Enterprise IT Serves Up SwiftStack

Enterprise IT vendor moves internal apps and services to SwiftStack

Background

Founded over 70 years ago the enterprise is a very well established brand name and a multi-billion dollar industry leader in information technology with over 300,000 employees around the world.

The enterprise's IT Services group is responsible for providing underlying compute, storage, and networking services needed by other IT organizations including platform and end user services groups to deliver their solutions to enterprise employees anywhere on the globe. In addition, the enterprise also provides public cloud and on premise private cloud solutions to their customers, including a full suite of services based on the full OpenStack suite.

Challenge

The enterprise's IT Services group wasn't specifically looking for a cloud storage solution when the project started. They already had an extensive base of block-based storage which was also being used for file-based storage via a proprietary NFS/CIFS front-end.

But they needed a new storage foundation that was much more cost effective than those existing legacy options. It also needed to support multiple use cases and applications and be built on a low cost standardized hardware and open source software.

And although the enterprise was very large, like any other firm they wanted to conserve scarce skilled IT resources, applying them where they generated the most value for the company. The new storage platform had to be simple to deploy, manage and use, requiring minimal resources from both the services group and their internal customers.

Solutions

Based on extensive experience with their existing file- and block-based storage systems, the IT services group knew that object storage could provide a number of technical advantages and cost savings. Its ability to handle any type of unstructured data also provided the flexibility needed for the applications and services being developed by their internal customers. And working with OpenStack let them leverage the innovation and expertise of the open source community.

To achieve both low cost reliable storage and management efficiency, they had selected SwiftStack's software defined Storage Platform. Initially, SwiftStack storage is supporting two key internal applications, sync-n-share and static web. Together with the included SwiftStack Filesystem Gateway, SwiftStack will also provide the infrastructure for future object-based applications and existing file-based applications.

SPOTLIGHT

USE CASES
- New secure Sync and Share file-based private cloud storage service for all employees
- Static Web assets repository
- Filesystem Gateway for legacy applications

RESULTS
- Lowest storage TCO: $.61 per GB monthly cost vs. SAN storage costing $1.70-$2.50
- SwiftStack's automation allowed roll-out supported by only 2 FTEs in IT Group

HARDWARE
- Node servers running Red Hat Linux 6.4
- Forty-five 4TB drives per node equaling 180 TB per SwiftStack node
- 10 GbE connections between nodes and 20 Gb/s connectivity between sites

STORAGE
- Hundreds of TB of data initially stored in SwiftStack, expanded to over a PB
- Data volume growing at 50% per month

Sync and Share: The enterprise's initial use for SwiftStack object storage was for a secure sync and share service developed by the enterprise's End-User Services group. This service provides all enterprise employees with cloud storage for their files, giving them the benefits of public sync and share services like Dropbox without risking the security of intellectual property. They had previously looked at several sync and share products that used more traditional file-based storage but SwiftStack allowed them to provide this critical service to all employees at a far lower cost.

To deliver the service, the End User Services group purchased licenses for a commercial enterprise file sync front-end which already directly connected to SwiftStack storage using the native Swift API. The service was initially rolled out to 10% of the employees during a pilot phase and is now being offered to all of the enterprise's 300,000 employees.

Static Web: The second service being rolled out on top of SwiftStack storage is a Static Web repository. The service was developed by the IT Platforms team and also uses native object-based access to SwiftStack storage to store and serve web content for the enterprise's internal websites and portals.

> *"SwiftStack provided the foundation we needed to deliver secure storage for a broad range of applications including Static Web repositories and internal Sync and Share services to every one of our employees."*
> — Senior Solutions Architect, IT Services Group

Filesystem Gateway for Legacy Applications: The IT services group is also testing the SwiftStack Filesystem Gateway for use with a large number of legacy applications that require file-based storage accessed using the NFS protocol. The SwiftStack Filesystem Gateway provides a stepping stone to get existing data and applications up into cloud storage without having to rework code or change existing workflows. Unlike other file-based gateways they have tried in the past, SwiftStack's is able to ingest files and provide access to them via object-based APIs or as files, with no data lock-in, compatibility issues, or performance barriers.

Benefits and TCO

Cost: The very low cost of SwiftStack storage was a prime driver as the TCO for their traditional SAN storage was $1.70 to $2.50 per GB per month.

SwiftStack's object storage was 65% – 75% more cost effective than their existing legacy SAN storage, with a TCO of only $.61 per GB per month. Adopting SwiftStack provided further savings as they migrated additional IT services off existing SANs, as well as lowering cost barriers for new projects.
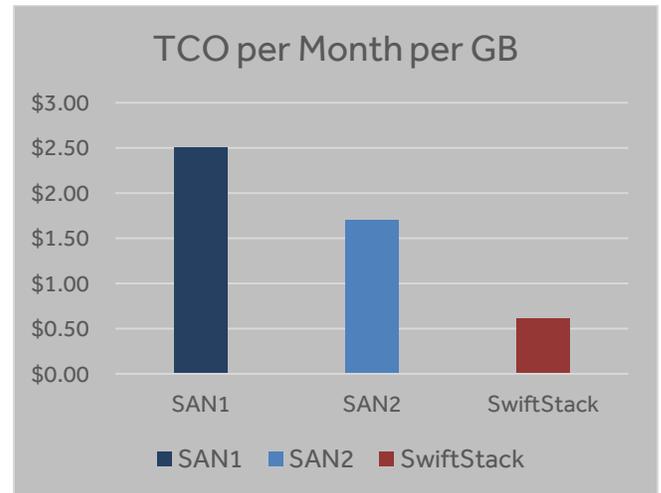
Capacity Utilization: SwiftStack's integration capabilities via its HTTP RESTful API also allowed the IT Services group to quickly link it to an internal provisioning system, lowering both deployment and ongoing management overhead. Developers who need storage for internal services or applications can use the provisioning system to request storage. Once the appropriate accounts and users have been setup by the IT Services group, the rest of the process is self-service, removing another roadblock and speeding adoption.

Moving Forward

The enterprise initially deployed a couple hundred TB of SwiftStack storage capacity and is in the process of increasing that to over a petabyte over the next quarter.

To provide finer control over how data is replicated between sites, they are also planning to implement SwiftStack's recently released storage policies. Without storage policies they would have had to use multiple clusters within each office to avoid unnecessary replication over inter-office networks. But with storage policies they can now easily control where replicas reside, allowing them to deploy one cluster across multiple sites and still minimize traffic between sites.

Find Out More

For more information on SwiftStack's features and capabilities, please visit www.swiftstack.com.