Case study

Deeper document data delivered

SpringCM poised for massive scalability with HP Moonshot solutions and DataStax Enterprise

Industry
Document management

Objective
Increase compute and storage performance for DataStax Enterprise distributed database environment while accelerating time to market

Approach
Drive down TCO and deliver a smaller, denser compute architecture with HP Moonshot technology and DataStax Enterprise

IT matters
- Boosts node density (10:1 in a 4.3 U space) while reclaiming data center real estate
- Reclaims valuable IT resources with faster deployments (one hour vs. days)
- Provides a new model for distributed compute architectures across the business

Business matters
- Delivers up to 70% more energy savings than traditional rack server architecture
- Speeds time to market by simplifying platform requirements
- Enables exponential growth while eliminating disruptive upgrades and installations

springcm

"HP Moonshot technology provides us with the extreme density we need in a dramatically reduced form factor."

– Chris King, Vice President of Operations, SpringCM

SpringCM is a cloud-based enterprise document-centric workflow platform that allows customers to manage contracts, documents, and all types of content across devices and locations. Allowing Salesforce.com users to streamline tasks, automate processes around documents, and work collaboratively, SpringCM is a solution that helps speed the sales cycle while keeping sensitive content secure. SpringCM recently deployed HP Moonshot technology to speed innovation and simplify scaling in its DataStax Enterprise distributed database platform, built on Apache Cassandra.

Deep into data

Managing customer information has never been a simple process. Even in the days when the Rolodex ruled the desk, it was an incomplete solution. Index cards filled with microscopic scribbles that attempted to bring the customer's contact information to life were only as good as the intentions of their keepers and the efficiency of their filing system.

Move 40 years into the future, and the massive database has long replaced the circular index card organizer. The sales game itself hasn't changed, but the depth of the data has. Used proactively, that information can dramatically improve customer relations and maximize sales.

SpringCM is a leader in the document management space, and its cloud workflow platform offers sales teams the ability to streamline, share, and automate processes to eliminate stumbling blocks in the sales cycle.

Getting to know your documents

If you know where your customer-related documents are, how they're related to the sale, and how you can access them quickly, you're a step ahead of most people. "Document management isn't just about storage and retrieval," explains Chris King, vice president of operations at SpringCM. "It's about enabling sales teams to manage documents and related metadata across desktop and mobile platforms regardless of physical location."

The platform dovetails with popular CRM software suite Salesforce.com to streamline the contract lifecycle from creation through negotiation, approvals, signature, archiving, and renewals.

In order to make that happen, data is extracted from every document uploaded to the SpringCM document cloud. "For each document we receive, there's a lot going on behind the scenes," King relates. "From workflow engines to PDF manipulation, OCR to document merging—lots of things are happening that create value for our users on top of what they would be getting from Salesforce.com."

Exponential growth

Adding that value for the customer comes with a price for SpringCM. "What we ended up discovering is that we are generating a lot of data on the back end that needs to be analyzed, sorted, and retrieved, and then delivered to our customers," King says.

According to SpringCM CTO, Antonis Papatsaras, the amount of data is growing exponentially. "Every document somebody uploads takes 40-80 workload steps," Papatsaras explains. "And each time someone views a document online, it takes another 2-3 workload steps. What it adds up to is that our infrastructure needs to process 2 million workload steps per hour. It's an insane amount of data."

SpringCM was beginning to think that its traditional server architecture and relational database system might not be able to sustain the kind of growth the company was experiencing. "Today it's 2 million steps per hour, but that quickly becomes 4 million and then 8 million," Papatsaras says. "About six months ago, we began to realize we were reaching our capacity limits and this was impacting document retrieval performance."

Rethinking retrieval

The team wanted to be able to retrieve those large data sets faster than a standard server farm would allow. “We could have attempted to build a new system on big powerful servers with a bunch of memory,” recalls Papatsaras. “But we saw that a more distributed system would be a better way to go.”

King agrees. “We needed something fast, cost-effective, and scalable, and my gut was telling me HP Moonshot might be the answer.”

Because SpringCM was already running their HP servers on DataStax Enterprise, the team began having conversations with the two technology leaders about the idea of using Moonshot servers to build out its new architecture.

“DataStax Enterprise is our database platform of choice because of its ability to scale linearly and lighting fast performance,” explained Papatsaras. “It’s integrated analytics and search capabilities allow for real time retrieval of documents”

A better model

“We thought that it would work, because of DataStax Enterprise’s masterless architecture which addresses workloads in equally equipped nodes,” King explains. “If you can get DataStax Enterprise writing across more nodes, you have more paths to address disk, which means better performance. And since the data is replicated across nodes, DataStax Enterprise will never go down which can be the difference between winning and losing a deal.”

But SpringCM needed assurances from DataStax and the HP Moonshot team that they would be supported. “DataStax was quite willing to give us their time getting over the humps we faced,” King reports. “And the HP Moonshot team in Houston was great every step of the way.”

After seeing a benchmark of DataStax Enterprise running SpringCM’s workload profile on HP Moonshot servers, the decision was made.

Density delivered

SpringCM deployed two Moonshot 1500 Chassis, each populated with 15 HP ProLiant m710 Servers. Each server is configured with 32 GB RAM, and 480 GB of flash storage to run the DataStax Enterprise distributed database which power SpringCM’s SaaS-based document management solution.

“HP Moonshot technology provides us with the extreme density we need in a dynamically reduced form factor,” King sums up. With 15 ProLiant m710 servers in a 4.3U space, the solution benefits SpringCM from not just an IT footprint perspective, but an overall business agility perspective as well.

Matters of scale

“The logistics of deploying racks of traditional servers—routing, cabling, networking—is a complex prospect,” says King. “Because Moonshot has 40Gb networking built right into the chassis, all you have to do to scale is plug in another server.”

From an engineering perspective, Papatsaras agrees. “When you’re thinking about operations and engineering, our philosophy is to write good software,” the CTO explains. “Then, when you want to scale, you just need to support more workflow by adding more compute power. The last thing I want is for my team to rewrite software. We need an architecture and database platform that play well together, and with DataStax Enterprise and Moonshot, we have that. It’s an integration that’s absolutely built for scalability without sacrificing on performance and availability.”

Customer at a glance

Hardware
- HP Moonshot 1500 Chassis
- HP ProLiant m710 Servers

HP Partner
- DataStax

Software
- CentOS 6.5, 7
- DataStax Enterprise Distributed Database Platform

Up to 70% energy savings

The solution also boosts the overall energy efficiency of the SpringCM data center. "I basically figured out that I can run five full Moonshot chassis on a regular circuit," King relates. "That gives me 200 terabytes of storage in half a cabinet of space."

To build a similar-sized cluster using traditional rack servers would have cost King and team more than data center floor space. "It would take 120 traditional servers to power our DataStax Enterprise cluster," King explains. "In far less space, I can get 200 Moonshot servers that consume 60-70% less power. That's a big win for us."

Accelerating innovation

The Moonshot paradigm has opened a new era in business flexibility for SpringCM, whose leaders are now considering where else the technology might fit into their IT landscape. "Watching our users accept this new environment and getting excited about it, we're naturally thinking Moonshot might be a better platform for other things we do, such as OCR, document processing, or document comparison," Papatsaras says.

King concurs. "The cartridges talk to each other so quickly, it makes you think of the possibilities for other conceptually similar processes—what else can we distribute this way across multiple nodes?" he asks. "We're only about one month in on our production environment, and already we're imagining the future of our data center with HP Moonshot and DataStax Enterprise as the foundation."

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4AA5-8833ENW, May 2015