Address the Explosion of Healthcare Data With the Next Generation of Hitachi Unified Storage

Spend Less Time Managing Your Storage and More Time Supporting Improved Healthcare

Healthcare providers face considerable challenges in managing the overwhelming growth rates of medical data. Efforts to increase adoption of healthcare IT and its larger-than-ever data sets, as well as to adhere to government-mandated data retention policies are placing a significant strain on IT budgets and data storage capacity. In addition, healthcare IT organizations are expecting their technology investments to improve efficiency at reduced costs, while at the same time advancing the delivery of patient care.

IT organizations in healthcare, more so than in any other market, face the greatest challenges in their efforts to become more efficient and cost-effective. Unlike their peers in other industries, they face the converging challenges of rapidly growing data, greater demand for access to that data, and greater demand for retention of that data. Yet, with all of these needs, IT decisions must still be carefully considered against the reality of flat or declining budgets.

The Source of Healthcare’s Data Challenge

Advances in digital imaging technologies and electronic patient record systems are presenting healthcare IT professionals with a number of new challenges related to storing, managing and providing access to its medical data. With a wide and growing availability of IT applications generating record levels of clinically relevant data (each with their own regulatory demands for long-term retention and security), provider IT organizations are facing data that is increasing both in complexity and volume.

It is a daily challenge to bring together these millions of megabytes of medical data: structured data, derived from systems like hospital information applications or financial systems, and unstructured data, found in scanned medical records or radiology images.
Storage takes up a large percentage of overall IT budget for providers, with a large portion of outpatient centers (50%) and hospitals (57%) allocating more than 20% of their IT budget to storage.

Innovations in imaging and other medical technologies are not the sole drivers of change in healthcare provider IT. Increased governmental regulations also have a considerable impact on how healthcare provider organizations manage patient information. Providers must tread through evolving patient data mandates that direct how the data must be retained (often for a lifetime or more). During that period, they must ensure the data is protected and secured, and that it still remains accessible to the right people.

It is not easy to imagine or plan how new undiscovered methods for generating patient data, accelerated adoption of electronic medical records (EMR) and electronic hospital records (EHR) technologies, and the evolving regulatory standards, are going to impact a provider’s data management infrastructure. What is clear is that we are only at the beginning of healthcare’s digital information explosion.

The Next Generation of Hitachi Unified Storage

Hitachi Unified Storage (HUS) 100 family and Hitachi NAS Platform technology provide a new unified midrange storage platform for all data, built with trusted Hitachi reliability. (See Figure 1.) The new platform is designed to help healthcare IT organizations implement a centralized scalable infrastructure in an environment characterized by explosive data growth, demanding data access requirements, and evolving data retention policies.

Hitachi has combined our leading block technology with the file storage technology from our HNAS family. With HUS 100 family, we deliver a platform that will meet high-level performance metrics, such as increased retrieval speed rates, reduced support and facility costs, and improved scalability and organizational flexibility. Healthcare IT organizations will be able to deploy a storage infrastructure strategy that will easily grow to meet expanding requirements. They will be able to ensure service level agreements (SLAs) for critical clinical and business applications are met, while reducing environment complexity with an intuitive centralized management system.

Best-in-Class Performance and Scalability

Challenges associated with the growth of medical data, access to that data, and its long-term retention have a direct impact when planning an IT infrastructure. These requirements must be addressed while supporting reliability, maintainability and data integrity, as well ensuring patient information will be available for all medical staff 24/7. The ability to make the right piece of information accessible to the right medical professional at the right time is an absolute necessity for the proper diagnosis, treatment and followup, as well as the safety of patients. Without a reliable and expanded information technology infrastructure, health providers will not be able to maintain, let alone improve current levels of access, quality and safety to meet rapidly evolving medical and technological advances.

The newest in the Hitachi Unified Storage 100 family and gateway Hitachi NAS Platform technology offers the highest in availability and performance, so you can meet service levels with less risk. HUS 100 family consolidates both file and block data. It scales up capacity, performance and connectivity, and minimizes copies, reduces size and provides business-view reporting. The next generation in Unified Storage delivers 4x capacity scalability and up to 50% more IOPS performance. These features enable organizations struggling with
data growth challenges to grow block volumes and file systems dynamically, without concerns to size limits. The next generation in Unified Storage also delivers up to 90% more efficiency with fewer disks and accelerated flash-based performance, which are ideal for most data-heavy environments.

HUS 100 family offers the highest reliability, ensures data is tamperproof, offers remote management, updates without interruption and operates with symmetric active-active controllers. The business results include 99.999% availability, increased useful life of assets, data migration without impact, and protection and security for your most valuable clinical data.

For healthcare organizations, the benefits of HUS 100 family can become part of a performance and efficiency strategy. This unified data management technology grows with your business and clinical needs, offering more usable capacity that allows you to defer additional purchases, and it will quickly share clinical and business data among departments and clinicians.

Reduce Costs of Healthcare Delivery: Start With IT

The increasing adoption of healthcare IT is improving clinical efficiency and therefore patient care. However, it is also straining IT budgets in an environment where budgets are flat or in decline. With total IT budgets falling somewhere between 5% and 7% of a provider’s total spend, it is estimated that storage represents more than 20% of that spend. Hospitals, which are in the business of patient health, are always concerned about delivering improved healthcare in the most efficient and cost-effective way possible; so, it is clear that if healthcare IT organizations want to keep up with the growing clinical demands, a data management solution must take into account not only performance, but also cost reduction and efficient use of resources.

The next-generation Hitachi Unified Storage 100 family and gateway Hitachi NAS Platform technology enable extensive cost savings through file and block consolidation. With accelerated deduplication, the next-generation HUS delivers up to 90% more capacity, which, in turn, can defer or reduce future storage purchases.

Improve Healthcare With Cloud Computing

The cost of healthcare delivery has grown to such huge proportions that governments face serious funding issues if there is no resolution. Healthcare costs in some countries amount to 35% of gross domestic product, which is clearly an unsustainable model for any nation. More and more, alternative models of healthcare delivery that enable cost savings and drive efficiencies are being explored to try and rein in these increasing costs.

Embracing cloud technology in healthcare may be the answer to enabling healthcare organizations to focus their efforts on clinically relevant services and improved patient outcomes, while delivering them at the lowest cost possible.

Hitachi Unified Storage 100 family supports a cloud architecture from edge to core with a common management interface into all storage. It delivers the performance, capacity scalability and higher data efficiency required to build a cloud environment that can address service level needs at a pace that makes sense to your organization.
HUS 100 family enables you to design an integrated infrastructure that is secure, reliable, scalable and agile to support your application storage services. Reporting tools help you keep on top of performance and utilization to meet SLAs. Unifying block and file centralize your management and consolidate platforms in your storage architecture. You can connect local and central sites and secure the privacy among your staff or clients.

While many challenges have contributed to slow adoption of cloud, there are equally as many benefits for providers to embrace this new technology across the business and clinical areas of their enterprise. In today’s world of cost cutting, many facilities must show clinical benefit in order to justify expenditures and cloud technologies are potential tools to do just that.

A unified data management strategy is a key component to supporting clinical innovation while maximizing the productivity of both IT and clinical resources. The benefits that can be delivered from a unified architecture include:

- Increased performance metrics, including up to 20% more throughput and improved retrieval speed rates.
- Improved scalability of converged infrastructure components, which give you the flexibility you need to meet current requirements and prepare for future needs.
- Advanced management that lets you deliver storage service levels when, where and how they are needed.
- Reduced clinical risk as downtime is minimized.
- Flexibility, allowing IT to build a cloud environment at your own pace that best addresses your needs and protects your existing investments.

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