

# Semiconductor and Telecommunications Company accelerates development and productivity at significantly lower costs using Virtana Storage Load Testing



## ABOUT

**Industry**  
Semiconductor and Telecommunications



## OBJECTIVE

Verify the accuracy of Virtana SLT tests vs. using live systems for testing



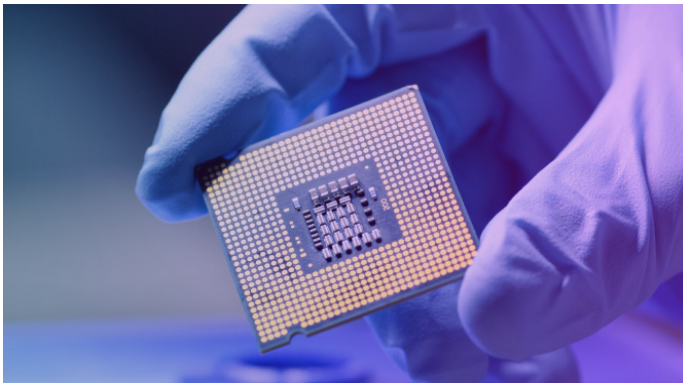
## RESULTS

Accurate performance test results, eliminating vendor specmanship and guessing.

## ABOUT

This American Multinational Semiconductor and Telecommunications equipment company, designs and markets wireless telecommunications products and services.

The Semiconductor and Telecommunications Company uses Oracle ZFS storage appliances connected to servers/ clients to support its engineering and development centers. The workloads are performance intensive with high IOPS and throughput requirements as they are used to test complex integrated circuit environments prior to tape-out.



Going forward, we're standardizing on Virtana SLT for testing, which has already led to huge savings over using live production systems. I could not have been happier with Virtana services



**Storage Architect Leader**  
at the Semiconductor and Telecommunications Equipment Company



**THE CHALLENGE:**

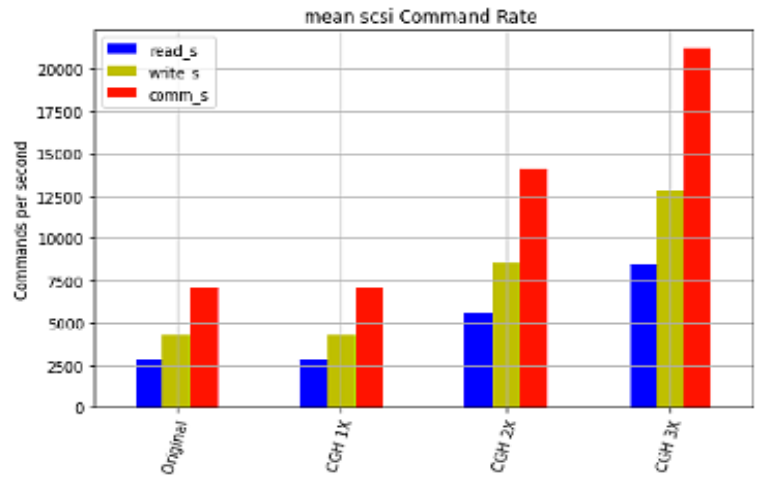
The task was to select the best platform to replace the Oracle ZFS appliances as scratch space for their development group as their designs were becoming increasingly complex. A key objective was to ensure that the performance of the new storage standard noticeably exceeded the performance of the legacy platform.

**THE SOLUTION:**

**Virtana Storage Load Testing and Infrastructure Monitoring**

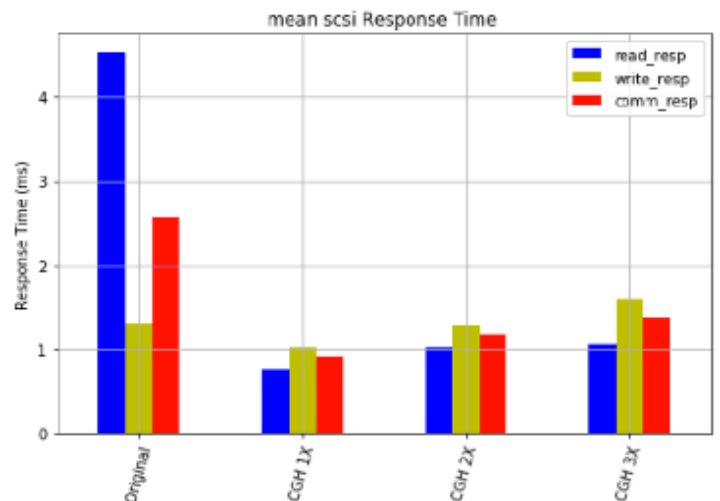
The evaluation process took over six months, and actual testing took place over a 6-week period, during which the company utilized three test methodologies to determine which approach would be best for the future. They initially tested with Virtana Storage Load Testing (SLT) (formerly known as WorkloadWisdom) and the 40Gbe NAS workload generator, supporting NFSv3. Secondly, the project procured hundreds of live production servers to drive realistic workloads. Additionally, one of the vendors requested the use of SpecSFS benchmarking, partly because one of their engineers contributed to its development.

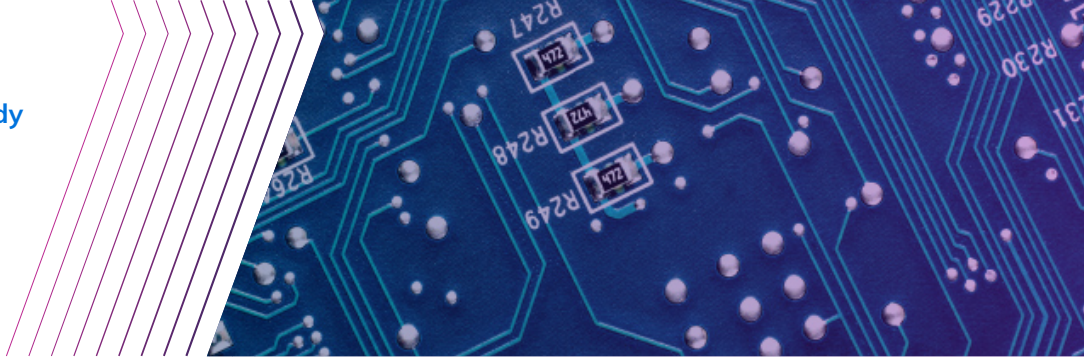
Because each target platform behaves differently (e.g., how they handle DNS servers), Virtana SLT was specifically configured to manage and distribute loads evenly. Here, Virtana Customer Success was instrumental in providing advice.



This Semiconductor and Telecommunications Company used the Workload Data Importer feature of Virtana SLT to capture the workload profiles from the production systems and created highly accurate models.

When the dust cleared, the company had performed over 500 tests with an extensive variety of workloads to identify optimal configurations and breaking points. Other (non-performance) testing included adherence to standards such as POSIX and LDAP.





**THE RESULTS:**

**A set of tools that identify anomalies before they become problems**

The Semiconductor and Telecommunications Company was very happy with the results, partly because each of the three test methodologies resulted in the same (performance) conclusion. This confidence in the validity of the Virtana SLT solution allows them to only do Virtana SLT testing going forward because it’s much more intuitive and dramatically more cost-effective.

A part of their confidence in Virtana SLT came from being able to perform tests based the company’s production environment instead of running simulations based on benchmarks. This process enabled the company to create realistic application workload models to perform what- if analysis simulations in a pre-deployment environment. By methodically characterizing applications and empirically measuring their infrastructure’s ability to support their applications, infrastructure the company assured their infrastructure could meet application growth projections and workload variations.

Organizations like this Semiconductor and Telecommunications Company often spend approximately 80% of their time setting up the environment to conduct tests and the other 20% performing those tests. With Virtana SLT, the company spent that 80% performing more tests, getting more insights into how their workloads would perform on the new target storage systems. This alone gave the company a significant competitive advantage because they could innovate faster and bring more advanced products to their customers more quickly.

While performance was not the only factor in selecting the new storage platform for the development team, it was the primary factor. It allowed the company to confidently make informed decisions based on highly accurate performance data, eliminating all specmanship from the vendors and internal guesswork.

**THE FUTURE:**

The Semiconductor and Telecommunications Company verified the accuracy of the Virtana SLT tests vs. using live systems for testing. Going forward, the company will use Virtana Infrastructure Monitoring probes to capture the workload profiles and Virtana SLT to run the tests, resulting in substantial financial and time savings.

The IT team can now easily, quickly, and accurately evaluate new storage systems. They know how to configure and size storage systems based on performance requirements that accurately reflect their actual application workloads. They also have a platform to validate all future releases of their selected storage platform.

