



CASE STUDY

Wipro Cloud Services Swaps Legacy Storage Systems for InfiniFlash™ from SanDisk®, a Western Digital® brand

Solution Focus:

- Cloud-hosting

Challenge:

Subpar performance and limited scalability

Solution:

- InfiniFlash IF150
- NexentaStor

Key Benefits:

- Performance increase - at least 10x greater
- Improved density - 20 U to 7 U
- Power consumption has reduced by 75%

Summary

After encountering performance issues with their IaaS legacy storage systems, Wipro deployed an all-flash Software-Defined Storage (SDS) solution from Nexenta and Western Digital. NexentaStor running on the InfiniFlash platform from SanDisk successfully decreased latency while achieving higher IOPS and a smaller server footprint. Its “data center efficiencies” such as power consumption, cooling and density have also been greatly improved.

Background

Wipro Limited, an Information Technology Services Corporation headquartered in Bangalore, India, is a global company and provider of comprehensive IT solutions and services including Systems integration, Consulting, Information Systems outsourcing, IT-enabled services and R & D Services. In May 2016, Wipro was ranked 755th on the Forbes Global 2000 list. Wipro entered into the technology business in 1981 and today has over 170,000 employees serving clients in 175+ cities across 6 continents. The company posted revenues of \$7.7 Billion for the financial year ended Mar 31, 2016. This case study involves the Cloud Service arm of Wipro, offering Infrastructure as a Service (IaaS). Wipro data center services enable enterprise clients - whose data center facilities are running out of space and power and becoming expensive to maintain - to achieve greater efficiency and cost reduction by consolidating their data center footprint globally by leveraging Wipro offerings.

Wipro data center services manage customers’ systems in world-class, purpose built Tier 3 data centers that are fully redundant, fault tolerant, highly secure, and include hardware, software and data communications equipment. Wipro has 11 geographically dispersed PCI-certified data centers, totaling more than 430,000 square feet. Wipro’s iStructure IaaS offers self-managed and fully managed cloud servers (virtual machines), self-managed and fully managed dedicated physical servers, multiple storage tiers, daily backups and iStructure Cloud Portal for provisioning resources and running performance and charge-back reports.

The challenges of using legacy storage systems

One critical requirement and key consideration from Wipro for their IaaS offering was the use of highly efficient block storage for their multi-tenant cloud workloads, with improved accountability using service-level-agreements (SLAs), identity management for secured access, fault tolerance, disaster recovery, dynamic procurement that needed to be cost effective, while hosting very dynamic Telecom and Micro-Finance type of workloads. The legacy systems’ performance was not adequate and could not support the expanding production workloads.

“The InfiniFlash solution delivered data sheet specified parameters. We are extremely satisfied with the system’s performance with different workloads. We would like to replicate the solution for our own data center as well as put together a complete solution for our end-customers as well.”

Sandeep Punnackal,
Head-Service Delivery,
Data Center & Cloud, Wipro

“Through the agility of NexentaStor and the strength of the InfiniFlash from SanDisk, we are now seeing the positive impact and breakthrough economics of an all-flash solution with superior performance, density and reliability and a very compelling cost per gigabyte (GB) architecture”

Sandeep Punnackal,
Head-Service Delivery,
Data Center & Cloud, Wipro

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Wipro found that necessary applications were too demanding for the legacy systems and that it was nearly impossible to add more users to the overloaded system. Since sluggish performance and limited scalability has a major negative impact on business, another solution needed to be found.

Solution

Wipro Limited had previously deployed NexentaStor as a traditional hybrid solution and, with a good working relationship already in place, Nexenta recommended that the company investigate a joint solution from Nexenta and Western Digital. Wipro implemented the NexentaStor/InfiniFlash All-Flash SDS solution in May of 2016, to optimize hosted servers in its scalable IaaS architecture, thus solving previous problems.

InfiniFlash is capable of 50x performance at 5x the density, and 4x the reliability of traditional hard disk drive (HDD) arrays while consuming up to 80% less energy. NexentaStor can scale up to multi-petabyte configurations and its inline compression, unlimited snapshots and clones and end-to-end data integrity are key benefits critical to agile cloud deployments. By deploying this solution, Wipro sought to achieve the most out of their data center in terms of end customers experiences and services never before thought possible.

The InfiniFlash Impact: Increased performance, lower power consumption, smaller footprint

According to Sandeep Punnackal, Head-Service Delivery, Data Center & Cloud at Wipro, “We are currently moving some of our existing workload onto the InfiniFlash from SanDisk. Through the agility of NexentaStor and the strength of the InfiniFlash, we are now seeing the positive impact and breakthrough economics of an all-flash solution with superior performance, density and reliability and a very compelling cost per gigabyte (GB) architecture. We have replaced all other hybrid storage solutions from multiple vendors previously used by Wipro, with the InfiniFlash/NexentaStor system.” With this new solution, Wipro IaaS team achieved high performance with multiple GB/s throughput and a response time of 4ms was achieved in their daily operations. In addition, power consumption has been reduced by 75%, performance increased 10x and the data center footprint has gone from 20 U to 7 U.

The InfiniFlash/NexentaStor solution has enabled Wipro to create a new storage tier with performance SLAs up to 8000 IOPS/TB. Their earlier performance tier was with SAS HDDs with an SLA of 350-600 IOPS/TB. The new solution is helping to expand the depth and breadth of Wipro’s enterprise customers and workloads since the added high performance tier can now host OLTP and other performance intensive applications. Wipro’s end customers are typically upgraded to higher performance tiers based on use case, and charged accordingly.

Because of the success results from the IaaS deployment, Wipro is now considering the possibility of using the same InfiniFlash/NexentaStor solution in their own company data centers, and is hoping to continue with this solution to help IaaS and other businesses grow. Since Wipro is also a system integrator, the company is incorporating integrated multichannel services as part of their future roadmap. Additionally, Wipro is planning to offer Storage as a Service and Backup as a Service to all its end customers using the InfiniFlash as their main storage platform.

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