

# EMC SOLUTIONS FOR OPTIMIZED EPIC EMR ENVIRONMENTS

Enabled by XtremIO, VMware, AND LINUX

Most of the legacy Epic environments run on servers and storage platforms that support proprietary UNIX environments like AIX or HP-UX. This is due to the large amount of compute power required to support a typical Epic environment. In 2013 Red Hat Enterprise Linux servers virtualized on VMware vSphere achieved Target platform status for Epic's Caché database, but could only scale-up to the degree needed to support the demands of small to medium-size Epic database deployments.

## REDEFINING AN OPTIMIZED INFRASTRUCTURE WITH RED HAT LINUX ON VMWARE

New results from Epic testing confirms that Red Hat Linux running on VMware vSphere can support even the largest Epic customers, offering flexibility not available with proprietary Unix and better alignment you're a healthcare organization's virtualization strategy. At the same time, Healthcare organizations are realizing that a fully VMware virtualized Epic environment is an important step toward the third computing platform and the software defined datacenter for Epic environments.

Epic Caché running on the combination of Red Hat Linux and VMware is a robust, high performance, highly reliable and highly available platform that supports your Epic virtualization strategy. This combination also lowers CapEx and OpEx and offers an environment that is more flexible and easier to find administrators who are able to manage it compared to today's proprietary UNIX systems.

VMware with Red Hat Linux also delivers vSphere HA for high availability for Epic environments, the opportunity to leverage SRM (Site Recovery Manager) for disaster recovery, correlation of performance metrics in Care Systems Analytics, and self-provisioning to speed the creation of new Epic environments.

“The successful implementation of Epic software began our organization's move to a new level of connected care. Now by delivering Epic as a VMware vCloud for Healthcare service, we are even better positioned to improve patient care because the solution enables us to be agile and adaptable to more easily scale up and extend services to our affiliated hospitals and physician offices with virtually unlimited room for growth.”

Dr. Shafiq Rab, VP & CIO, Hackensack University Medical Center

# REDEFINE

SOLUTION OVERVIEW

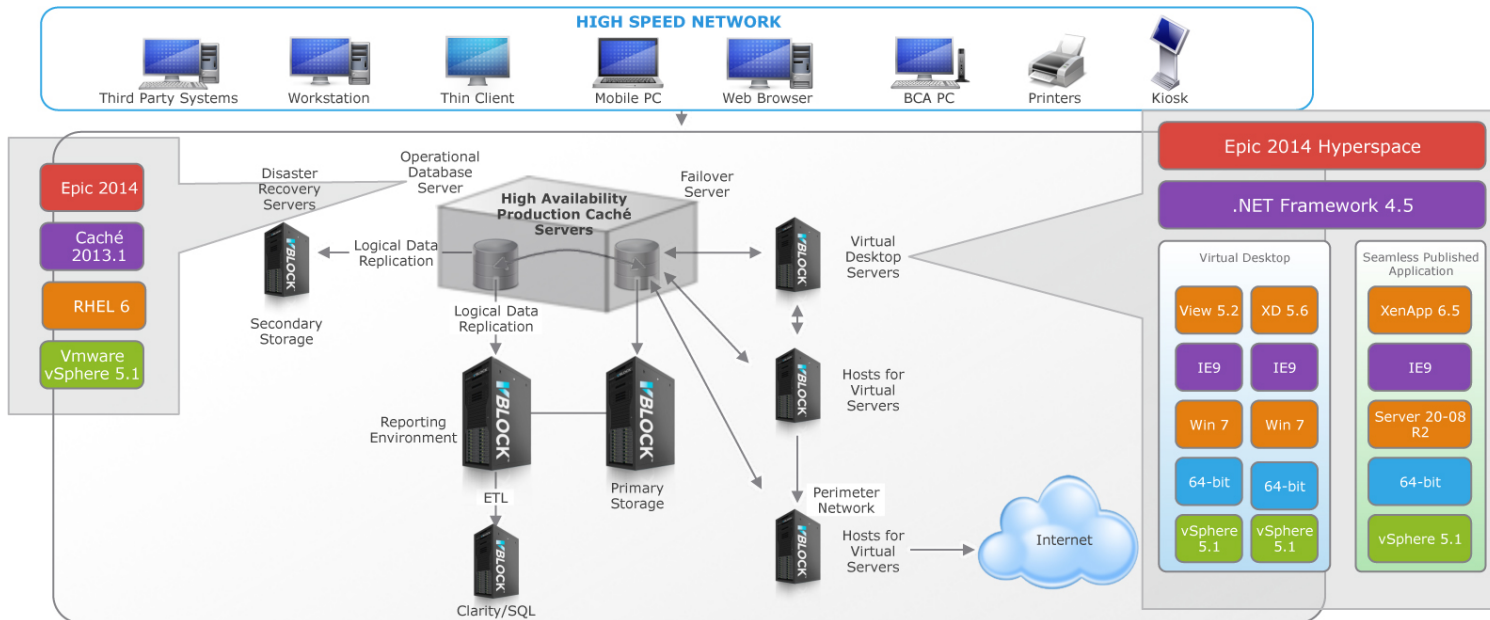
The EMC logo is located in the bottom right corner of the page. It consists of the letters "EMC" in a white, bold, sans-serif font, with a small registered trademark symbol (®) to the upper right of the "C". The logo is set against a solid blue rectangular background.

## CONVERGED, SIMPLIFIED, AND OPTIMIZED WITH VBLOCK AND XtremIO

EMC best practice for new Epic deployments is to deploy Red Hat Enterprise Linux on VMware as part of a VCE Vblock Converged Infrastructure with EMC XtremIO as the storage component. XtremIO serves as the storage component of the EMC Vblock® 540 System, the industry's first all-flash-based converged infrastructure that also incorporates the next-generation Cisco Unified Computing System and ACI-ready network, and industry-leading VMware virtualization. The factory-integrated and validated systems in the Vblock 540 System deliver scale-out performance at ultra-low latency. This helps consolidate data center-class applications, performance-centric databases and emerging 3rd-platform applications such as cloud, mobile, and social media.

Vblock systems are engineered by VCE working in concert with Cisco, and VMware, are manufactured and delivered as an integrated product, and are managed and supported as one product by VCE. Although EMC recommends Vblock Systems for an Epic infrastructure and applications, Epic users have the option of building and supporting their Epic infrastructure with components of their choice.

Vblock systems are engineered by VCE working in concert with Cisco, and VMware, are manufactured and delivered as an integrated product, and are managed and supported as one product by VCE. Although EMC recommends Vblock Systems for an Epic infrastructure and applications, Epic users have the option of building and supporting their Epic infrastructure with components of their choice.



### XtremIO

The XtremIO all-flash solution offers high throughput and consistently low latency that easily and efficiently handle Epic's demanding workloads. In addition, XtremIO provides an array of data services, such as instant, space-efficient, writeable snapshots, and always-on, inline deduplication and compression to minimize the proliferation of data across the Epic infrastructure. XtremIO also delivers inline data services such as thin provisioning, flash data protection, and encryption. What this means for an Epic IT environment is a dramatically reduced storage footprint with less complexity and easier to manage, and reduced capital and operational expense. Such services demonstrate the ability to shrink the Epic data footprint by more than 70 percent when compared with a traditional storage infrastructure.

### VBLOCK 540 SYSTEM

The Vblock 540 System is the industry's first all-flash-based converged infrastructure that also incorporates the next-generation Cisco Unified Computing System and ACI-ready network, and industry-leading VMware virtualization. The factory-integrated and validated systems in the Vblock 540 System deliver scale-out performance at ultra-low latency. This helps consolidate data center-class applications, performance-centric

databases and emerging 3rd-platform applications such as cloud, mobile, and social media.

### **INTEGRATED INTO, UPDATED, MANAGED AS A SINGLE ENTITY**

Vblock systems are engineered by VCE working in concert with Cisco, and VMware, are manufactured and delivered as an integrated product, and are managed and supported as one product by VCE. Although EMC recommends Vblock Systems for an Epic infrastructure and applications, Epic users have the option of building and supporting their Epic infrastructure with components of their choice.

## **REDEFINE TRUSTED IT AND AGILITY FOR YOUR EPIC EMR ENVIRONMENT**

All-Flash storage technology has emerged as a powerful force in the delivery of healthcare today. It has rapidly become a reliable, game-changing, satisfaction-driving storage option for the most demanding, mission-critical, and increasingly virtualized healthcare applications such as Epic. Driven by the needs of enterprise-wide EMR environments and virtualization, all-flash storage arrays deliver very high I/O performance, even with highly randomized workloads.

EMC's XtremIO all-flash array is a very good match for Epic Caché databases, Cogito analytics, virtual desktop infrastructure (VDI), and virtualized servers, all with sub-millisecond performance requirements, which are essential to a successful Epic deployment. Today, XtremIO has created the opportunity to deliver massive I/O performance and also dramatically reduce the overall cost of an Epic deployment through consolidation and advanced data services such as inline deduplication and data compression, space-efficient snapshots, and thin provisioning.

The truly transformative potential for Epic workload agility and cost savings comes from XtremIO on-demand, full-performance copy services to expedite business-critical processes, such as real-time reporting and analytics. However, all this potential can be realized only with an architecture that is based on a clean sheet design specifically geared toward flash. The combination of XtremIO and Red Hat Linux running on VMware vSphere as part of a VCE Vblock 540 System provides the foundational building block for core Epic infrastructure. You can find a more detailed White Paper on Optimized EMC Solutions for Epic EMR Environments at: <http://www.emc.com/collateral/white-papers/h13860-epic-xtremio-wp.pdf>.

EMC works closely with Epic, VMware, and VCE, and other partners to develop new solutions that deliver industry-leading innovation for your Epic EMR. Today, more than half of all Epic sites in North America, including most of the largest Epic installs, are running on EMC IT Infrastructure. Let us work with you to determine how XtremIO, VMware vSphere and Horizon View, and VCE Converged Infrastructure can help you redefine the optimal IT infrastructure for your Epic environment.

### **CONTACT US**

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, [contact](#) your local representative or authorized reseller—or visit us at [www.emc.com](http://www.emc.com).

EMC<sup>2</sup>, EMC, the EMC logo, and VCE, Vblock, XtremIO are registered trademarks or trademarks of EMC Corporation in the United States and other countries. VMware is a registered trademark or trademark of VMware, Inc., in the United States and other jurisdictions. © Copyright 2015 EMC Corporation. All rights reserved. Published in the USA. 03/2015 H13992

EMC believes the information in this document is accurate as of its publication date. The information is subject to change without notice.

The EMC logo consists of the letters "EMC" in a bold, white, serif font, positioned on a solid blue rectangular background.