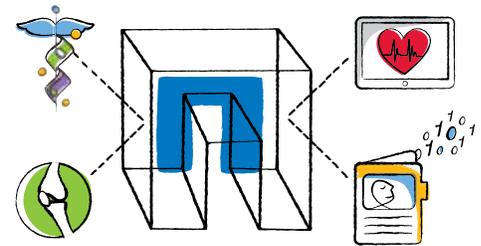




NetApp®



Solution Brief

Enhanced Clinician Mobility with Secure Access to Medical Records—Anywhere, Anytime

KEY BENEFITS

Enable Secure Clinician Mobility

Nondisruptive operations enable clinicians to get critical tasks done from any device or location, at any time, for better quality of care and patient satisfaction.

Streamline Storage Management

Cost-effectively store clinical data with continuous availability that minimizes unplanned downtime and enhances the availability of the hospital's mission-critical data.

Support Compliance and Enable Patient Privacy

Protect personal health information and other sensitive data with extensive security functionality in storage, desktop, and virtualization components.

Changing Work Styles Require Mobile Access

The desktop as we know it has changed. Today's healthcare professionals can now perform their jobs from virtually anywhere using mobile devices such as smartphones and tablets. With instant access to patient information, clinicians are able to make informed decisions about treatment options without compromising patient confidentiality.

Many healthcare organizations have responded to this changing work style by switching from physical desktops to virtual desktops using mobile devices wherever possible. And with today's virtual desktop technologies, IT organizations can provide a more flexible, secure work environment at a lower cost.

In order to meet the growing demand by clinicians for data and mobility, organizations must also choose the right storage solution to enable the success of enterprise mobility initiatives. Desktop virtualization paired with optimal storage solutions enables healthcare IT to embrace mobile work styles while empowering patient-centered care and improving operational efficiencies.

The Solution

Together, Citrix and NetApp have tested and certified NetApp® storage systems running the NetApp Data ONTAP® operating system for use with Citrix mobile work-style solutions. NetApp provides a scalable, unified storage solution for Citrix XenDesktop, XenApp, and ShareFile. Healthcare organizations can implement the joint solution with confidence, knowing that it delivers centralized, high-performance clinician mobility with secure access, file sharing, and archiving of medical records—from any device, anywhere.

NetApp scale-out storage

NetApp storage solutions combine reliable, high-performance FAS and V-Series systems with NetApp Data ONTAP, the industry's number-one storage operating system. Our storage helps you seamlessly scale your infrastructure to keep pace with increasing patient data requirements. You can deliver continuous access to information and provide a smooth transition to cloud environments.

NetApp clustered Data ONTAP offers nearly unlimited scalability, enabling you to scale out performance and

“Mobility is transforming healthcare as clinicians embrace new devices and ways of working to deliver better care, more quickly, to patients anywhere. Now, clinicians of every generation want to access their applications and information on any device—even those purchased personally—over any network.”

Citrix Systems, Inc.

capacity for both NAS and SAN environments. Petabytes of patient data and billions of files can now be stored across multiple sites in a single, location-independent namespace.

Clustered Data ONTAP delivers a flexible architecture that supports multiple workloads and medical applications on a single storage platform. Healthcare organizations can also provision storage quickly for additional capacity.

Transforming Healthcare IT with Citrix

Citrix healthcare solutions help organizations embrace mobile work styles and cloud services that provide clinicians with real-time mobile access. Citrix transforms healthcare IT with simple, HIPAA-compliant solutions that provide medical staff with access to critical Windows®, mobile, web, and SaaS applications; file sharing services; and collaboration tools from any device. Organizations can improve operational efficiency and empower patient-centered healthcare—all while keeping personal health information and other sensitive data confidential.

Citrix XenDesktop and NetApp storage solutions

Citrix XenDesktop delivers desktop and application virtualization solutions. XenDesktop helps you centralize the management and delivery of clinical

and office desktops as well as legacy and custom Windows-based medical applications, such as EHR, CPOE, and PACS imaging.

With XenDesktop, clinicians can move seamlessly across locations, devices, and networks to access desktops and applications while IT policies determine whether applications and associated data ever leave the data center.

XenDesktop dramatically improves end-point security by eliminating the need for data to reside on user devices. Centralized data, encrypted delivery, a hardened SSL VPN appliance, and multifactor authentication enable only authorized users to connect to their desktops. These capabilities also protect intellectual property and help organizations meet regulatory compliance requirements.

Applications and associated data remain in the data center, where secure access is provided through granular, policy-based user authentication. Real-time network and performance-optimization technologies provide a high-definition experience regardless of location, device, and network connection.

NetApp provides a single, multiprotocol, unified architecture that accommodates desktop, application, and user data

on the same platform. Organizations can reduce storage costs and increase performance for XenDesktop through industry-leading storage efficiencies. NetApp also delivers nondisruptive operations for improved user productivity. With NetApp you can:

- Slash costs and improve ROI by reducing storage capacity requirements by 50%.
- Optimize the user experience with continuous access to virtual desktops and high performance that eliminates boot storms and other I/O bottlenecks.
- Scale rapidly by provisioning thousands of persistent desktops in minutes.
- Provide backup, recovery, and disaster recovery for desktop and user data with a single integrated solution.
- Simplify operations by managing storage directly from supported hypervisor management consoles (Citrix XenServer, VMware® vSphere®, and Microsoft® Hyper-V®).

Citrix ShareFile and NetApp storage solutions

Citrix ShareFile is an enterprise-grade follow-me data service. It enables clinicians and staff to securely exchange confidential files within a hospital or health system, with ancillary healthcare providers, and with patients. As a HIPAA Business Associate, ShareFile is ideal

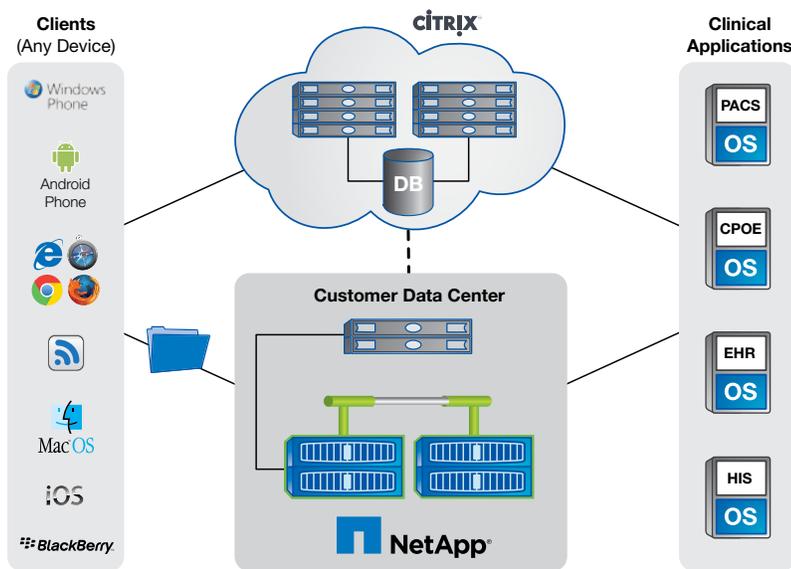


Figure 1) Sample architecture for NetApp and Citrix healthcare solutions.

for transferring large medical images and videos and sensitive patient data easily and securely. Easy integration with workflow tools like Microsoft Outlook and the capability to securely store and sync files across all devices—mobile devices, tablets, laptops, and desktops—provide a convenient, efficient, and professional user experience.

ShareFile StorageZones give IT the flexibility to choose where and how data is stored, and provide secure cloud storage options across multiple worldwide locations. Customer-managed StorageZones leverage on-premises storage within an organization's data center to help IT meet unique data sovereignty and compliance requirements. Customer-managed StorageZones also optimize performance by enabling IT to store data in close proximity to users. StorageZones can be easily integrated with the organization's existing infrastructure because they support any CIFS-based network share from any storage vendor.

Because storage is a key element of customer-managed StorageZones, Citrix and NetApp jointly tested and validated their solutions to simplify and accelerate deployments of StorageZones. The NetApp storage solution for Citrix ShareFile provides secure file sharing and mobile access to patient data. Data can be kept on the premises,

providing mobile access to users from any device while allowing IT to maintain the security and data protection demanded by healthcare regulations and compliance policies. With NetApp, you can:

- Share, store, sync, and secure data on any device, anywhere.
- Scale performance and capacity for ShareFile storage without limits.
- Maintain 100% access to data with nondisruptive storage operation.
- Meet compliance requirements and protect sensitive data in StorageZones.
- Store all ShareFile, XenDesktop, and XenApp data on a unified storage architecture.

NetApp and Citrix: Better Together in Healthcare

Together, NetApp and Citrix transform healthcare IT. We empower patient-centered care and help improve outcomes across locations and specializations through mobility, telemedicine, and social collaboration. Citrix healthcare solutions with NetApp storage can accelerate your desktop and virtualization projects to completion with lower risk.

Citrix offers a full portfolio of virtualization, mobile, and collaboration technologies. These technologies enable healthcare IT to deliver on-demand desktops, apps, and data to any user with superior

performance, security, and efficiency. NetApp offers complete storage solutions for all desktop delivery models, all related data types, and all Citrix-supported hypervisors. The storage solutions are designed to securely scale to any size, allowing you to start small and add desktops or workloads as needed for future growth. And with the NetApp clustered Data ONTAP operating system, healthcare organizations get a truly unified NAS and SAN storage architecture with seamless scalability, nondisruptive operation, and secure multi-tenancy.

Enhance clinician mobility

- **Patient-centered care.** Physicians and nurses can access clinical applications from a virtual environment. They get continued access to medical records and information as they meet with patients throughout the day, both within the facility and across buildings.
- **Improved productivity and mobility.** Medical practitioners and staff have the flexibility to complete critical tasks from any device, anywhere, whether on or off call. This includes accessing a patient health record, viewing clinical images, or executing electronic prescriptions.

Optimize IT efficiency

- **Simplified deployment and management.** IT can easily provision and

THE NETAPP AND CITRIX ADVANTAGE

Citrix XenDesktop and Citrix ShareFile	
NetApp Clustered Data ONTAP	<ul style="list-style-type: none"> • 100% data access; nondisruptive operation
NetApp FlexClone®	<ul style="list-style-type: none"> • Rapid mass provisioning; persistent desktops on demand
NetApp Unified Storage Architecture	<ul style="list-style-type: none"> • Supports any desktop or user data across all protocols • Supports all Citrix application data with multiprotocol support and multi-tenancy
NetApp Deduplication	<ul style="list-style-type: none"> • Highest desktop density; 50% less storage—guaranteed¹ • Helps slash storage use by 50%; eliminates redundant ShareFile Object File System data
NetApp Snapshot	<ul style="list-style-type: none"> • Simple, integrated backup with user-based restores
NetApp SnapMirror®	<ul style="list-style-type: none"> • Simple, integrated DR; automated replication of datastores and virtual desktops, and recovery from outages in minutes • Optimized data replication for improved RPO
NetApp Recovery Manager for Citrix ShareFile	<ul style="list-style-type: none"> • Fast, automated recovery of files and folders

Table 1) NetApp technologies enhance Citrix installations.

manage thousands of desktops at a time, house all home directories in the same place, and back up all data at once, in a unified, highly simplified manner—all from one storage platform.

- **Cost savings.** The Citrix desktop virtualization solution with NetApp storage protects IT investments by growing and adapting to business needs, so you can incorporate new technologies without forklift upgrades. NetApp storage efficiency technologies enable you to store the maximum amount of data in the smallest possible space and at the lowest possible cost.

Secure personal health information

- **Secure access.** Encryption, authentication, and logging allow clinicians to access secure data only while logged in and keep data from being transferred outside the session. Citrix healthcare solutions enable data and applications to be centrally stored

and managed within the data center but accessed remotely via a secure connection. This scenario provides a fully IT-controlled, HIPAA-compliant, and secure alternative to unmanaged cloud services.

- **Data protection.** NetApp backup and disk-to-disk replication technologies use space-efficient, point-in-time Snapshot™ technology to create file system copies without affecting performance. IT can recover individual files or multiple files in parallel from local or remote copies, going back weeks or months in time. You can also automate data protection processes to remove the potential for human error.
- **Secure multi-tenancy.** IT no longer needs to trade off security for the efficiency of storage consolidation. Data ONTAP enables broad sharing of resources with secure separation of the storage associated with different applications and groups.

Learn More About NetApp and Citrix Healthcare Solutions

As the healthcare industry continues to adapt to changing work styles, clinicians need secure, mobile access to medical records to provide quality healthcare. For more information about how you can transform healthcare IT by achieving economies of scale across locations, improving patient care, and lowering costs, visit www.citrix.com/healthcare and www.netapp.com/healthcare.

1. NetApp Virtualization Guarantee

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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