Boston Medical Center (BMC) excels in providing consistently accessible health services to its patients. BMC’s mission is to provide “Exceptional care without exception.” The IT infrastructure and systems that support these services play an important role in ensuring that hospital staff can work as effectively and efficiently as possible without worrying about the systems. It is essential that data is fully protected and recoverable to meet internal SLAs, state, federal, and HIPAA regulatory requirements. This places a unique requirement on the storage infrastructure, with reliability and performance a top priority.

Managing growth of storage and costs
With more than 550 physical servers and over 400 TB of critical data to protect, BMC’s legacy infrastructure was struggling to cope. There were a number of ongoing challenges that impacted the effective management of BMC’s backup and recovery processes, including the daily administration burden on the IT team as well as performance and reliability concerns. In particular, backup windows were difficult to meet, and recoveries from tape were slow and resource intensive.

“As a non-profit, our goal is to always maintain or lower operating costs. Yet relying on our existing conventional disk and tape storage infrastructure was not cost-effective, it couldn’t keep pace and we were grappling with support issues across multiple vendors,” explained Brad Blake, Chief Technology Officer for Boston Medical Center. “We were spending upwards of $70,000 a year on tape media and administration. With support contract renewals also looming, I realized that adding onto this existing infrastructure was not moving us forward strategically.”

With data growth continuing at a rate of 40 to 50 percent per year, BMC’s IT team needed to move forward in designing a next-generation data protection infrastructure. A critical part of this plan was finding a solution that could handle the storage requirements introduced by BMC’s server virtualization initiative with VMware®, which was happening concurrently. As a complement of the team’s goal to virtualize 360 servers over a three year period, BMC took this opportunity to also redesign and improve its storage foundation.

Backup redesign delivers tangible business benefits
BMC defined the following goals for its new storage infrastructure: improve overall performance and reliability; ensure capacity to handle growth; implement consistent standards and processes across data centers; improve disaster recovery (DR) capabilities and recovery time objectives (RTO); improve speed and reliability of backups and restores; and reduce the administrative burden.

To meet these requirements BMC’s team chose and deployed EMC® Data Domain® deduplication storage managed through its EMC NetWorker environment. Equipped with two EMC Data Domain DD690 systems, one located at the primary data center and the other residing at its hot DR site, BMC is now able to replicate data bi-directionally to ensure comprehensive data protection. Data Domain deduplication storage has delivered massive data reduction of its virtualized systems, allowing BMC
EMC Backup and Recovery Solutions
- EMC Data Domain DD600 Series deduplication storage systems
- EMC Data Domain Replicator software
- EMC NetWorker® backup software
- VMware ESX® server virtualization solution

to compress 350 TB of backups down to 3.5 TB (99 percent reduction). BMC now relies entirely on Data Domain for its backup and recovery processes and has completely eliminated tape. This move is saving BMC more than $40,000 per year on tape storage, $20,000 per year on tape media and $10,000 per year on tape swapping and administration.

Additionally, by virtualizing its server infrastructure with VMware, BMC has reduced data center space, cooling and power requirements by 40 percent and has retired or repurposed 130 physical servers to-date. VMware allowed BMC to automatically allocate server resources to the hosts that need them and has provided much faster and efficient server provisioning.

Architecting a strategic approach to data protection with best of breed deduplication storage technology and server virtualization has enabled BMC to achieve its vision of an automated and centralized backup and recovery process. The benefits are considerable. Not only has BMC streamlined its entire backup and recovery environment and reduced the administrative burden, it has also greatly enhanced its business continuity capabilities and reduced power, space and cooling costs across the data center.

“Our three-year EMC Data Domain ROI was focused on reducing operating and administration expenses while increasing capacity and throughput. Data Domain has helped us achieve these goals by streamlining our backup, disaster recovery, and archive processes.”

Brad Blake, Chief Technology Officer, Boston Medical Center

Importantly, BMC is subject to very stringent RTO policies; the EMC Data Domain solution provides a clear and automated process that demonstrates to auditors that the RTO of just hours can be met.

“Our three year EMC Data Domain ROI was focused on reducing operating and administration expenses while increasing capacity and throughput. Data Domain has helped us achieve these goals by streamlining our backup, disaster recovery, and archive processes,” concludes Blake.