**Solution Brief**

**NetApp Solution with BridgeHead Healthcare Data Management in Hospitals**

Improve patient care with access to comprehensive medical records

###KEY BENEFITS

**Continuous Availability of Critical Patient Data**
Achieve consistent capture and preservation of patient record data with integrated backup and archive of critical EMR and PACS applications.

**Cost-Efficient Platform for Healthcare Data Management**
Leverage a single, unified platform solution that combines protection and recovery of EMR, PACS, scanned image files, e-mail, and unstructured patient data to eliminate the cost overhead of separate protection systems.

**Consolidation Using Vendor Neutral Archive Format**
Centralize management, consolidation, and replication of all hospital applications and data into an easy-to-manage shared physical infrastructure.

###The Challenge

Unprecedented growth in patient data has occurred over the last decade. Combined with government regulations to modernize healthcare IT systems, this avalanche of new data has stretched the ability of hospitals to build and maintain an infrastructure that can keep pace with record creation and conversion projects. In addition, the growing types and varieties of hospital data, including DICOM images, non-DICOM images, EMR application data, structured and unstructured files, e-mail, and databases, have pushed healthcare IT systems to their limit. Technology restrictions of current investments require different methods to protect and manage each data type, affecting staff productivity and, ultimately, cost.

Even more critical, the struggle to stay ahead of data growth often compromises the protection level of patient records. Examples of hospitals that have lost systems, requiring days or weeks to recover, continue to grow. And the resulting impact can be profound. Hospitals might be required to stop admitting new patients and to direct those patients to alternative hospitals, and delays in accessing patient records can range from inconvenience to delays in critical treatment and potential death.

Yet hospitals continue to be pressured by constrained IT budgets. Implementing an integrated data and storage management solution that covers data across all medical applications can help eliminate unnecessary waste and redundancy across many hospital IT environments. This unified approach can provide efficiencies that deliver improved outcomes with ready access to patient data and maximize the value of hospital IT budgets.

###The Solution

Working with NetApp, BridgeHead Software has completed certification of NetApp® storage systems running the NetApp Data ONTAP® operating system for use in BridgeHead environments. Healthcare organizations can now buy with confidence, knowing that the certified solution includes high-performance, reliable storage that delivers an efficient solution for centralized medical data management, sharing, and archiving.
By combining BridgeHead’s integrated backup and archive technologies with NetApp storage systems, healthcare organizations can achieve continuous availability and protection for hospital data and medical imaging across a cost-effective, scalable foundation. By leveraging a unified storage architecture, healthcare organizations can achieve cost efficiencies and overcome operational and productivity hurdles.

**BridgeHead Healthcare Data Management**

BridgeHead offers solutions to help healthcare organizations overcome challenges stemming from rising data volumes and increasing storage costs while delivering peace of mind around how to store, protect, and share critical electronic patient information. BridgeHead’s Healthcare Data Management (HDM) solution is designed to work with any hospital’s chosen applications providing greater choice, flexibility, and control over the way data is managed, now and in the future.

This unique HDM solution provides consistent data capture from EMR, PACS, document scanning, and other leading hospital applications and enables automated policy-based movement of hospital data between storage tiers for optimized use. This unified approach for managing all hospital data is scalable to grow with your applications environment over time and eliminates the cost overhead of operating different data management systems for different types of hospital applications and data:

- Protection of patient data from market-leading electronic medical record (EMR) applications, such as MEDITECH, Epic Systems, Allscripts, GE Healthcare, McKesson, Siemens, and VA VistA
- Capture and preservation of scanned document images such as those created by MEDITECH Scanning and Archive (SCA) and McKesson Horizon Patient Folders (HPF)
- Archive and management of PACS DICOM images, with integrated file-level availability and standard DICOM image handling enhanced by the use of HL7 and XDS-I standards
- Extended data resilience benefits to additional hospital applications such as Picis Surgical Services, eClinicalWorks, MedHost, and Dr First
- Enterprise applications such as the Microsoft® suite with Exchange e-mail, SQL Server®, and SharePoint® or Oracle® database systems to be brought under the same cover

**Unified Management**

The NetApp clustered Data ONTAP operating environment delivers a flexible architecture that supports a broad range of medical and business applications, numerous protocols, and diverse workloads that confront
healthcare organizations today. NetApp Data ONTAP combined with FAS and V-Series storage systems provides massive scalability and performance. These systems not only provide fast provisioning for additional capacity, but also deliver proven reliability (99.999% availability) and embedded security of healthcare data, meeting HIPAA requirements for patient records. When used with big data repositories, the unstructured nature of imaging and other medical data is more easily indexed and retrieved, resulting in more accurate documentation retention.

**Performance, Density, and Flexibility for Data-Intensive Workloads**
The NetApp E-Series storage system delivers compelling performance for big-bandwidth applications, extreme storage density, and exceptional uptime, enabling providers to address growing high-performance workload requirements. In addition, the E-Series storage system offers numerous drive shelf options for custom configurations, allowing IT to grow incrementally to keep pace with changing document retention requirements. With the E-Series’ exceptional uptime, redundant components, automated path failover, and online administration, healthcare professionals can be productive 24/7.

**Comprehensive Business Continuity**
NetApp business continuity solutions help providers recover quickly in the event of a system, site, or regional outage. These solutions help maintain availability across a broad spectrum of recovery point and recovery time requirements during planned as well as unplanned downtime. NetApp SnapMirror® technology, clustered Data ONTAP, and FlexClone® can all play an automated role in improved disaster recovery, point-in-time backups, and application and data failover in the event of an emergency or a system failure. And integration with deduplication helps boost network and storage efficiency and enhances performance.

**Tiered Storage Management Based on Clinical Requirements**
Reduce storage costs through data consolidation and tiered use of NetApp storage. NetApp data management replicates and moves data from tier to tier to reduce costs and administrative overhead. BridgeHead’s integrated capabilities make sure of application-consistent data capture and orchestrate movement of data according to its type and clinical value. This unified solution approach enables optimized use of storage while also making sure of clinical access to data supporting the workflows required.

**Establish a VNA as Part of an Overall Solution for Healthcare Data Management**
BridgeHead Software is a recognized leader in providing vendor-neutral archive (VNA) software to hospitals, designed to help migrate and share DICOM images between different brands of PACS applications. The integrated NetApp and BridgeHead solution can provide full VNA capabilities that operate seamlessly with data management for other hospital data, all stored in the same unified repository.

**Consolidate Big Data for PACS and Medical Records with a Healthcare Data Management Platform**
Hospital data consumes a tremendous amount of storage. This includes PACS archives, scanned document images, EMR databases, and other hospital systems. Regulations enforce lengthy retention of much of this data, compounding the problem. With FlexPod® and NetApp storage as the foundation, healthcare facilities have the ability to grow their data pools as needed without risk of disrupting the clinical workflow or business use of the data within the hospital.

NetApp used with BridgeHead enables efficient consolidation and storage of all types of hospital data in an easy-to-operate central repository. In addition, BridgeHead software can...
effectively extend the life of FlexPod storage by managing the movement of data as it ages to the more cost-effective NetApp E-Series storage. These tiers can be local, remote, and/or in the cloud, for maximum cost-efficient advantages.

**Security in a Shared Environment**
Sharing sensitive patient information between hospital facilities must be handled in a secure fashion as mandated by HIPAA and includes both data in motion and data at rest. A range of NetApp embedded data security technologies helps these organizations comply with regulatory requirements to protect stored patient data without impeding staff productivity:

- Implements full disk encryption at the hardware level
- Prevents unauthorized access to data

**Get Started**
Prepare your hospital for the upcoming decade of advancements by laying the foundation for the future. Establish a single, central foundation for managing all data within a hospital to reduce costs, eliminate redundancy, and minimize overhead. When IT storage resources are consolidated across hospital departments into the core IT infrastructure, IT will benefit from simplified, cost-effective management.

Working together, NetApp and BridgeHead make it possible for healthcare professionals to use and share growing terabytes of medical data, maximize the return on IT investments, and keep up with the growing demands of records retention. Using joint solutions from NetApp and BridgeHead, healthcare organizations are positioned to improve the delivery of patient care and increase clinical efficiency at healthcare facilities. By adding NetApp storage solutions, healthcare organizations will continue to see increased value across their BridgeHead installations.

**Learn More**
Learn more about how NetApp storage with BridgeHead HDM can help you create a more flexible and efficient IT experience for your hospital. To get started, contact your local NetApp partner or account representative.

**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](http://www.netapp.com).

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Figure 2) NetApp storage configuration for hospital, combining local short-term and remote long-term content repositories.