

## Benefits

- 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

**“You can create workload profiles and it’s very easy to turn the knobs to dial in your specific application.”**

**“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.”**

**Todd Gleason**

VP Technology, Firehost

## WorkloadWisdom Determines Best Flash & Hybrid Storage Solution for Service Provider



The IT team at cloud service provider innovator Firehost turned to WorkloadWisdom to help determine which storage systems would most cost-effectively support their demanding workloads. WorkloadWisdom products empowered the IT team with the critical insight needed to optimize the performance and cost-effectiveness of their next generation storage infrastructure while substantially reducing the risk of deploying the new technology.

## Customer Challenge

Firehost is a secure cloud infrastructure provider that protects valuable websites and business assets with enterprise-grade performance and security. They provide HIPAA compliant hosting and PCI compliant hosting solutions that are ready for secure data. Firehost considers the performance and security of its datacenter to be a competitive differentiator.

Being a service provider, optimizing and minimizing infrastructure costs is always a top priority. For example, with over 3PBs of storage and over 5000 VMs deployed across 5 data centers worldwide, VM density is a significant issue. Because Firehost is a cloud service provider, it deploys a lot of virtual machines. 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 Firehost, 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”.

## Solution Investigation

In researching storage performance and load testing solutions, Firehost discovered WorkloadWisdom online, right as WorkloadWisdom began seriously adapting its products for the commercial IT market. They brought in the platform and began using the WorkloadWisdom products almost immediately, for flash storage system evaluations and characterizations. They were familiar with the freeware tools but in the words of Todd Gleason, “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 Firehost.

## WorkloadWisdom Solution

WorkloadWisdom allows Firehost to simulate their production environment, drive their storage arrays through the entire stack, over any protocol, to help them maintain storage quality. Todd Gleason states that “If you want to simulate a few thousand VMs it’s a couple of settings in the WorkloadWisdom platform. 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”.

patterns, WorkloadWisdom can help me understand the performance of storage as well as validation of a particular storage array. The single biggest benefit of WorkloadWisdom 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”.

## Summary

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.

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.

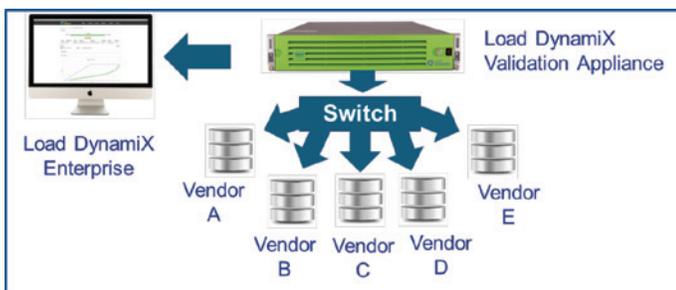


Figure 1. WorkloadWisdom Appliance deployment at Firehost

## Results Realized, Risks Reduced

Todd Gleason reports that “I have a mixed workload that’s already complicated by virtualization. I need a solution that simulates blended I/Os and a variety of I/O patterns,” he noted. “With IOMeter, I can simulate I/Os on one virtual machine. How do I do this for 1,000 to 5,000 virtual machines? If I need to simulate a workload of thousands of VMs with different work



[Learn](#) more about VirtualWisdom



[Contact](#) a Virtana Expert



[View](#) more Resources

**Virtana**  
2331 Zanker Road  
San Jose, CA 95131  
Phone: +1.408.579.4000