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Armor uses Virtana Storage Load Testing to determine the best flash and hybrid storage solution

ABOUT

Industry
Cloud services and consulting

Headquarters
Plano, Texas, USA

OBJECTIVE

Simulate thousands of VMs with different work patterns

RESULTS

- Quickly and accurately performed comprehensive flash and hybrid system comparisons
- Test results become a company asset, with the ability to do apples-to-apples testing over time with a high degree of repeatability
- IT supports the business value of security without sacrificing enterprise-class performance

ABOUT Armor

Armor is a global leader in cloud-native managed detection and response. As a trusted partner protecting more than 2,000 companies located in over 40 countries, Armor offers cloud-native cybersecurity and compliance consulting, professional services, and managed services protecting the customer's entire sensitive data landscape.

ARMOR™

THE CHALLENGE:

Pre-production storage load testing is difficult, particularly in a virtualized world

Optimizing and minimizing infrastructure costs is always a top priority for Armor. For example, they have over 3 PBs of storage and over 5,000 VMs deployed across five data centers worldwide, so VM density is a significant issue. Because Armor is a cloud service provider, it deploys a lot of virtual machines and one big challenge is how to get more VMs per server and rack without sacrificing quality of service to their customers.
Todd Gleason, VP of Technology for Armor, understood the value of pre-production storage load testing for performance, but according to him, "There aren't a lot of good platforms that allow you to do that, and when you get into a virtualized world, the problem becomes exponentially harder. You're dealing with a lot of different workloads; you're getting the blended I/O effect, different chunk sizes and I/O profiles. Without the ability to test those workloads at scale, you're just working with a bunch of numbers and theory."

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THE SOLUTION:

Virtana Storage Load Testing for simulations at scale

In researching storage performance and load testing solutions, Armor discovered Virtana Storage Load Testing online. They began using it almost immediately for flash storage system evaluations and characterizations. They were familiar with the freeware tools, but in Gleason's words, "you can manually load a tool like Iometer on thousands of VMs without writing a bunch of scripts, but that's a lot of effort and time just to do basic test deployment." This was a very frustrating and time-consuming process for Armor.

Virtana Storage Load Testing allows Armor to simulate their production environment, drive their storage arrays through the entire stack, over any protocol, to help them maintain storage quality. Gleason stated, "If you want to simulate a few thousand VMs, it's a couple of settings in Virtana Storage Load Testing. I was able to test five different arrays simultaneously. I would configure a base workload and test it, then change the attributes and test again."

THE RESULTS:

Increased server/VM density without increasing performance risk

different work patterns, Virtana Storage Load Testing can help me understand the performance of storage as well as validation of a particular storage array. The single biggest benefit of Virtana Storage Load Testing is the tons of time we save. We were able to evaluate five different storage arrays in less than 30 days. That includes loading things up, plugging them into the environment, tweaking the workloads and doing 'what if' scenarios. It's just so easy to use. We were able to quickly simulate the effect of, for example, doubling the workload and determining the effect on the entire storage network stack." He added, "We tested several all-flash arrays and hybrids, and you would be surprised what they're able to do, from a controller standpoint. So, it's not necessarily the flash disk that is the difference or the bottleneck."

The IT team is now able to easily, quickly, and accurately evaluate new flash and hybrid storage systems, and increase server/VM density without the risks of unexpected performance problems. "You can create workload profiles and it's very easy to turn the knobs to dial in your specific application," said Gleason. And they now know how to configure and size storage systems based on performance requirements that accurately reflect their actual application workloads and have a platform to validate all future application deployments and changes to the infrastructure.