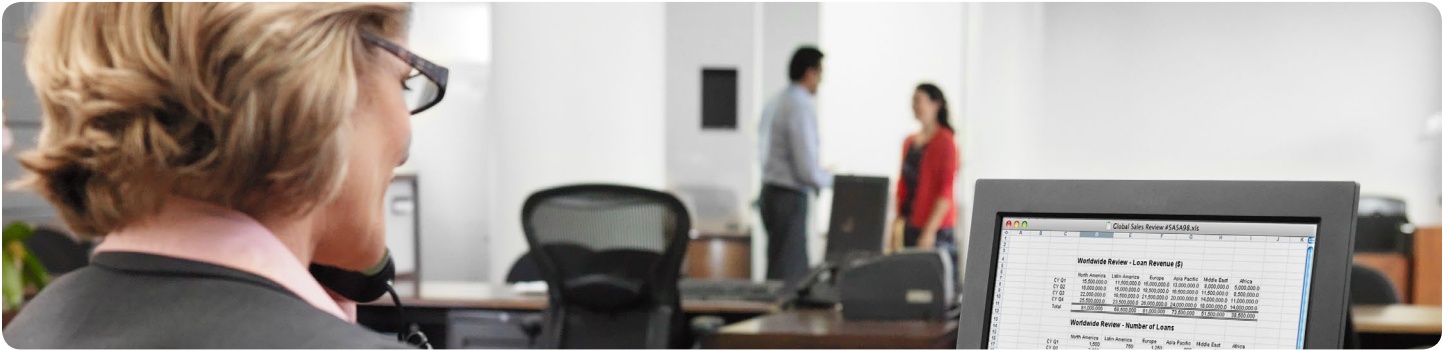


Risk Management Services Provider Gains High Availability for Databases



Executive Summary

- **Customer Name:** Digital Risk, LLC
- **Industry:** Risk Management/Technology
- **Location:** Maitland, FL
- **Number of Employees:** 1,750

Challenge

- Provide redundancy for business-critical information
- Eliminate single points of failure
- Keep storage costs manageable

Solution

- Standardized on integrated Cisco Unified Computing Systems (UCS) solutions for performance and manageability
- Virtualized database servers with VMware vSphere
- Adopted StorMagic SvSAN shared storage solution for resiliency and cost savings

Results

- Saved US\$250,000 in equipment costs to support new business
- Delivered high level of customer service with robust database performance
- Reduced risk and maximized productivity and revenue with high availability

Digital Risk, LLC clusters virtualized databases while keeping costs under control using Cisco Unified Data Center and StorMagic.

Challenge

As the U.S. housing market recovers, lenders are more cautious than ever. To make confident lending decisions, originators, servicers, and government entities need to identify errors, misrepresentation, or noncompliance quickly and reliably. Many of these organizations turn to Digital Risk LLC to get the benefit of the combined talent of thousands of risk analysts and advanced analytics performed using the company's Making Mortgages Safe solutions suite. From credit risk to operational risk and fraud, Digital Risk provides a comprehensive platform to service the entire mortgage lifecycle or points along the way, depending on the customer's need.

The company's analytics applications are based on Microsoft SQL Server databases, which must be available 24 hours a day. As a growing company, Digital Risk needed to keep an eye on the budget while providing high availability and robust performance for the database servers.

The company wanted to virtualize database, reporting, and data warehousing servers with VMware vSphere to gain the benefits of VMware HA and VMotion technologies, but it needed servers that could handle the load of a virtualized SQL Server environment, as well as shared storage. An enterprise-class storage area network (SAN) that could provide enough Input/Output Operations per Second (IOPS), however, was not in the budget. The company was also concerned about a less-than-optimally configured SAN representing a single point of failure.

“With StorMagic and Cisco UCS, we were able to use just two servers and avoid the up-front and maintenance costs associated with a SAN, saving around \$250,000.”

– David Mahgerefteh
Director, IT
Digital Risk, LLC

Solution

For the VMware host servers, Digital Risk chose the Cisco Unified Computing System™ (UCS®), the same servers it uses to support other parts of its business, with multiple redundant connections to Cisco Nexus® 5548 Series switches. “We chose Cisco UCS servers, because they give us the fastest performance,” says David Mahgerefteh, director, IT.

For cost-effective yet reliable shared storage, Mahgerefteh turned to StorMagic, a Cisco® partner he had worked with during his tenure at another company. The StorMagic SvSAN solution, a Cisco Compatible product, is unique in that it leverages the internal drives in the VMware host servers to create a virtual mirror between storage in different physical servers, enabling a shared-storage architecture at a fraction of the cost of a traditional SAN. “SvSAN enables organizations to achieve affordable high availability in smaller and distributed IT environments where revenue, risk or liability is high,” says Hans O’Sullivan, CEO at StorMagic. “We work closely with Cisco to ensure that SvSAN meets performance expectations of Cisco UCS customers.”

“I already knew that Cisco UCS servers performed the best with StorMagic, because I had tested them against servers from other major vendors in my previous job,” says Mahgerefteh.

With 24 hard drives in each Cisco UCS C220 Rack Server, Digital Risk can cluster the SQL Server databases for resiliency using VMware technologies without diminishing performance. “We could have used an entry-level iSCSI SAN, but that wouldn’t have given us the performance our customers require,” says Mahgerefteh.

A proof-of-concept test validated reliability and performance. “We unplugged the power to one of the servers, and failover was seamless,” says Mahgerefteh. “We also verified that there was no database performance impact.”

Results

With the combined solution from Cisco UCS and StorMagic, Digital Risk has the capacity and performance to service new clients and take on new business partners. “We’re getting the speed of in-server drives with the high availability benefits of shared storage,” says Mahgerefteh. “Our business depends upon the speed with which we can service our customers, and we’re getting as fast or faster performance than an enterprise-class SAN could provide.”

Performance has been so good, in fact, that the company has virtualized other internally developed applications over to the same hosts to improve performance. “Ninety percent of our employees access SQL-driven applications, every day,” says Mahgerefteh. “We’re helping improve their productivity.”

Deployment was simplified and accelerated, taking only six weeks to complete the proof of concept. “Deploying a traditional SAN would probably have taken us six months,” says Joe DeNave, who assisted Mahgerefteh with the proof of concept. “It’s very easy to set up a VMware cluster on StorMagic and Cisco UCS.”

Cost savings were substantial. “Every other solution we evaluated required a third physical server to avoid a split-brain condition,” says Mahgerefteh. “With StorMagic and Cisco UCS, we were able to use just two servers and avoid the up-front and maintenance costs associated with a SAN, saving around \$250,000.”

Product List

Data Center Solutions

- Cisco Unified Computing System (UCS)
- Cisco UCS C220 Rack Servers

Routing and Switching

- Cisco Nexus 5548 Series Switches

Network Management

- Cisco Unified Computing System (UCS) Manager

Applications

- Microsoft SQL Server database
- VMware vSphere Essentials
- StorMagic SvSAN



Knowing that a standby server will take over if a hardware failure occurs is giving the Digital Risk IT team added assurance, and helping the company maximize productivity and revenue. "We needed this redundancy for business continuity purposes," says Mahgerefteh. "We've eliminated single points of failure, and we didn't have to spend a lot to do so."

StorMagic installs as a plugin on top of VMware, so Digital Risk can manage storage and virtual machines from a single pane of glass using VMware vCenter, with the added assurance that the solution is VMware certified. To manage the physical host servers, Digital Risk uses Cisco Unified Computing System (UCS) Manager, which provides unified, embedded management of all software and hardware components in the Cisco UCS environment. "The ability to manage all our Cisco UCS servers from a single GUI helps us be more efficient and keep IT headcount down," says Mahgerefteh.

Next Steps

Digital Risk is moving all new business to the Cisco UCS/StorMagic cluster. "For a small or medium-sized business or remote branch locations, running StorMagic on Cisco UCS is really the way to go," says DeNave. "You can build a VMware cluster with enterprise-class performance and resiliency at a significantly lower cost of entry."

For More Information

To find out more about Cisco Unified Data Center, please visit:

www.cisco.com/go/unifieddatacenter.

To find out more about StorMagic SvSAN, please visit:

<https://marketplace.cisco.com/catalog/companies/stormagic>



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