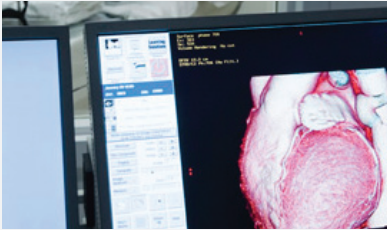


CARECORE NATIONAL

EMC PowerPath/VE helps health benefit administrator manage dramatic business growth and facilitates adoption of cloud infrastructure



ESSENTIALS

Challenges

- Data growth causing I/O bottlenecks and slowing application performance
- Nightly backup windows extending to production hours

Solution

- EMC PowerPath/VE Multipathing for virtualized infrastructures

Key benefits

- Fourfold increase in database throughput shrinks patient record retrieval time by more than 60 percent during peak call times
- High-performance data paths that optimize disk-based backup reduce backup windows by 75 percent

CareCore National is a specialty benefit-management company that manages healthcare treatments, such as outpatient diagnostic and cardiac imaging, cardiac implantable devices, oncology drugs, therapeutic agents, radiation therapy, as well as sleep, pain, and lab services. With its expert medical staff, evidence-based criteria, and sophisticated data analytics, CareCore National collaborates with healthcare providers and insurance firms to authorize medical procedures that optimize quality and efficiency of patient care for 30 million patients.

Over the past three years, CareCore National's data assets have grown from eight to 90 terabytes and its revenue has doubled every 18 months. To more efficiently handle vast amounts of data, CareCore National began virtualizing and consolidating its server and storage infrastructure. As this effort got under way and data volumes continued to grow, there were troubling I/O bottlenecks as data paths were corrupted or dropped.

These issues dragged down performance of the company's business-critical database and web portal used by clinicians, management, and call center agents, directly affecting lives under care. Coupled with a legacy virtual tape library backup system, these I/O bottlenecks were also contributing to nightly backup windows taking eight hours or more and were beginning to affect daytime production.

OPTIMIZING PERFORMANCE FOR A VIRTUALIZED INFRASTRUCTURE

To address these I/O issues, CareCore National implemented EMC® PowerPath®/VE software, which delivers automated multipathing capabilities to optimize the company's server infrastructure. Replacing CareCore National's VMware® native multipathing, PowerPath/VE provides multiple data path I/O capabilities, automatic load balancing, and failover and recovery capabilities.

“With PowerPath/VE, we’ve realized a fourfold increase in maximum throughput potential. In fact, we’ve gained so much upper headroom that we’re now able to run our nightly backups concurrently with production workloads, something we couldn’t do before.”

JAMES BLANKENSHIP,
DIRECTOR OF ENTERPRISE ARCHITECTURE

PowerPath/VE is deployed to support more than 200 virtual machines across 32 Cisco UCS blade servers, each with multiple connections to a 10-gigabit backplane, which provides high-speed access to EMC Symmetrix® VMAX™ networked storage. These key components are part of CareCore National's Virtual Computing Environment (VCE) Vblock™ 2 Infrastructure Platform, which is jointly integrated, tested, and supported by EMC, Cisco, and VMware. Vblock provides CareCore with a high-performance, large-scale, virtualized cloud infrastructure across its enterprise data centers.

FASTER ACCESS TO MEDICAL RECORDS IMPROVES CLINICIAN RESPONSIVENESS

Since deploying PowerPath/VE, CareCore National has virtualized 98 percent of its server infrastructure and substantially maximized performance. As a result, database throughput has increased with PowerPath/VE, leading to faster access to medical records and improving clinician responsiveness.

James Blankenship, CareCore National's director of enterprise architecture, says, "Now that we've put PowerPath/VE into production, we've seen how back-end technical capabilities have transformed our business operations. Physicians and nurses handle more cases because they receive quicker pre-certifications of medical tests and procedures. We attribute increased responsiveness of clinicians directly to the performance gained from our virtualized infrastructure and PowerPath/VE."

Thanks to the performance gains achieved with PowerPath/VE, CareCore National is optimizing medical decisions for many more individuals, with room to grow even further.

"We've doubled from less than 50 to over 70 million lives under care since beginning our virtualization initiative," says Blankenship. "That level of growth and our rapid adoption of virtualization and cloud would not have been possible without PowerPath/VE. And in that time, we haven't had a single outage due to data unavailability or performance problems. I'm confident we could double our existing workload again."

CURING CALL VOLUME GROWTH PAINS WITH POWERPATH/VE

CareCore National's call center agents had the opportunity to put the company's high-performance virtualized infrastructure to the test during an unexpected spike in call volume. One of CareCore National's large healthcare insurance clients announced a benefits change, which prompted numerous calls from subscribers.

Average call volumes for a 12-hour period suddenly grew from 16,000 to over 27,000—more than a 50 percent increase. However, patient record data retrieval timeframes shrunk from more than 15 seconds during this and other peak times to less than six seconds—a more than 60 percent improvement with PowerPath/VE.

"Where before it might have taken 5-15 seconds for patient data to populate agent screens, we now get sub-second response times under normal call volume and six seconds or less response times during peak volume," says Blankenship. "Our agents can handle dramatic spikes in calls without a problem. It all rests on our ability to get information in and out of the database, which PowerPath/VE made possible by dramatically increasing throughput."

INCREASED THROUGHPUT ENABLES DRAMATIC BUSINESS GROWTH

PowerPath/VE has contributed to faster daily backups since optimized data paths can better serve the EMC Data Domain® DD690 that replaced the virtual tape backup system. For example, serial batch jobs that once stretched from 10:00 p.m. to 6:00 a.m. have been compressed into a single-load batch job completed in just two hours, reducing the backup window by 75 percent.

PowerPath/VE can sustain throughput performance improvements of 35 percent or more when compared to native multipathing solutions, depending on the data center environment. PowerPath/VE can also handle occasional peak volumes four times greater than what can be realized with other multipathing I/O (MPIO) products as demonstrated at CareCore.

“With PowerPath/VE, we’ve realized a fourfold increase in maximum throughput potential,” says Blankenship. “In fact, we’ve gained so much upper headroom that we’re now able to run our nightly backups concurrently with production workloads, something we couldn’t do before.”

“PowerPath/VE is a set it and forget it solution,” he adds. “It just operates intelligently behind the scenes, automatically polling and rerouting data and restoring broken links. It’s very gratifying to see how behind-the-scenes technical improvements are affecting the real-world demands of benefit management, measured by how many lives we’re touching each day.”

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