LIFESCRIPT

Location
North America

Industry
Digital Publishing

Company
Lifescript

Use Case
- Database
- VSI

Business Transformation

Lifescript completed the seamless integration of its latest acquisition by deploying FlashStack™ converged infrastructure with existing Pure Storage® FlashArrays as part of the new data center architecture. The results: higher performing applications, dramatically lower operating costs, and the addition of a remote disaster-recovery site at no extra cost.

Challenges

- Data analytics applications demanded dramatically higher-performing infrastructure.
- Fast-growing company required significantly more flexible/scalable IT systems.
- Fragile storage system left newly acquired company's data at risk.

IT Transformation

- New data center based on FlashStack up and running in a week.
- Co-location costs cut by US$100,000 a year.
- Latency slashed by up to 95 percent.

Lifescript bolsters IT health with FlashStack

Jack Hogan is used to having a "normal" workday be anything but normal. As Chief Technology Officer for Lifescript, he oversees a team who must build and operate an IT infrastructure to not only keep pace with the company's rapid growth, but also position itself for even more expansion in the future.

Lifescript is the number one ranked website dedicated to women's health. The site inspires women to be proactive about their health and helps them build a support network of experts and other users. Since its founding in 1999, Lifescript has gone through several format and business model transitions. Today, it attracts 18 million unique visitors and 100+ million page views monthly.

Part of the company's growth strategy includes acquisitions, and IT plays a critical role when an acquired company must be integrated into Lifescript. Such was the case in the Fall of 2015, when Lifescript announced its plan to acquire Prospectiv Direct, a Boston-area company that provides marketing services to companies seeking to strengthen their brand identity with women.

What Hogan and his team uncovered was that Prospectiv's data-storage systems were in critically poor condition. "As all their primary storage arrays were failing in some fashion — controllers, drives, firmware, you name it — we spent two months assessing the best way to prevent a catastrophic data center outage," explained Hogan.

"Every attempt we made to access existing systems—whether to make backups or otherwise protect critical operations—resulted in some system failure. After these experiences, we concluded we needed a complete data-center overhaul."

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Jack Hogan
Chief Technology Officer

Past Experience Guides Decisions for the Future

Not only was time of the essence in building a new data center, but ultra-high reliability also was essential. "As with any web-based business, downtime is not an option when you run 24x7," said Hogan.

Fortunately, Hogan had experience handling major transitions in IT infrastructure. Back in 2013, Lifescript was experiencing performance problems with its spinning-disk storage system.

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>
> **Jack Hogan**
> Chief Technology Officer

These problems included latencies as high as three seconds—an eternity in web terms when latencies are usually measured in milliseconds. Most impacted were critical data-analytics applications that Lifescript relies upon for two key areas: 1) to suggest targeted content and advertising for its diverse and rapidly expanding audiences, and 2) to generate a wide variety of outbound marketing programs with distribution of hundreds of millions of e-mails a month.

The solution Hogan put in place—which included an all-flash array from Pure Storage, Cisco® UCS® servers, and VMware® software—reduced average latencies from 50–60ms to less than 1ms. At the same time, it slashed the data-center footprint of storage systems from three full racks down to 8 RUs, a reduction of 94 percent.

A Win-Win Solution: FlashStack from Cisco and Pure Storage

Once the Lifescript team realized they needed a whole new data center infrastructure in Boston, the next question was: what should it look like? Hogan and outside advisors looked at a number of options, including a "hybrid" approach that combines both traditional spinning-disk and flash technologies. "We already had some experience with a hybrid system from our previous storage supplier," Hogan noted, "but we were experiencing a lot of storage problems. I came to realize the hybrid approach is no faster than its slowest component. And, given our growth rate, that wasn't going to do it for us."

Drawing on the successful experience he already had with Pure Storage, Hogan knew flash technology was essential for the data-center overhaul to meet Lifescript's business objectives. But lingering still was the matter of just how flash would be implemented.

One option was a hyperconverged solution, which at least one executive at Lifescript favored. But Hogan was skeptical.

"Hyperconvergence essentially presents a single point of failure and is very limited in its capacity to grow where we need to, whether it is at the storage level or the compute level," said Hogan. "Because we're constantly expanding and acquiring more companies, we need the flexibility to repurpose workloads. The bottom line is that I need the same flexibility in the new Boston data center as we have in our data center at our California headquarters," he added.

Hogan then found an option that met all his needs: FlashStack, which combines all-flash storage from Pure Storage, Cisco UCS servers, and VMware software. "I realized I could take a Pure Storage array we already had, put it into a FlashStack configuration and achieve significant cost-savings versus a hyperconverged alternative.

Plus, there is the added benefit of tremendous gains in redundancy and scalability at the compute level. So, in the end it was a very easy decision to go with FlashStack," said Hogan.

FlashStack is a flexible, all-flash converged infrastructure solution combining the latest, best-in-class Cisco network and compute solutions and Pure Storage hardware, plus virtualization software, into a single, integrated architecture. It speeds time to deployment, while lowering

overall IT costs and deployment risk. Highly efficient components reduce power, cooling, and data center costs.

FlashStack: Easy Implementation of a Total Solution

Hogan worked with his system integration partner, Trace 3, to set up FlashStack in Lifescript's California data center.

The IT team spent three weeks building and testing the network and creating VMware templates for

all the applications they would be running both in California and in Boston.

"Once the system was fully tested, we shipped it to Boston, where it arrived on a Saturday. My team flew into Boston the following Monday and by that evening, they had the whole system racked. Tuesday, they had the Cisco Nexus® network, UCS servers and the Pure Storage FlashArray up and running. And by Wednesday they had VMware up and running," Hogan reported.

By Friday, they turned over the virtual machines to the database administrators. The administrators were able to replicate the entire Oracle database as well as a multi-terabyte PostgreSQL data warehouse onto the FlashStack through a cross-connect into the legacy data center. At that point, the most critical data was protected, Hogan explained.

Within a few weeks, all enterprise applications and other databases had been migrated onto FlashStack.

With FlashStack in place, Hogan had achieved multiple objectives.

First and most important, the 20TB of data from the acquired company were moved to a secure, reliable storage platform.

Second, a totally physical data center with four separate storage-area networks was converted into a 100 percent virtualized environment running off a single flash array.

Third, storage-related performance was dramatically improved, including more than a 20-fold increase in IOPS capacity, 12 times greater bandwidth, and consistent sub-1 ms latencies.

Fourth, the small footprint of the FlashStack configuration reduced space requirements by 75 percent, lowering Lifescript's co-location costs by nearly US$100,000 a year.

But even after all these accomplishments, there was yet one more benefit to be realized from FlashStack. "For years I had

been trying to get budget approval for a disaster-recovery site," said Hogan, "but it never came through. Then, we had to shore up the data center in Boston. By implementing FlashStack there, we now have a fully functioning DR site—at no extra cost from what we had to spend to provision the data center in Boston. That's a huge plus."

The sharply improved performance delivered by FlashStack is important to Lifescript. "We send half a billion e-mails a month, which means a tremendous number of reads and writes on our storage. And we also have highly variable block sizes among our Microsoft SQL Server data-analytics applications," Hogan noted. "With FlashStack, we have gained a tremendous amount of added performance and stability."

While delivering higher performance and greater reliability to end-users, FlashStack also has made life much simpler for the IT staff.

"Simplicity in implementation and management is one of the biggest benefits we've seen," said Hogan. "I can manage my storage, network, and compute requirements all on one platform.

In addition, the consolidation in space and savings in data-center costs are also significant benefits. Taken together, we are saving a tremendous amount of time and money."

Products and Services

FlashStack Data Center Platform:

- *Cisco UCS Chassis*
  - *Cisco UCS B200 M2 Blade Servers*
  - *Cisco UCS B200 M3 Blade Servers*
  - *Cisco UCS B200 M4 Blade Servers*
- *Cisco UCS Manager*
- *Cisco Nexus Switches*
- *Pure Storage FlashArray//M*

Applications:

- *Database: Oracle®, Microsoft® SQL® Server, PostgreSQL*
- *VSI: VMware ESX®, vSphere® 6.0, vSphere® Cloud and vRealize®*
- *VDI: Citrix® Xen®App*

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