ABSOLUTE
SCALABILITY

SoftLayer improves IT staff efficiency by 15% while introducing more flexible services for customers with Dell storage

SOFTLAYER™

CUSTOMER PROFILE
COUNTRY: Plano, TX (USA)
INDUSTRY: Technology (Hosting)
FOUNDED: 2006
NUMBER OF EMPLOYEES: 155
WEB ADDRESS:
www.softlayer.com

CHALLENGE
SoftLayer needed a scalable storage solution that would allow it to provide SAN storage capacity to customers on demand. The company also wanted to unify three separate storage islands for better manageability.

SOLUTION
Using Dell™ EqualLogic™ storage arrays, SoftLayer allows customers to "provision" their own storage on demand via a Web-based portal. Engineers can add capacity and other resources with no downtime, and the built-in data protection and replication capabilities of the arrays are enabling new services.

BENEFITS
RUN IT BETTER
- Reduction in total cost of ownership for IT
- 15% improvement in staff productivity
- Built-in snapshot and replication features provide additional revenue
- Customer support calls reduced by around 100 each month
- Able to stage new customer infrastructure in under 2 hours
- New storage provisioned in minutes with no staff intervention required

GROW IT SMARTER
- 10% reduction in power and cooling costs
- Able to add storage capacity and other resources with no downtime

DELL

These days, just about all organizations need to invest in information technology in one form or another, whether it's managed in-house or via an outsourcing arrangement. Either way, deciding on the amount of IT resources to purchase is usually a guessing game. Companies often overbuy to accommodate peak demand, wasting money in the process—or worse, fail to plan for growth and find themselves unable to capitalize on new business opportunities.

"USING THE DELL EQUALLOGIC SAN, WE'VE BEEN ABLE TO REDUCE OUR TOTAL COST OF OWNERSHIP BY CONSOLIDATING MULTIPLE STORAGE ISLANDS INTO ONE ENVIRONMENT THAT'S EASY TO MANAGE."

Nathan Day, chief technology officer, SoftLayer Technologies, Inc.

The ability to scale IT infrastructures on demand has long been a dream for technology managers. But companies like SoftLayer Technologies are making this dream a reality, at a price that small and medium businesses can afford.

FROM ZERO TO INFINITY

SoftLayer's business model uses virtualized server and storage resources to allow customers to scale their business from startup to almost infinite growth, and to buy and use the resources they need on a real-time basis, in response to business demands. Especially in a challenging economy, this flexibility has widespread appeal.

"We're able to offer our customers enterprise-class IT services on-demand, allowing them to maintain growth without spending large chunks of cash up front," says Samuel Fleitman, chief operating officer.

"In essence, SoftLayer is a cloud: We're a computing cloud, a storage cloud and a network cloud," explains George Karidis, chief strategy and marketing officer. "We can have your servers delivered in about five minutes. Additional resources and services can be ordered and delivered in real-time without service interruption."

IN SEARCH OF FLEXIBLE STORAGE

Until recently, SoftLayer maintained separate "islands" of storage at its data centers in Dallas, Seattle and Washington, D.C. Storage at each location was managed independently and required several full-time system administrators. SoftLayer wanted to decrease the management time, administration costs, and power and cooling costs these storage islands required, and improve scalability.

"We were looking for a flexible, dynamic solution that would allow us to provide SAN storage on-demand to our customers," explains Nathan Day, chief technology officer. "We needed to be able to provision a varying amount of storage depending on customer needs, and we preferred to go with

HOW IT WORKS

HARDWARE
- Dell™ EqualLogic™ PS5000E iSCSI storage arrays

SOFTWARE
- Citrix® XenServer™
- Dell EqualLogic Auto-Snapshot Manager
- Microsoft® Windows Server® 2008 Datacenter Edition with Hyper-V™
- Microsoft Windows Server 2003
- Microsoft iSCSI Software Initiator
- Oracle® 10g Database
- Oracle Real Application Clusters (RAC)
- Parallels Virtuozzo Containers
- Red Hat Enterprise Linux
- SUSE Linux Enterprise

SERVICES
- Dell Support

iSCSI instead of Fibre Channel because we already had a very large Ethernet infrastructure. Using iSCSI also allows us to add storage to an existing server while the server is running, with no downtime, which is important to our business."

After investigating various options, SoftLayer chose EqualLogic iSCSI storage arrays. "Dell EqualLogic is the industry leader," says Karidis. "We looked at several other technologies, and in terms of manageability and standard features, they just didn't compare."

DYNAMIC PROVISIONING IN MINUTES

SoftLayer is currently using 30 Dell EqualLogic disk shelves for a total capacity of nearly 700 terabytes of storage across its three data centers. The company can carve up the storage in different increments to fit the precise needs of customers.

"The EqualLogic architecture is exactly what we were looking for," says Day. "We can provision and de-provision services on demand. We've been able to take our administrators out of the loop when it comes to provisioning storage for our customers. Our customers literally click a button in our portal, and they can have the amount of storage they need in a matter of minutes."

Customers aren't the only ones benefitting from the Dell EqualLogic solution. "It really has become an integral part of what we do on a

daily basis," says Day. "We use the EqualLogic storage to host the database files for our Oracle RAC environment, which consists of a pair of two-node server clusters. This is business critical for us, as it supports customer billing. We also use EqualLogic storage for off-site backups."

IMPROVING STAFF EFFICIENCY BY 15%

One of the benefits SoftLayer is realizing by consolidating its storage is the ability to manage that storage with fewer internal resources. "Using the Dell EqualLogic SAN, we've been able to reduce our total cost of ownership for IT by consolidating multiple storage islands into one environment that's easy to manage," says Day. "We've increased our IT staff efficiency by approximately 15 percent, and that's freed up our engineers to spend more time developing new solutions for customers."

SoftLayer was able to make life easier for customers and keep down costs normally associated with SAN deployments by using Microsoft iSCSI Software Initiator to network the servers to the SAN, instead of using expensive, specialized host bus adaptors. "We provision iSCSI LUNs out to our customers, and we need a simplified way for them to connect to that LUN," Day explains. "Microsoft iSCSI Software Initiator is very easy to use for our customers and results in very few support tickets for us. It's a typical Microsoft wizard-based connection."

The company is also conserving energy by reducing its power and cooling costs. "Once we migrated our old systems into the Dell EqualLogic SAN environment, we were able to reclaim a significant amount of power and cooling capacity at our facilities, reducing those costs by more than 10 percent," says Fleitman.

ADDING MORE THAN JUST CAPACITY

The Dell EqualLogic storage also scales easily, which was one of SoftLayer's primary requirements. "It lets us start small and grow the solution dynamically—not only in terms of the amount of storage, but also bandwidth and processing power," explains Day. "Every time you add another EqualLogic PS5000E, you get extra network bandwidth, extra storage capacity and extra processing power to access that storage. Other solutions aren't nearly so flexible in that when you're adding storage, you're just adding storage."

From a business perspective, Fleitman agrees. "Our business grows dramatically on a daily basis, and we have to be able to deliver that growth to our customers," he explains. "We need absolute scalability. With the EqualLogic architecture, we can add resources as we grow, and we don't have to pay for everything up front."

NEW REVENUE OPPORTUNITIES

At no extra cost, the EqualLogic arrays include snapshot, cloning and data replication capabilities. SoftLayer is using these capabilities to offer new

services to its customers—and generate new revenue streams.

"The EqualLogic solution lets us offer replication and snapshotting to customers as a fee-based, add-on service," says Fleitman. "We give our customers an iSCSI mount attached to their server. All options and settings are configurable by the customer through the SoftLayer portal, which talks directly to the EqualLogic system to automatically set up those services."

The auto-replication capability of the Dell EqualLogic PS series, standard in each array, provides point-in-time periodic replication to remote sites, delivering multiple restore points and copies that can be restored easily. "The auto-replication feature is a key component of the disaster recovery solutions that we offer to our customers," Day explains. "Customers can take an existing iSCSI block of storage and replicate it to another of our data centers in a matter of minutes—again, by simply clicking a button on our portal. The ability for customers to have their data backed up to different geographic regions is quite valuable. That's something that not a lot of hosting providers can do."

AN IDEAL PLATFORM FOR VIRTUALIZATION

By using the Dell EqualLogic storage in combination with a variety of operating systems and server virtualization tools including Citrix XenServer, Parallels Virtuozzo Containers and Microsoft Hyper-V, SoftLayer is able to provide its customers with faster service and higher availability. "Running a virtualized environment on the EqualLogic SAN allows us to put together customer solutions that have much better provisioning time, better ease of use

and better business continuity options," says Fleitman.

The combination of server and storage virtualization allows SoftLayer's customers to quickly scale their infrastructures with no direct assistance from SoftLayer. "Customers can take a running workload, make a copy of it and create more instances of that workload in real time," Day explains. "They can transfer workloads to different physical hardware with no downtime. Using Dell EqualLogic storage and their preferred hypervisor, we're able to put the customer in complete control—which means more flexibility for them and around 100 fewer help-desk calls for us each month."

GROWING THE BOTTOM LINE

Although SoftLayer rarely has to use Dell Support for assistance with the EqualLogic hardware, the company has been happy with the support it has received.

"We're very satisfied with the Dell EqualLogic solution," concludes Fleitman. "It has made a huge difference in enabling our cloud business model with a scalable storage platform that benefits our bottom line and improves the services we're able to offer our customers. Our goal is to provide a competitive solution that will allow our customers to grow, even during tough economic times. Dell EqualLogic lets us do just that."

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