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Mesa Community College Standardizes on Nimble Storage, Accelerates Oracle Performance

Adaptive Flash Platform Increases Oracle Performance by 5x, Cuts Management Time by 67%

Mesa Community College

Mesa Community College (MCC) is the largest college in the Maricopa County Community College District, with an enrollment of over 40,000 students annually. The Maricopa Community College District is one of the largest providers of higher education in the United States. The district consists of ten community colleges and two skill centers, all dedicated to educational excellence and meeting the needs of businesses and the citizens of Maricopa County, Arizona.

IT Challenges

MCC's IT environment consisted of a collection of disparate hardware and software systems, running everything from Sun, to x86, to Apple OS. "We were relying on multiple vendors, multiple hosts, and multiple operating systems," noted Sasan Poureetezadi, CIO of MCC. "There were a lot of individualized systems with local, direct attached, and SAN storage. It took a lot of time to manage all of the different platforms, and it wasn't easy to scale the environment to meet demands. Out of necessity, we have moved from this disparate model to standardize on fewer platforms to reduce our costs and simplify management."

Standardizing on Nimble

After evaluating a long list of potential IT solutions, MCC's enterprise manager at Nimble made the recommendation to standardize on Nimble for storage, HP for compute, and Xsigo for networking. "When it came to choosing a storage platform, Nimble's Adaptive Flash arrays provided the best value," Poureetezadi said. "Since we are a public organization with shrinking resources, we really had to think about cost along with results. Nimble provided exactly what we needed – high performance, easy management and scalability, at a valuable price point."

MCC purchased four 22TB Nimble arrays for its data center. "We have taken a hybrid approach to our IT environment," noted Poureetezadi. "We moved many of our 'heavy-iron applications' to the cloud, including our student tracking, e-mail, LMS, CRM and predictive analytics -- but for the time being we will manage our virtualized file, print, database, enterprise document management, and web services on-premises."

Faster Deployment and Easier Setup

The Nimble arrays were very easy to deploy, according to Poureetezadi. "It took a lot more work to set up storage in the past," he reported. "With Nimble, our IT admins are no longer plagued by the disparate storage infrastructure. They aren't spending a lot of time carving out LUNs and configuring the storage. Since so much of the Nimble environment

Storage Profile: Mesa Community College

MESA COMMUNITY COLLEGE

Industry: Higher Education

Location: Mesa, Arizona

IT Challenges

- Wanted to standardize all IT infrastructure to ease management and enable easy scalability

Solution

- Four CS200 Nimble Storage arrays

Benefits

- Increased Oracle database performance by 5x
- Cut infrastructure management time by 3:1, saving hundreds of thousands of dollars over five years
- Accelerated deployments
- Shortened Oracle database backup times from 6 hours to a few minutes
- Reduced Oracle database space consumption by 50%

"We are very impressed with the Nimble technology and see it as one of the leading platforms for the future."

Sasan Poureetezadi
CIO, Mesa Community College

is preconfigured, we can add more storage or reconfigure capacity on the fly while our systems are in production. Something we couldn't do with our previously disparate storage environment."

Higher Performance

Application performance has improved significantly since moving to the Nimble arrays. "We obtained a 5x increase in performance on average, and in some cases much more – especially for our Oracle databases," Poureetezadi reported. "Everything performs much better on Nimble – whether it's our hypervisor environment or anything that is installed natively."

Ensuring Disaster Recovery and Business Continuity

TMCC's main data center is located in Mesa, Arizona and the new DR site is 20 miles away in Scottsdale. MCC plans on leveraging Nimble snapshots and replication to provide both data protection and disaster recovery (DR) for all critical information. "We will utilize the technology that's built into the Nimble arrays, along with VMware's Site Recovery Manager (SRM) for automated DR of virtualized applications. With Nimble, we get DR and business continuity right out of the box. When you combine that with VMware's capabilities, it's a solution that's very effective and cost competitive, which more than meets our campus needs for DR and business continuity."

The Nimble solution is enabling MCC to improve recovery time objectives (RTOs) for its key applications and services. "It was nearly impossible to meet our SLAs before Nimble," noted Poureetezadi. "With Nimble, we can now provide RTOs of just 4 to 6 hours, well within our SLAs. Nimble has enabled us to reduce our level of risk and provide better continuity for our critical services."

"While I would like to say that our hosting strategy was our biggest project to conquer, from our enterprise team's perspective it was actually all of the individualized systems with local, direct attached, and SAN storage," Poureetezadi explained. "Over the last several years, we have worked hard to virtualize 120 systems into our VMware environment. With the Nimble infrastructure, we will now have the ability to snapshot our servers on a regular basis and ship those snapshots to another Nimble array at our DR site for full off-site redundancy."

Leveraging Nimble InfoSight

The MCC IT team is using Nimble InfoSight to monitor and manage the new storage arrays. With Nimble, the amount of time spent managing infrastructure has been reduced by at least two-thirds. "Before Nimble, our IT team had to log in to four different management consoles to make one change," noted Poureetezadi. "Tasks that used to take 90 minutes, can now be completed in less than half an hour. Over the five year lifecycle, we estimate that will save us hundreds of thousands of dollars of OPEX."

Reducing Footprint and Backup Times

According to Nimble, MCC has achieved a 2.2x compression rate on its Oracle database server, enabling them to reduce data center footprint. The college is now getting ready to move one of its larger databases with 40G for the server, 100G for the database, and 800G for the database backups over to Nimble. The change rate for that database is roughly 10-20%. If they use an average of 20% changed daily, Nimble estimates the solution will reduce the database backup footprint from 800G to 250G. It will also shrink backup windows. Currently, the college maintains 14 days of backups totaling 800G, which took approximately three hours to restore. With the Nimble infrastructure, they have been able to restore that database in a just few minutes.

Using Nimble as a Training Platform

"MCC provides a lot of 'competency-based' classes for our community college students," noted Poureetezadi. "Our IT professional courses are very popular. Most of them are filled to capacity each semester, and our graduates are getting multiple job offers. We have been very impressed with the Nimble technology and see it as one of the leading platforms for the future. As a result, we are now planning to utilize Nimble storage as the platform to conduct our training courses."

Future Plans

According to Nimble, MCC plans to migrate all but three of its twenty-nine remaining individual servers to the Nimble infrastructure over the next few months. The move will put the college at more than 95 percent virtualization. The last three servers remain to be conservative with certain systems, like the domain controllers. After collecting more data on the success of all the other servers on the Nimble infrastructure, they will eventually move those over as well.

Final Thoughts

"Nimble Storage is a great platform for our Oracle and VMware vSphere environments because it enables aggressive data protection and automated disaster recovery," concluded Poureetezadi. "It has provided the flexibility and scalability our environment needs and demands. Nimble is now one of our most-trusted partners. They have delivered well above our expectations here at Mesa, and we feel the future is bright for Nimble at our college and the district as well."

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