

Preparing Enterprises for Desktop as a Service Adoption

At the beginning of the COVID-19 pandemic, one of the major initiatives that took place was investigating options for enabling office workers to continue working from home. This mass exodus from offices to homes necessitated organizations to investigate all possible solutions—from big laptop buys to public cloud Desktop-as-a-Service (DaaS) offerings—for allowing employees to continue working safely and securely.

Out of this ‘black swan’ event, DaaS adoption skyrocketed, presenting a whole new list of challenges to IT Operations teams and users in how they consumed their desktop or application experience. In geographically distributed user bases, this was exacerbated by leveraging home internet solutions that could vary wildly in terms of speed/latency, availability, and limited solutions for Operations teams to troubleshoot performance without metric-driven details. This became the equivalent of looking for a needle in a haystack in a new barn that nobody has worked in before. While Desktop-as-a-Service vendors are quickly adding new features and capabilities, the end-to-end visibility and troubleshooting solutions for the support teams still have a long way to go before they will match solutions like VMware Horizon or Citrix from an ease of operations and visibility standpoint.

Operations teams need better visibility in DaaS environments to understand issues as they arise and troubleshoot the root of the problem. No longer are users simply connecting via VPN with all applications sitting in a data center. Rather, some applications are in AWS or Azure, some are still in a legacy data center, and some are Software-as-a-Service solutions. This application sprawl has ultimately created more work for IT Ops teams and presented them with the need for solutions to mitigate the variability.

This whitepaper will not dive into the economics of Desktop-as-a-Service solutions, Microsoft licensing, or which public cloud provider's solution has more widgets. Instead, we will focus on four key areas of consideration that Operations teams should consider prior to migrating into a DaaS solution and the many questions that must be answered to ensure that organizations are covering their bases and setting themselves up for success.

Four Areas of Consideration

1. Personas

Understanding current users, the applications required, and performance needs is critical as desktops move from on-premises VDI solutions to the cloud. Some key questions the operations team will need to answer include:

What are the performance characteristics and concurrency levels of these users?

This will help right-size the most economical choice for a DaaS solution.

Does the user just need a single application delivered versus a full desktop experience?

This may necessitate the layering of third-party solutions for application virtualization or help in the selection of a public cloud offering.

Where is the user base?

Global distribution will require decisions around DaaS placement relative to users or applications and eventually drive network architecture decisions.

Are these persistent or non-persistent desktops?

This will determine the type of solution to deploy.

How many hours per day are these users leveraging the desktops?

In the case of call center users, power users, and application development teams, knowing what type of work is needed and for how long will factor into the overall economics of the design.

2. Networking

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Networking is the most critical element to any design for adopting cloud Desktop-as-a-Service solutions. As workloads migrate to future landing spots (cloud, on-premises, SaaS, etc.), the network configuration needs to be well understood to ensure adequate performance and reduce latency that could create performance issues. Critical questions to answer for delivering optimal performance in this new Desktop-as-a-Service environment include:

Is the organization in the public cloud outside of this DaaS project? If so, single cloud or multi-cloud?

This may influence the selection of a certain public cloud offering over another or the need to add resources to support an expanded cloud offering.

Is there a carrier neutral facility (CNF) design? If so, is that a single location or regional access?

Network topology and those design decisions are critical for the long-term ease of support of an enterprise cloud environment.

Are there applications that will remain on-premises that users need to access?

Knowing this helps build an understanding of network topology/design and identifies the need for connectivity to a cloud exchange for consistent, low latency connections between cloud(s) and on-premises environments.

Is there connectivity to a cloud exchange for high performance/low latency connections to the cloud environments?

This helps provide consistent network performance and reduce risk at scale compared to VPN connections over the public internet for application access.

3. Management

Migrating desktops from an on-premises solution into the public cloud fundamentally changes how IT operations manage that environment. Depending on a client's budget and needs, there needs to be a determination of whether there is a desire to layer an existing VDI solution (like VMware Horizon or Citrix) on top of the cloud platform. This is not a requirement, but may facilitate ease of management and avoid operations teams needing to build additional features or capabilities.

Is the operations team comfortable with the public cloud Desktop-as-a-Service offering?

Determining current skill sets and the ability to ramp while competing with other enterprise initiatives may push organizations to look at continuing to leverage the management software.

Is there a desire to reduce ongoing operating expenses or subscriptions from existing VDI software?

This involves the trade-off between certain enterprise-ready features that are available within those existing solutions and the desire to reduce the operating expenses of ongoing support/subscription costs.

Are there certain management features or monitoring capabilities that support the user experience that the help desk or operations teams are used to?

The conundrum of *build versus buy* comes into play here, leaving organizations with a decision between building out monitoring capabilities with cloud desktop services or electing for pre-built offerings at an additional cost.

4. Resiliency

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As with any solution, there is a cost trade-off between resiliency and the ability to recover from a disaster. A benefit of the public cloud is that there may not be a need for a hot site with redundant infrastructure sitting idly while waiting for a DR event, but templates and data will be ready anyway. Some considerations for building out a cloud DaaS solution include:

Is there a need for building out disaster recovery?

Defining availability zone or regional availability, image management, and user profile data is key to supporting accessibility in the event of public cloud outages.

How are you protecting your gold desktop images and user data?

Building a data protection and recovery strategy for user profile information and user data will be important when architecting recovery in the event of an availability zone or region outage along with planning for the patching/updating of environments.

What are the RTOs for the workforce? In the event of a disaster, how quickly do operations need to be resumed?

This will drive high availability design and help identify the need for hot/cold sites for recovery as well as the level of effort required to resume operations.

What level of failure is the organization willing to tolerate (availability zone, region, or cloud)?

Defining these requirements is key, as there might be some workstations/users that need greater levels of access/availability which necessitates building new regions and automation to resume operations/access.

Final Thoughts

Desktop as a Service is a powerful tool for organizations that want to get out of the data center business and allow themselves to quickly pivot following major changes to corporate operating patterns. That said, it is important not to rush into building out that platform without first answering the aforementioned questions around personas, networking, management, and resiliency.

While moving quickly was absolutely necessary to continue working efficiently during lockdown, speed is no longer the highest priority. Given the appropriate amount of time to perform thoughtful due diligence, organizations that address the above considerations will ensure a better migration and eliminate time spent on the back-end troubleshooting bad user experiences.

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