BAPTIST HEALTH SYSTEM
Healthcare provider redefines its Millennium virtual desktop infrastructure with EMC XtremIO

Baptist Health System is the largest healthcare system serving central Alabama with 3 facilities, 4,000 employees and affiliation with the University of Alabama Birmingham Health System. Baptist Health was recently named a Thomson Reuters Top 15 Health System, a distinction that recognizes the nation’s top 15 health systems for setting industry benchmarks for excellence across the healthcare spectrum. Baptist Health has deployed Cerner Millennium Electronic Medical Record application, at the heart of major healthcare systems around the world, to help manage and support Baptist Health’s clinical and business operations from the data center to the point of care.

DESKTOP CHALLENGES
Baptist Health was facing challenges from their desktop computer environment. The IT department was having difficulty deploying desktops as quickly as needed and on several occasions had to recompose entire desktop pools to end users, causing hours of causing hours of lost productivity due to downtime before all desktops were restored.

With traditional spinning disk storage arrays, Baptist was creating smaller datastores to restrict the concurrent number of desktops running on each in order to boost their IOPS requirements against each datastore. But this required multiple datastores being assigned to each pool, increasing the complexity of their desktop environment.

The IT department could not enable the follow-me desktop feature of their Single-Sign-On application due mainly to printing-related location identify issues when roaming, a frustration to both IT and to care givers looking for greater productivity from this software tool.

Finally, Baptist Health had limited data center capacity both from a square footage and a storage point of view. The EMC storage systems initially deployed to support a desktop environment of 750 users was running out of storage capacity and needed to be upgraded to support a user base that had nearly doubled. Baptist Health was looking at continuous capital expenditures required to support their VDI growth.

REDEFINING THE VDI ENVIRONMENT
To address these desktop management challenges, Baptist deployed a single 10TB X-Brick - the basic building block of an XtremIO All-Flash Array —, a 1350 user VMware Horizon View VDI environment, VMware vCenter, and Cerner Instant Access.

Two full-racks of traditional storage arrays with annual power and cooling costs close to $12,000 and maintenance of close to $30,000 were replaced by a single 10TB X-Brick with estimated annual power and cooling cost of $2000, maintenance costs 30% less than the traditional arrays, and ¼ the footprint of one of the arrays it replaced.
**ARCHITECTURE MATTERS**

**Cerner Instant Access** allows Baptist Health authorized clinicians and caregivers to quickly access patient charts from different points in the application since their last log-in. For multiple clinicians who need to access the same application and/or same patient data, it allows rapid user-based application access while maintaining patient privacy and security.

Follow-Me Access allows quick access to a user’s application session from any workstation, so authorized caregivers can continue working from various workstations throughout a healthcare environment. Instant Access fixed the printing issue Baptist caregivers had been experiencing, and IT has deploying a new follow-me desktop to clinical areas allowing authorized staff the use of most convenient printers available.

**VMware Horizon View™ and vCenter** support Baptist Health virtual or remote desktops and applications on demand through a single platform to streamline management. Horizon View delivers desktops, applications, and online services to Baptist Health end users through a unified workspace to provide a consistent user experience across devices with central image management for physical, virtual, and BYO devices. VMware vCenter provides a centralized platform for managing the vSphere environments.

**EMC XtremIO** delivers massive, consistent I/O performance to ensure that every desktop provides an ideal user experience. Millennium responds instantly and consistently, faster than on physical desktops. The Baptist Health end-user experience is now unaffected by boot storms, antivirus scans, suspend/resume operations, application peak demands, user activity, or used capacity on the XtremIO array. XtremIO delivers any desired level of performance from hundreds of IOPS to peak rates of thousands of IOPS per desktop.

Application services are designed-in, like space efficient snapshots, which allow Baptist Health to create clones of their desktop environment, as many as needed, without impacting performance. Compression and in-line de-duplication are among the application services included in XtremIO, as is encryption, eliminating the need for Baptist Health’s to purchase this needed security feature from another vendor.

XtremIO empowered Baptist to move easily from pilot to large-scale production. In contrast to all other VDI storage solutions, XtremIO enables users to quickly deploy linked clones, full clones, and persistent and non-persistent desktops, or combinations of these to meet business requirements with no concessions for storage performance.

XtremIO storage also redefines the core desktop/application image data storage for VDI deployments and integrates tightly with EMC storage systems managing long-term and archive storage needs.

We currently have 1305 desktops built and provisioned, each having a minimum of a 40GB drive assigned. This would have required 52TB of storage. But with XtremIO and its in-line deduplication of data, we are only using 3.24TB of physical storage capacity — with 2TB of that being the management servers and desktop golden images!"

Blake Fancher, Systems Architect Baptist Health
THE BENEFITS OF CHANGE

As a result of Baptist Health’s redefining of how they manage their VDI environment they have been able to:

- Deliver a VDI user experience for hospital's physicians and nurses with consistent high IOPS and sub-millisecond response times and greater than 5-9’s availability
- Eliminate unplanned outages while desktop pools are recomposed to end users
- Significantly reduce data center power, cooling and space requirements -2 full racks reduced to ¼ rack.
- Repurpose the storage platforms that had been supporting their desktops as additional storage for their production SAN, eliminating spending budgeted for that purpose
- Save an estimated $260K over 5 years versus traditional storage platforms leveraging XtremIO’s de-duplication, compression and snap features
- Experience an 11:1 data reduction in their VDI environment through application services like in-line deduplication

THE NEXT GENERATION HEALTH IT FROM EMC

EMC is ushering in a new era of unparalleled user experience, application services, unprecedented simplicity, and reduced costs. XtremIO scale-up and scale-out architecture. As a Cerner customer, you can now utilize XtremIO flash-specific architecture that linearly scales performance and capacity in tandem, is ideal for supporting from smaller to the largest Cerner VDI desktop deployments. And you can benefit from the tremendous workload consolidation and cost reduction across your entire Cerner IT infrastructure.