Mentor Graphics Corporation is a world leader in electronic hardware and software design solutions. The company provides products, consulting services, and award-winning support for the world's most successful electronic, semiconductor, and systems companies.

The Challenge: Storage Systems Not Meeting Requirements for Expanding Virtual Environment

The demands of Mentor Graphics test/dev environment were expanding. The critical virtualized workload that caused them to search for a new storage solution was an internal high-performance computing environment targeting QA regression tests for software builds.

As their development teams increased their use of continuous integration and agile methodologies, the demand on virtualized IT resources to complete testing in a timely manner also increased. Mentor moved test processes to the virtualized environment to increase agility but soon found that traditional storage solutions were unable to meet the demands of this workload. "We tried four different traditional storage platforms and all of them were unable to meet our performance requirements," said Brian Alexander, Technical Architect for Virtualization Environments at Mentor Graphics. Brian evaluates and selects technologies for Mentor's global engineering environment.

The Solution: Tintri VMstore

Mentor started looking for a higher-performing storage solution that would improve developer productivity. Mentor Graphics made the decision to run a competitive POC with several different storage vendors. At the conclusion of the POC, Mentor chose VMstore for its performance and ease of management. "One of the biggest benefits of VMstore is its simplicity," noted Alexander. "Some of the other vendors could solve the performance problem, but they were far more complex—on the same level as our current legacy systems, making the environments difficult to manage and maintain. VMstore was the only solution that could meet both our high performance and management simplicity requirements."

The Results: Simplified Storage Management, Performance Exceeds Requirements

With Tintri, Mentor's test/dev teams are now able to create and run tests on over 10,000 VMs per day, far exceeding the capabilities of their traditional storage system architectures. "Our test/ dev environment is highly automated," explained Alexander. "When a software build completes, it issues a command that starts a QA run. It creates necessary VMs on demand, sends the tests to the VMs, gathers the results, deletes the VMs when the test is over, and then moves on to the next test cycle.

After meeting the initial performance requirement to provide more agility in the virtualized test/ dev environment, VMstore is now being used across the engineering resource environment; including production-build servers and systems, regression systems, test flows, benchmarking runs, and virtual desktops.

Mentor's traditional storage is managed by the storage team and VMstore was initially managed the same way. It quickly became apparent that there was no value-add to having the storage team manage a dedicated VM system so the management was moved to the virtualization team. This team of four was able to absorb the management of VMstore without additional headcount.

Chad McGuire is Mentor Graphics' Senior Manager for IT Architecture and Standards. Chad manages a team of IT Technical Architects focused on virtualization, storage, engineering software, client and server infrastructures.

Challenges

- Existing storage systems could not meet the performance requirements for the test/dev environment
- in Mentor's expanding virtual environment

Solution

- Tintri VMstore

Results

- Reduced latencies in the test/dev environment
- Ability to create and run tests on over 10,000 VMs per day
- Ease of management without dedicated storage expertise
- Provided the ability to choose any hypervisor in the future

Tintri
Intelligent Infrastructure

An attractive option Mentor discovered with VMstore is the ability to choose any hypervisor they want in their environment. "We appreciate the flexibility of not being locked into a single vendor. VMstore will allow us to run hypervisors from multiple vendors on the same storage platform if we choose to do so in the future," McGuire said. Additionally, Mentor has been impressed with Tintri Support.

"Tintri support has been excellent," added McGuire. "We identified an issue that required some changes for our test/dev environment and were impressed with how quickly the Tintri team was able to meet a very specific request, even though our environment is not a mainstream use case for these devices."

Mentor was also impressed with Tintri's commitment to working closely with other vendors. "We encountered a very interesting issue when we first switched over to VMstore related to cloning," said Alexander. "The Tintri team engaged directly with the other vendor and the necessary changes were made in a very short period of time."

Tintri's partnership has been key for us as well, in several areas, especially where product integration or multiple vendors may have been involved. Tintri has engaged all parties, represented the issue or needs, and run with it, working with the other vendors for amenable resolution." noted McGuire.

Mentor was able to reduce test time and improve continuous integration in multiple virtualized workload environments using the VMstore storage solutions. Additionally, the ease of storage management and support provided by Tintri makes it a great choice for Mentor.

Experience Different! For more information on how Tintri VMstore can turbo-charge your business success through a simple, Intelligent Infrastructure, visit tintri.com/vmstore.

> **"VMstore is enabling us to enhance continuous integration and agility within Mentor's software development environment."**
>
> *Chad McGuire, Senior Manager of Architecture and Standards, Mentor Graphics*

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