Product Brief

Amazon WorkSpaces Delivers Desktops from the Cloud

Date: December 2013 **Author:** Mark Bowker, Senior Analyst

Abstract: At re:Invent 2013, Amazon Web Services (AWS) announced Amazon WorkSpaces, a fully managed desktop computing service in the cloud that enables end-users to access the documents, applications, and resources they need with the devices of their choice, including laptops, iPads, Kindle Fires, and Android tablets. The potential success of Amazon WorkSpaces will hinge on the initial experiences customers have consuming a desktop from the cloud related to its performance, usability, security, and overall end-user experience. In order for this to be successful, AWS's new offering has to quickly transition from proven technology to a solid execution path that engages tightly with its customers.

Amazon WorkSpaces Debuts at AWS re:Invent 2013

AWS took full advantage of the stage at re:Invent 2013 and its success with AWS to introduce its desktops-as-a-service offering, Amazon WorkSpaces, a fully managed desktop computing service in the cloud that enables end-users to access the documents, applications, and resources they need with the devices of their choice, including laptops, iPads, Kindle Fires, and Android tablets. The announcement highlighted:

- **A new fully managed virtual desktop computing service**. Amazon WorkSpaces is a fully managed service for persistent dedicated virtual machines. The service is offered as both a standard and a performance bundle based on hardware resources and included applications. The service will be initially available in preview mode to a limited number of customers in the US with plans to expand into additional geographic regions.
- **Choice of desktops and devices**. The cloud desktop will be accessible from a variety of devices, including PC and Mac desktops and laptops, as well as iPad, Kindle Fire, and Android tablets. Users will need to install the client that will be accessible from the Amazon Appstore for Android, Google Play, and the iTunes App Store.
- **High quality user experience**. Amazon licensed a *PCoIP* (PC-over-IP) protocol from Teradici that compresses, encrypts, and encodes the users' desktop computing experience. Pixels are projected out to the client-side device and with the optional Amazon Sync client, users can synchronize their documents between their Amazon WorkSpace and other computers.
- **Economic attainability**. Amazon WorkSpaces is a monthly pay as you go pricing model that starts at $35 per month for a standard desktop and extends to $60 per month for a performance desktop. Users will have the option to add Microsoft Office 2010 and Trend Micro Antivirus for an additional $15 per month.

Desktop Delivery from the Cloud

Increasing numbers and types of devices make desktop management a daunting task for IT staffs. Given the large number of users, devices, and applications that they must support, in a recent ESG research survey, respondents identified a myriad of challenges related to managing their organizations' desktop and mobile computing environments. These included the need to secure confidential data resident on endpoint devices, operational costs related to the IT staff required for endpoint device management, and economic considerations. Nearly one-quarter (24%) of potential desktop virtualization users either use or anticipate using cloud-based services (i.e., DaaS) to deliver PC functionality to at least some percentage of their employees.[1]

Amazon WorkSpaces isn't the silver bullet for the delivery of desktops to all employees today; However, the delivery model is well timed in the market as businesses look to extend on any initial success they may have encountered with application virtualization and VDI (virtual desktop infrastructure). Businesses are also looking to invest in consumption

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[1] Source: ESG Research Report, *Desktop Virtualization Market Evolution*, February 2013. All other ESG research references and charts cited in this

models that help manage, secure, and deliver desktops and manage user data with improved economics and an uncompromised end-user experience. This announcement places AWS in the workspace delivery spotlight and should prove successful based on the following factors:

- **Intensifying challenges surrounding traditional PC management and maintenance.** Desktop virtualization technologies have quickly matured and proven their usefulness. When ESG asked its survey respondents about current usage of and plans for desktop virtualization, one-third reported that their organization currently uses some type of desktop virtualization delivery model, with an additional 23% saying they have plans to deploy the technology sometime in 2013. A mere 11% of organizations reported having no desktop virtualization plans or interest at this time.

- **Mobility as a top priority for CIOs.** When ESG asked which individual or functional group has been the *biggest* internal advocate for desktop virtualization technology within their organizations, survey respondents identified senior IT management as the major proponents of both current (26%) and potential (25%) desktop virtualization initiatives. Since, according to ESG research, IT budgets continue to be impacted by organization-wide cost reduction initiatives and respondents to an ESG research survey identified reducing operational (38%) and capital expenditures (26%) as among the most important considerations for justifying technology investments to their business management teams,[2] it makes sense that top IT managers—tasked with spending decisions—would get behind desktop virtualization as a potential source of cost savings and urge their direct reports to implement or at least explore the technology.

- **Recent vendor investment activity**. VMware acquired Desktone on October 15, 2013 to deliver desktops-as-a-service (DaaS) to its customer base and offer an alternative consumption model for on-premises VDI and its potentially costly and complex infrastructure requirements. Cisco's acquisition of Whiptail on September 10, 2013 is an additional indicator that use cases such as virtual desktops require new architectural considerations that reduce data center floor space with a favorable economic return on investment. The perhaps lesser-known acquisition of Bytemobile by Citrix in 2012 is further evidence that having a foothold in the service provider market is a key element to a robust desktop delivery strategy.

Experience, Expansion, and Execution

As AWS becomes a well-known entity inside IT organizations, it's a natural extension of services to offer WorkSpaces, but the company will need to:

- **Quickly bounce beyond basic desktop services.** As Amazon has learned from core AWS, having a rich set of capabilities is key to driving value for its customers. AWS has to consider the same with WorkSpaces and plan to offer highly differentiated services to their customers that include automated hosting based on geographic proximity of the user, shared non-persistent desktops, and tighter integration with application delivery—specifically application hosting and streaming.

- **Engage strategically.** Lighting up a quick desktop for a demo or for basic end-user usage is interesting, but it is going to take a fair share of handholding with more sophisticated accounts that have grand plans to host a serious percentage of its desktops with WorkSpaces. Relationships, partnering, and execution of go-to-market strategies with key VARs, ISVs, and SIs are going to be key success factors for AWS. Desktop transformation tends to be very consultative in nature and customers will want some up-front planning, assessment, and implementation services.

- **Ensure a stellar initial experience.** The first desktop instance an administrator provisions from Amazon WorkSpaces is going to quickly determine how valuable the experience is. When ESG asked respondents leveraging or planning to leverage a centrally hosted desktop virtualization delivery model—including DaaS—about their challenges or concerns from a networking perspective, poor performance, slow file transfer speed, and the cost of bandwidth topped the list of responses reported by both groups. There is also a strong correlation between WAN-specific challenges cited by current desktop virtualization users and the impact of

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[2] Source: ESG Research Report, *2013 IT Spending Intentions Survey*, January 2013.

centrally-hosted virtual desktops on the consumption of WAN bandwidth. Those respondents reporting that centrally-hosted virtual desktops have had a significant impact on WAN bandwidth utilization are more than twice as likely as those recognizing the effect as minimal (56% vs. 25%) to cite the cost of bandwidth as a networking challenge. Similarly, those respondents that have experienced significant consumption of WAN bandwidth as the result of centrally-hosted virtual desktops were much more likely to identify poor WAN performance as a challenge.

As users sign up for the preview of Amazon WorkSpaces, they will require guidance and education beyond the core service. Amazon has the opportunity to quickly set the table with customers to identify where WorkSpaces is a fit, outline its roadmap, and educate customers about how it plans to play a strategic role with desktop management and implementation. This should include networking guidance, including a clear path that sets expectations and potential pitfalls, use case-driven scenarios mapped to employee roles, and validation of technology from the initial inquiry.

AWS is not alone in this market and is going to be met with aggressive competition. VMware has a loyal customer base and the opportunity to take its existing VDI deployments to its new vCHS DaaS offering. Citrix is a seasoned veteran in application and desktop delivery, working with its service providers to deliver a rich set of capabilities and services. Other potential market disruptors include Cisco, Oracle, and Google. Finally, you can expect that Microsoft, while once again earmarked for being late to the market, will have hosted desktops on Azure. Customer relationship, simplicity of deployment, and a quick ramping of additional services are going to be important to Amazon WorkSpaces' success.

The Bigger Truth

AWS is a force to be reckoned with. Giant successful IT vendors that have successfully sold hardware, software, and services to IT for years are already feeling uneasy about AWS's capabilities and WorkSpaces layers on an additional attack vector for them to consider. The desktop computing market is an enormous opportunity for IT vendors as businesses work through mobility challenges, economic headwinds, and risk adversity. Entire businesses are not likely to immediately run all their desktops from the cloud, but the consumption model has become a very viable delivery model. AWS has a challenging road ahead, but one that it is capable of navigating given its success with EC2 and Amazon S3.

Amazon WorkSpaces is valuable for the IT industry as it not only demonstrates the validity of delivering a desktop experience from a cloud service at a much lower cost, but it should also prove to be eye opening for the market at large as they continue to observe AWS playing a larger role inside traditional IT organizations. This isn't a slam dunk for AWS…yet, but given a successful preview cycle, proven customer examples, and rock solid end-user experience, AWS could quickly become a major DaaS player that IT vendors and customers should keep their eyes on.