

Enter Cloud Suite

European ISP enables public cloud services with SwiftStack



About Enter

Enter was founded in 1996 as an Internet Service Provider based in Milan, Italy. Since then they've continued to expand their offerings and capabilities, opening a Carrier Class data center in Milano Caldera in 2007 and adding extensive fiber and Internet backbone connections over the following five years.

In 2013 they started delivery of Internet services, adding an expanding set of auto-provisioning cloud services for enterprise customers under the Enter Cloud Suite brand. One of these services is object storage layer provided by SwiftStack. Enter Cloud Suite is the first multi-regional European public cloud service suite based on OpenStack.

Challenge

Enter needed an flexible object storage layer that would both be used internally and provided as a services to enterprise customers. To be competitive with public cloud services providers like Google and Amazon, Enter needed the foundation for their object storage services offerings to have a very low TCO per GB and to be priced based on data volume actually used rather than allocated space or high upfront costs.

Selecting a platform that ran on commodity hardware was the first step. Hitting their TCO goals required they use the most cost-effective hardware possible while not sacrificing availability or reliability.

The other challenge they faced was avoiding any level of vendor lock-in. Enter had seen how quickly technology evolves and didn't want to make a major investment that would be outdated and obsolete in a year or two.

Solutions

SwiftStack's Object Storage Platform met both of Enter's key needs for an object storage platform: low TCO per GB and no vendor lock-in.

Enter had selected OpenStack three years ago for the basis of their standard compute, networking and storage offerings on OpenStack and other open source solutions. In addition to Swift, Enter is using the complete set of OpenStack technologies Neutron, Nova, Keystone, Horizon, and Cinder. Customer billing is handled using OpenStack's Ceilometer for server telemetry combined with an internally-developed billing systems.

Enter Cloud Suite's object storage platform is deployed on low cost commodity servers. Supermicro 4U Superserver chassis were outfitted with up to 32 3TB SATA drives each, plus two SSD drives to hold the account and container database.

SPOTLIGHT

USE CASES

- Object storage layer for Enter Cloud Suite enterprise customers
- Internal object storage used to manage snapshots and backups for IAAS users

RESULTS

- Low per use costs
- No vendor or hardware lock-in
- Met both internal needs and for enterprise-level object storage layer for customers

HARDWARE

- 4U Supermicro Superserver Chassis with 12 cores and 128 GB of RAM
- 96 TB per node from thirty-two 3 TB hard drives per node plus two SSDs for databases
- Seven nodes connected via 10 Gbps Ethernet carrier ring

STORAGE

- 9 nodes currently with 864 TB of raw storage, planned growth of 20% per year
- Enter customers storing up to 288 TB

CASE STUDY

Network connections between the Swift nodes is handled by a dual set of Mellanox ConnectX-3 10 Gbps Ethernet cards in each node.

Enter is currently running a total of seven Swift nodes. Three Swift nodes were installed in the main datacenter in Milan. In addition, two Swift nodes were installed in both Frankfurt and Amsterdam, where they are run from colocation facilities. All of the nodes are part of a single geographically-distributed cluster, and are connected to a 10 Gbps Ethernet.

SwiftStack was used to configure three different regions corresponding to the node locations: Italy, Germany, and Netherlands. Each of these regions was also configured with its own proxy endpoint for performance.

Users connecting to Enter Cloud Suite object storage can access the same objects from any endpoint, and read/write affinity helps keep latency low.

TCO and Pricing

A key factor in favor of SwiftStack was its pay per use pricing model. Taking this approach rather than requiring large upfront investments in provisioning unallocated storage hardware let the pricing for SwiftStack-based Enter Cloud Suite object storage use the same pricing model and be cost competitive with public cloud storage offerings from Amazon and Google.

Service was Key

Enter looked at several other software defined storage platforms before standardizing on OpenStack and Swift. One other object storage platform was investigated but was reportedly having technical issues in some large Italian deployments. They also didn't have the service-level focus Enter needed from a vendor partner.

SwiftStack supported Enter around the clock as they deployed their Swift-based services, introducing them to the Swift ecosystem), and gave them the tools and support they needed, all on a pay-per-use pricing model that Enter used with its own customers.

The expertise and support provided by SwiftStack convinced us that they were the right choice for both our internal needs and as a component in our Enter Cloud Suite platform.

—Mariano Cunietti, CTO, Enter ISP

Future Plans

Enter plans to implement new features in SwiftStack 2.0 as enhancements to the Enter Cloud Suite platforms.

These enhancements include the new Filesystem Gateway and Storage Policies.

The Filesystem Gateway allows Enter's customers to migrate to cost-effective object storage while still supporting legacy file-based applications and user practices before migrating to object-based APIs and applications.

Storage policies will enable new levels of efficiency and performance. Enter is running a geographically distributed Swift cluster across multiple sites in Europe, with customers attaching to the storage from multiple locations. The new storage policies will allow customers to shape (and pay for) their desired data distribution, whether due to data privacy concerns or performance and availability optimization.

Find Out More

For more information on SwiftStack's features, support, pricing, and product documentation, visit www.swiftstack.com.

