

# STORAGE SWITZERLAND REPORT

## HEALTHCARE IT DEMANDS EFFICIENCY



Potentially more so than in any other industry, IT organizations in healthcare have the greatest obstacles to overcome as they strive to become efficient. Few other industries face the simultaneous challenges of rapidly growing data, greater public demand for access to that data, greater public demand for security of that data and greater public demand for retention of that data. Yet all of these demands are set against a backdrop of greater accountability of how those organizations spend their dollars. As a result healthcare IT demands efficiency.

When it comes to storage, first and foremost on most healthcare IT Managers minds is accurately forecasting for growth in the environment. Healthcare organizations tend to be very budget driven and getting the numbers right on the budget is a critical task for their IT departments. Accurate forecasting however is a challenge in today's environment because of the tremendous growth that those organizations are experiencing, which is then compounded by the industry's rapid adoption of server virtualization.

When it comes to storage capacity growth, these organizations face a classic case of a perfect storm of substantial data grow, significant retention requirements and an abstraction layer between the servers and storage caused by server virtualization.

Many industries are facing rapid data growth driven by technological advancements. In healthcare it is being driven by the new technologies that allow so many different methods to capture images of the human body. The days of a doctor walking around with a two dimensional, two color piece of film that was an X-RAY are numbered. Today they are armed with three dimensional, full color images that can provide a picture from all angles.

From a patient's perspective these advances are improving early detection of problems and more accurate diagnoses, leading to better treatment. All of this collected data also serves as a research base to constantly improve the treatment options for future patients.

From an IT perspective, however, this leads to many times the amount of file data and a significantly larger size of the individual files. Dealing with many more files at ever increasing capacity is leading IT Managers to seek tools that can make their team more productive.

The second part of the storm, unlike data growth that is a shared problem across industries, is the retention requirements that healthcare IT professionals uniquely face. Not many other industries deal with potential regulations requiring that patient data be accessible, retained for at least the life of the patient, in many cases the life of the children of that patient, and of course that data be secured.

Additionally, failure to meet these requirements successfully will result in stiff penalties.

Finally, the third part of the storm is the rapid adoption of server virtualization in the healthcare community. Few other industries have the number of special-purpose applications like healthcare does; in the past each of these applications was run from its own, heavily underutilized hardware. Server virtualization is a natural fit for this scenario but it is not without its own challenges.

First, the abstraction layer between the physical server and the storage makes the utilization of that storage harder to track. Second, understanding which servers should be virtualized and to which host they should be deployed is often a shot in the dark that leads to similar low resource utilization compared to what was achieved in the pre-virtualization environment. Finally, the hesitance to virtualize mission-critical apps is not addressed because failure could truly be a life-or-death mistake.

As a result, not only can the current data not be removed while data is growing, it also has to remain accessible. The risk of failure can be very expensive. Additionally, virtualization projects cause healthcare organizations to deal with the abstraction of storage from servers, and the uneasiness of virtualizing mission-critical apps without fully realizing the benefit of the project.

This perfect storm creates a roadblock when an IT Manager is trying to increase the efficiency of the organization. When faced with a big challenge, understanding what you are up against is the first step.

## **Understand The Scope of the Problem**

The first step for any healthcare IT Manager faced with this storm is to get an accurate inventory of the current data assets. This task is no longer a job for a spreadsheet, the environment is too large, too dynamic and the data assets too valuable. In an environment where a server and the storage to which it's assigned can change in seconds, a spreadsheet that is updated "as time allows" is out-of-date soon after it is finished. What is needed is real-time information from tools like those provided by companies such as Tek-Tools.

This is where an agent-based resource management application provides real benefits. It can deliver real-time monitoring and reporting of the environment, so when decisions need to be made, the most up-to-date information is available to make those decisions.

Once the data assets have been inventoried, proper calculations can be made to plan and forecast for upcoming budget needs. Again, in healthcare this is not only critical because of its budget-driven nature but also because of some of its unique data retention requirements. A healthcare IT professional needs to know more than how quickly data is growing, they also need to know specifically where that growth is coming from because they often service so many different departments.

A resource management tool that is optimized for the healthcare environment needs to also identify data that is not changing anymore but still being access and/or needs to be retained to adhere to

various corporate regulations. Unlike traditional data centers this data needs to be accessible at all times, yet the cost to keep this data on primary storage and to continue to expand primary storage does not make economic sense.

## **Predictive IT**

Managing IT resources is often not really management at all; instead it is often reactively dealing with the next emergency or interruption. A resource management tool allows IT to become more predictive and lowers the number of emergencies that arise in a day. Even when something unexpected occurs such as sudden capacity demand for example, it can be handled as part of the normal workflow precisely because there is an understanding of the available resources.

With a resource management tool in place the data can be analyzed for access needs as well as retention requirements to decide what type of storage provides the correct cost vs. access to the data. Additionally a resource management tool can provide a global view of storage so the IT administrator can see what class of storage has the available capacity and supports the correct access needs to allow the proper utilization of all storage.

When a budgeting cycle begins, a resource management tool like Tek-Tools Profiler provides a trending and forecasting report by storage class that allows the right amount of storage to be bought for each class of storage. More importantly these requests can all be supported by reports that the resource manager can generate.

Data growth in healthcare is unpredictable; a real-time resource management tool allows IT to see an unexpected spike as it happens. In the past, such a problem would cause a full stop within IT as administrators scrambled to find places to move data. With real-time resource management, admins know in advance the available storage resources and a sudden spike can be handled with little disruption to users or IT.

Server virtualization has made the predictiveness of the environment even more elusive and it adds to the data asset management problem because it also adds a layer of abstraction. This is why a resource manager, not a storage manager or virtualization manager, is critical. While there are many point applications that will manage one component or another, such limited and narrow management ultimately leads to console sprawl, which makes monitoring of the environment difficult and costly.

The other challenge is that most virtualization management applications make only a rudimentary connection back to storage, if any, and as a result offer little if any correlation between the two. As we discussed in our article "[Maximizing Your Server Virtualization Requires Understanding Its Storage](#)" this is a critical requirement and is further compounded in healthcare IT because of the number of point applications, data growth and data retention demands.

Ease-of-access to the status of the data center is a matter of survival in IT, especially in healthcare where staffing levels are traditionally thinner than in other industries and IT professionals are asked to wear more hats. Having a single tool that makes it possible to understand the data inventory, where that data should be stored, how much and when it should be purchased and how that storage relates to applications, all available in real-time allows healthcare IT to be more efficient and not only control but potentially drive down costs.

### **About Storage Switzerland**

**Storage Switzerland, is an analyst firm focused on the virtualization and storage marketplaces. For more information please visit our web site: <http://www.storage-switzerland.com>.**