EMBLEMHEALTH
Insurance provider boosts customer service and disaster recovery protection with EMC

OVERVIEW
EmblemHealth provides quality healthcare coverage and administrative services to approximately 3.4 million people in the greater New York City area. The company offers a wide range of plans, including coverage for prescription drugs, dental, and vision care.

BUSINESS CHALLENGES
As a community-focused organization continually striving to improve customer service, EmblemHealth expanded business hours from 8 a.m. to 6 p.m., Monday through Friday, to 8 a.m. to 8 p.m., seven days a week. The insurance provider also opened three Neighborhood Care locations in Harlem, Cambria Heights, Queens, and Chinatown, where members of the communities served can sit and talk with a highly trained, knowledgeable person and ask questions, get reliable information, or have a problem solved. Through Neighborhood Care, EmblemHealth is helping members and non-members alike connect with resources in their community, get important health screenings, or attend a health and wellness class.

EmblemHealth’s critical Oracle data warehouse enables nearly every customer-facing function across the company, as well as analytics and reporting. EmblemHealth also relies on Microsoft SQL Server, Microsoft Exchange, Microsoft SharePoint, Microsoft Lync, Microsoft BizTalk, and SAS to run its business. Both Oracle and Microsoft SQL Server are virtualized.

Eric Tomasello, EmblemHealth’s director of distributed server and storage, comments, “All data analytics on customers and the business come from Oracle. Every business unit relies on the Oracle data warehouse as our single point of truth.”

But EmblemHealth’s business growth resulting from its IT expansion, compounded by additional coverage requirements mandated by the Affordable Care Act, was straining performance of its IT infrastructure, and especially the Oracle data warehouse. The company also expanded telecommuting options for employees, further increasing workload demands on the infrastructure.

In addition, Hurricane Sandy devastated the very foundation of New York City. It was a storm unlike anything EmblemHealth had experienced before and in the aftermath, the company was displaced from its lower Manhattan headquarters for more than two months. Although EmblemHealth was able to open its Customer Service line 24/7, using remote locations to meet immediate needs, the company realized that despite recovery policies and procedures in place, it was underprepared for the catastrophic nature of this storm.

ESSENTIALS
Industry
Health Insurance
Organization Size
4,700 employees
Business Challenges
• Business growth increasing Oracle data warehouse workloads, straining performance
• Massive hurricane exposed gaps in disaster recovery
Results
• Reduced Oracle reporting time from 19 to 3.5 hours
• Reduced Oracle backup time by 60 percent
• Reduced SAS report-generation time from 50 to four hours
• Improved disaster recovery from weeks to hours
• Enabled recovery of critical Oracle-based applications within hours
• Strengthened relationship between IT and business users with faster delivery of services
After carefully evaluating its options, EmblemHealth chose a comprehensive EMC infrastructure and data protection solution to improve the performance of its Oracle environment and better protect against the threat of disasters.

**SOLUTIONS**

EmblemHealth deployed EMC® VNX® unified storage to support its Oracle environment, as well as Microsoft applications and SAS. For optimal performance and efficiency, VNX incorporates a FLASH 1st strategy that uses the EMC FAST™ Suite (consisting of FAST Cache and FAST VP), along with flash and high-capacity disk drives.

Approximately 65 percent of the infrastructure is virtualized with VMware® vSphere™. The company expects to reach 90 percent virtualization by the end of this year.

To protect this business-critical environment, EmblemHealth uses EMC RecoverPoint® remote data protection to replicate the VNX from its primary data center in New Jersey to VNX storage in a disaster recovery site 100 miles away in Philadelphia. Virtual machines (VMs) on VNX are replicated to the remote site using VMware vCenter™ Site Recovery Manager (SRM).

EmblemHealth uses EMC NetWorker® 8.1 unified backup and recovery with Oracle Recovery Manager (RMAN) to back up Oracle databases to EMC Data Domain® deduplication storage systems. The company also depends on EMC Avamar® deduplication backup software to back up production VMs to Data Domain and to back up non-production VMs to an Avamar Data Store. Both Avamar and Data Domain are replicated from the primary data center to the remote site.

In addition, EmblemHealth consolidated its Windows file servers onto EMC Isilon® scale-out storage, which is backed up to Data Domain with the Isilon A-100 Backup Accelerator and NetWorker.

For its mainframe environment, EmblemHealth relies on EMC VMAX® 20K enterprise storage, which is replicated to the disaster recovery site with EMC SRDF®.

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Eric Tomasello
Director of Distributed Server and Storage, EmblemHealth

**ORACLE PERFORMANCE ENHANCES CUSTOMER SERVICE**

The EMC storage infrastructure drove performance increases in EmblemHealth’s Oracle environment, which helped customer service representatives respond more quickly to members inquiring about a claim or looking for guidance on their coverage. EmblemHealth can now perform a wide range of Oracle-based analytics and reporting—from underwriting to claims processing—used for strategic planning and improving its service offerings.

"With EMC storage and tools, we’ve been able to step up performance so the Oracle data warehouse stays responsive to the business even when the data in it grows," says Tomasello.

With disk pooling across multiple tiers of EMC storage, automated storage tiering, and flash drives, processing jobs now complete dramatically faster than before.
Tomasello notes, "One job that loads information into the Oracle data warehouse for
reporting previously took more than 18 hours. Since we moved Oracle onto the VNX,
that job now finishes in three and a half hours."

Similarly, month-end SAS business intelligence reports generated by the Oracle data
warehouse were taking up to 50 hours to run. Using VNX and Isilon storage,
EmblemHealth reduced that reporting time to just four hours.

**DRAMATICALLY FASTER ORACLE BACKUPS**

Data growth also made it increasingly difficult to complete Oracle data warehouse
backups, which ran 60 hours over the weekend and into Monday mornings, causing
disruption to production operations. Now, NetWorker and Data Domain have cut data
warehouse backup time by 60 percent.

"Moving to NetWorker 8.1 was a significant game changer," says Tomasello. "With
that update and a new Data Domain system utilizing the latest DD Boost code, we can
now back up the Oracle data warehouse in less than 24 hours over the weekend. The
business no longer has to contend with backups slowing down Oracle on Monday
mornings."

Tomasello adds, "It used to take five days to restore the data warehouse, which is
completely unacceptable in a mission-critical environment delivering healthcare
insurance to customers. With this latest EMC backup and recovery infrastructure,
we've brought that time down to about 36 hours."

EmblemHealth has seen similar results with its non-production virtualized Oracle
databases. With Avamar enabling image-level backups, restores that once took 24
hours now complete in six hours.

**FULLY PREPARED FOR DISASTER**

By implementing a comprehensive disaster recovery strategy, EmblemHealth is better
prepared if another disaster occurs. In addition to moving its production data center
from the Wall Street area adjacent to the East River to an inland location in New
Jersey, EmblemHealth deployed EMC RecoverPoint and VMware vCenter SRM to
enable recovery from a geographically remote site.

"While it took three weeks to restore basic business services after Hurricane Sandy,
and nearly six weeks to become fully operational, we now have the disaster recovery
capabilities that would put us back in business with our most critical Oracle-based
applications in hours," reflects Tomasello.

Protected by RecoverPoint and SRM, EmblemHealth’s top-tier applications, such as the
Oracle data warehouse, Exchange, BizTalk, communications systems, and voice
response system have a recovery time objective (RTO) and recovery point objective
(RPO) of eight hours. RTOs for lower priority applications vary, and none have an RPO
of more than 24 hours.

**CONSOLIDATION SAVES SPACE AND ENERGY**

Through virtualization and transitioning to the cloud, EmblemHealth has reduced the
number of physical servers in its data center from 90 to four, with a ratio of virtual to
physical servers of 35:1. Already running 600 VMs, the company expects to regain a
significant amount of data center space while dramatically reducing power and cooling
demands.
EMC solutions such as VNX have also enabled consolidation. "Storage pooling and technologies like flash and FAST VP mean we no longer have to buy a lot of high-speed disk drives to meet our performance demands," explains Tomasello. "We get much more efficient utilization out of our storage resources, so we have reduced our racks from seven down to three."

**IT EVOLVES AS "PARTNER TO THE BUSINESS"**

Greater efficiency in the data center has also helped IT staff and Oracle database administrators (DBAs) improve productivity. Rather than spending two to three weeks to acquire, install, and set up a new physical server, Oracle DBAs can now spin up a virtual server in less than a day. Prior to virtualization, IT staff spent about 70 percent of their time on low-value maintenance activities and only 30 percent on higher-value projects. Now those percentages are reversed, with much more time to tackle high-value activities that help move the organization forward.

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Eric Tomasello  
Director of Distributed Server and Storage, EmblemHealth

"My team can now focus on engineering," says Tomasello. "They have time for things like capacity planning, workload analysis, and application updates to improve the quality and efficiency of our IT services."

He continues, "Our Oracle DBAs love being able to create a VMware snapshot of a virtual Oracle server to test patches and other changes before going into production. If anything goes wrong, they can easily revert back to the original state of the VM with no harm done. It's an important safety net that puts everyone at ease."

Higher efficiency is also helping IT improve its relationship with the business.

"There used to be friction between the business and IT because it took so long for us to deliver on its requests," notes Tomasello. "Now that we're so much more efficient and automated with EMC and VMware, IT is a better and more responsive partner to the business since we can respond quickly and help with its needs."

**JOURNEY TO HYBRID CLOUD**

As EmblemHealth continues to explore ways to improve services for customers and employees, the company plans to implement virtual desktops to facilitate easier telecommuting.

For the virtual desktop environment, EmblemHealth plans to deploy VCE Vblock® Systems virtualized with vSphere and running Citrix XenDesktop. The Vblock will support approximately 2,500 virtual desktop users simultaneously, which would allow more than half of its employees to work remotely—another safeguard if a disaster occurred.

In the next phase of its cloud journey, EmblemHealth plans to implement VMware vCloud® Automation Center to orchestrate services between its private cloud and public cloud providers.
"Using vCloud Automation Center for hybrid cloud will allow us to act as a broker of services to the business," explains Tomasello. "We'll be able to provide cost-effective resources for people to try out their next great idea or test a vendor's latest application without building an infrastructure or putting any of our internal systems at risk."

"That's the ultimate nirvana state for IT—where we simply turn on and turn off infrastructure services as the business needs them," he concludes.