

Building a scalable, manageable virtual environment

Strategic insights on choosing between AVD,
Windows 365, and hybrid solutions





If you're leading an IT team, you may have already switched to a virtual computing ecosystem or plan to do so soon.

A 2024 Gartner study showed that roughly 85% of businesses had implemented a partial or fully virtual computing environment.

In the current landscape, IT leaders—even those who have already embraced virtualization—face some difficult questions.

Given the growing popularity, simplicity, and consistent user experience of Microsoft Windows 365 (W365), is it worth fully transitioning to it? Or does it make more sense to retain the control and flexibility that Azure Virtual Desktop (AVD) and other virtualization platforms provide?

How hard is it to manage a virtual computing ecosystem where some users are on AVD, some are on W365, and a small number still use their physical desktops?

What's the simplest and most cost-effective course of action?

This guide was designed to give you the insights you need to make an informed decision for your organization.



Question 1: Physical or virtual?

Should all users be utilizing virtual desktops? For businesses that haven't fully embraced virtualization for all staff members, it's a legitimate question. When users are working with standalone PCs, an environment running on their own machines feels safe and familiar, and they may be resistant to change.

However, the need to configure, troubleshoot, and manage individual desktops is often more of a liability. The power to scale globally and serve distributed users is a simple necessity for most, and that's more difficult to accomplish with large numbers of individual desktops.

When physical and virtualized environments are placed side-by-side, it's clear that there are few real benefits to a traditional, local desktop—and from the business perspective, those are of questionable value.

The elephant in the room is IT management, and the more users there are, the bigger the issue is.

Physical desktops don't require licensing virtual platforms, but they have higher hard costs and more soft costs in FTE hours. This is less of a concern for a small company with a handful of laptops—the business case for investing in virtualization is not compelling even if users are widely dispersed. But for larger businesses it's a different story.

Physical vs. virtual desktops

Physical PCs	Virtual desktops
Offline availability: No connection is required to use local software.	Offline availability: Virtual desktops do require an internet connection, but most solutions offer an offline mode for productivity software—and no solution is optimally effective without access to the internet.
Security and compliance: Fear that cloud-based computing offers a bigger target for hackers.	Security and compliance: The truth is that although hackers are always a concern, local machines are more likely to be irregularly or insufficiently protected than centralized servers. Virtual desktops reduce endpoint vulnerabilities by keeping sensitive data off of local machines.
Licensing costs: There is an ongoing fee for cloud computing environments.	Total cost of ownership (TCO): Cloud-based environments have recurring soft costs, but they can reduce capital expenses/hard costs associated with buying, maintaining, and upgrading local hardware.
Resistance to change: Especially true if there are initial performance hiccups, new authentication requirements, and changes in workflow.	Scalability & flexibility: Virtual desktops allow businesses to scale up or down rapidly to accommodate workforce changes, global expansion, or fluctuations in demand without requiring significant hard cost investments.

Virtualization serves users—and the business—best

When IT managers perform their tasks flawlessly, the mark of excellence is for the users to notice absolutely nothing, regardless of the underlying desktop environment.

For companies extensively using or migrating to virtual desktops, the stakes of providing the seamless, consistent experience that users expect could not be higher. Uptime must be continuous, and interruptions in productivity are immensely expensive.

Practically no organization operating at scale has the luxury of dealing with a perfect situation in which all users and workloads are standardized. Yet, CIOs are asked to balance rapid scaling, increasing complexity of demands, and the demand for seamless 24/7 service—all while reducing costs.

This reality argues in favor of virtualization for most businesses. When there's a need for greater computing power or troubleshooting, it's slower and more expensive to repair, upgrade, or replace a physical machine than it is to provision and maintain a virtual one, and PCs aren't going to get cheaper to purchase, especially with supply issues hitting microchip providers. Virtualization is the only way to deliver a good user experience at scale while controlling costs predictably.

Question 2: Does a hybrid approach make sense?

Wholesale migration to W365 might seem tempting—when dealing with an ideal infrastructure, one platform handling everything has an undeniable appeal. However, IT leadership deals with real-world organizations, not with ideal circumstances, and the answer is generally more nuanced.

However, both AVD and W365 offer advantages. While AVD excels at supporting multiple sessions and optimization for the unique needs and usage of each virtual desktop, it requires dedicated skills and doesn't provide the continuous user session and plug-and-play ease of configuration offered by W365.

Whether an organization is thinking of transitioning from AVD to W365 over time or introducing W365 as a new option to meet the needs of specific users, a hybrid solution makes sense.

- By maintaining some instances of AVD, IT teams can better support power users who require multiple sessions and/or more extensive customization.
- By introducing W365, IT teams can better support users who need a continuous session and easy configuration.

It's important for IT leadership to be able to make data-driven decisions on which users and workloads should be placed in which environment, and total cost of ownership (TCO) should be considered with all solutions. AVD and W365 use different pricing models, and the most cost-effective choice depends on the workload.

Combining AVD with W365 offers the best of both

AVD	W365
Variable cost by usage, which can be more cost-effective. Optimal for fluctuating usage and multi-session requirements.	Fixed pricing may be higher depending on usage but is predictable. May be economical for many users.
More configurable, requiring more IT skills. Supports rapid scaling, multiple sessions, and demanding workloads.	More Microsoft-managed, minimal IT effort, less on-the-fly configurability. Supports persistent user sessions.
Security is highly customizable but needs IT configuration.	Security configuration is more Microsoft-managed. Suited for organizations without unique in-house security policies.

Question 3: What’s the best way to manage the environment?

Running multiple virtualized environments concurrently introduces management complexity and inefficiencies that can escalate both soft and hard costs—but these challenges can be mitigated by a centralized, streamlined management solution, such as Nerdio Manager for Enterprise.

The case for Microsoft virtualization

There are several financial and technical reasons why Microsoft virtualization is taking the lead, but the elephant in the room is licensing. If you’re already investing in Microsoft 365 E3 or E5 licenses, you’re already paying for the foundation of your virtual desktop environment. So why double down by paying other vendors, such as Citrix, VMware, Amazon WorkSpaces, or Nutanix, to deliver what Microsoft already does—often with greater simplicity, tighter integration, and better performance?

These legacy providers haven’t just fallen behind on innovation—they’ve introduced increasingly complex and costly licensing models, phased out lifetime agreements, and struggled with lag and scalability in cloud-native environments. Meanwhile, Microsoft continues to dominate analyst reports and has built virtualization solutions natively designed to work together, without the added layers and costs.

Amazon WorkSpaces and Nutanix require specialized knowledge at setup and are not as intuitive for IT departments. Nutanix is known for hidden storage and capacity costs.

These factors drive many businesses toward Microsoft’s native virtualization platforms and management tools. However, AVD, W365, and physical desktops are all managed differently, which means a hybrid environment can be much more demanding for IT to cope with.

It’s a natural impulse for IT departments to avoid adding complexity and resist the addition of new elements. However, there are notable benefits of a single solution that streamlines and simplifies management of the entire IT environment. Nerdio Manager is designed to deliver an easy, consistent IT experience with seamless, agile, and highly automated management that spans all desktops, including AVD, W365, and physical endpoints with Intune.

The advantages of Microsoft virtualization with Nerdio

	Citrix, VMware VSphere, Amazon WorkSpaces, and Nutanix	Microsoft AVD/W365 + Nerdio Manager for Enterprise
IT management complexity	Substantial configuration and management.	Automated configuration with real-time intelligence and transparency. Nerdio Manager fully supports both AVD and W365. Integrates seamlessly with Intune.
Pricing & contracts	Plagued by unclear pricing models, obtuse contracts, and unresponsive customer service.	AVD offers transparency in pricing by usage, and W365 offers a flat-fee model for predictable pricing.
Latency/responsiveness	Can have performance issues and latency, particularly in complex enterprise environments.	AVD and W365 integrate seamlessly with Windows 10/11 environments and with each other.
Scalability	May require manual scaling, which can be labor-intensive and costly.	AVD/W365 with Nerdio fully automates scalability.

Nerdio makes virtualization more efficient

By simplifying management tasks and performance/cost monitoring, Nerdio Manager saves time, money, and effort during and after rollout. Ultimately, the soft costs of licensing Nerdio Manager are more than offset by saved FTE hours in IT and more consistent uptime and productivity throughout the organization.

Simply put, Nerdio Manager functions as an extension of Microsoft because every element has been architected in lockstep. The management layer of Nerdio Manager runs independently and gives a continuous single pane of glass view into the underlying environment, letting IT teams monitor and optimize globally dispersed machines from one consolidated view.

Nerdio Manager integrates seamlessly with both AVD and Windows 365, so IT teams can enjoy the same benefits and nearly identical workflows across both platforms. The benefits of Nerdio Manager are applicable to both platforms, regardless of whether the virtual environment is running on one or both.

Best of all, whether the business is transitioning between AVD and W365 or running both concurrently, Nerdio Manager will let IT staff manage them in a familiar and consistent way so that the workflow stays optimally effective.

What about physical device management?

By integrating with Microsoft Intune as well as AVD and W365, Nerdio Manager is able to support a hybrid environment that includes physical desktops, all from one platform.

Support physical desktops with ease

- **Device enrollment and configuration:** Automatic enrollment of physical devices running Windows 10/11, ensuring compliance with company policy.
- **Policy backup and enforcement:** Once the physical PCs are enrolled, Nerdio Manager uses Intune to push out security policies, configurations, and compliance critical to a secure environment that can be rolled back in case issues arise.
- **Application management:** IT can remotely deploy and manage apps on PCs via Intune.
- **Remote management and troubleshooting:** IT can configure, wipe, or reset devices remotely.
- **Updates and patch management:** Nerdio Manager automates scheduling, application, and verification of updates.
- **Integration with virtual desktop infrastructure (VDI):** Nerdio Manager and Intune give IT departments a consistent management experience whether managing virtual desktops or physical PCs.

One management layer for multiple environments

Nerdio Manager benefit	AVD	W365
Cost optimization: Right-size desktops and automate usage.	✓	✓
Automation tools: Reduce IT overhead and streamline operations.	✓	✓
Security enhancements: Intune policy templates and advanced reporting.	✓	✓
Intelligent recommendations: AI-driven insights to optimize spend based on usage.	✓	✓
Migration tools: Seamless AVD to W365 transitions.	✓	✓

Question 4: How do I scale and optimize without increasing headcount?

For CIOs and IT leaders, rolling out and scaling virtual desktops is a tough balancing act. The goal is to boost productivity and reduce costs—but new solutions often mean more hours, added complexity, and the need for specialized talent that’s hard to find.

Nerdio Manager handles much of the work involved in managing an organization-wide virtual computing ecosystem, allowing lower-level staff to accomplish and monitor day-to-day tasks with just a few clicks. Nerdio Manager can:

- Automate provisioning and management.
- Enable the bulk deployment of W365 and AVD desktops.
- Clone and scale deployments quickly without manual setup.
- Right-size VMs based on usage (for AVD).
- Schedule and automate updates across all virtual desktops.
- Apply patches without disrupting users.

- Ensure compliance with Microsoft security policies.
- Monitor active sessions, force logoffs, or send messages to users.
- Provide remote assistance to users without Remote Desktop Protocol (RDP) setup.
- Use one-click health checks for AVD/W365 environments.
- Enforce custom role-based access control policies.
- Automate backups and disaster recovery for virtual desktops.
- Apply security policies across W365/AVD and immediately detect discrepancies.
- Deploy applications to virtual desktops with a single click.
- Manage golden images for consistent configurations.
- Automate app updates across the virtual computing ecosystem.

With Nerdio, IT team members with the most robust skill sets can spend more time focusing on problem-solving and architecting better solutions. If an IT team does have to upsize to meet the needs of a rollout, they can add lower-level IT staff to support users at dispersed locations.

The simplicity of Nerdio and Microsoft

Microsoft provides the software that forms the backbone of much of the business world. Nerdio helps customers get the most value from these tools and platforms.

For multiple consecutive years, the Forbes Global 2000 ranking has put Microsoft at the top of the list for the “Software & Programming” industry.

Nerdio is a proud partner dedicated to its strong relationship with Microsoft. In 2024, Nerdio received the Microsoft Partner of the Year Award for the Commercial Marketplace – Americas after two consecutive years of nominations.

Thanks to its close partnership with Microsoft, Nerdio stays aligned with the company’s product roadmap. This allows Nerdio to deliver integrated solutions, such as Nerdio Manager for Enterprise, that reduce complexity, save resources, and position IT as a driver of business value.

The best minds in IT leadership can spend time planning their next paradigm-shifting rollout and leave the execution and day-to-day management to Nerdio.

Simple. Streamlined. Optimized. Scale your virtual computing capabilities, not your IT workload.

To learn more



Estimate your potential savings with our interactive **cost modeler**.

Contact **Nerdio for a demo** to see how you can simplify W365 & AVD.

About Nerdio

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

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

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



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