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>
> *Ravi Maguluri*
> *Sr. Vice President for Cloud Initiatives*
> *Sify Technologies*

SUCCESS STORY

Sify Technologies Bests Cloud Service Competition With Rapid Install and Top Performance of Hitachi Accelerated Flash

sify

Sify Technologies

INDUSTRY
Services: IT and Telecom Service Provider

SOLUTION
Enterprise Platform, Cloud

HARDWARE
Hitachi Unified Storage VM
Hitachi Accelerated Flash

SERVICES
Provided by Hitachi Data Systems Global Services Solutions

Sify Technologies is among the largest integrated information and communication technologies (ICT) solutions and services companies in India. With a current focus on accelerating data center transformation in enterprises, the company has positioned itself as a "Cloud Journey Partner" that enables its customers to increasingly leverage IT as a strategic asset. Sify has partnered with Hitachi Data Systems to enable the data center transformation journey. With a Hitachi storage infrastructure featuring Hitachi Accelerated Flash, Sify has deployed an enterprise-grade cloud infrastructure that supports public, private and hybrid cloud deployment options for its customers.

About Sify Technologies

Headquartered at Chennai, India, Sify Technologies enables enterprises to accelerate data center modernization and transformation, with suite of services ranging from advisory to service provider. Sify's infrastructure as a service (IaaS) offers fundamental components of IT infrastructure, such as compute, storage, network, security, data protection and analytics. Sify IaaS delivers these components on an on-demand, self-service and pay-per-use basis, and the service's dynamic scaling provision allows organizations to scale up or down based on their application usage and needs. Sify IaaS comes in three variants: public (Cloudinfinit), private (Private Cloud) and combination of public and private (Hybrid Cloud).

Sify's cloud services are built with enterprise-class technology to ensure high availability, performance, scalability and security. All cloud services offered by Sify are customizable, cost-effective and easy to deploy.

Benefits at a Glance
- Increased customer satisfaction.
- Cost optimization.
- Simplified management.
- Zero downtime to install and configure Hitachi Accelerated Flash

The Challenge

The cloud services market in India has grown exponentially in the last few years, and today the marketplace is progressively getting crowded. Consumers are now moving on from testing cloud services to actually deploying business-critical applications. There is also a growing trend of enterprises leveraging hybrid cloud deployments with production and business-critical applications. As a result, there is a considerable change in the nature of workload requirements, from small capacities to extremely high capacities and high IOPS in the cloud.

Witnessing such a rapid shift in the business requirements of clients, and as a highly regarded player in the cloud service marketplace, Sify realized the need to invigorate its storage infrastructure. Sify wanted to reinforce its storage infrastructure to meet the challenges posed by the sector, especially as more and more workloads are ported to the cloud.

Sify recently consolidated its storage landscape with Hitachi storage infrastructure to gain cost-effective, scalable and superior performance as well as best-in-class availability. However, gaps in the storage infrastructure were still visible while servicing business-critical high IOPS with a small data footprint. This pushed Sify to go for large number of spindles or solid-state disks (SSDs), which were low on disk space and hence were an indirect liability on data center's resources (costs, space and power). Moreover, the increasing volume of SSDs had a markedly adverse effect on the storage controller performance.

Sify was quick to understand that the growing demands of consumers and market can only be met by a storage solution that is not only cost-effective, but also a perfect blend of capacity and performance.

The Solution

From Sify's point of view, an important requirement for the new storage solution was that it should be able to cater to the needs of the new segment of high-IOPS clients. Sify wanted a solution that would make the

most of the existing storage infrastructure and utilize existing software features, such as storage tiering, cloning and replication. It was also looking for a solution that was faster, but would not be a liability on the data center's resources or more than a minimal impact on the storage controllers. Also, it was not interested in any storage infrastructure solution that warranted additional skill sets or management efforts.

Sify's Business Head for Cloud and Managed Services, Adarsh Singh, explains, "With its resolve to be able to cater to the growing demands of high-performance clients, Sify started looking for definite, convincing and cost-effective solutions. From our point of view, the potential storage solution was to be scalable and to be able to support the growth and evolving needs of both Sify as well as its customers."

The cloud services marketplace is very cost sensitive, and hence Sify was only interested in cost-effective solutions that would help the company win lucrative deals. For example, Sify abstained from investing in a separate all-flash array; the company realized that an all-flash array would not fit in perfectly with the existing storage infrastructure, which is seamlessly integrated with its cloud stack. A new array would also mean investment in new controllers and software, which inadvertently would require more management efforts and funds.

Hitachi Data Systems understood the evolving storage needs of Sify and its clients, and thus proposed Hitachi Accelerated Flash

(HAF) to help Sify meet the requirements of high-IOPS and small-data-footprint clients. Hitachi Accelerated Flash met all the criteria set forth for evaluation by Sify Technologies, as it came as a simple solution that takes very little time to procure, implement and go live.

As it was an upgrade to the existing storage infrastructure, all the software features, such as dynamic tiering and replication, were extended to the upgraded disks as well. Very little data center space and power are needed to support this flash enclosure. More importantly, absolutely no downtime was required for installation and configuration of the HAF flash enclosure and drives. With the expertise and experience demonstrated by Hitachi Data Systems in the previous projects, Sify had more confidence on this solution and its service capabilities.

Sify Sr. Vice President for Cloud Initiatives, Ravi Maguluri, expressed his delight, "Hitachi Data Systems helped us with an integrated storage architecture with high performance and large scalability in cloud economics. This architecture enables us to meet and exceed present business objectives and come up with innovative cloud solution offerings in the future. HDS GSS [Hitachi Data Systems Global Services Solutions] carried out the implementation in a seamless fashion and in a very short span. The best part is that we needed no additional skill enhancement as the new flash modules are managed using the existing tools. We couldn't have asked for more."

> "Hitachi Data Systems has provided us with first-class storage solutions that will help us stay competitive in our business offerings. These storage solutions are highly reliable and flexible, and have empowered us to expand our portfolio for good."
>
> *Jaiprakash Pherwani*
> *Product Manager for Cloud and Managed Services*
> *Sify Technologies*

The Benefits

Performance Up, Footprint and Power Needs Down

The solution consists of a 2U storage drive enclosure with Hitachi Accelerated Flash flash module drives (FMD). A FMD is larger than a traditional solid-state drive (SSD) and delivers 3-4 times the IOPS performance. It is more space efficient, with 2x-4x the tera-bytes per rack unit density. It is 32% more power efficient, and is one-third lower in cost per terabyte when compared to a similarly configured solution using SSDs, which sig-nificantly helps the business interests of Sify.

The brain of the FMD controller is a custom-designed ASIC featuring a quad-core pro-cessor. This ASIC has the compute power needed to deliver innovative housekeeping management that eliminates performance bottlenecks at storage controller. It extends the error correcting code (ECC) to deliver robustness, manages wear leveling to heighten endurance, and adaptively refreshes data to secure data integrity.

Support for Cloud and Hungry Workloads

With the implementation of FMDs, Sify can now offer cloud services to diversified set of customers. Sify cloud infrastructure is now equipped with a high-performance and highly scalable storage solution that can take on the IOPS hungry application workloads. The flash storage solution from Hitachi Data Systems brings significant advantages to Sify on both business and technical fronts.

ASICs on the flash module drives handle the housekeeping activities efficiently and liberate the storage controllers from performance challenges. This helps Sify to extract more performance out of the existing storage infrastructure. Patented Hitachi technologies in the FMDs have also facilitated Sify with enhanced data integ-rity and superior drive endurance, which are two crucial facets of any cloud service ecosystem. Hitachi Data Systems storage solutions have helped Sify achieve greater customer satisfaction, boost sales, control costs, monitor and manage storage tasks without additional efforts or tools.

Sify Product Manager for Cloud and Managed Services, Jaiprakash Pherwani, concludes, "Hitachi Data Systems has pro-vided us with first-class storage solutions that will help us stay competitive in our busi-ness offerings. These storage solutions are highly reliable and flexible, and have empow-ered us to expand our portfolio for good. With the support of the superior storage infrastructure by Hitachi Data Systems, we are sure we can come up with new offerings that we can take to the enterprise market."

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