



# Internet E-commerce Company

## Storage Performance Validation Helps Support SLAs and de-risk changes as integral part of Company's Storage Lifecycle Management

The IT team at this global internet E-commerce company uses WorkloadWisdom to help them support their SLAs, from selecting the best storage platforms, to optimizing configurations, to vetting major changes before production deployment. The WorkloadWisdom storage performance validation platform empowered the IT team with the critical insight needed to optimize the performance and cost-effectiveness of their storage infrastructure while substantially reducing the risk associated with changes.

### Background and Challenge

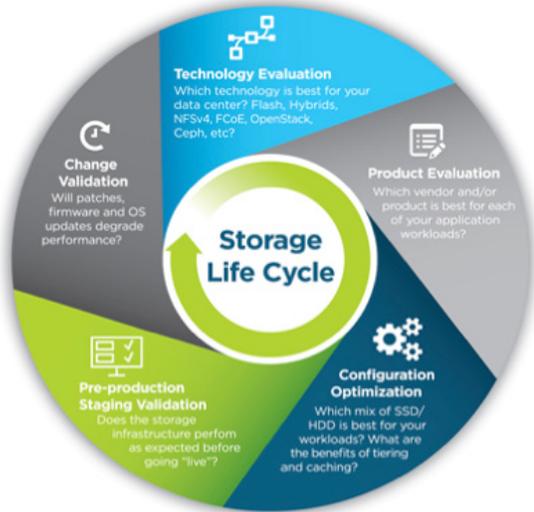
This company is a leading internet commerce company headquartered in the US, with multiple major data centers across the globe. The division that has deployed WorkloadWisdom is largely but not exclusively an HDS shop, with over 20 PBs of primary production storage supporting many millions of transactions per day, running Oracle databases.

Because of the nature of the business, the applications actually are the business. So it's critical that SLAs be met and cycle time for new releases in minimized. Even an increase in a couple of milliseconds in latency is noticed by the application. These SLAs are particularly difficult due to the scale and growth of the storage infrastructure. At the same time, the staff is under continual pressure to support other business initiatives, like restructuring, all the while keeping a cap on rising storage costs. The IT team needed to consider how to optimize the entire lifecycle of their tier 1 storage arrays to be more responsive to the business units.

## CASE STUDY

### Benefits of Lifecycle Management

- Quickly and accurately performed flash system evaluations
- De-risk microcode updates and other changes as part of the storage lifecycle management initiative



***We were surprised at how much more efficient our testing cycles became with using WorkloadWisdom. Plus the data we're getting is from a neutral vendor.***

STORAGE ENGINEERING  
MANAGER

The storage lifecycle at this company begins at technology and vendor evaluations. They are particularly interested in how all flash arrays can improve their applications and which application workloads are best suited for flash. Once platforms and protocols are determined, configurations are tested and optimized. Performance is analyzed during a wide variety of scenarios including under drive, controller and connection failures. To de-risk production deployments, they drive simulated workloads on their production systems in a test mode.

After they prove configurations and deploy into production, they still need to minimize the risk of changes, so testing new microcode or operating system updates, for example, is completed in the pre-production lab prior to going "live". This lifecycle change validation and management approach to storage infrastructure represents best practices and is utilized by leading IT teams, like the team at this company, who understand the benefits of making infrastructure decisions based on data, not guesswork.

***Previously we were depending on vendors and the results were not always as accurate as we'd like.***

STORAGE ENGINEERING  
MANAGER

## The WorkloadWisdom Solution

In late 2014, WorkloadWisdom proposed profiling the Oracle database-based applications and emulating the workloads to help gain a deep perspective of the I/O profile and requirements for their future flash storage infrastructure. The company leveraged the WorkloadWisdom Professional Services team to help get them started through the flash array preconditioning, initial tests and training the IT team on the use of the WorkloadWisdom platform. The diagram below is a simple representation of the test topology for this first phase of the WorkloadWisdom deployment, comparing all flash arrays (AFAs).

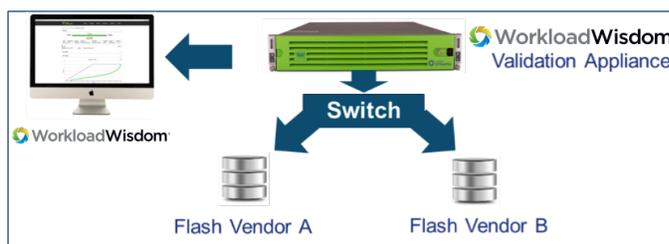


Figure 1: Simplified diagram of flash system testing in the lab

As one of the key use cases for life cycle management of the company's storage, they use WorkloadWisdom Enterprise to simulate application workloads in their labs, then make changes to their storage network (e.g. stop links) and test the effect on latency, throughput, and IOPS. Additionally they test new microcode releases on their HDS arrays, in their pre-production labs, about 2-3 times per year. The diagram below is a simple representation of the test topology for this production validation phase of the WorkloadWisdom deployment.

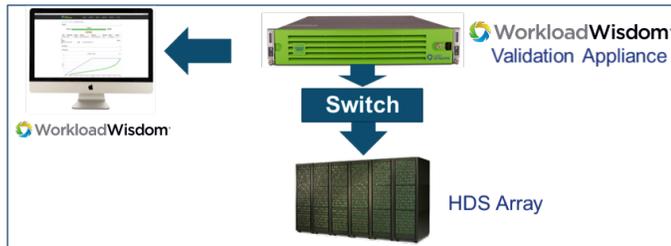


Figure 2: Simplified diagram of life cycle test lab

## Results Realized, Risks Reduced

According to the Storage Engineering Manager, "Prior to WorkloadWisdom, when we tested, results were not consistent. We couldn't get the same loads, the same profiles. So our tests were really not valid. So now I can do valid comparisons from vendor to vendor, but also the changes made by my vendor."

## Summary

The number one value of WorkloadWisdom is that the IT team can much more easily implement storage lifecycle best practices around change management to de-risk changes in configurations and infrastructure. Also, the IT team was able to easily, quickly, and accurately evaluate new flash storage systems in a truly apples to apples way. Combined, these abilities are making it easier to support their application performance SLA.