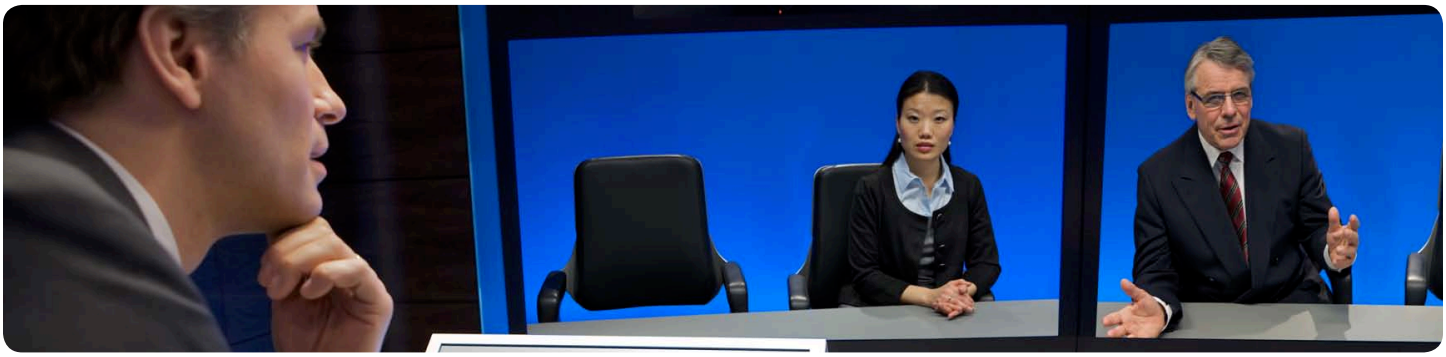
Customer Case Study

Technology Company Accelerates its Journey to Cloud Computing



Executive Summary

Challenge

- Aging UNIX/RISC system was escalating support and maintenance costs
- Application service levels were not being met
- Existing infrastructure did not support path to cloud computing

Solution

- Cisco Unified Computing System B440 powered by Intel® Xeon® Processors
- Cisco UCS Manager
- Cisco Unified Computing Services
- Cisco Technical services

Results

- Improved application performance by up to 20 times
- Delivered 60 percent reduction in batch runtimes and user response times
- Significantly lowered infrastructure costs while increasing agility and flexibility

EMC Migrates 8 TB Oracle Database to Cisco Unified Computing System to Support Oracle E-Business Suite.

Challenge

EMC Corporation, the leading supplier of information infrastructure technology, supports its global manufacturing, finance, quoting, customer service, professional services, sales, and marketing operations with one of the world's largest Oracle E-Business Suite enterprise resource planning (ERP) and customer relationship management (CRM) implementations. The ERP system supports 20,000 employees and 2000 concurrent users, while the CRM system supports 40,000 users with peak usage of more than 4000 concurrent users.

However, the aging Sun SPARC server platforms hosting the ERP and CRM systems were not keeping up with EMC's growth. Although the servers were advanced for their time, they had outlived their service lives and could not scale efficiently to meet EMC's business demands. Service-level objectives could no longer be met reliably, reducing productivity and increasing user frustration. Maintenance and support costs had also escalated significantly.

Reducing costs is always a goal, and EMC had a plan to migrate its ERP and CRM platforms to standard x86 hardware built on the Intel Xeon processor architecture and Linux to increase business agility and to lower its total cost of ownership. The company also forecasts continued growth and needs a compute infrastructure that is open and

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– **Ramesh Razdan**
Senior Director Enterprise Technology Services

expandable. With its commitment to deliver solutions that meet customers' needs for virtualization and private cloud computing, EMC needed a clear path to deliver a fully virtualized, next-generation IT infrastructure.

After evaluating several options for a next-generation compute platform, EMC decided to re-platform using the Cisco Unified Computing System™. EMC chose the Cisco® system because of Cisco, EMC, and VMware's mutual commitment to virtualization and Vblock Infrastructure Platforms. Choosing a new platform was only the beginning. Performing a migration from SPARC to the Cisco Unified Computing System was going to be a complex effort. An aggressive timeline also made it critical to smoothly cut over to the new platform with no impact on EMC's business.

Solution

EMC chose Cisco Services to provide Cisco Unified Computing System and Oracle Real Application Clusters (RAC) migration expertise, as well as 24-hour onsite technical support. For the platform, EMC chose the Cisco Unified Computing System with Intel Xeon processors and Cisco Virtual Interface Cards. The Intel Xeon processor provides record-breaking performance, combined with advanced reliability, availability, and security features. The Cisco Virtual Interface Card provides the multiple dynamic virtual interfaces required by the Oracle application and can be optimized in a virtualized environment in the future.

The Cisco Unified Computing System and EMC Symmetrix VMAX storage array were used to create an Oracle RAC database grid that could scale by simply adding compute nodes. Cisco Services provided the Cisco Unified Computing Migration and Transition service with team members whose Oracle expertise enables customers to optimize Oracle application performance and resiliency with powerful Cisco Unified Computing System capabilities. The Cisco Unified Computing Migration and Transition Service helps IT organizations smoothly migrate, modernize, and enhance the manageability of high-risk, business-critical applications to Cisco Unified Computing System platform through orchestration and process automation.

The Cisco Services team worked with EMC to create high- and low-level designs to help ensure a highly resilient and optimized Oracle RAC deployment. The team used the Cisco Validated Design for Oracle RAC to help ensure ongoing resiliency and formal certification of EMC's Oracle RAC deployment. Cisco Services also designed appropriate service profiles to support future re-purposing of hardware and simple replacement of a Cisco Unified Computing System server as necessary.

A comprehensive test plan enabled EMC to validate deployment resiliency prior to implementing the Oracle RAC on Cisco Unified Computing System. Test planning can be highly complex, especially for customers new to Cisco Unified Computing System. Cisco Services' expertise in testing and test planning for the Cisco Unified Computing System enabled EMC to avoid potential performance issues after production deployment and to gain deeper insight into the underlying technology.

EMC also developed its own 12-step process for migrating its 8-terabyte production Oracle database from Sun SPARC to the Intel platform running Red Hat Enterprise Linux. The migration was based on four Cisco Unified Computing System blade servers with a 10Gb Converge Networking Adapter, which hosted the Oracle RAC interconnect

and other data traffic. Cisco Services also shared best practices for using Cisco Unified Computing System features to reduce operational risk and increase application provisioning throughput.

Results

EMC and Cisco Services achieved a smooth cutover of the CRM application during one weekend with the Cisco team on site and ready to address any challenges. Once the migration was complete, performance testing achieved improvements that were 2 to 20 times faster than previously, depending on the transaction. For example, customer service quote renewal transactions improved from 11.5 to 5.6 seconds. In EMC's Channel Express, "Save and Array configuration" transactions improved 800 percent, from 27.4 to 3.3 seconds. "Create a new version" transactions fell from 133.6 to 36.3 seconds, and "Save a configuration" transactions dropped from 27.9 to 3.4 seconds.

"The Cisco Unified Computing System platform has greatly improved application performance, which translates to higher productivity for our users," says Ramesh Razdan, senior director, Enterprise Technology Services for EMC. "Our field teams are able to respond immediately to customer questions and requests for quotes, without having to go back to the office and spending hours putting together data." Razdan also reports that his IT organization has received unsolicited emails from users in the field expressing their pleasure and the difference that it is making in their productivity.

The IT organization has also measured large reductions in average CPU utilization, from up to 100 percent down to 10 percent. Batch runtimes and user response times have been accelerated by up to 60 percent.

The Cisco Unified Computing System platform significantly lowers costs by using industry-standard hardware, fewer cables, and simpler management. EMC implemented the latest Intel Xeon processor technology to improve performance, while lowering energy, power, and cooling costs. The system offers high availability capabilities far more affordably than has been possible in the past.

Fewer cables and adapters will also simplify EMC's data center environment. The IT team needs to wire only once for SAN, network attached storage (NAS), and Small Computer System Interface over IP (iSCSI) connections. Cisco Unified Computing System Manager capabilities, such as boot from SAN and service profiles, save time, provide centralized visibility, and reduce the costs associated with managing complex computing environments.

"The Cisco Unified Computing System is incredibly simpler to provision," says Razdan. He estimates that using a different platform would have cost at least US$4 million more for infrastructure and even more in operational costs.

The Cisco Unified Computing System also supports greater virtualization for granular control, greater scalability, and high performance. The Unified Computing System architecture allows high scalability without adding complexity and allows EMC IT to dynamically provision resources as needed. An open, scalable computing platform and a documented migration process will enable EMC to accelerate its journey toward private cloud computing.

Next Steps

EMC is currently evaluating additional workloads for migration to the Cisco Unified Computing System. The company expects additional cost reductions and performance improvements for each workload that is migrated over time.

For More Information

To find out more about Cisco Unified Computing System and Oracle, visit: www.cisco.com/go/oracle.

To find out more about Cisco Unified Computing System, visit: www.cisco.com/go/unifiedcomputing.

To find out more about Cisco Professional Services, visit: www.cisco.com/go/services and www.cisco.com/go/unifiedcomputingservices.

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