E-Guide

HOW TO CHOOSE BETWEEN DAAS AND VDI
HERE ARE PLENTY of reasons to use DaaS vs. VDI -- lower upfront costs, reduced IT maintenance, anytime user access -- but there are also benefits to VDI that make it a great choice for some organizations’ desktop infrastructure. How do you know when to use each approach? This e-guide explains when to do DaaS vs. VDI, and how the management of both differ.
WHICH SHOPS SHOULD USE DAAS VS. VDI?

There are plenty of reasons to use DaaS vs. VDI -- lower upfront costs, reduced IT maintenance, anytime user access -- but there are also benefits to VDI that make it a great choice for some organizations’ desktop infrastructure. How do you know when to use each approach?

With DaaS, you can buy new desktops from a provider on short notice, and then surrender those desktops back, which is one of the huge benefits. You pay only for the desktops you choose to use each month, which makes it ideal for organizations that have surges in their desktop needs. Rather than having a large amount of equipment that you only use occasionally, you can use DaaS to deliver on short-term or seasonal desktop requirements.

Additionally, you can spin up cloud-based desktops for workers to use as part of your disaster recovery plan. This gives users much more flexibility in terms of where they can work and what devices they can use to access their desktops.
WHEN TO DO DAAS VS VDI

If your shop wants to do VDI but lacks the in-house expertise to build and operate a complex VDI environment, then you are good potential DaaS customer, too. Instead of building an inadequate VDI platform and not having the experience to operate it, you could rent desktops from a DaaS provider. If you choose to do DaaS, your on-site desktop infrastructure could be as simple as a few thin clients, a print server and an Internet connection, particularly if you build a full server infrastructure with your DaaS provider.

Another good use for DaaS is if you expect a lot of growth in desktop use that will be spread over time. Your DaaS footprint can grow a little every month, but to grow with VDI, you need to plan for your maximum size right from the start. That means you either buy huge excess upfront, or regularly -- and disruptively -- upgrade hardware to add capacity to your VDI environment. Either way, with VDI, you have to pay for capacity well before you use it.

If you’ve moved your entire server infrastructure into a cloud provider’s data center, you could benefit from also moving desktops to the same cloud provider. Keeping the desktops near the servers helps with application performance since it minimizes network latency. This is an even bigger driver if you use a community cloud.
Community clouds provide services to a specific set of customers, such as financial services firms or government contractors. In these cases, the community might have specific regulatory compliance requirements that the cloud provider meets. These same specialized requirements will likely apply to the desktops, so placing them in the community cloud is logical.

**WHY USE VDI INSTEAD OF DAAS?**

The choice to use on-premises VDI is usually about scale, control or diversity. If you need to deliver 10,000 desktops, then you have the scale of a DaaS provider. At that scale, you can afford to design, deploy and optimize the virtual infrastructure just like a service provider. If you can achieve most of the economies of scale, then you can probably provide more cost-effective desktops internally, rather than having an external provider dedicate entire rows of racks to your desktops.

Control has always been an impediment to cloud adoption. Legal requirements in some jurisdictions about data sovereignty can make cloud services unworkable for companies in certain industries. When an organization must comply with multiple sets of regulations, rather than just one, it can be hard to find a DaaS platform that satisfies all requirements.
One characteristic of cloud services is they come in predefined configurations. Usually, you cannot special-order a custom DaaS desktop configuration; you simply choose from a menu. By contrast, VDI allows for a lot of customization, from different CPU, RAM and disk configurations, all the way to the ability to deliver rack workstations to users.

Stacking a lot of virtual machines (VMs) on a single virtualization host may not be suitable for many Windows PC use cases, and DaaS does not usually support these. If you need to buy a workstation at three to 10 times the cost of a standard PC, using a VM in its place probably won’t give users the performance they need.

VDI usually allows a dedicated physical workstation or a customized VM for users who need high-end hardware, and it still keeps their desktops in the data center and allows for mobility. Specialist DaaS providers may be able to deliver this sort of capability, but it doesn’t match the DaaS economies of scale model so well.

**MAYBE USE BOTH -- OR NEITHER**

There will definitely be shops that choose DaaS for some workloads and build VDI for others. VDI might suit an enterprise desktop infrastructure with
thousands of permanent staffers. That same organization might have seasonal workers who they use DaaS to accommodate.

And there might be parts of your business that need to access a specialist DaaS environment for regulatory or technology reasons. In truly global organizations, there is huge diversity, and mandating one technology to serve all requirements is a recipe for disaster.

One emerging trend is to have VDI products that support brokering connections to DaaS products as well as on-premises VDI. Having one access methodology to reach VDI and DaaS simplifies support. In some ways, this makes the DaaS provider just another data center in the desktop environment.

The elephant in the room in the discussion about DaaS vs. VDI is the option to do neither. Putting a PC on a user’s desk isn’t exciting or modern, but it does run Windows applications for that worker. Many companies will find that the sensible course of action is to keep doing what they did before, buying new PCs and installing applications on those desktops.

On the other hand, if you need benefits such as agility and flexibility that both VDI and DaaS provide, then you should consider one or both technologies.
HOW DAAS AND VDI MANAGEMENT DIFFER

DaaS offloads a lot of infrastructure maintenance from your IT team to the cloud service provider, which means that DaaS comes out on top when compared to VDI management.

With desktop as a service (DaaS), the service provider deals with the headache of building and operating virtual machines (VMs) and virtualization infrastructure. Its VDI environment is many times larger than yours would be, and service providers can spread the costs across far more desktops than you could. These economies of scale pay off when dozens or hundreds of customers use a single DaaS provider. All your users need is a reliable, secure network connection to the DaaS provider. This could be over the Internet, or it could be a dedicated link. With DaaS, you do not need to manage virtualization or VDI.

Vendor marketing claims say that DaaS desktops can cost as little as $30 per user per month, and on-premises desktops cost a whole lot more. The reality is that the cost of a DaaS desktop is similar to the cost of a VDI desktop. The benefit of DaaS is that you don’t have to manage the virtual infrastructure. Instead, you can focus on users and applications.
DAAS AND VDI MANAGEMENT REQUIREMENTS IN COMMON

Many ongoing DaaS and VDI management tasks are the same, and much of the iceberg of VDI complexity is still present with DaaS. End-user device management, printing and desktop patching are all your responsibility in a DaaS environment.

With DaaS, the provider hosts VMs in its data center, but users still need devices to access those virtual desktops. If employees sit at a desk somewhere, they probably use a PC or a thin client to access their desktops. You must support that device if it fails.

Even if users access their desktops from mobile devices, you must provide support. No matter the reason for blocked access, any loss of productivity is your problem to fix, even if the endpoints don’t belong to your company.

One of the biggest pain points in an end-user computing strategy is printing. Sooner or later, users will want a paper copy of a document. This is fairly easy to accommodate for users in the office and on the corporate network but, with DaaS, printing will work only if you have a routed network connection to your provider. Most VDI products include some sort of universal printing capability for desktops and laptops that allows workers to use any printer installed on their clients. When you’re looking at DaaS service providers, spend some
time looking at how well their universal printing works.

Mobile devices running Apple’s iOS or Google Android operating systems, which usually have fairly limited printing capabilities to begin with, can be a problem as well. The clients for these OSes have similarly limited or nonexistent capabilities. If VDI or DaaS is part of a wider mobility strategy, it may be more appropriate to have users print documents through apps on their mobile devices, rather than through the client.

Preserving the uniqueness of each user’s computing environment is another challenge. A persona is made up of a user’s preferred browser and things such as personal documents they may store on the desktop. In any VDI or DaaS environment, you usually need to provide persistent personas. Simply retaining preferences inside the user’s VM is OK until the VM needs to be replaced -- either with a new operating system or maybe just an updated build. Generally, Windows roaming profiles or a third-party alternative manages personas.

To copy personal data onto a file server, the desktops must be joined to your Active Directory (AD) domain. You can use Group Policy Objects to control this process, and domain-joined desktops are usually part of your Windows infrastructure anyway, so it’s no big deal in a VDI environment. But with DaaS, you will probably need AD and a file server or two inside the DaaS provider’s
Unless workers only use the most basic applications, you will probably want to assemble your own desktop VMs. This is called image management, and it is required for both VDI and DaaS. You may have different images for various groups of users who require specific applications. Keeping these custom images up to date is a regular task, and so is periodically updating software versions.

Patching is another painful reality in modern IT. Your DaaS provider might take care of ensuring that newly deployed desktops are patched, unless you use a custom image (then patching is your job). But once you deploy the VMs, patching is entirely your responsibility.

If you are going to keep the desktops for more than a few days, you will need to update Windows, malware protection and other applications. In VDI, IT usually manages this with mechanisms such as Windows Software Update Services (WSUS).

With DaaS, you may still want to use WSUS to update desktops. The DaaS provider is responsible for the infrastructure to provision, run and access the desktop VMs.

With a VDI environment, these are all tasks for the customer’s IT team.
Remember that everything inside the VM is always the customer’s responsibility, whether on VDI or DaaS.

**WHO MAINTAINS WHAT?**

It is important to understand what you are getting from your DaaS provider and what you are still responsible for. Table 1 gives a good idea of what to expect from in-house VDI versus a DaaS provider.

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How DaaS and VDI management differ

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