The Virtualization Practice

CLOUD COMPUTING, DESKTOP VIRTUALIZATION

DAAS VS VDI — COSTS COMPARED

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During a recent briefing from a DaaS startup, I was surprised to hear the vendor report that he was seeing interest from enterprise customers looking to DaaS because they were unable to make the numbers work for a server-hosted desktop virtualization solution. This baffles me. I'm hard-pressed to think of many current circumstances where it is not possible to deliver a VDI solution for less than the cost of a comparable managed distributed desktop implementation. I'm even more puzzled that anyone believes that it is possible to deliver DaaS for less than the cost of VDI, at least not without some degree of legerdemain. I'll come back to the question of cost comparison between VDI and distributed desktops and how to deliver low-cost, high-performance VDI next week, but for now let's look at the DaaS vs VDI comparison.

DaaS is VDI hosted in the cloud. It comes in a number of different flavors (as described here in The Cloud Workspace: DaaS by Any Other Name) encompassing everything from bare-bones platform-only services to full managed services that eliminate the need for in-house desktop support services. Regardless of the fine detail, the technology is essentially the same: a DaaS platform and a VDI platform are built on similar storage and compute platforms, and they use similar (sometimes identical) connection brokers. There is no special magic that allows a service provider to run more desktops from a given hardware platform.

DaaS providers can make savings that small to medium-sized businesses have difficulty matching. Service providers also have opportunities to reduce the cost of the service through their ability to take advantage of their bulk purchasing power. At the very top of the scale, providers such as Amazon can leverage their expertise at building high-performance, no-frills servers hosted in energy-efficient data centers to further reduce their costs. Larger service providers are also able to extract some benefits by taking advantage of shifts in peak utilization between customers in multiple time zones, but this requires an evenly distributed customer base to work to any significant effect, and even then, practical considerations limit the possible

savings.

If true follow-the-sun services were possible, it might be possible to achieve a ratio of delivered desktops to installed capacity of around 2.5:1. However, real-world limitations on the number of time zones a single location can support significantly reduces the advantage to be gained here. As the number of supported time zones increases, so does the distance between data center and endpoint. The corresponding increase in network latency effectively limits the span to five or six time zones at best, an offset that typically offers no more than a 5% to 10% reduction in peak capacity requirements. The biggest difference comes from service providers that specialize in desktop hosting. They're better able to leverage in-house expertise for improved efficiencies and reduced operating costs. However, lower operating costs don't reduce capital expenditure, so savings achieved through improvements in energy and operational efficiency are usually clawed back by the service provider as profit—something that in-house VDI services are not required to do.

Anyone looking for DaaS vs VDI comparisons need look no further than Amazon and VMware. Amazon WorkSpaces (reviewed here) may offer a virtual desktop for as little $25 per month, but that buys just 1 vCPU, 2GB memory, and 10GB of storage—barely enough to run Minesweeper. The Standard Amazon WorkSpaces package, with 2 vCPU, 4GB memory, and 50GB of storage, is only $35 per month; it is a close match for the specification VMware uses to size its EVO:RAIL appliance specification, promising that it can "comfortably" run 250 virtual desktops. With EVO:RAIL boxes coming in at about $200,000, once you add on the cost of Horizon ($103,750, including three years of support, pricing from VMware's online store) and the $100 per annum Windows VDA license, three years of VDI for 250 users costs about $380,000. In comparison, three years of Amazon's rather limited DaaS offering would cost $315,000. While DaaS wins on price, it's not by a significant amount. There are endless permutations that can be played with to make one option look to be a better value than the other. Not every service provider can deliver services at Amazon's low $35 per month, but then again, Amazon's bare-bones service isn't suited to every customer's needs. On the other side of the fence, EVO:RAIL appliances appear to carry a significant premium (possibly as much at $50,000) above other functionally similar appliances. Further savings can be had by shopping around and taking a conventional non-converged approach to platform selection (assuming you are willing to accept the extra time and risk that this entails). Swap VMware's Horizon for Dell's far cheaper, but still enterprise-ready vWorkspace broker, and the cost shifts again. I don't intend to list every possible way to pare down the cost of VDI here; just keep in mind that it's not difficult to trim the three-year cost of VDI down to that of a similar DaaS commitment.

There are as many good reasons to choose DaaS as there are good reasons to choose VDI,

just as there are still good reasons to choose conventional distributed desktops. But no matter what, the VDI/DaaS conversation should not start from the idea that the organization is using DaaS because it can't afford VDI.

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