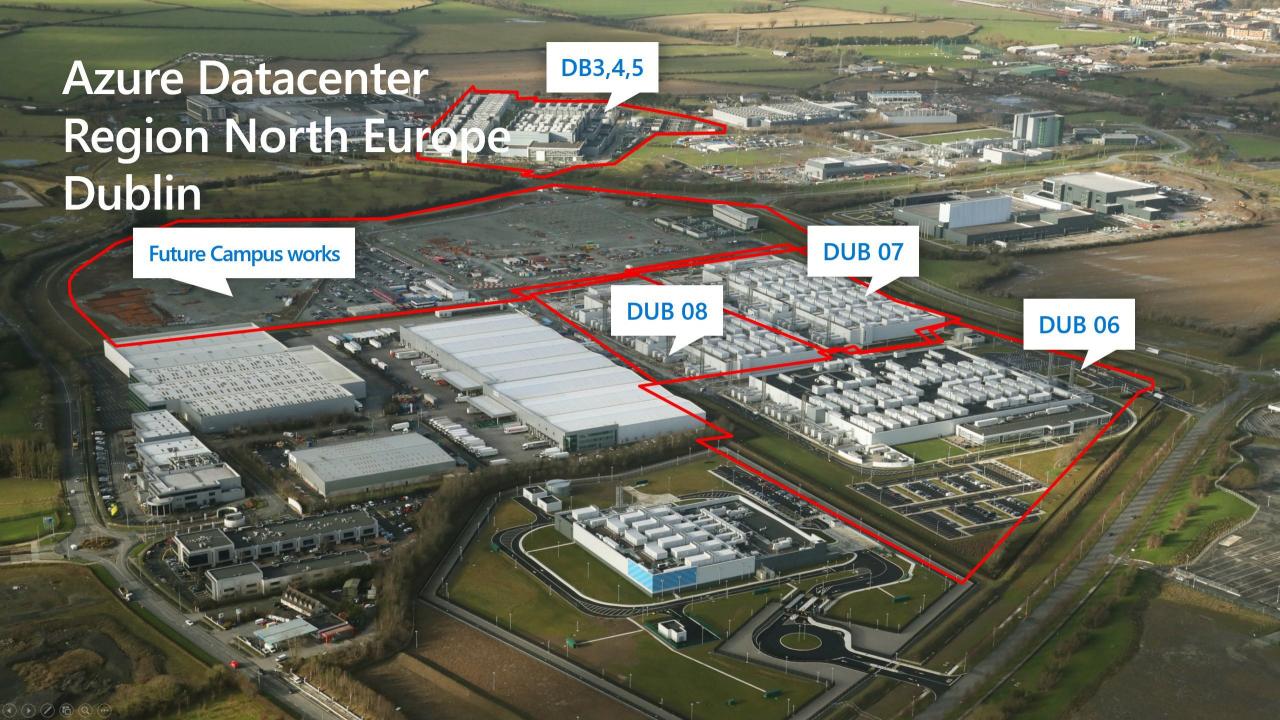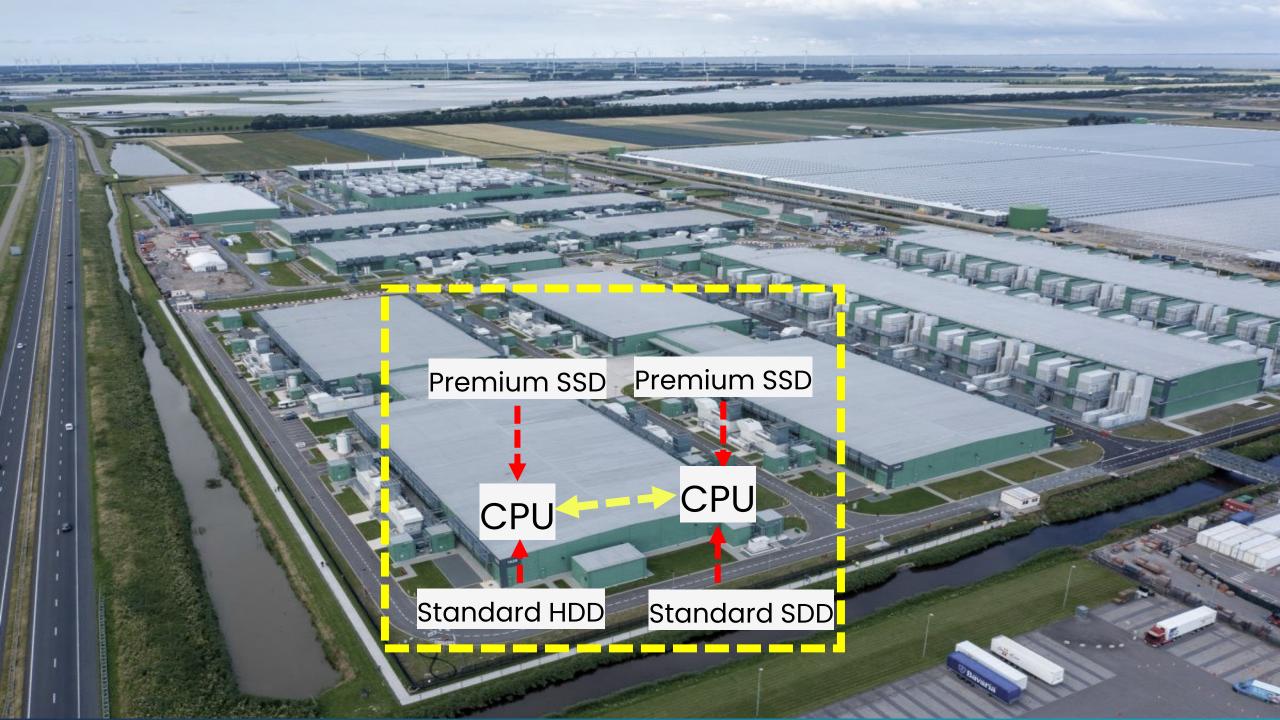
THE #1 CAUSE FOR PERFORMANCE ISSUES IN AZURE ARE IOPS / LATENCY RELATED!

Local RAM

Local Storage

Local CPU

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Why Azure over other cloud solutions?

Your Customers are *already* using Microsoft

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Any Questions?

Pricing fundamentals

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3 Important Topics

We will cover 3 important topics that relate to pricing and quoting the cloud.

Azure Resources

You need to understand the various VMs, disks, and options.

Margins

Margin optimization is important for you and your client to save on costs.

Pricing

Understanding how to price is key to a successful cloud rollout.

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Azure Infrastructure

Before being able to quote or price an Azure environment,

you need to understand the nuance of Azure resources.

VM Series – Families

A-Series, Bs-Series, D-Series, Dp-Series, E-Series, Ep_Series, F-Series, G-Series, H-Series, Ls-Series, M Series, Mv2-Series, NC-Series, ND-Series, NG-Series, NV-series

Bs	**Burstable**	2C|4GB, 2C|8GB, 4C|16GB, 8C|32GB About 56% Cheaper than D-Series, have threshold and builds credits
D	**Standard**	2C|8GB, 4C|16GB, 8C|32GB, 16C|64GB … Balanced CPU and RAM
E	**Memory**	2C|16GB, 4C|32GB, 8C|64GB, 16C|128GB … 8x More RAM than CPU. About 15% More Expensive than D
Dl/F	**CPU**	4C|8GB, 8C|16GB, 16C|32GB, 32C|64GB … 2x More CPU ratio than RAM. F series machines have non virtual cores
N	**GPU**	6C|55GB|4GB GPU, 12C|110GB|8GB GPU, 18C|220GB|16GB GPU, 36C|440GB|24GB GPU … AMD CPU, nVidia RTX GPU

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Which N sub-family do I choose?

Family	Workloads	Series List
NC-family	Compute-intensive Graphics-intensive Visualization	NC-series NCads_H100_v5-series NCCads_H100_v5-series NCv2-series NCv3-series NCasT4_v3-series NC_A100_v4-series
ND-family	Large memory compute-intensive Large memory graphics-intensive Large memory visualization	ND_MI300X_v5-series ND-H100-v5-series NDm_A100_v4-series ND_A100_v4-series
NG-family	Virtual Desktop (VDI) Cloud gaming	NGads V620-series
NV-family	Virtual desktop (VDI) Single-precision compute Video encoding and rendering	NV-series NVv3-series NVv4-series NVadsA10_v5-series Previous-gen NV-family
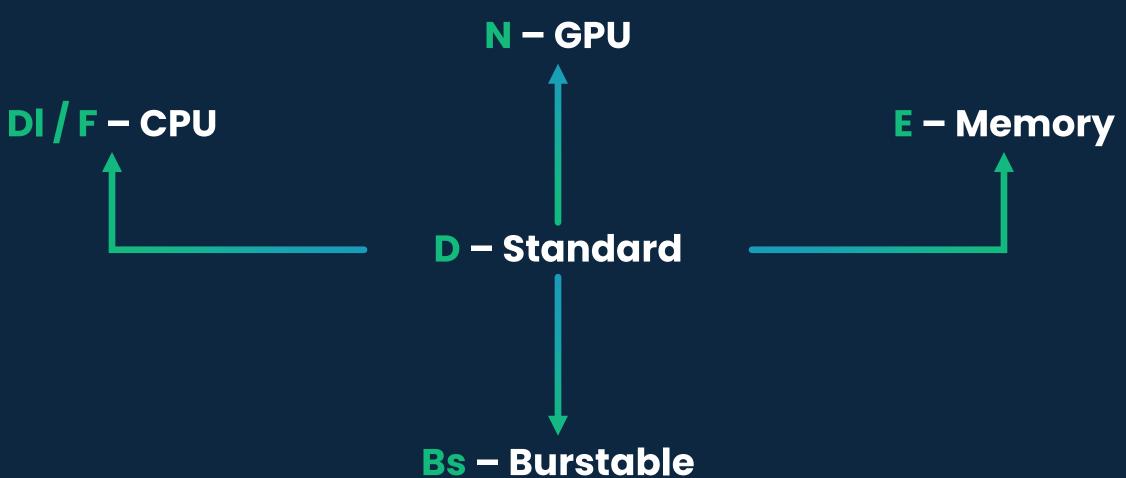
N-series has four different offerings aimed at specific workloads, offering single, multiple, or fractional GPUs:

• **'NC' sub-family is designed for compute-intensive workloads, such as AI and machine learning model training, high-performance computing (HPC), and graphics-intensive applications. (full GPU cards)**

• 'ND' sub-family is designed for deep learning, AI research, and high-performance computing tasks that benefit from powerful GPU acceleration.

• 'NG' sub-family is designed for cloud gaming and remote desktop applications.

• **'NV' sub-family is designed for graphics-intensive applications such as graphics rendering, simulation, and virtual desktops. (shared card until NV36 – exclusive access)**

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VM Series — Families

N – GPU

Dl / F – CPU

E – Memory

D – Standard

Bs – Burstable

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How To Read A VM Sku

D16ads_v6   *D16as_v4*   *E8-4ads_v5*

[VM Family] + [# of Cores] + [Attributes] + [Gen Version]

					2 8 32		a d s -#		v3 v4 v5 v6
B	D	E	Dl/F	Nv	4 16 64				

VM Family Legend

B – Burstable

D - Standard

E – Memory

Dl/F - CPU

N - GPU

Attributes Legend

d - Has a local temp disk, used for EOSD, Page File, SQL Logs, etc

a - AMD CPU; AMD's have higher ACU than Intel

s - Compatible with Premium SSDs

-# - CPU constraint VM; ideal for SQL workloads where CPU is not needed but high memory is required. Avoid paying high SQL licensing cost based on lower number of vCPUs

Gen Version

v3 –Haswell Q3'15, Broadwell Q4'16
Skylake Q1'18, Cascade Q2'19, Icelake Q2'21

v4 –Cascade Q219, Icelake Q221,
EPYC 2 Q3'19 EPYC3 Q1'21

v5 – Icelake Q2'22, Q1'21

v6 – EPYC 4 Genoa Q4'23

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POP Quiz!

D4_v5   E8as_v4   D2s_v3

VM Family Legend

B – Burstable

D - Standard

E – Memory

Dl/F - CPU

Nv - GPU

Attributes Legend

d - Has a local temp disk, used for EOSD, Page File, SQL Logs, etc

a - AMD CPU; AMD's have higher ACU than Intel

s - Compatible with Premium SSDs

-# - CPU constraint VM; ideal for SQL workloads where CPU is not needed but high memory is required. Avoid paying high SQL licensing cost based on lower number of vCPUs

Gen Version

v3 –Haswell Q3'15, Broadwell Q4'16
Skylake Q1'18, Cascade Q2'19, Icelake Q2'21

v4 –Cascade Q219, Icelake Q221,
EPYC 2 Q3'19 EPYC3 Q1'21

v5 – Icelake Q2'22, Q1'21

v6 – EPYC 4 Genoa Q4'23

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Why use the newer gen VMs?

CPU Selection matters.

- Even if you are utilizing an instance from the same underlying CPU manufacturer .

Example:

- Going from an Intel v4 VM in Azure to a v5 VM, can provide up to <u>24%</u> better performance in overall performance on Microsoft applications including Teams.

- In addition, you can go from 32 to 36 users on a single VM; <u>12%</u> more AVD users.

Think about the performance gains if you or your client were running on v3 and just moved to v6, the performance gains would be significant. In most cases gen to gen improvements are 25-30% range.

More often than not, newer VM's are the same cost or pennies difference. But offer better price & performance that often lowers your overall cost.

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Pay Attention to IOPS!

Your workload is only as fast as your **lowest** common denominator!

VM Series Family

B2ms | 2vCPU | 8GB RAM | 1920IOPS/22.5MB/s | 4000IOPS/100MB/s max burst

D2s_v3 | 2vCPU | 8GB RAM | 3200IOPS/48MB/s | 4000IOPS/200MB/s max burst

D2s_v5 | 2vCPU | 8GB RAM | 3750IOPS/85MB/s | 10000IOPS/1200MB/s max burst

D4s_v5 | 4vCPU | 16GB RAM | 6400IOPS/145MB/s | 20000IOPS/1200MB/s max burst

D8s_v5 | 8vCPU | 32GB RAM | 12800IOPS/290MB/s | 20000IOPS/1200MB/s max burst

Storage

Disk Size	IOPS (Burst)	Throughput (Burst)	Price
P10 128 GB	500 (3,500)	100 MBps (170 MBps)	$19.71
P15 256 GB	1100 (3,500)	125 MBps (170 MBps)	$38.02
P20 512 GB	2300 (3,500)	150 MBps (170 MBps)	$73.22
P30 1 TB	5000 (30,000)	200 MBps (1000 MBps)	$135.17
P40 2 TB	7500 (30,000)	250 MBps (1000 MBps)	$259.05
P50 4 TB	7500 (30,000)	250 MBps (1000 MBps)	$495.57
P60 8 TB	16000 (30,000)	500 MBps (1000 MBps)	$946.08

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VM Selection

B series

Light workloads without constant use. Best for Domain Controllers, when not using AAD or Azure AD DS

D Series

Standard Azure VM with a 4 GB RAM to 1 vCPU ratio. Typically for File servers & app servers

E Series

Standard Azure VM with a 8 GB RAM to 1 vCPU ratio. Best for high memory usage workloads & AVD session hosts

N Series

GPU enabled VMs in Azure. Best for high graphics rendering workloads like Revit and AutoCAD

VM Size Averages***

Domain Controller (VM)
- 1-40 users = B2ms
- 40-75 users = D2sv5
- 75-200 users = D4sv5

File Server
- 1-15 users = D2sv5
- 15-30 users = D4sv5
- 30-60 users = D8sv5
- 60-100+ users = D16sv5

AVD Pools
- 0-8 Users = E4sv5 or E4asv5
- 8-15 users = E8sv5 or E8asv5
- 15-25 users = E16sv5 or E16asv5
- 25-40 users = 2x E16sv5 or 2x E16asv5
- 40-60 users = 3x E16sv5 or 3x E16asv5

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Active Directory in Azure

What is Microsoft Identity?

Identity for MSFT is their Zero Trust model allowing and/or denying users access to resources based on who they are.

1. **Entra ID (AAD)**

   - This is the free service that is included with 365 and required for all Azure deployments.

2. **Active Directory Domain Services (AD DS)**

   - This is a server (physical or virtual) running the Active Directory role.

   - The role is free but an MSP must pay for the server components (RAM, CPU, Storage, OS License) and is responsible for backup & support (security, updates, troubleshooting, etc.).

3. **Entra ID Directory Domain Services (AADDS)**

   - This is a serverless version (PaaS) of AD DS, delivered to the MSP as a service from MSFT.

   - MSPs get more granular access control than AAD but do not have to manage a server or AD Connect.

   - This service is only used for servers, and if used, desktop policies are managed with AAD with this method of identity.

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Active Directory Domain Services (VM Domain Controller) — Microsoft Entra Connect — **Entra ID aka Azure AD** — One-Way Sync — **Microsoft Entra Domain Services aka Azure Active Directory Domain Services (AADDS)**

Active Directory Domain Services (VM Domain Controller)

BENEFITS
1. Full Featured Domain Controller
2. Maximum Flexibility, Lowest Cost
3. Multi Premise & Multi Cloud
4. No Migration or New Install of LOB Apps

CONS
1. Need to Patch/Backup/Maintain
2. Still need to deal with Entra Connect

Entra ID aka Azure AD

BENEFITS
1. Free to Use
2. Intune Management
3. Modern Cloud Auth

CONS
1. No Group Policy
2. No Kerberos
3. No Legacy Auth Support
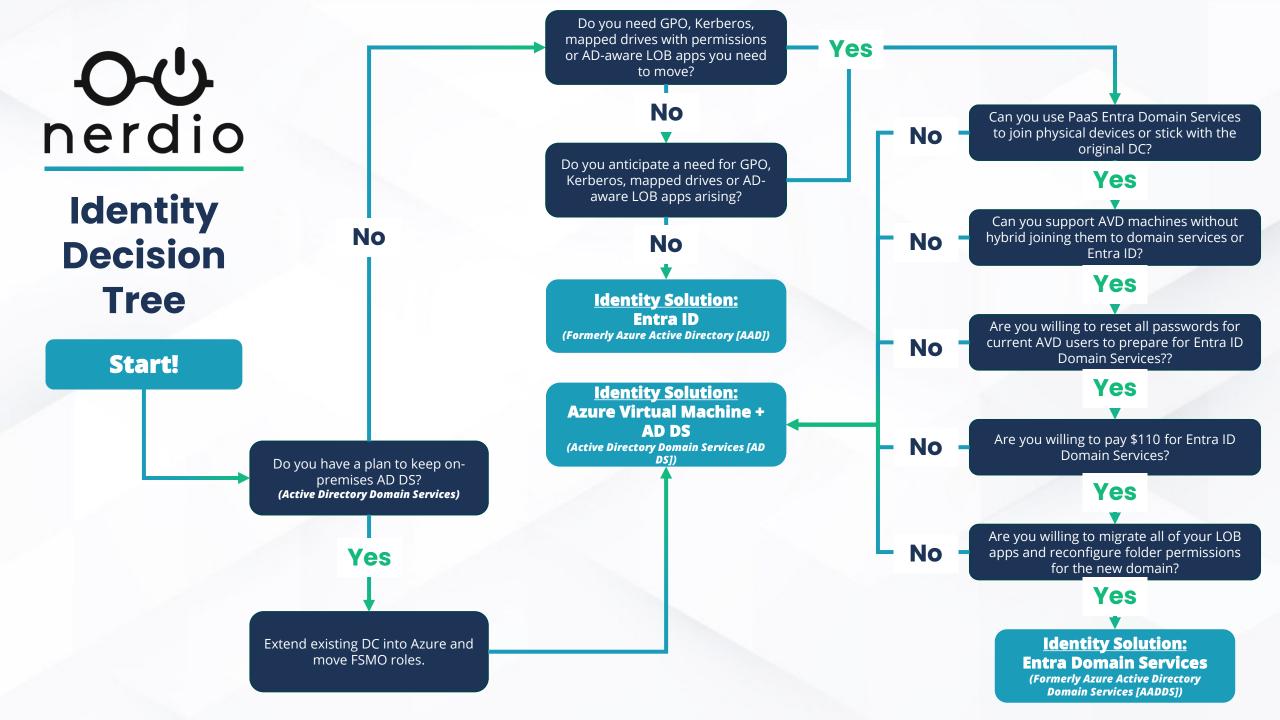
Microsoft Entra Domain Services aka Azure Active Directory Domain Services (AADDS)

BENEFITS
1. Almost Full Featured Controller
2. Managed GPO/Active Directory/DNS
3. MS Managed Replica Sets
4. MS Managed Patching/Backup

CONS
1. Multi-Region can be expensive for SMB
2. Domain Rebuild Required for LOB Apps

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Identity Decision Tree

Start!

Do you need GPO, Kerberos, mapped drives with permissions or AD-aware LOB apps you need to move?

Yes →

No ↓

Do you anticipate a need for GPO, Kerberos, mapped drives or AD-aware LOB apps arising?

No ↓

Identity Solution:
Entra ID
(Formerly Azure Active Directory [AAD])

Identity Solution:
Azure Virtual Machine + AD DS
(Active Directory Domain Services [AD DS])

No

Do you have a plan to keep on-premises AD DS?
(Active Directory Domain Services)

Yes ↓

Extend existing DC into Azure and move FSMO roles.

No

Can you use PaaS Entra Domain Services to join physical devices or stick with the original DC?

Yes ↓

No

Can you support AVD machines without hybrid joining them to domain services or Entra ID?

Yes ↓

No

Are you willing to reset all passwords for current AVD users to prepare for Entra ID Domain Services??

Yes ↓

No

Are you willing to pay $110 for Entra ID Domain Services?

Yes ↓

No

Are you willing to migrate all of your LOB apps and reconfigure folder permissions for the new domain?

Yes ↓

Identity Solution:
Entra Domain Services
(Formerly Azure Active Directory Domain Services [AADDS])

Margin Optimization

Before building an Azure practice, many MSPs have limited knowledge, causing common pricing mistakes.

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Margin optimization methods

1. **BECOME A CSP RESELLER**

   • Discounts, rebates, incentives.

2. **USE COMPUTE RESERVATIONS**

   • Azure Reserved Instances.

3. **LEVERAGE AZURE HYBRID USAGE**

   • CSP Software Subscriptions.

4. **AUTO-SCALE WORKLOADS**

   • Resize or turn off when not in use.

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What are the typical Azure Virtual Desktop costs?
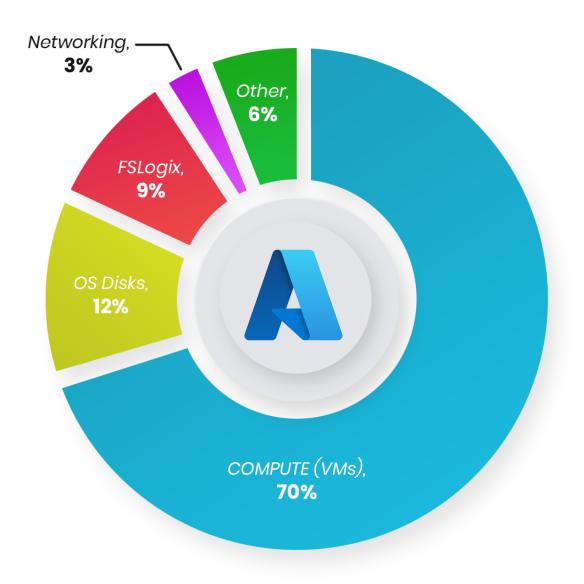
COMPUTE – 70%

OS DISKS STORAGE – 12%

FSLOGIX STORAGE – 9%

NETWORKING – 3%

OTHER – 6%

Networking, 3%

Other, 6%

FSLogix, 9%

OS Disks, 12%

COMPUTE (VMs), 70%

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MARGIN OPTIMIZATION

Azure Reservations (aka Reserved Instances)

Margin impact: increase of 20%-57% of Azure **compute** consumption

- ✓ Stops the base compute meter.

- ✓ 12- and 36-month terms.

- ✓ **Monthly** payments with no up-front payment.

- ✓ Cancel/return or reassign.
  Cancellation fee: 12% (Not enforced)

- ✓ Region and VM family specific.

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HERE'S THE MATH ON CANCELLATIONS

Cancel, exchange, and refund policies

Azure has the following policies for cancellations, exchanges, and refunds.

Exchange policies

- You can return multiple existing reservations to purchase one new reservation of the same type. You can't exchange reservations of one type for another. For example, you can't return a VM reservation to purchase a SQL reservation. You can change a reservation property such as family, series, version, SKU, region, quantity, and term with an exchange.
- Only reservation owners can process an exchange. Learn how to Add or change users who can manage a reservation.
- An exchange is processed as a refund and a repurchase – different transactions are created for the cancellation and the new reservation purchase. The prorated reservation amount is refunded for the reservations that's traded-in. You're charged fully for the new purchase. The prorated reservation amount is the daily prorated residual value of the reservation being returned.
- You can exchange or refund reservations even if the enterprise agreement used to purchase the reservation is expired and was renewed as a new agreement.
- The new reservation's lifetime commitment should equal or be greater than the returned reservation's remaining commitment. Example: for a three-year reservation that's $100 per month and exchanged after the 18th payment, the new reservation's lifetime commitment should be $1,800 or more (paid monthly or upfront).
- The new reservation purchased as part of exchange has a new term starting from the time of exchange.
- There's no penalty or annual limits for exchanges.

Refund policies

- We're currently not charging an early termination fee, but in the future there might be a 12% early termination fee for cancellations.
- The total canceled commitment can't exceed 50,000 USD in a 12-month rolling window for a billing profile or

Filter by title

Azure Reservations documentation

Overview
   What are Azure Reservations?
Concepts
How-to guides
   Determine what to purchase
   Buy reservations
   Permissions, View and Manage
   Utilization and cost reports
   Exchange and refund
      Exchange and refund reservations
   Renew reservations
   Troubleshoot
Reference
Resources

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HERE'S THE MATH ON CANCELLATIONS

If Microsoft were to enforce the 12% Penalty fee of remainder

D2as_v4 – 2 Core, 8GB RAM Virtual Machine

	1 months	2 months	3 months	4 months	5 months	…36 months
PAYG	$ 70.08	$ 140.16	$ 210.24	$ 280.32	$ 350.40	$ 2,522.88
3 Year RI	$ 26.89	$ 53.78	$ 80.67	$ 107.56	$ 134.45	$ 968.04
Money Saved	$ 43.19	$ 86.38	**$ 129.57**	$ 172.76	$ 215.95	$ 1,554.84
Value of 3 Year RI	$ 968.04	$ 941.15	$ 914.26	$ 887.37	$ 860.48	$ 26.89
12% Penalty	$ 116.16	$ 112.94	**$ 109.71**	$ 106.48	$ 103.26	$ 3.23

✓ The total amount of money saved by month 3 by Reserving that machine is **$129.57**.

✓ At month 3 – Penalty is **$109.71**, I've already saved enough to pay off my penalty!

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Margin Optimization (cont)...

Azure Hybrid Benefit

Margin impact: increase of 10%-49% of Azure **compute** consumption

- Stops the OS meter.

- Windows Server Sold in 8-core packs, SQL in 2-core packs.

- **Upfront** payments for SQL & Upfront for Windows Server.

- Monthly CSP Software Subscriptions coming soon.

- CSP Perpetual licenses **DO NOT** qualify for AHB.

- Unlike Reservations – There are no refunds for licenses purchased.

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Auto-scaling for Host Pools

Nerdio Auto-scaling
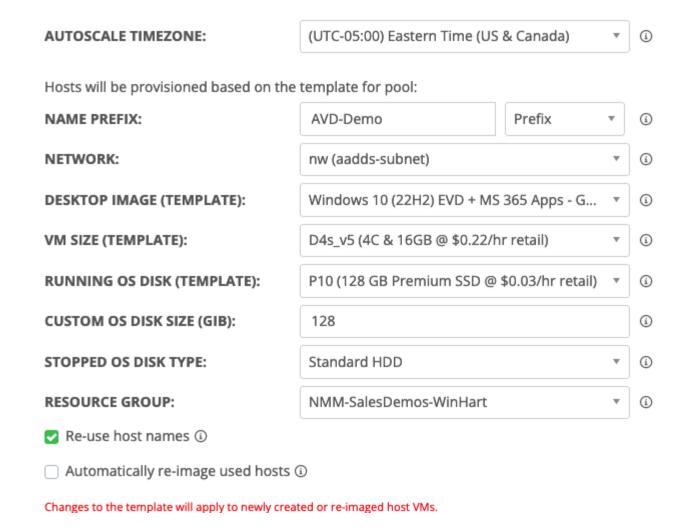
Margin impact: reduce overall Pay-g cost by stopping VMs when not in use.

- ✓ Allows host pools to grow to serve current demand.

- ✓ Shrink when additional capacity is not needed.

- ✓ Auto-heal broken hosts.

- ✓ Save costs by switching from SSD to HDD

- ✓ Ability to run alternate schedules.

- ✓ Customized scaling logic for host pools.
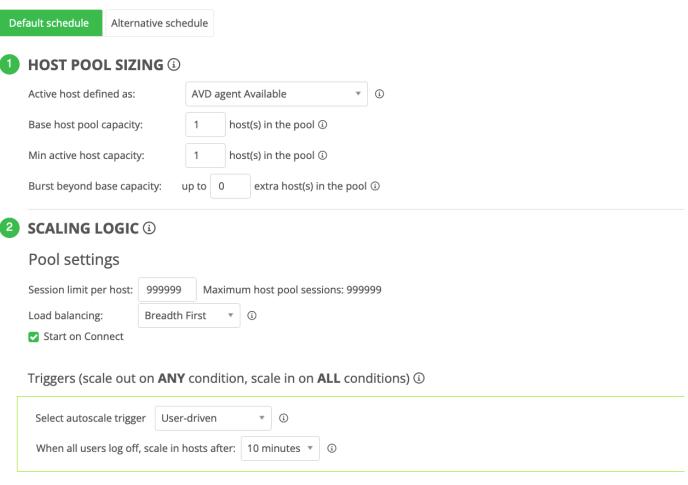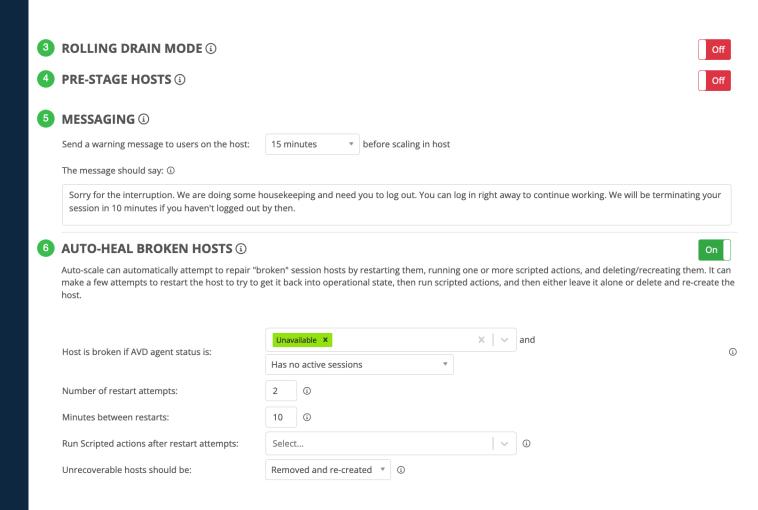
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Considerations when pricing

You need to be able to translate what client has and needs, to the Microsoft products and solutions - **not all clients are fits for AVD.**

- Some clients don't need infrastructure and can do just fine with SharePoint / OneDrive / Teams / Entra / Intune / Defender.

- The cool thing about NMM is that you can still use it to manage Azure / M365 clients without AVD.

- Augment existing tools by using NMM + Intune, Defender, App Management and Remote Control.

Considerations when pricing

01   **Incorrect Identity Management**
Identity management has a huge impact on pricing, especially in the SMB space.

02   **Over-Spec**
Over-spec and reap the rewards.

03   **Instance Sizes**
Selecting the correct instance size for the correct workload.

04   **Licensing**
Selecting the correct license(s) and method of purchase.

05   **Fear of Reserved Instances**
Worrying about lock-in and early termination fees.

The top 5 pricing mistakes

MSPs make, whether they are

brand new or Azure veterans.

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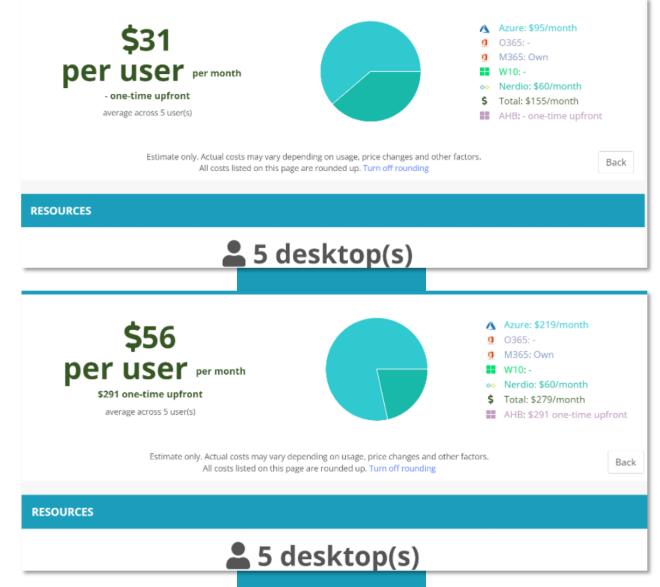
Customer scenario

Let's build this scenario in the cost estimator!

- 6 user CPA firm on the east coast
- Work long hours during tax season
- Two ageing on-prem servers– DC & App server (QuickBooks & File Storage)
  - Minimal resources needed for app, 2 cores 8GB RAM and 10GB storage + 300 GB file storage in use
- Microsoft 365 Business Premium
  - Some files already in SharePoint & OneDrive

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DEDICATED VS. POOLED

Assume Pooled Unless...

Local Admin Access

User needs/wants to install their own applications

Resource Hog

Never enough compute

Application Restriction

Rarely certain applications will not work for Win10 multi-session (rare)

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Assume Regular Hosts Unless...

AUTOCAD

GPU desktops are great for Autocad and other engineering apps

ADOBE CS

If you have users who run Adobe CS, GPU may be best

High-end VIDEO / STREAMING

If high-end video and streaming is needed, try GPU based machines for best results
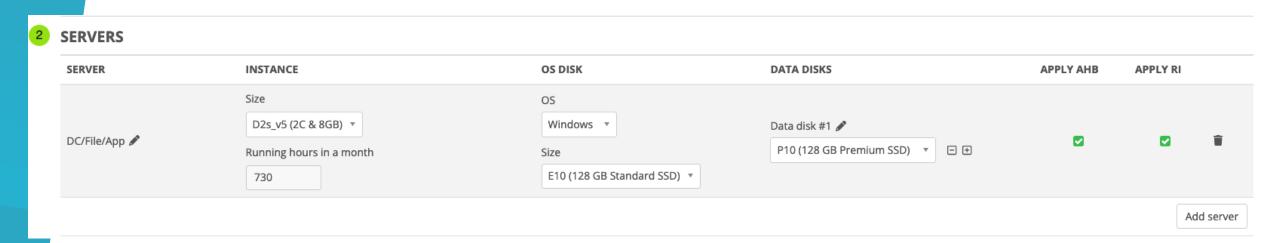
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Nerdio cost estimator

B-SERIES

Light workloads without constant use. **Best for DCs when not using Azure AD DS or AAD**

E-SERIES

Standard Azure VM with a 8 GB RAM to 1 vCPU ratio. Best for high memory usage workloads & AVD session hosts

D-SERIES

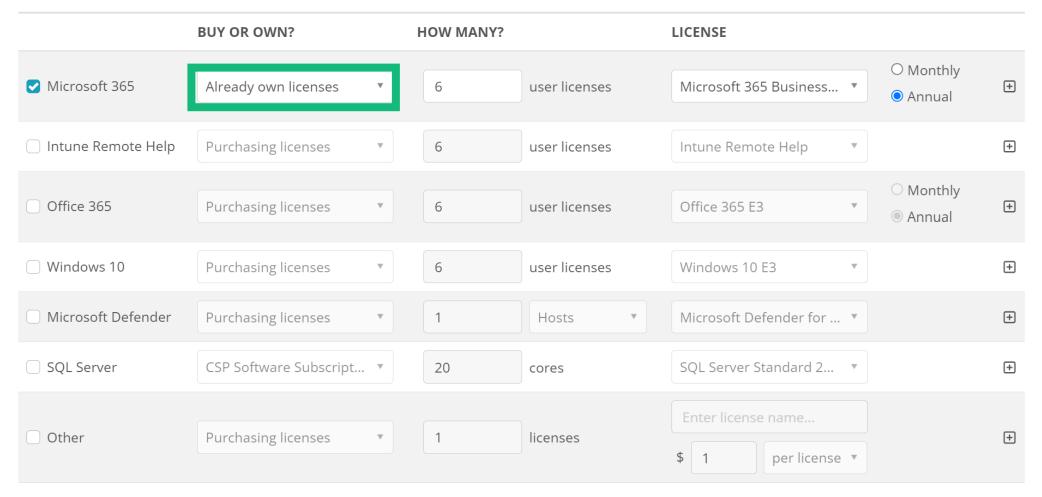Standard Azure VM with a 4 GB RAM to 1 vCPU ratio. Best for File servers & app servers

N-SERIES

GPU enabled VMs in Azure. Best for high graphics rendering workloads like Revit and AutoCAD
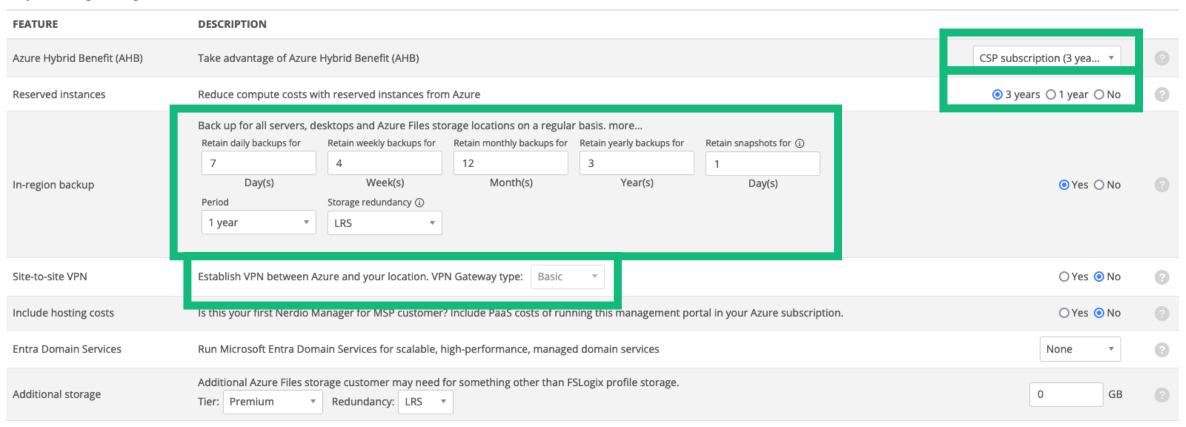
Nerdio cost estimator

③ **Licensing options**

Select the right Microsoft 365 and/or Office 365 Windows 10 licenses for running a virtual desktop environment in Azure. ❓

	BUY OR OWN?	HOW MANY?		LICENSE	
☑ Microsoft 365	Already own licenses ▼	6	user licenses	Microsoft 365 Business... ▼	○ Monthly ● Annual ⊞
☐ Intune Remote Help	Purchasing licenses ▼	6	user licenses	Intune Remote Help ▼	⊞
☐ Office 365	Purchasing licenses ▼	6	user licenses	Office 365 E3 ▼	○ Monthly ◉ Annual ⊞
☐ Windows 10	Purchasing licenses ▼	6	user licenses	Windows 10 E3 ▼	⊞
☐ Microsoft Defender	Purchasing licenses ▼	1	Hosts ▼	Microsoft Defender for ... ▼	⊞
☐ SQL Server	CSP Software Subscript... ▼	20	cores	SQL Server Standard 2... ▼	⊞
☐ Other	Purchasing licenses ▼	1	licenses	Enter license name... $ 1 per license ▼	⊞

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Nerdio cost estimator

OTHER FEATURES

Will you be taking advantage of these other features?

FEATURE	DESCRIPTION	
Azure Hybrid Benefit (AHB)	Take advantage of Azure Hybrid Benefit (AHB)	CSP subscription (3 yea... ▾
Reserved instances	Reduce compute costs with reserved instances from Azure	⦿ 3 years ○ 1 year ○ No

In-region backup — Back up for all servers, desktops and Azure Files storage locations on a regular basis. more...

Retain daily backups for	Retain weekly backups for	Retain monthly backups for	Retain yearly backups for	Retain snapshots for ⓘ
7	4	12	3	1
Day(s)	Week(s)	Month(s)	Year(s)	Day(s)

Period
1 year ▾

Storage redundancy ⓘ
LRS ▾

⦿ Yes ○ No

Site-to-site VPN	Establish VPN between Azure and your location. VPN Gateway type: [Basic ▾]	○ Yes ⦿ No
Include hosting costs	Is this your first Nerdio Manager for MSP customer? Include PaaS costs of running this management portal in your Azure subscription.	○ Yes ⦿ No
Entra Domain Services	Run Microsoft Entra Domain Services for scalable, high-performance, managed domain services	None ▾
Additional storage	Additional Azure Files storage customer may need for something other than FSLogix profile storage. Tier: [Premium ▾] Redundancy: [LRS ▾]	0 GB

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Nerdio cost estimator

COST ASSUMPTIONS

There are a handful of cost assumptions we make in our calculations. Pricing is based on East US region prices. Feel free to change any of the following assumptions.

ITEM	DESCRIPTION			
FSLogix Profile Size	Average size of users' FSLogix Profile Container file on Azure Files Premium storage. Redundancy: LRS	Medium (10GB) ▾	10	GB per use
Bandwidth	Estimated bandwidth usage for RDP connection, per-user-per-month. Typically it's $1.00 for regular users and it's $3.00 for graphically intensive users.	$	1	per user per month
Storage operations	Estimated standard storage usage per GB. For Standard storage only (S and E), does not apply to Premium (P).	$	0.03	per GB
Log Analytics Workspace	Store app insights and AVD diagnostics information. 5 GB of monthly data ingestion is free, up to 90 days of retention.		5	GB data ingestion
			30	days retention

DISCOUNTS

Optionally, calculate discounts as part of your estimations.

ITEM	DESCRIPTION		
Azure CSP discount	Discount available to you as a Microsoft partner for Azure resources.	0	%
CSP software discount	Discount available to you as a Microsoft partner for Microsoft 365/Office 365, Intune Remote Help, Windows desktop, SQL Server and Microsoft Defender licenses	0	%
Windows 365 software discount	Discount available to you as a Microsoft partner for Windows 365 licenses	0	%
Azure CSP discount for RI	Discount available to you as a Microsoft partner for Reserved Instances.	0	%
Custom discount ✏	Apply a % ▾ discount to the estimated total.	0	%
Tier	Please select your Nerdio Partnerd Program tier to provide the corresponding NMM license pricing. Or select a different tier if you're planning on changing your Partnerd Program tier soon to estimate with adjusted license pricing.	Standard ▾	
Show discounts on results	Show discounts on the results page or hide if you are sharing the estimate with your customer.	○ Yes ◉ No	

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Nerdio cost estimator

7 MARKUP

Optionally, add your markup to the cost estimate. Markup will be tacked on to the per-user per-month cost.

NAME	DESCRIPTION		
Azure	Costs of all Azure resources, such as compute, disks, etc., will be increased by this percentage amount	0 %	?
M365	Microsoft 365 license costs will be increased by this markup percentage	0 %	?
Nerdio	Nerdio per-user per-month license costs will be increased by this markup percentage	0 %	?
Show Markup on results	Show the markup on the results page or hide the markup if you are sharing the estimate with your customer.	○ Yes ● No	?

Nerdio cost estimator

COST ESTIMATES ✏️

$58 per user *per month*

average across 6 users

Estimate only. Actual costs may vary depending on usage, price changes and other factors. All costs listed on this page are rounded up. Turn off rounding

Back

- ▲ Azure: $276/month
- 🔲 O365: -
- 🔲 M365: Own
- 🎧 Intune Remote Help: -
- 🔲 W10: -
- ⚙ Nerdio Manager for MSP: $72/month
- $ Total: $348/month

RESOURCES

🔲 6 Pooled desktops

Host pool setup – One large VM vs multiple smaller VMs

It's generally better to use more smaller VMs, than a few large VMs because it is easier to manage and maintain.

- Cost - smaller VMs are less expensive to run than larger VMs

- Resource conservation - it is easier to shut down unused VMs to conserve resources (Auto-scale)

- Performance - smaller VMs CAN help eliminate bottlenecks or performance issues versus fewer larger VMs

- Load balancing - it is easier to distribute users evenly across VMs

- Redundancy - if something goes wrong on 1, or you need to perform maintenance, you have the others available

✓ Backup retention standards
✓ File servers vs Azure File Shares
✓ Azure DC vs Entra DS
✓ FSLogix profile size

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Choices **YOU** have to make

Azure DC vs Entra DS – which one is best for most environments?

It's generally better to use a Domain Controller in Azure vs Entra Domain Services – limitations of Entra DS below:

- Cannot use Entra DS with MSIX App attach nor App attach V2

- You can NOW manage local and cloud Domain Controllers with Nerdio Manager (AD User Management)

- Easier to migrate to the cloud if there is an existing Domain Controller

- No back-out options (must start from scratch if you must move away /new domain)

- No Enterprise or Domain Admin account (cannot use smart card authentication)

- No Intune enrollment (can be registered but not auto enrolled)

- No support for Entra hybrid joined devices (must move local devices to Entra DS domain if used)

- Not available over public internet (need VPN)

- Complex DNS configurations for on-premises DS joined devices

- Limited to one-way outbound trust (usually only needed when companies need a two-way trust for M&A)

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Other choices – what will be YOUR MSP standards?

Some of these can be a standard while others might be on a case-by-case basis

- Backup retention settings (daily, weekly, monthly, yearly)
- Backup policies (once per day or every 4 hours)
- Choosing File Servers vs Azure File Shares (for customer data)
- FSLogix profile size (how much will users need and what are their browsing habits?
- RDP profile settings (redirected devices, sound, etc.)

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Any Questions?

Packaging Azure

Resale Models

MSPs choose a wide variety of resale models when starting their Azure practice, but usually settle on these methods.

How MSPs Start

Focus on managed services and NOT Azure.

How MSPs Evolve

Use margin optimization strategies to maximize Azure margin.

How MSPs Win

Deliver a bundled SOLUTON at one price.

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How MSPs start

Focus on your managed services and pass-through Azure costs with minimal margin; how we sold physical infrastructure

The starting–MSP resale model

$ £ €

Why it is helpful

1. Sell like you've always sold (just add line item w/margin)

2. Easier & quicker to get started (no new changes in process)

3. Differentiation from competitors.

4. Easy to understand billing for you and your client.

Keep in mind

1. You will have to be accurate with your infrastructure proposals

2. Be ready for client questions regarding Azure spend

3. Be sure to add SOW or cloud agreement on top of existing MSP

4. Optimizing Azure costs doesn't benefit you much

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Packaging

BUILDING
YOUR PROPOSAL

Add Azure cost + Azure Markup

Example:

- Azure infrastructure costs = $2000/mo

- Your markup = $300/mo (15%)

Total price for client = $2300/mo

Packaging

UNDERSTANDING YOUR MARGIN

CSP + Markup

Example:

- Azure costs = $2,300/mo

- CSP margin = $180/mo (9%)

- Added markup = $300/mo (15%)

Your Margin = $480/mo

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How MSPs evolve

Maximize margins by selling at MSRP plus some markup, then using RI's, AHB, Auto-Scale, etc. to your advantage

The Evolved – MSP Resale Model

$ £ €

Why it is helpful

1. Maximize return for your experience

2. Ability to sell at a fixed price.

3. Same approach as "start" model, but more margin

4. Differentiation from competition – MSP IP

Keep in mind

1. Don't expose margin optimization to customers

2. Don't sell too far over Azure "MSRP" / Clients can go look

3. No MSP set and forget mentality

4. Provide ongoing value through continuous upgrades

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Packaging

BUILDING
YOUR PROPOSAL

Add Azure cost + Azure Markup

Example:

- Azure infrastructure costs = $2000/mo

- Your markup = $300/mo (15%)

Total price for client = $2300/mo

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Packaging

UNDERSTANDING YOUR MARGIN

CSP + Markup + Optimization

Example:

- Azure costs = $2,300/mo

- CSP margin = $180/mo (9%)

- Added markup = $300/mo (15%)

- Optimization margin = $700/mo (35%)

Your Margin = $1180/mo

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£ $ €

How MSPs WIN

Build a complete fixed per user per month SOLUTION with EVERYTHING included

Packaging

BUILDING
YOUR PROPOSAL

Add Azure cost + Azure Markup

Example:

- Azure infrastructure costs = $2000/mo

- Your markup = $300/mo (15%)

Total price for client = $2300/mo

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Packaging

UNDERSTANDING YOUR MARGIN

CSP + Markup + Optimization

Example:

- Azure costs = $2,300/mo

- CSP margin = $180/mo (9%)

- Added markup = $300/mo (15%)

- Optimization margin = $700/mo (35%)

- M365 tooling + labor savings = $150/mo (tools/soft costs)

Your Margin = $1330/mo

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Offer Development
Putting it all together

Starting

+ Azure Cost
+ CSP Margin
+ Markup

Example:
- Azure costs = $2,000/mo
- CSP margin = $180/mo (9%)
- Markup = $300/mo (15%)

Azure Retail Price = $2,300/mo
Your Margin = $480/mo

Evolution

+ Azure Cost
+ Optimization Margin
+ CSP Margin
+ Markup

Example:
- Azure costs = $2,000/mo
- Optimization = $700/mo (35%)
- CSP margin = $180/mo (9%)
- Markup = $300/mo (15%)

Azure Retail Price = $2,300/mo
Your Margin = $1180/mo

Solution

+ Azure Cost
+ Optimization Margin
+ CSP Margin
+ Markup
+ Managed Services Margin (20 users)

Example:
- Azure costs = $2,000/mo
- Optimization = $700/mo (35%)
- CSP margin = $180/mo (9%)
- Markup = $300/mo (15%)
- M365 tooling & labor savings = $150/mo

SOLUTION Price = $240 per user
Your Margin = $1330/mo

This is used as an example. Please ignore the <u>made-up</u> pricing we are using for each.
The 2nd and 3rd solutions are up to YOU – there may be more risk vs reward in each
Our CE tool can be used in either scenarios - with RI, AHB, & Auto-scale or NOT

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Any Questions?

Dealing with objections

OBJECTIONS

Be ready for these types of concerns

Cost	Discuss value, flexibility and soft cost savings / DR&BC built-in.
Security	Discuss CA and 2fa, MS security staff, out of the box security.
Access or control of environment	Discuss that they will still have access. to their Azure resources and M365 platform, you just support it / could be switched easily if they left.
Availability	Discuss MS enterprise level reliability built into Azure, far outweighs the occasional "potential" outage.
Performance	Discuss that Azure has every different type of CPU and RAM and DISK offering to meet every need / Engineers or single desktops or Video (speak to Teams and Zoom).

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Any Questions?

Overview of Modern Work

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Future of AVD + Modern Work with Nerdio

nerdio | Manager for MSP

AZURE INFRASTRUCTURE

Azure Virtual Desktop	Compute	Storage & Files
Networking & Security	Backup & Recovery	Applications
		Azure AI

MODERN WORK

Entra ID & AD	Intune & Endpoints	Windows 365
Defender for Business	Policies & Baselines	Microsoft 365 Apps
		License Management

CLOUD COST ESTIMATION

AUTOMATED MANAGEMENT

MULTI & CROSS TENANT

COST OPTIMIZATION

MONITORING & REPORTING

SECURITY & COMPLIANCE

REMOTE SUPPORT

AD User Management

AD User Management

Challenges	Solution

- Need a way to manage users across hybrid environments with on-premises Active Directory (AD) and Azure AD.
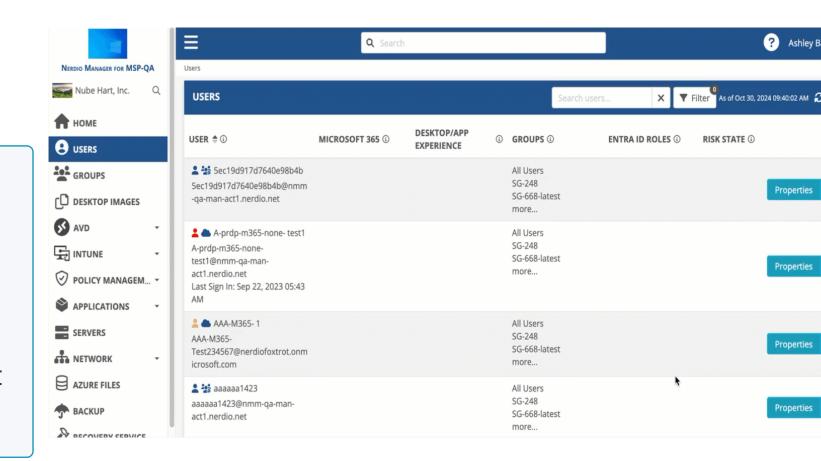
- A unified, automated approach to hybrid AD and Azure AD user management.

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AD User Management

Outcomes

- Reduce security risks.
- Simplify the management of hybrid user environments.
- Automate processes to speed up user management tasks.

AD User Management

- There is no additional Nerdio cost to utilize AD User Management, but Service Bus Relay Hybrid Connections do have an additional Azure cost

It depends on which App Services plan your Nerido Manager installation utilizes.

Each domain controller connected to Nerdio Manager counts as a single connection.

App Service Plan	Hybrid Connection Limit
Basic (Nerdio Default)	5
Standard	25
Premium (v1-v3)	220
Isolated (v1-v2)	220

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Solution Baselines

(Intune, Entra, Defender, OneDrive, SharePoint, Exchange Online & Teams Online)

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Tenant Settings Baselines

(Intune, Entra, Defender, OneDrive, SharePoint, Exchange Online & Teams Online)

Challenges	Solution
• Management of identity and access across multiple clients is complex. • A way to ensure consistent security standards across all environments.	• Standardized configurations across all client environments.
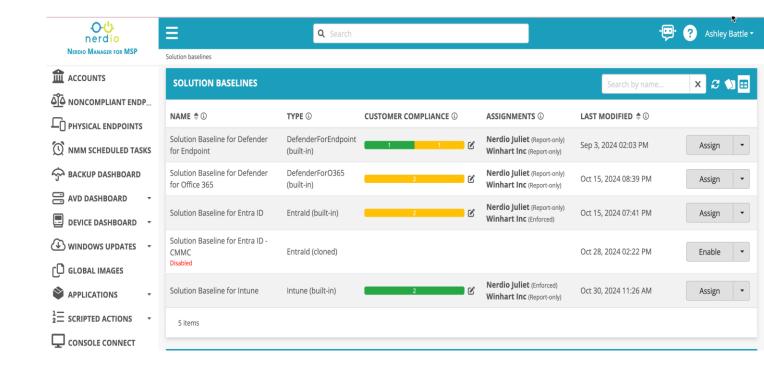
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Settings Baselines

(Intune, Entra, Defender, OneDrive, SharePoint, Exchange Online & Teams Online)

Outcomes

- Enforce consistent management across environments and simplify operations.

- Ensure configurations are evenly applied.

- Minimize misconfigurations.

Configuration drift management

Configuration Drift Management

Challenges	Solution

- Inconsistent configurations create security gaps and non-compliance with standards.
- Tracking and correcting discrepancies manually is time-consuming and inefficient.

- The ability to monitor and correct discrepancies from defined configurations to maintain consistency across environments.

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Configuration Drift Management

Outcomes

- Consistent configurations improve security and help meet compliance standards.
- Automation saves time and effort, fostering client confidence through reliable management.

ACCEPT DRIFT FOR BASELINE POLICY

BASELINE: ZTest-PRDP1

POLICY: test-app-config-prdp2

ACCOUNT: Nube Hart, Inc. (1)

Drift acceptance expires after

90 days ▼   Dec 24, 2024

Description

By customer request, see #73956 for details.

☐ Allow processing ⓘ

Cancel   Accept

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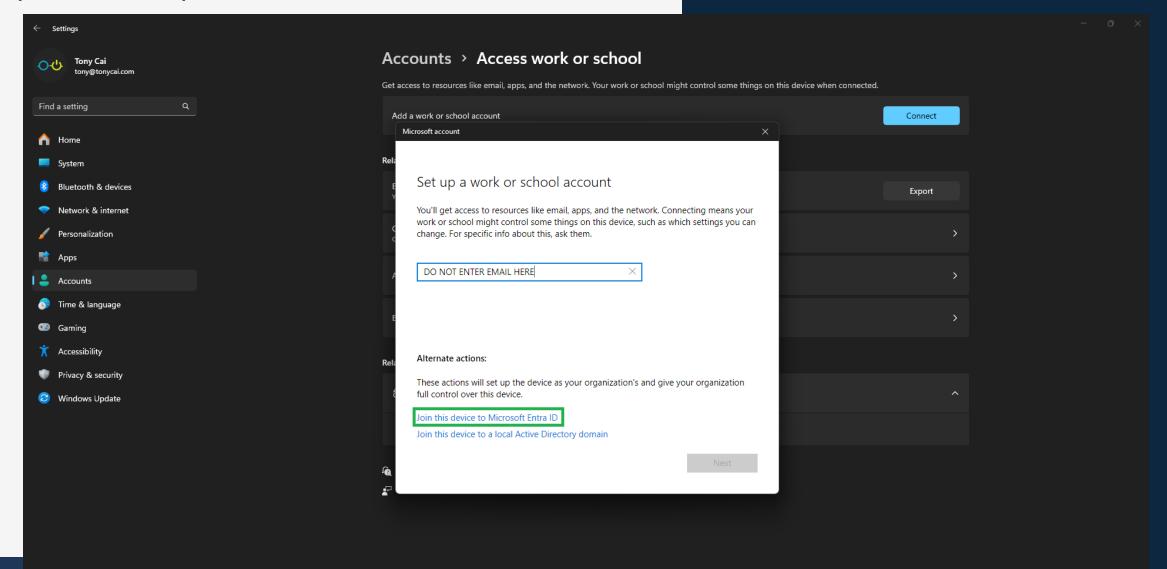
Device enrollment strategies

How to:
Enroll a Windows Device
(via End User Enrollment)
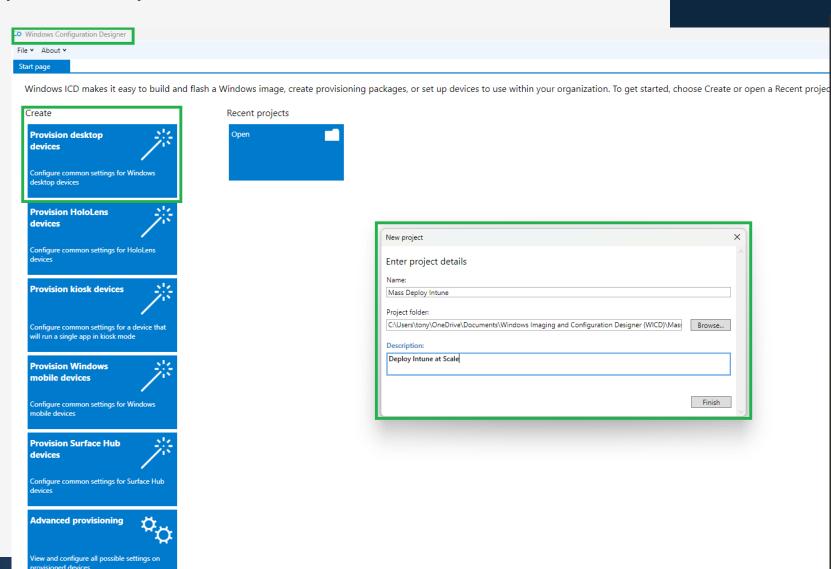
How to:
Enroll a Windows Device
(via USB or Network)

How to:
Enroll a Windows Device
(via USB or Network)

How to:
Enroll a Windows Device
(via USB or Network)

Settings

Tony Cai
tony@tonycai.com

Find a setting

- Home
- System
- Bluetooth & devices
- Network & internet
- Personalization
- Apps
- Accounts
- Time & language
- Gaming
- Accessibility
- Privacy & security
- Windows Update

Accounts > Access work or school

Get access to resources like email, apps, and the network. Your work or school might control some things on this device when connected.

Add a work or school account   Connect

Related settings

Export your management log files
Your log files will be exported to: C:\Users\Public\Documents\MDMDiagnostics   Export

Create a test-taking account
Choose an account for the test taker and enter the address

Add or remove a provisioning package

Enroll only in device management

Related support

Help with Access work or school

Using Remote Desktop   Configuring VPN

Get help

Give feedback

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Intune policy management

INTUNE POLICY CREATION/UPDATE FLOW

Granular policy assignment & management

Granular policy assignment & management

Challenges	Solution

Challenges

- Applying broad policies across client environments can lead to overprotection in some areas and under protection in others.
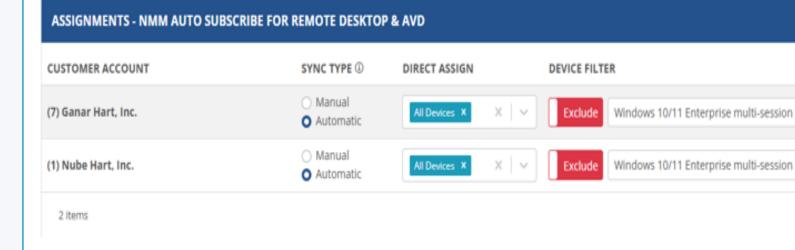
Solution

- The ability to apply specific settings to targeted users, groups, or devices

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Granular policy assignment & management

Outcomes

- Tailored policy management to meet specific client needs.
- More efficient operations through precise control over policies.

Templates for policy assignment to groups

Templates for policy assignment to groups

Challenges	Solution

- Manually assigning policies to groups of users or devices can be time-consuming and prone to errors, especially in larger environments.

- Pre-built templates for group policy assignments.

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Templates for policy assignment to groups

Outcomes

- Policy assignments become faster and more efficient.
- Policies are applied consistently and reliably.
- MSPs reduce their administrative workload.

CREATE GROUP TEMPLATE

| General |
| Name Template |

NAME: Windows Corporate Devices

MEMBERSHIP TYPE: Dynamic Device ▼

DYNAMIC RULE   New

And/Or	Property	Operator
▼	deviceO... ▼	Equals ▼
And ▼	deviceO... ▼	Starts ... ▼

Add expression

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Variables in Nerdio

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 <u>overridden</u> at the customer account level.

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Intune + Nerdio | Core Features

Changelog

- Track changes between versions with a centralized log.

Status

- A simple visual indicator to identify accounts with non-compliant endpoint(s).
  - *Use in tandem with the account-level view to find the endpoint(s).*

Versions

- Policy versions can be rolled back in Nerdio.
  - *This feature is unavailable in native Intune.*

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Group Policy analytics

Challenges	Solution

Challenges
- Keeping up to date with current on-premises GPOs
- Understanding what cloud-based MDM providers support
- Manually configuring new GPOs into your cloud environment.

Solution
- Use Group Policy analytics to import or analyze existing on-premises GPOs
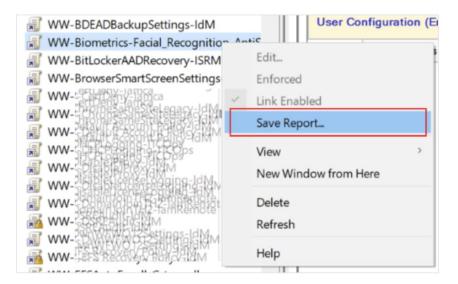
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Group Policy analytics

Outcomes

- Imports and analyzes on-premises GPOs
- Shows settings that Intune supports
- Shows deprecated settings
- Migrate your imported GPOs to a settings catalog in Intune

Export a GPO as an XML file

The following steps can be different on your server, depending on the GPMC version you're using. When you export the GPO, make sure you export as an XML file.

1. On your on-premises computer, open the `Group Policy Management` console (GPMC.msc).

2. In the management console, expand your **domain name**.

3. Expand **Group Policy Objects** to see all the available GPOs.

4. Right-click the GPO you want to migrate and choose **Save report**:

5. Select an easily accessible folder for your export. In **Save as type**, select **XML File**. In another step, you add this file to group policy analytics in Intune.

Make sure that the file is less than 4 MB and has a proper Unicode encoding. If the exported file is greater than 4 MB, then reduce the number of settings in the group policy object.

Group Policy analytics

Outcomes

- Imports and analyzes on-premises GPOs
- Shows settings that Intune supports
- Shows deprecated settings
- Migrate your imported GPOs to a settings catalog in Intune

1. Sign in to the Intune admin center as Intune admin or with a role that has "Security baselines" and "Device Configuration" permissions.

2. Select **Import,** select your saved XML > **Next** (can select multiple)

3. You can use **Scope tags**, by select an existing or using default

4. Select **Next > Create**

After analysis runs, the GPO you imported lists some good info.

MDM support: shows the percentage of group policy settings in the GPO that have the same setting in Intune.

> Yes – means there's a matching setting available in Intune.
> No - means there isn't a matching setting.

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Group Policy migration readiness report

Notes

- Summary of GPO and policy statuses
- Shows the # of settings in your GPO that can be used in device configuration profile

1. In the Intune admin center, select **Reports > Device management > Group policy analytics**

2. In the **Summary** tab, a summary of the GPO and its policies are shown. Use this information to determine the status of the policies.

   Ready for migration: policy has a matching setting
   Not supported: policy doesn't have a matching setting
   Deprecated: policy can apply to older versions or not used

3. Select **Reports** tab > **Group policy migration readiness**

   You can use report to see the number of settings in your GPO that can be configured in a device configuration profile.
   It also shows if the settings can be in a custom profile, aren't support or are deprecated.

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Create a Settings Catalog policy from imported GPO

Notes

- It is best effort per Microsoft
- Some don't migrate exactly and could work better in other tools (Endpoint Security)
- Conflicting settings are detected early

1. In the Intune admin center, select **Devices > Manage devices > Group policy analytics**

2. Next to the GPO you want in your Settings Catalog profile, select the **Migrate** checkbox. You can select one or many.

Migrate ↑↓	Group policy name ↑↓	Active Directory Ta... ↑↓	MDM Support ↑↓	Unknown Settings ↑↓	Targeted in AD ↑↓
☑	SAS-SDW-Client-Baseline	SAS-SDW-Client-Baseline	⚠ 81%	View	No

4. In the **Settings to migrate** tab, select **Migrate** column for the Settings you want to include in your Settings Catalog profile.

You can use the built-in features or select as needed.

5. In the **Configuration** tab, your settings and their values are shown.

6. Name your profile, add any **Scope tags, Assignments**, click **Next.**

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Policy Baselines

Policy baselines

What is a policy baseline?

A group of policies you can use to make initial deployment consistent across all your customer accounts.

Building your baseline

Use Nerdio's pre-defined policies or your own custom policies.

Define which policy takes precedence

If multiple baselines are assigned, prioritize the order they apply.

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Policy Baselines

Enforced Policy Baselines

- Assigned to customer accounts.
- Synced and enforced if the sync type is set to **auto**.
- Enforced policies with a **manual** sync type can be published on an as-needed basis.

Report-only Policy Baselines

- Used to track configuration drift.
- Simplifies identifying customer endpoints that differ from the baseline status.
- Operate on an always-on, ongoing basis.

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CIS-compliant templates

CIS Intune Policies

Challenges	Solution

Challenges
- Staying compliant is time-consuming.
- It can be difficult to apply security settings uniformly across clients.
- Limited resources make CIS policy management challenging.

Solution
- Use pre-configured templates that align with CIS standards and automatic updates that keep policies CIS-compliant.

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CIS Intune Policies

Outcomes

- Pre-configured for easy CIS-compliant deployment.
- Ensure consistency and reduce manual effort with centralized control.
- Keep policies CIS-compliant with automatic updates.

Mappings	IG1	IG2	IG3
☐ Australian Signals Directorate's 'Essential Eight' See details	☐ Azure Security Benchmark v3 See details	☐ CISA Cross-Sector Cybersecurity Performance Goals See details	
☐ CISA Cybersecurity Performance Goals See details	☐ CMMC v2.0 See details	☐ Criminal Justice Information Services (CJIS) Security Policy See details	
☐ CSA Cloud Controls Matrix v4 See details	☐ Cyber Risk Institute (CRI) Profile v1.2 See details	☐ Federal Financial Institutions Examination Council (FFIEC-CAT) See details	
☐ GSMA FS.31 Baseline Security Controls v2.0 See details	☐ Healthcare and Public Health Sector-Specific Cybersecurity Performance Goals See details	☐ HIPAA See details	
☐ ISACA COBIT 19 See details	☐ ISO/IEC 27001:2022 & 27002:2022 Information Security Controls See details	☐ MITRE Enterprise ATT&CK v8.2 See details	
☐ New Zealand Information Security Manual v3.5 See details	☐ NIST CSF 1.0 See details	☐ NIST CSF 2.0 See details	
☐ NIST SP 800-171 See details	☐ NIST SP 800-53 Revision 5 Low Baseline See details	☐ NIST SP 800-53 Revision 5 Moderate Baseline See details	
☐ North American Electric Reliability Corporation-Critical Infrastructure Protection Standards (NERC-CIP Standards) See details	☐ NYDFS Part 500 See details	☐ PCI v3.2.1 See details	
☐ PCI v4.0 See details	☐ SOC 2 See details	☐ TSA Security Directive Pipeline-2021-02 See details	
☐ UK NCSC Cyber Assessment Framework See details	☐ UK NCSC Cyber Essentials v2.2 See details		

https://www.cisecurity.org/controls/cis-controls-navigator

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Risky & stale user management

Risky & Stale User Reporting

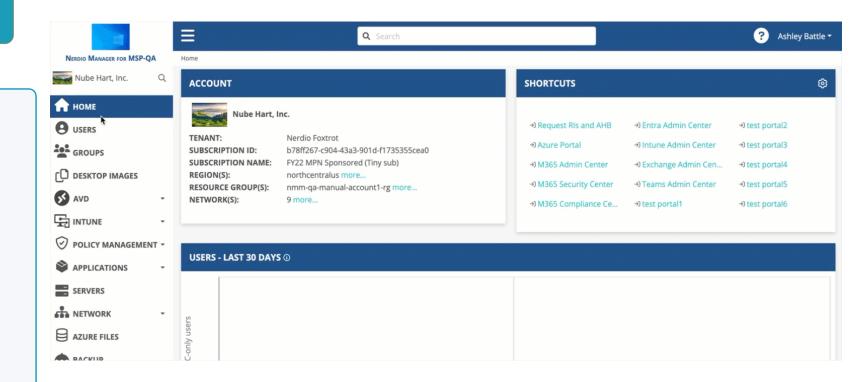| Challenges	Solution

- Need a way to monitor and manage inactive or compromised user accounts.
- Limit the security risks that these users cause.

- Detailed reporting on user accounts that are flagged as risky or stale.

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Risky & Stale User Reporting

Outcomes

- Reduce security risks.
- Ensure compliance with security protocols.
- Provide safer and more efficient client accounts.

Defender vulnerability dashboard

Defender Vulnerability Management

Challenges	Solution
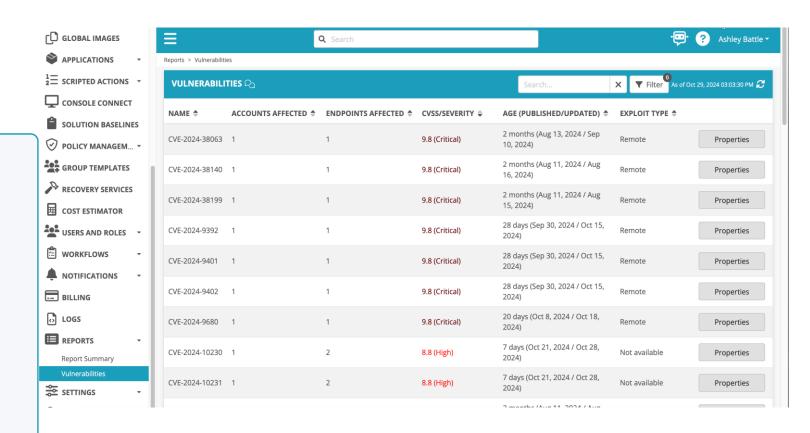
- MSPs need visibility into vulnerabilities across client environments to proactively manage security risks.

- Use a unified dashboard highlighting vulnerabilities.

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Defender Vulnerability Management

Outcomes

- Gain a clear view of vulnerabilities across client environments.

- Enable faster resolution of security risks.

- Improve the security posture of client environments.

Tenant monitoring

Tenant monitoring

Challenges	Solution

Challenges
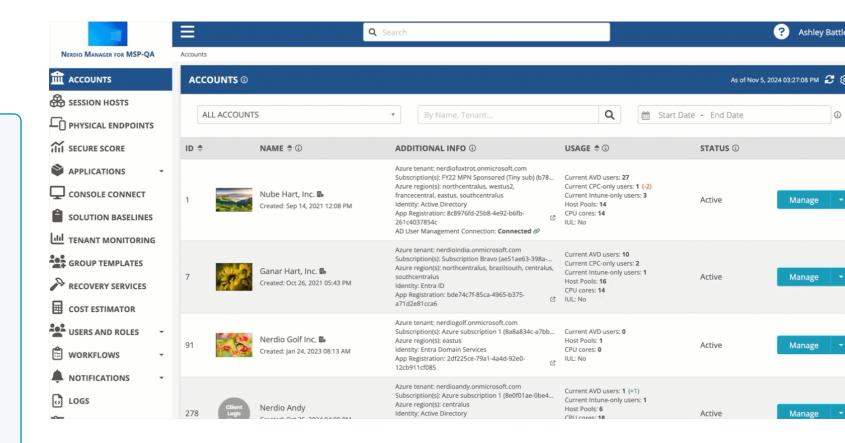
- Managing compliance across multiple tenants is challenging due to limited visibility and the need for manual audits, which increase the risk of errors and inconsistencies.

Solution

- A centralized tenant monitoring and reporting feature that allows MSPs to track, compare, and assess policy settings across customer tenants.

Tenant monitoring

Outcomes

- MSPs gain a clear, centralized view of policy compliance across all tenants.
- You can now Identify and highlight policy deviations, enabling timely fixes and reducing risks.

Secure score management

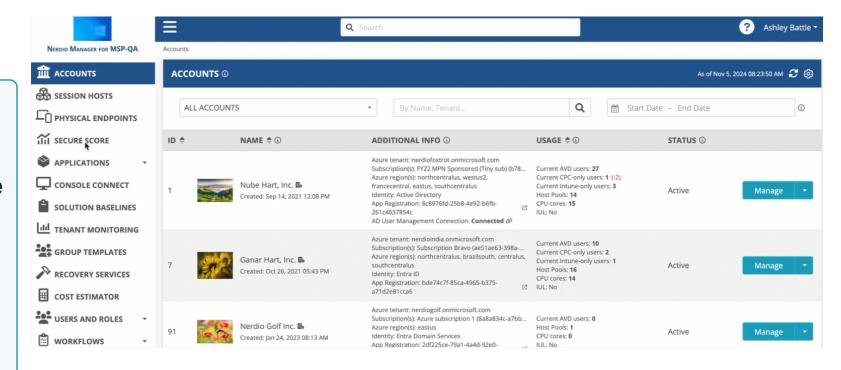# Secure score management

Challenges	Solution

- MSPs struggle to assess and improve security postures efficiently across tenants at scale, leaving clients vulnerable to potential threats

- A centralized view to track and manage Secure Scores for all clients from a single interface.

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Secure score management

Outcomes

- Streamline security operations across multiple tenants
- Improve client security postures
- Reduce vulnerability risks

Exchange online management

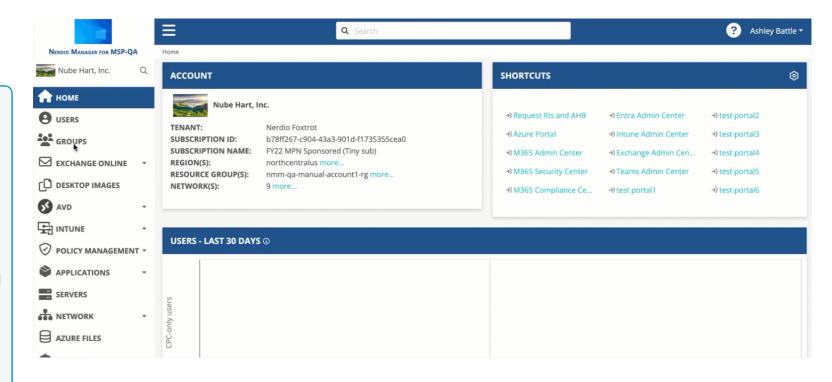# Exchange online management

Challenges	Solution

Challenges
- Frequent account switching for mailbox management is time-consuming and error-prone.
- Limited centralized control hinders consistent policy application.

Solution
- A unified, cross-tenant view that allows MSPs to configure, monitor, and update mailboxes without needing multiple logins.

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Exchange online management

Outcomes

- Centralized mailbox management across clients for increased efficiency
- Consistent policy application across tenants
- Reduce admin time with fewer manual steps

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!