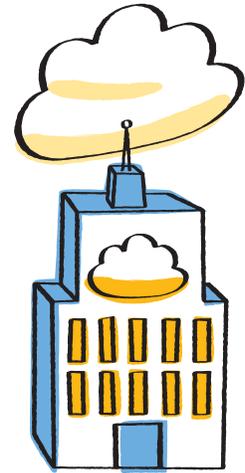![NetApp logo]

![desktone logo]

Joint Solution Brief

NetApp Desktops as a Service Solution with Desktone

Go to market rapidly with a differentiated, proven, and profitable desktops-as-a-service offering

The Challenge

Legacy desktop computing is giving way to virtualized desktops. Supporting desktop and laptop computers is costly and maintenance intensive. IT depart-ments must deal with hardware failures, software provisioning and updates, security, patches, and malware. Supporting mobile or remote users and multiple operating systems increases the challenge. Many organizations are also looking at "bring your own device" (BYOD) programs to keep up with demands from employees.

Virtualized desktops can simplify these challenges by moving workloads to data center hardware, adding centralized management, and removing end-user hardware support requirements. This means that IT personnel can centrally manage desktop computer operating systems, streamline patching, secure the systems and data globally, and grant the freedom for end users to use their own devices to access business software and resources.

Virtualized desktops give IT more effi-cient management and control, and they also increase user productivity

by enabling access to the workplace environment from anywhere on any browser-equipped device. However, realizing the cost savings, controls, and productivity benefits that virtualized desktops promise has been partially offset by the complexity, high startup costs, and poor user experiences that can accompany deployment of a virtual desktop solution on premises.

Businesses are now looking to a cloud-delivered model to fully realize the benefits of virtualized desktops. A cloud-delivered desktop helps businesses avoid the capital expense, complexity, deployment time, expertise, and IT resources required to deliver virtualized desktops. The on-demand nature and opex pricing model make it easy for businesses to consume and deploy cloud-delivered desktops. For service providers, delivering virtualized desktops as a service (DaaS) is an attractive business opportunity in a growing new market. With DaaS as an addition to your current services portfolio, you can acquire a new base of customers, deepen your relationships with existing customers, and increase your overall revenues.

Leveraging expertise from both NetApp and Desktone enables you to deliver your new DaaS in about half the time it would take to build and deploy the service on your own.

So how can you rapidly go to market with a differentiated, full-featured, profitable DaaS solution without a substantial initial investment?

The Solution

Desktone and NetApp have partnered to provide a turnkey solution for delivering DaaS. The integrated solution is built to scale and perform in service provider environments. The solution is jointly designed, using NetApp® storage and the Desktone platform, to give you a tested, fully supported, and proven blueprint to quickly deploy and deliver DaaS to your customers.

NetApp and Desktone technology provides an innovative, efficient solution for shared data center environments while also delivering an excellent user experience. Our DaaS solution enables you to outpace the market with differentiated features at competitive market pricing. Built specifically for multi-tenant cloud environments, your DaaS offering scales with your business, keeps your infrastructure costs low, and provides the management efficiency you need to maximize your margins.

Outpace the Market

Speed to market

Getting your new services to market quickly gives you a head start on capturing more market share. Our solution provides the blueprint and guidance you need to rapidly deploy your DaaS. Leveraging expertise from both NetApp and Desktone enables you to deliver your new DaaS in about half the time it would take to build and deploy the service on your own. With the increased speed to market, your DaaS can start generating revenue sooner, increasing the profitability of your service.

Cost and margin advantages

In addition to deploying your service quickly, our solution is inherently cost effective. It includes native technology to eliminate additional licensing fees for products such as Microsoft® SQL Server® and Windows Server® and VMware® vSphere®. Our solution for DaaS enables you to deliver a full-featured, individualized, and dedicated desktop for your customers, not just a shared Windows® session, at a significantly lower price. The Desktone multi-tenant technology eliminates the costly traditional one-to-one relationship between customer and back-end hardware. The policy-based self-provisioning and native storage

efficiencies of NetApp, including deduplication of redundant data, drive your cost of delivery down. FlexClone® technology provides near instant user provisioning. NetApp Flash Cache can also provide superior storage performance when using low-cost disk drives. The net result is that your costs are lower, giving you more margin at market prices, with the flexibility to offer more competitive pricing to take market share from your competition.

Feature differentiation

Market-leading features with innovative customer value set our DaaS solution apart. With the combination of Desktone and NetApp, you can provide your enterprise subscribers with either a dynamic desktop or their own personal and persistent virtual desktop that is customizable to their applications and look and feel, just as if they were on a physical machine. Security is designed into the solution at the application, network, and storage layers, so your customers can be confident that your service is keeping their data safe. Your customers can also take advantage of the Self-Service Portal to provision and manage their own users at their convenience.

Add more value for your customers by offering data protection for home directories and group shares in their virtualized desktop environments. By using the NetApp Integrated Data Protection capabilities, you can offer multiple service levels of data protection, including more frequent point-in-time backups, self-restore, archiving, and increased resiliency.

NetApp storage-efficient technologies, including low-impact NetApp Snapshot™ copies, SnapMirror® replication technology, and SnapVault® backup software, enable you to deliver additional data protection services and value with minimal or no extra overhead and cost.

Designed for the Cloud

Building for a cloud environment is different from building for traditional enterprise IT. Your ability to scale efficiently has a direct impact on your bottom line. Our solution is specifically designed for service providers; it minimizes your infrastructure costs, maximizes storage and hardware efficiencies, and provides virtually limitless scalability, all while simplifying and automating your operations.

- Integrated reporting and billing APIs support service-provider-based business operations.
- With multi-tenancy, you can securely host and manage multiple customers on the same infrastructure. Multi-tenancy support is a foundational cloud requirement to avoid costly one-to-one mapping of physical systems to each customer.
- Enterprise integration easily incorporates your customers' enterprise resources, such as Active Directory® and corporate shares, to simplify deployment and their transition to a fully cloud-delivered desktop architecture.
- Self-service provisioning empowers customers to self-provision additional desktops as needed within the quotas that you set.
- A grid-based architecture enables elastic, virtually unlimited scalability—you simply add more nodes to your grid as your capacity needs increase. Deployed in a high-availability cluster; there is no single point of failure.
- For security, each customer is provisioned on their own virtualized network and storage, enabling secure multi-layered separation between customers.

- Tiered role separation clearly defines administrative boundaries between service provider administrators, customer/IT administrators, and end users.
- Thin provisioning enables provisioning of logical storage space for each virtual desktop without actually allocating the full storage space until it is required, keeping your storage costs low and maximizing utilization.
- Flash Cache places the most frequently accessed blocks of the desktop virtual machines into flash memory, dramatically reducing disk reads and increasing both read and write to provide superior performance from lower-cost disk.
- FlexClone allows provisioning of thousands of virtual desktops in minutes, so you can bring on new users fast with virtually no additional overhead.
- Storage efficiency further reduces storage requirements up to 90% by deduplicating redundant data stored across virtual desktops, user directories, and backup and disaster recovery copies.

Grow Your Business Faster

You need a solution partner who offers proven cloud technology and a partnership model that helps you not only design your service but also take it to market. Clouds based on NetApp support more than a billion end users worldwide. And our leading cloud service provider partner program offers resources to promote your success from design through operations to sales and marketing. We don't sell our own cloud services; rather, we help you to build and sell yours. Together with Desktone, our global ecosystem of sales professionals, resellers, and system integrator partners is available and ready to extend your sales coverage and grow your business.

FlexPod Enabled

The NetApp "Solution for Desktops as a Service" with Desktone supports deployment on FlexPod, a pretested and validated data center platform for networking, computing, and storage. The FlexPod components include NetApp unified storage systems, Cisco Unified Computing System™ servers, and Cisco Nexus® switches. The FlexPod prevalidated, flexible architecture can be optimized for a variety of mixed workloads with high scalability, and it supports organizations with the move to virtualized, private, and public cloud environments.

About Desktone

Desktone pioneered the concept of cloud-hosted Desktops as a Service (DaaS), the easiest and most affordable way to deploy hosted virtual desktops. Built from day one for service providers, Desktone delivers the industry's only multi-tenanted virtual desktop platform.

For more information, visit *www.desktone.com.*

About NetApp

NetApp creates innovative storage and data management solutions that deliver outstanding cost efficiency and accelerate business breakthroughs. Discover our passion for helping companies around the world go further, faster at *www.netapp.com*.

Go further, faster®

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