

A GUIDE TO

Microsoft Azure Virtual Desktop cost management



Introduction

Managing costs in a Microsoft Azure Virtual Desktop (AVD) environment isn't just about keeping cloud expenses in check. Sure, compute, storage, and licensing costs are important, but savings also come from reducing labor, cutting downtime, and running operations more efficiently. These “soft savings” are where you'll find both short and long-term value, helping your organization scale while staying compliant and secure.

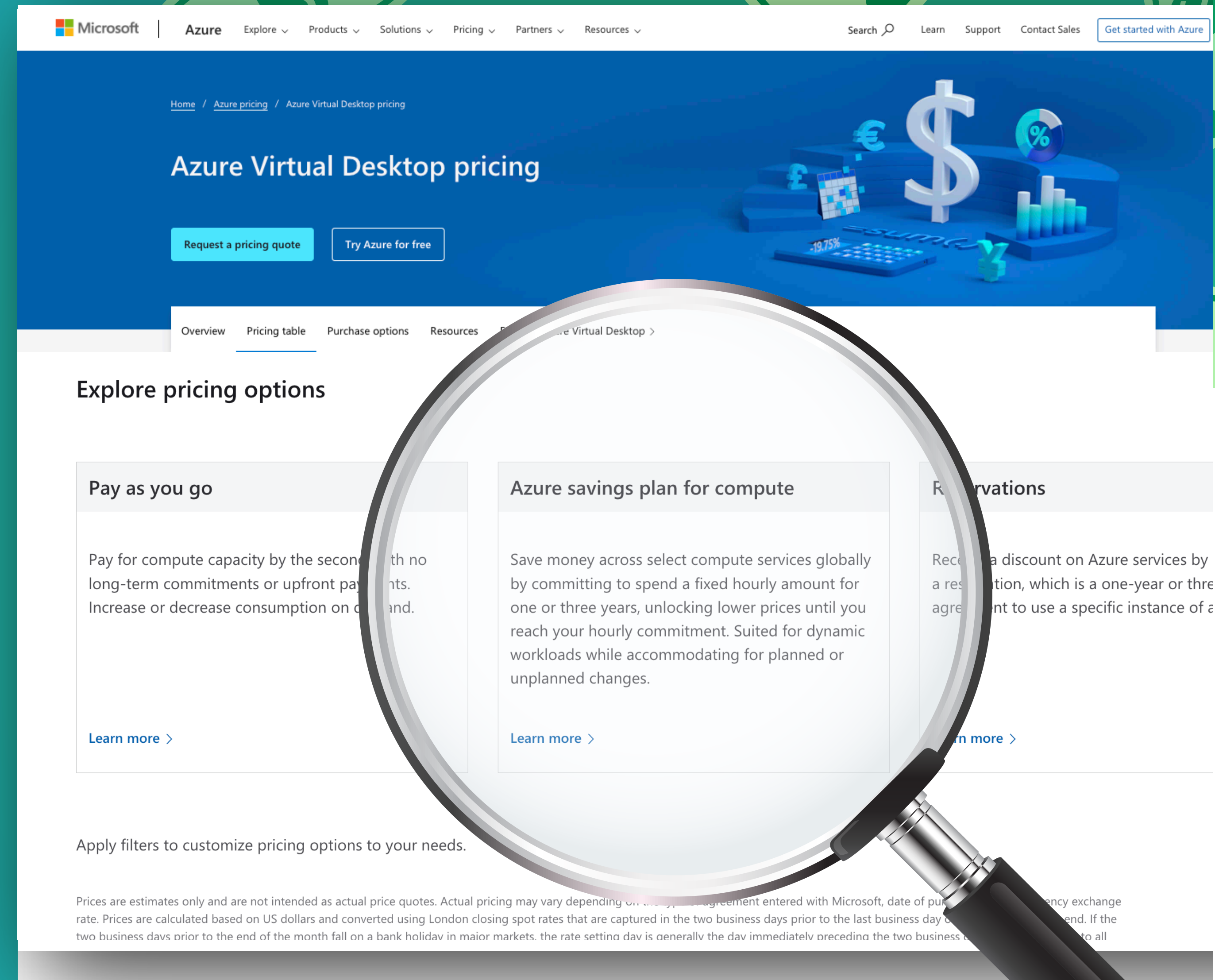
AVD is crucial for supporting remote work and digital transformation, but managing these deployments is getting tougher. Relying on manual monitoring or native Azure tools just doesn't cut it anymore. Without a strategic approach, from understanding cost structures to leveraging automation and strategic forecasting, you're likely to overspend and underutilize your investment.



Understanding AVD cost structures

Choosing the right AVD setup can be tricky, and making the wrong choices on licensing, storage, and compute resources can lead to uncontrolled costs.

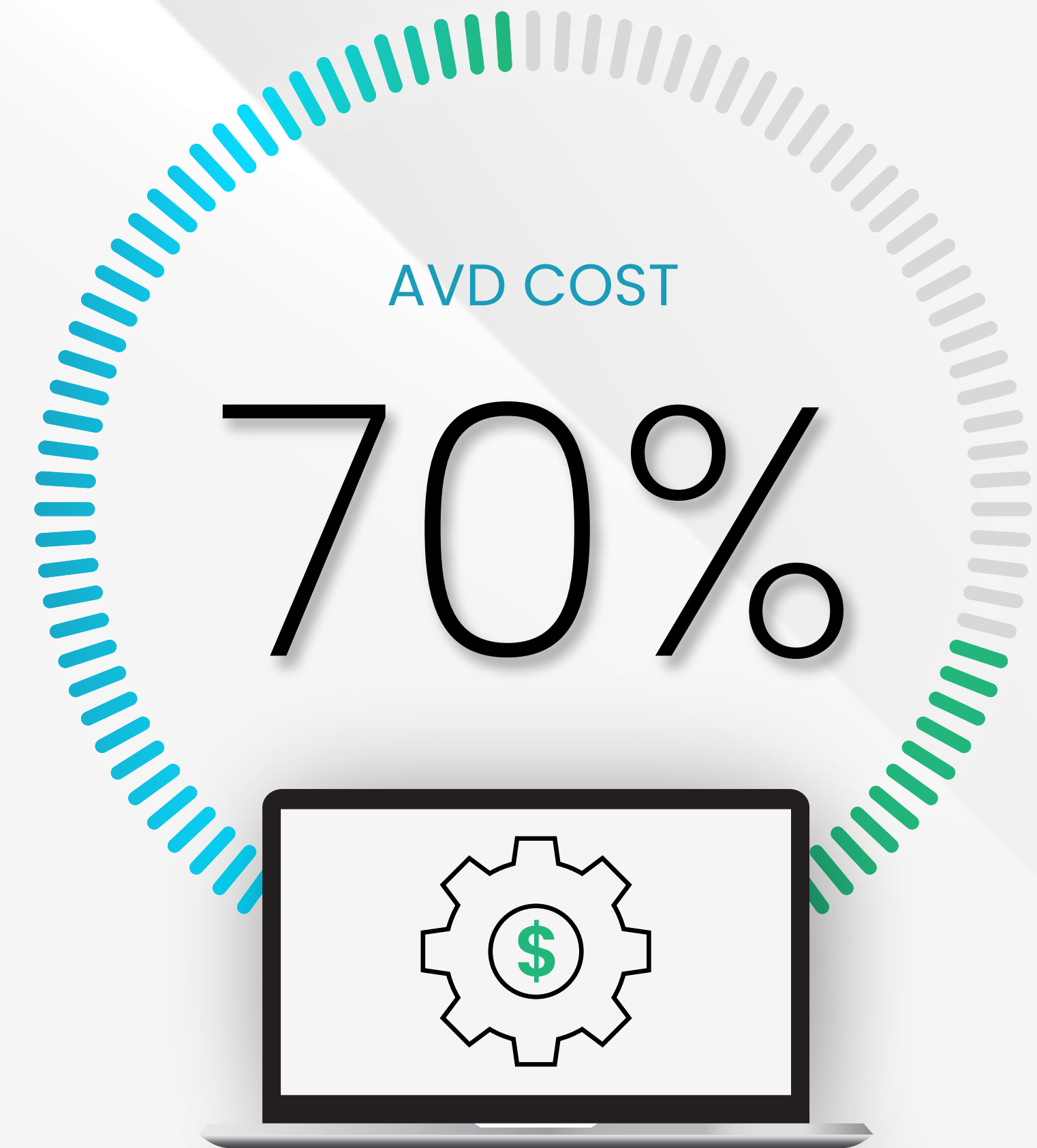
Here's a breakdown of the main AVD cost components



Compute

This is usually the biggest piece of your AVD expenses. Typically, compute resources account for most of your AVD costs (**up to 70%**), so dedicated attention to this category alone can result in massive savings for your organization. Costs depend on virtual machine (VM) size, type, and the region in which they're hosted.

You can opt for pay-as-you-go, paying by the second with no long-term commitments. Alternatively, you can choose an Azure savings plan to get discounts on dynamic workloads, commit to a fixed hourly amount over one or three years, or use Reserved Instances to reserve compute capacity for deeper discounts over the same periods. Choosing the right mix of options can help keep your AVD costs in check.





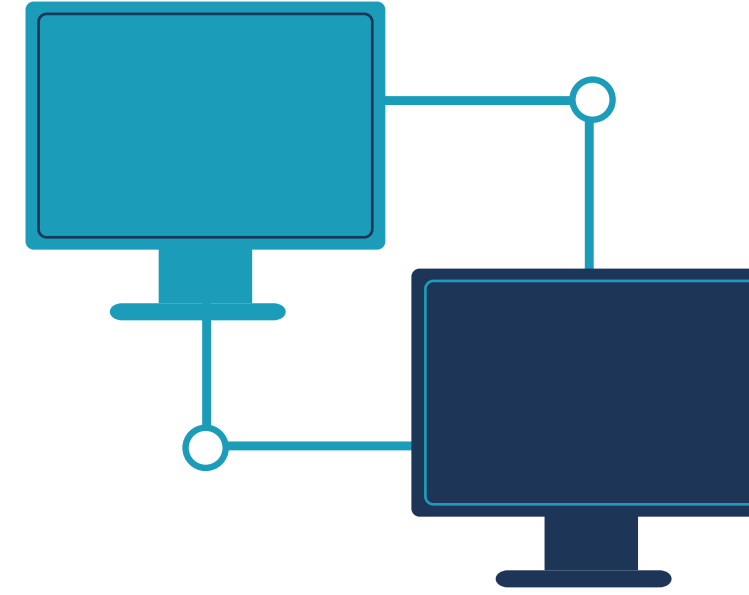
Storage

You're paying for the disk space needed for user profiles, data, and OS images. Whether you're using premium SSDs or standard HDDs, each comes with its own price tag.



Azure Monitor & diagnostics

If you're using Azure Monitor, Log Analytics, or Application Insights to monitor the performance of the virtual desktop environment, there will be additional costs based on the volume of data being ingested and stored.



Networking

These costs go up when data moves between Azure regions, virtual networks, or external networks. If you're not careful, they can add up quickly, especially if your environment is spread out globally.



Licensing

Running AVD means you need licenses for Windows 10 or 11 and any apps delivered through the platform. If your users have eligible Windows or Microsoft 365 licenses, you can access AVD without extra fees. Otherwise, you will accumulate costs based on users. For example, if you are using Windows Server as the host OS, you may need Remote Desktop Services Client Access Licenses (RDS CALs).



Hidden cost drivers

With infrastructure costs and separate Entra ID and bandwidth charges, it's easy to face cost overruns due to a lack of clear information and transparency from a single source of truth. Your business needs a way to not only monitor and manage cloud costs carefully, but also right-size them to prevent overspending.

The most common culprits driving up AVD costs include over-provisioning resources, inadequate monitoring, and inefficient configurations. For example, compute resources, which are tied to VMs, often account for the bulk of your AVD expenses. Even without creating additional VMs, you may overprovision compute resources such as CPU and RAM on existing VMs, leading to unnecessary spending.

Here are the primary factors contributing to unexpected cost increases:





User activity and host pool performance:

Heavier workloads don't raise costs directly, but they can hurt performance if VMs aren't sized correctly. AVD won't boost VM resources automatically—though additional VMs may be spun up in a host pool to handle the load—so proper host pool setup is critical to managing both performance and costs.



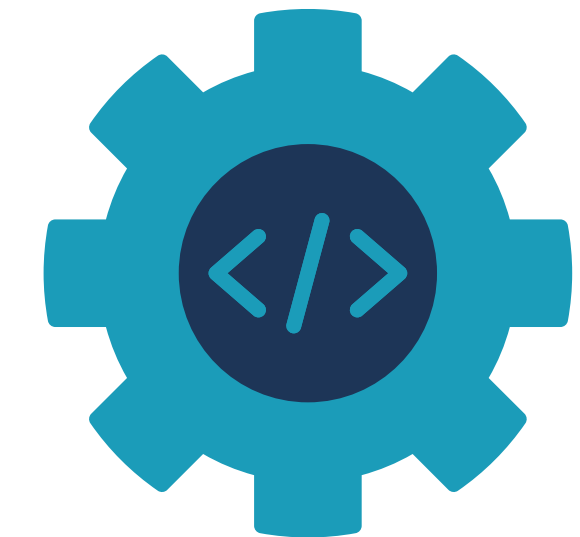
Compliance and security requirements:

Meeting strict regulatory standards, whether it's for encryption, data retention, or secure access controls, often means additional costs. These costs can add up, especially if your industry has tough compliance requirements.



Session host configuration:

The type and setup of your session hosts, such as the size of VMs and the number of users per host, are major factors in determining costs. Over-provisioning results in unnecessary expenses, while under-provisioning can mess with performance and user experience. This leads to both cost issues and unhappy end-users.



Operational inefficiencies:

Native AVD users may struggle with the lack of built-in automation for critical tasks, such as image provisioning, patch management, and FSLogix profile handling, leaving users to manage these manually.

Other challenges include complex deployment, cost optimization, troubleshooting, and user experience issues. These can result in wasted time and resources, which also means wasted money. Automating processes, including image management (especially for Patch Tuesday) and application updates can save hours of effort and improve overall efficiency.



Best practices for cost optimization

Outdated cost management methods, including manual monitoring or basic Azure tools, often fall short—especially for complex setups. While Azure’s native cost management tools provide a basic overview of your AVD spending, they lack the deeper visibility and control needed to truly understand what’s driving costs. This can make it difficult to implement effective cost-saving strategies.

Relying solely on native tools could mean missing out on easy wins, such as automating the shutdown of idle VMs during off-hours, which can lead to unnecessary expenses. To manage costs effectively, you need more advanced methods that cut through inefficiencies, pinpoint cost drivers, and offer actionable solutions.





Dynamic auto-scaling

Ordinary auto-scaling is static, and that won't cut it. Dynamic auto-scaling is flexible and adaptive, and it reacts to real-time VM performance—such as CPU, RAM, and session loads—automatically adjusting based on actual demand. It can start, stop, build, or remove VMs, something native scaling can't do. You get advanced scheduling options for specific days or weekends, and user-driven scaling that "drains" VMs of users to shut them down faster, cutting costs.

Plus, when you add features such as swapping to cheaper OS disks, auto-healing broken machines, and notifying users before scaling changes, you've got a setup that maximizes efficiency and minimizes spend—far beyond the basics.



Cost forecasting and alerts

Staying ahead of costs isn't just about watching what you're spending right now—it's also about predicting future expenses. Setting up cost forecasting tools helps your team anticipate upcoming costs based on usage trends, which makes budgeting and resource allocation easier.

Some IT teams use alerts to get a heads-up when costs exceed a certain threshold. This early warning system helps prevent overspending by giving you time to fix issues before they spiral out of control. For example, if an alert shows that compute costs are rising unexpectedly, your team can dig into the data and address the root cause, such as unexpected usage spikes or misconfigured resources.



Resource tagging and management

Tagging resources is a no-brainer for keeping tabs on where your money is going. By assigning tags to resources based on criteria, such as department, project, or environment, you can track spending more accurately and spot opportunities to cut costs.

Say your team tags resources for a specific department, such as "Marketing" or "R&D." This lets you break down the department's specific costs to take a closer look and see if resources are being used efficiently or if there's room for savings.



Save more than just money with automation

Automation is key to unlocking "soft" cost savings in your environment. It removes manual, repetitive tasks, freeing up valuable time and reducing the risk of costly human errors.

Whether it's resource allocation, storage management, or updates, automation ensures your AVD environment runs smoothly without constant oversight, allowing your IT team to focus on higher-value initiatives while routine tasks are handled efficiently in the background.



Scripted actions with PowerShell

While some organizations may turn to custom PowerShell scripts for cost management, this can create an operational burden—requiring constant maintenance and specialized expertise. The coding required is highly specific, and writing, testing, and maintaining these scripts takes time. As your environment evolves, scripts need regular updates to keep up, which can slow down response times and create inefficiencies. If the person responsible for these scripts leaves or becomes unavailable, your cost management strategy could unravel.

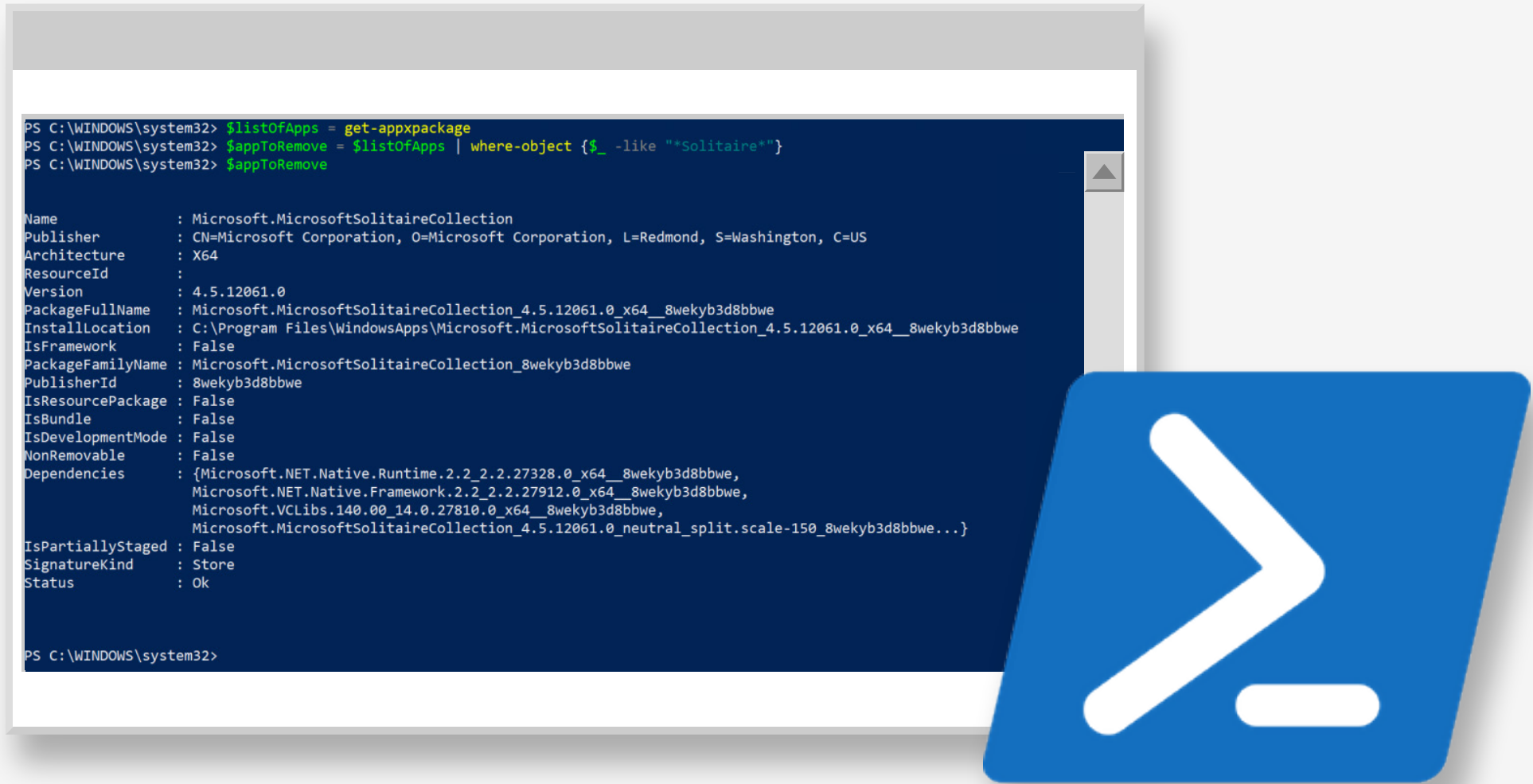
Custom code also introduces complexity. It takes significant effort to build scripts tailored to your environment, and as new requirements emerge, you must dedicate more time to writing and testing new code. This slows your ability to react quickly to changing needs and creates bottlenecks as teams wait for the right solutions to be developed and implemented.

Instead, using pre-built scripted actions within PowerShell simplifies these tasks, removing the need for constant manual intervention. Tools such as Nerdio Manager take this further by providing a graphical interface and pre-configured actions designed by AVD and automation specialists. This eliminates the time-consuming process of creating and maintaining custom code, allowing your team to focus on higher-priority initiatives. With pre-built solutions, you gain access to the best scripts for managing your environment—ready to go and regularly updated—without the burden of maintaining them yourself.

Automated patching and updates

Keeping VMs updated is essential for both security and performance, but manual updates can lead to downtime and increased costs. While AVD provides some basic patch management capabilities, these are limited in scope and often require manual intervention, which can result in downtime during peak hours and a higher risk of human error.

Advanced automation tools, such as those provided by add-on platforms, take patching and updates further by allowing you to schedule them during off-peak hours, reducing the impact on users and avoiding the costs associated with downtime during busy periods. Additionally, these tools help minimize the risk of human error, which can lead to security vulnerabilities or costly outages. By automating the entire process, you ensure your environment stays secure and operational without constant manual oversight.





Strategic forecasting

While AVD's native cost management resources offer basic forecasting, they often require you to sift through unrelated data, leaving an incomplete picture of your specific AVD environment. Additional advanced tools are needed to provide precise forecasting focused only on the resources being consumed in your AVD setup, including VM usage, storage, and user activity, and eliminate unnecessary data.

Strategic forecasting with the right technology allows you to anticipate future needs, such as scaling your workforce or infrastructure, and make smarter budgeting decisions based on accurate consumption patterns.

You can even model new use cases, such as a potential host pool deployment, to predict financial impacts before you build it—without needing deep expertise in the Azure calculator. This proactive approach helps ensure your deployments align with business goals, so you can scale without overspending or encountering costly surprises.





Managing compliance and security costs

Compliance and security are critical in AVD environments, but relying solely on built-in tools can leave you vulnerable. The real cost hits when security isn't configured correctly, leading to data breaches, compliance failures, and massive penalties.



Cost implications of weak security

Skimping on security can lead to exponential costs. A breach means recovery efforts, legal consequences, and reputational damage, all of which could easily outweigh the initial costs of securing your environment. Automating compliance checks and security protocols, such as role-based access control (RBAC), encryption at the host level, and multi-factor authentication (MFA), ensures your systems stay compliant without manual oversight.

Security measures and their cost impacts

Balancing tight security with cost efficiency is a challenge, and using native tools alone can be slow and inefficient. Nerdio Manager simplifies security with faster deployment, automated compliance checks, and continuous monitoring. This allows your environment to stay secure without manual oversight and costly errors.

Investing in proactive security tools now helps avoid far greater expenses down the road.





Real-world examples of AVD cost optimization

Sage, a global leader in accounting and payroll services, adopted Nerdio for its Azure Virtual Desktop management, saving more than \$1 million annually. Using Auto-Scaling in Nerdio Manager, Sage reduced virtual machine costs by more than 60% and scaled its customer base from 200 to 1,000 without adding staff. This shift allowed Sage to redirect resources to more strategic initiatives, significantly enhancing both cost efficiency and business growth.

According to a report by Enterprise Strategy Group (ESG), an independent analyst firm, organizations using Nerdio Manager with AVD have averaged a 55% reduction in Azure costs, with customers consistently citing improved cost predictability and administrative efficiency. ESG also found that Nerdio Manager reduces the complexity of managing AVD environments, enabling IT teams to cut administrative hours by up to 50%.

As one interviewee noted, “Nerdio removes much of the complexity of AVD and pays for itself. It is the only product I have ever used that shows you the ROI in real time.”



Sage

The Nerdio difference

Nerdio simplifies AVD management, delivering real results:

Significant cost savings:

By automating resource management and eliminating overprovisioning, Nerdio Manager helps customers significantly reduce Azure costs, ensuring more predictable, controlled spending without sacrificing performance.

Operational efficiency:

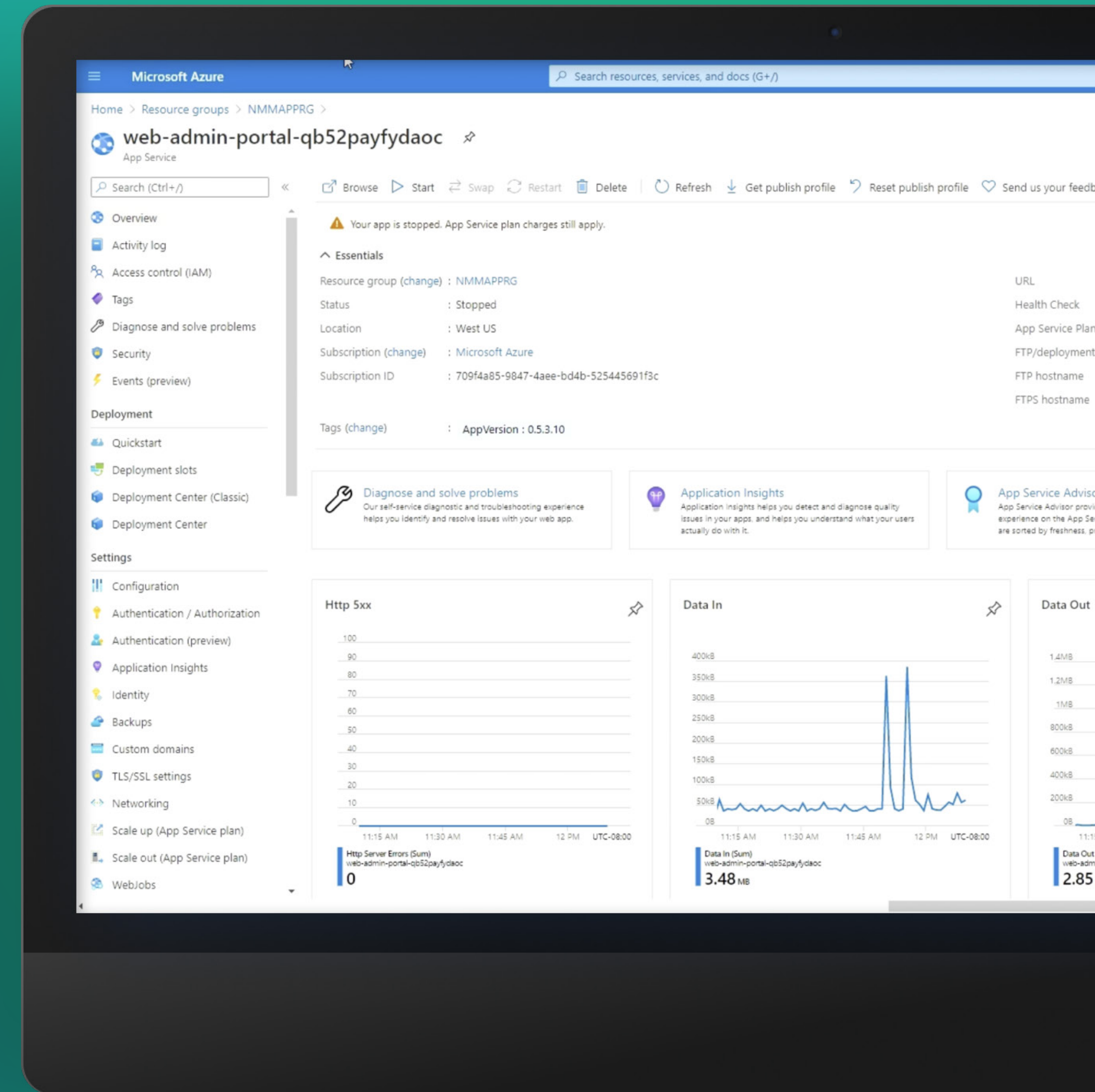
Nerdio Manager cuts administrative hours, automating tasks, such as VM provisioning and patch management, so IT teams can focus on higher-value projects to grow the business instead of routine maintenance.

Stronger security:

Nerdio Manager automates security tasks, such as RBAC and patching, reducing the risk of breaches and compliance failures, to maintain a secure environment without adding complexity or downtime.



Nerdio Manager helps organizations reduce costs, improve operations, and maintain security, making AVD management more effective and scalable. It's the tool your team needs to take AVD's native capabilities to the next level and get the most from your Microsoft investment.



Conclusion

Managing costs in Azure Virtual Desktop environments is a must for IT leaders who want to keep their budgets in check while ensuring everything runs smoothly. With AVD's usage-based pricing, it's all too easy for costs to spiral if you're not on top of them. That's why understanding the cost structure and identifying what's driving those expenses is critical.

By leveraging smart practices, such as dynamic auto-scaling, resource tagging, and automation, you can cut out the waste and keep your operations lean and efficient.

Adopting these proven methods doesn't just save money—it aligns your deployments with your bigger business goals, ensuring you get the most out of your investment.

Ready to take control of your AVD costs and streamline your management process?
[Contact us](#) for a personalized demo today and see how Nerdio can help you hit your targets while keeping expenses in check.

