SPECIAL REPORT

Defining the Value of DaaS
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Introduction

“We want to move our desktops to the cloud.” That, in nine words, is cloud services for desktops. Aligning your desktop virtualization with a service provider is commonly called desktops-as-a-service (DaaS), although some refer to the technology as hosted virtual desktops, desktops from the cloud or workspace-as-a-service (WaaS).

Conceptually, DaaS is relatively straightforward: host a suite of virtual machines running a desktop operating system in a data center and supply remote access to those endpoints. Originally positioned as an alternative to building your own virtual desktop infrastructure (VDI), DaaS now stands on its own as a viable option for small and medium businesses (SMBs) to virtualize their desktop environments in a simple, quick and cost-effective way.

DaaS has been around for a while. Desktone, which VMware bought in 2013, helped to pioneer the service in 2007. Then DaaS got a needed kick-start late last year when Amazon Web Services rolled out WorkSpaces, positioning it as a simple, highly cost-effective desktop service in the cloud.

If you’ve elected to virtualize your desktop environment, the first decision you’ll have to make is whether to build your own VDI or rent one from a service provider. There are advantages and disadvantages to both platforms, which means you won’t get away clean in either instance but you’re also unlikely to regret your choice.

If you elect to rent, DaaS is a cloud service in which a cloud service provider hosts the back end of a VDI architecture. DaaS technology supplies the user with a virtual PC that duplicates the look and feel of their traditional PC.

While that sounds simple enough, if you’re new to the subject, getting a handle on the concepts and technologies typically requires navigating and deciphering a huge volume of information. In some ways there’s too much information out there to digest without getting hopelessly lost in the details. Frankly, it’s easy to miss the DaaS forest for the trees. So let’s simplify.
What Is DaaS?

DaaS's intent is to harness the power of desktop virtualization and deliver it to desktops from the cloud. It’s differentiated from VDI, where virtualized desktops are deployed from internal data centers. With DaaS delivery, the back-end data storage, backup, security and upgrades are managed by the service provider. The idea is to separate you from the plumbing that makes DaaS work.

How Desktops-as-a-Service Works

USER
• Logs onto a thin or zero client to access desktop and apps
• Can work from any location or supported device

AGENCY
• Creates and manages desktop images
• Maintains licenses for operating systems and apps
• Manages devices

SERVICE PROVIDER
• Hosts virtual desktops
• Maintains hardware
• Responsible for data center functions, including power and cooling

Source: FCW, April 2014

DaaS enables IT administrators to manage desktops from a central console, which means they no longer need to concern themselves with overseeing individual machines, instead leaving service providers with remote data centers to handle overriding issues such as networking, storage and virtualization to provide optimal desktop computing.

“DaaS has grown out of major advancements in network technology to allow thin clients to perform further and further away from the data center,” said Charles King, principal analyst at researcher Pund-IT in Hayward, Calif.

What Is the Demand for DaaS?

Given the increasing user demand for greater mobility and access fueled by businesses looking to reduce the total cost of ownership (TCO) on desktops, there are strong indicators that DaaS deployments are set to jump in 2014. The stage has been set:

• In 2012, the 451 Research Group said, “Interest in third-party DaaS is at a fever pitch.”
• In 2013, IDC said, “Desktop virtualization is rapidly growing and expanding to new devices as organizations seek to adapt to new user trends and increase productivity by enabling mobile work styles.”
• Today, in 2014, researcher Gartner said, “2014 is gearing up to be the year desktop-as-a-service finally gets some legs. Hype surrounds this technology but little if any real world deployments have yet to occur.”
If the advent of DaaS can be said to spring from virtualization’s overall upward trend, its day may already be here. In a recent IDC study, more than 65 percent of respondents said they currently have virtual desktops and an additional 25 percent are expecting to deploy the technology in the next year. Only 9 percent of the respondents said they have no plans to deploy desktop virtualization technology.

Moreover, IDC estimates the WaaS worldwide market will rise to some $661 million by 2016. And 451 Research pegs the desktop virtualization ecosystem, of which DaaS is a component, to expand to a $5.6 billion opportunity by 2016.

### Desktop Virtualization Ecosystem Global Market Value

#### INITIAL ADOPTION
- Desktop Virtualization viewed as a market with a lot of potential
- Hyper-growth stage yet to be achieved
- Launch of Citrix XenDesktop 4 & VMware View 4.0
- Performance and ROI hurdles hinder progress toward “desktop nirvana”
- Session-based computing accounts for over 75% market share

#### BROADER ADOPTION
- Adoption in best-use cases
- Push by Citrix & VMware
- Desktop + application + user virtualization = closer to “nirvana product”
- First growth spoke in 2010
- Desktop virtualization revenues expand to complete with session-based computing revenues
- User-centric evolution of desktops with an aim toward next-generation end-user computing

$1.6bn

#### FOCUS SHIFTING TOWARD DAAS

**NOTE:** The desktop virtualization ecosystem revenue includes server-, client-, and OS-hosted desktop virtualization, session-based computing, application virtualization and management (includes user virtualization).

Source: 451 Research, February, 2012

### What Is Driving DaaS Adoption?

A number of factors now serve to advance DaaS:
- Windows migration
- BYOD and changing workforce demands
- IT budget constraints
- Strong players entering the market
- Security
- Enterprise integration

DaaS promises to deliver a virtual workspace that can be accessed anywhere at any time from a variety of devices — with nearly all the work done in the cloud. The technology has additional powerful market drivers in its corner, including the increase in mobile and remote workers, security issues, employees using their own devices in the workplace (BYOD), Windows migration and the increasing cost of maintaining or replacing older PCs.
Should SMBs consider DaaS as a modern alternative to traditional PCs? It certainly looks that way. IT management’s desktop hobgoblin is the absence of one right solution for every problem. Some users require a full, operating system powered-PC with access to a host of powerful, specific applications and storage. But with increasing frequency many users require a limited number of applications such as a word processor, a spreadsheet, an email client and a browser.

The promise of DaaS is that moving desktops to cloud businesses supplies the benefits of centralized management, security and easy deployment while skirting the investment in hardware capital and technical expertise associated with virtual desktops nourished by an internal data center. And, at the end of the day, managing desktops delivered as a service is generally regarded as simpler and cheaper than traditional desktops.

What’s the bottom line benefit for you with DaaS? It can enable you to convert your lump sum desktop capital expenditures to a cost-effective monthly line item expense on your budget.

What’s the Difference Between DaaS and VDI?

For businesses considering implementing hosted desktops, choosing between cloud-hosted and data center-hosted isn’t always clear-cut, mainly because of the overlap in what each platform offers. Where business owners may fidget about VDI’s management requirements, capital outlay and complexity, DaaS worries them about data control, licensing, security and bandwidth.

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### Desktops-as-a-Service vs. Virtual Desktop Infrastructure

<table>
<thead>
<tr>
<th>DAAS ADVANTAGES OVER VDI</th>
<th>VDI ADVANTAGES OVER DAAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service provider handles back-end infrastructure, no endpoint management.</td>
<td>Trust: More control over data in a VDI environment.</td>
</tr>
<tr>
<td>Lower upfront and ongoing infrastructure costs.</td>
<td>Control over the backend infrastructure for reliability, data recovery and uptime.</td>
</tr>
<tr>
<td>More flexibility, more mobility, less complexity. Provider can quickly spin up desktops to users on a variety of devices.</td>
<td>No shared/dedicated server environment owing to Microsoft desktop OS licensing issues.</td>
</tr>
<tr>
<td>Cloud-hosted applications are easier to patch, upgrade or restore if a failure occurs.</td>
<td>Security: Many businesses won’t host confidential data in a public cloud.</td>
</tr>
<tr>
<td>Speed: Can be up and running quickly.</td>
<td>Easier environment to personalize to user preferences.</td>
</tr>
</tbody>
</table>

One significant difference between VDI and DaaS is the issue of licensing. Because Microsoft doesn’t offer a Service Provider License Agreement (SLA) for desktop OS, licensing is a key challenge in a DaaS environment. Service providers sidestep the problem.
to a certain degree by using a different platform, such as Windows Server 2008 R2, instead of Windows 7, even though that introduces user personalization limitations.

A number of additional considerations also factor into DaaS decision-making, including:

• **Trust.** Perhaps the biggest issue when considering DaaS is trusting your service provider of choice. Not only are you placing your desktops into someone else’s data center you’re also counting on them to maintain the machinery that tethers users to desktops.

• **Access to local resources.** You’ll have to address how users gain access to local resources. With DaaS, all your remote users must access the file shares across the VPN.

• **Flexibility.** With DaaS you’re limited to the service provider’s framework and don’t have the flexibility inherent in a VDI environment where you can customize as you choose.

• **Management.** DaaS isn’t synonymous with no IT management duties on your part. You’ll still have to install applications, support users, perhaps install a VPN tunnel and make minor, mid-course corrections.

• **Pricing.** DaaS and VDI price comparisons sometimes don’t stand up to closer scrutiny.

• **Settings.** For customers that want to provide a desktop with just Office productivity applications, such as SMBs, DaaS fits well but less so for large enterprises with client-server applications.

Perhaps the biggest issue when considering DaaS is trusting your service provider of choice.
### Comparing DaaS & VDI Implementations

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>HOSTED</th>
<th>DO-IT-YOURSELF</th>
<th>DAAS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HOSTED VDI*</td>
<td>APPLICATION VIRTUALIZATION</td>
<td>PREMISES VDI*</td>
</tr>
<tr>
<td>Platform</td>
<td>VMware</td>
<td>Citrix XenApp</td>
<td>Citrix XenDesktop</td>
</tr>
<tr>
<td>Target Market: &lt; 20 users</td>
<td>✗</td>
<td>✓ **</td>
<td>✗</td>
</tr>
<tr>
<td>20-50 users</td>
<td>✔</td>
<td>✓ **</td>
<td>✗</td>
</tr>
<tr>
<td>51-100 users</td>
<td>✔</td>
<td>✓ **</td>
<td>✗</td>
</tr>
<tr>
<td>101-500 users</td>
<td>✔</td>
<td>✓ **</td>
<td>300+</td>
</tr>
<tr>
<td>501-1000 users</td>
<td>✗</td>
<td>✓ **</td>
<td>✗</td>
</tr>
<tr>
<td>Buying model</td>
<td>OPEX Monthly charge</td>
<td>OPEX*** &amp; CAPEX (Purchase)</td>
<td>OPEX*** &amp; CAPEX (Purchase)</td>
</tr>
<tr>
<td>TOC</td>
<td>LOWER No upfront capital, reduced administration</td>
<td>MEDIUM to HIGH Licensing, management, infrastructure</td>
<td>VERY HIGH Licensing, management, infrastructure</td>
</tr>
<tr>
<td>IT controls</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Network and infrastructure administration requirements</td>
<td>MINIMAL Traditional Windows Enterprise Administration. Basic tasks via portal</td>
<td>HIGH Entire environment managed internally or 3rd party</td>
<td>HIGH Entire environment managed internally or 3rd party</td>
</tr>
<tr>
<td>Virtual desktop administration requirements</td>
<td>VERY LOW Desktops managed centrally from single image</td>
<td>VERY HIGH Managing shared presentation and licensing servers</td>
<td>VERY HIGH</td>
</tr>
<tr>
<td>Flexibility to control security</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Technical staff requirements</td>
<td>LOW to MEDIUM Depending on managed services selection</td>
<td>VERY HIGH</td>
<td>VERY HIGH</td>
</tr>
</tbody>
</table>

* VDI (Virtual Desktop Infrastructure)
** for specific applications
*** FTEs, maintenance and support

Source: Evolve IP, “Selecting the Right VDI Technology, Hosted vs. DIY vs. DaaS,” 2013
What Are the Challenges of Cloud Desktops?

DaaS isn’t a panacea without challenges. Aside from the Microsoft licensing issue, you will have to cope with a number of other factors:

• **Trust in the cloud.** Because most companies value their data as much as they do their employees, hosting their sensitive data in an outside data center shared by others requires a leap of faith. That makes trust a continuing issue for DaaS adoption.

• **Connectivity.** Uninterrupted access to data is critical to a business’ ability to conduct operations, so maintaining consistent connectivity to hosted desktops is vital.

• **Security.** With cloud-hosted desktops, business often must adjust to security under someone else’s control. If you elect to keep your data on-premises while your desktops are hosted offsite in a data center, you’ll need to be mindful of latency issues that can compromise overall performance.

• **Reliability.** Are hosted desktops reliable? Without offline capabilities, cloud-hosted desktops are vulnerable to outages.

• **Calculating True Cost.** If there’s any “catch” associated with DaaS, it’s probably in calculating the true cost. Inasmuch as the service provider supplies the back-end infrastructure, DaaS pricing typically is fairly predictable. After all, that’s the point of a subscription service. Still, you’ll want to make sure what your monthly charges cover and what, if anything, brings an extra fee. It’s safe to figure desktops costs will be about $30 to $35 per month per user but other factors such as IT management, image creation, layering or local file storage can drive the price up. In addition, licensing can bump the price even higher. And you may have to set up a VPN tunnel and add bandwidth, both of which will cost you more money.

What Should You Ask a DaaS Provider?

With DaaS, if you can’t do it yourself, you’re well served by turning to a service provider to handle the heavy lifting for you. Consider it an outsourced job much like any other operation you might hire out. Still, it’s best to have your questions lined up beforehand. Here’s a few you’ll need to consider:

• Who manages the desktop image?

• Who provisions applications?

• Who provides Tier 1 support?

• Who handles updates?

• Who fixes desktops if they go down?

• What if you go out of business?
• How will you separate our desktops, storage and networks from your other customers?
• Does your SLA provide compensation for outages?
• How do ensure compliance with licensing and technical regulations?

Cloud service providers depend on strong user performance so they’re strongly motivated to fix any performance issues you may incur.

Answering the question whether to go virtual is anything but easy. Deciding on DaaS, VDI or a hybrid solution is even more difficult. Even if you can decipher the pros from the cons, digest all the material available, examine the offering from top providers Amazon, Citrix, VMware and others, it’s still challenging to tease out the best option for you. For assistance in understanding your virtual desktop needs, contact your trusted technology adviser.