Application Modernization: Migrate to Cisco UCS with Intelligent Intel Xeon Processors

Solution Brief
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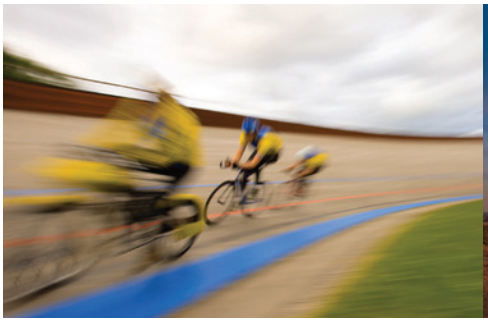

Highlights

Infrastructure for Today and into the Future

- Cisco Unified Computing System™ (Cisco UCS®) delivers agility, security, and reliability at reduced total cost of ownership (TCO).

Outstanding Performance and Availability

- Cisco UCS with intelligent Intel® Xeon® processors is designed to deliver the performance, scalability, and availability required for enterprise mission-critical applications.

40 Percent Lower Costs

- Cisco UCS reduces capital and operating costs while increasing security and business agility.

20 Times Faster

- Cisco UCS servers with intelligent Intel Xeon processors deliver world-record performance for mission-critical workloads.

Faster Deployment Times

- Integrated management increases IT staff productivity, improves reliability, and reduces the risk of failures.

1-to-100 Staff-to-Server Ratio

- Cisco UCS automates IT, helping to increase an organization's staff-to-server ratio.

The Cisco Unified Computing System™ (Cisco UCS®) with intelligent Intel® Xeon® processors delivers performance, agility, and flexibility to enable the data center—your most strategic asset—to quickly adapt to business priorities now and in the future.

In the past, enterprise IT departments used RISC and mainframe platforms to run those applications most critical to their business. To help ensure high performance and reliability, many businesses were willing to rely on, and pay relatively higher prices for, RISC/UNIX solutions and associated maintenance agreements. However, a transformational shift has occurred.

Imagine the possibilities—an environment in which computing, networking, and storage access resources are part of an elastic, scalable, flexible infrastructure that can be put into action at any moment. Cisco UCS is the first truly unified data center platform that combines industry-standard x86-architecture servers, networking, virtualization awareness, and embedded element management in a single system that unifies infrastructure and management. Cisco UCS is a cost-effective, intelligent infrastructure that simplifies and accelerates the deployment of enterprise-class applications and services, enabling your business to be more agile and competitive while simultaneously reducing the total cost of ownership (TCO). Cisco can help you analyze the costs and benefits of Cisco UCS compared to your existing RISC/UNIX server infrastructure to gain a clear view of how your data center can better support your business.

Challenges with Aging RISC/UNIX Infrastructure

Data centers are full of aging RISC/UNIX servers that cannot support today's business needs. Costs associated with purchasing, maintaining, and servicing these servers continue to escalate. In addition, very few public or private cloud environments are based on RISC/UNIX servers, because the systems are expensive, inflexible, and burdened with complex system management frameworks.

Reduced Cost Effectiveness

RISC/UNIX server acquisition and maintenance costs are now a significant component of IT budgets. On average, the platforms have a 65 percent higher total cost of acquisition than x86-architecture-based servers. In fact, high operating and maintenance costs combined with per-core software licensing often places RISC/UNIX systems at a significant disadvantage. In addition, the price of energy and data center space continues to rise, making efforts to power, cool, and house these systems burdensome. With fewer college graduates experienced in RISC/UNIX administration, skilled personnel are harder to find and expensive to employ. These factors, combined with flat or shrinking IT budgets, are proving that continued reliance on RISC/UNIX architectures no longer is cost effective.

Performance and Flexibility Are Necessary to Remain Competitive

Successful businesses are faced with a variety of challenges. More users are generating increasing amounts of data that must be processed and accessed, with demands for additional performance capacity frequent and unpredictable. In many instances, today's aging and proprietary RISC/UNIX infrastructure fails to deliver the performance, flexibility, and agility required to support the modernization of applications and the dynamic demands of the business. At a time when data centers are moving to cloud or infrastructure-as-a-service (IaaS) platforms, there is a greater need for flexible, standard, nonproprietary platforms and solutions.

Smart Infrastructure Today and into the Future

Cisco UCS is a unique system that can simplify and accelerate deployment of enterprise-class applications and services running in bare-metal, virtualized, and cloud-computing environments, providing extreme flexibility to businesses. Its built-in policy-based automation and deep integration with familiar systems management and orchestration tools helps IT departments transform operations, making staff more efficient and effective. Cisco UCS delivers scalability, agility, security, and reliability at a reduced TCO.

Outstanding Performance and Availability

Cisco UCS with intelligent Intel Xeon processors. Intel Xeon processors deliver cost-effective scalability, high performance, advanced reliability, and the data protection that businesses expect for their most data-intensive enterprise applications. Intel Xeon processors are designed to meet business performance needs, with reliability, availability, and scalability features equal to, and in some cases greater than, current RISC processors. Cisco UCS has a comprehensive server product line that enables scale-up and scale-out application architectures to fully support business needs. Some of the world's most successful companies, across a variety of industries, have transitioned their most critical business applications and database deployments to Cisco UCS. You too can transform your mission-critical computing environment so that it is ready for the challenges of both today and the future.

40 Percent Lower Costs

Cisco UCS uses high-performance,

Decreased Operational Costs

"Ordinarily, expanding from two to three data centers would be expected to increase operational costs by 50 percent. Our operational costs will actually decrease by 40 percent when we expand from two to three data centers. A major reason is the space, power, and cooling savings from consolidating from 84 to 30 racks."

–Shreyas Shah, Senior Director, Global Information Technology at Avago Technologies

(http://www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/Avago_Case_Study.pdf)

cost-effective industry-standard Intel Xeon processors. In addition, the unified fabric reduces the total number of interface cards, cables, and chassis switches needed by up to two-thirds, lowering costs and complexity. Virtual networks are now visible and managed in exactly the same way as physical networks, but with massive scalability and flexibility. Cisco UCS represents a radical simplification compared to traditional systems, reducing capital and operating costs while increasing business agility and improving performance.

Outstanding Performance

"Our most important driver was performance. Performance testing delivered improvements that were up to 20 times faster with the Intel Xeon platform than we had been able to achieve on our existing RISC-based systems. We went from almost 100 percent CPU utilization to barely achieving 20 percent. The Cisco Unified Computing System and architecture gives us a lot of room to grow."

—Paul Di'Vittorio, Director of Private Cloud Architecture at EMC

(http://www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/cisco_emc_risc_migration_case_study.pdf)

20 Times Faster

Achieve better IT productivity and a superior price-to-performance ratio for lower TCO with Cisco UCS servers. Cisco UCS servers deliver world-record performance for mission-critical workloads. With an integrated 10-Gbps unified fabric, Cisco UCS meets the bandwidth demands of today's multicore processors and eliminates the cost of separate networks for each type of traffic while increasing workload agility, reliability, and performance.

Faster Deployment Times

Cisco UCS is intelligent infrastructure that is self-aware and self-integrating. When new components are added to the system, they are automatically placed in resource pools, making deployment fast and easy. The system is built from the foundation so that every aspect of server identity, personality, and connectivity is abstracted and can be applied through software. Servers are configured automatically, eliminating the manual, time-consuming, error-prone assembly of components into systems. Every aspect of the infrastructure can be configured dynamically, making each server ready to power any workload at any time.

Achieve 1-to-100 (or Greater) Staff-to-Server Ratio

Cisco UCS eliminates the manual, time-consuming, error-prone assembly of components into systems because every aspect of the Cisco UCS infrastructure can be configured automatically and dynamically, making each server ready to power any workload at any time. Gone are the days of sticky notes from one administrator to another, communicating important configuration information for individual system configuration. Cisco UCS Manager enables, encourages, and supports immediate, real-time, and efficient cooperation between administrative roles, with cross-role visibility. This visibility provides a path to the preprovisioning of critical elements in the deployment process. The inherent cooperative nature of Cisco UCS Manager removes the traditional data center management silo barriers, which historically have reduced staff efficiency.

Beyond Efficiency: Making IT More Productive

Cisco UCS helps organizations go beyond efficiency: it helps them become more effective through technologies that promulgate simplicity rather than complexity. The result is secure, flexible, agile, high-performance, self-integrating information technology that delivers reduced staff costs with increased uptime through automation and more rapid return on investment (ROI; Figure 1).

Cisco RISC/UNIX Migration Services

RISC/UNIX application migrations are not all the same. Proper planning and a sound migration methodology are required to help ensure a successful migration. Using an abundance of experience garnered from assisting customers worldwide, Cisco® Advanced Services consultants can help you exploit the significant architectural innovations of Cisco UCS and help ensure that you get the best ROI from your migration effort.

Cisco RISC/UNIX Migration Services provides a flexible approach that adapts to the complexity and importance of the applications to be migrated. These services build on strong relationships with enterprise software vendors, including Oracle and SAP, as well as trusted delivery partners with vast experience in migrating commercial off-the-shelf and custom applications.

Cisco RISC/UNIX Migration Services uses proven, industry-leading methodologies and practices to migrate RISC processor–based applications to the award-winning Cisco UCS. Complete sets of services are available to help you confirm ROI and reduced TCO, perform test migrations, and migrate applications based on your criteria and requirements.

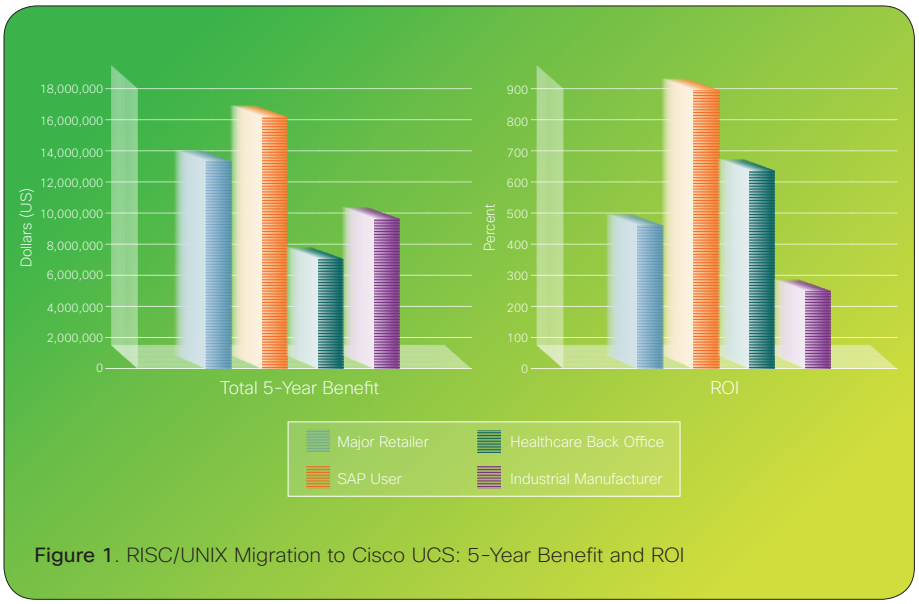

Figure 1. RISC/UNIX Migration to Cisco UCS: 5-Year Benefit and ROI

Cisco: Your Trusted Data Center Partner

Cisco is in a unique position to help migrate mission-critical applications to state-of-the-art platforms. Already a long-term partner in many data centers, Cisco understands

the challenges associated with the migration of mission-critical applications. Cisco RISC/UNIX Migration Services provides a proven process to help customers move from RISC-based UNIX environments to Cisco UCS. Using best-in-class migration methodologies, in-depth analysis tools, a robust planning process, and design and implementation services, Cisco provides a comprehensive, cost-effective approach to customer migration initiatives.

With Cisco UCS and Cisco RISC/UNIX Migration Services, you can transform your IT infrastructure into a flexible, agile, cost-effective data center that is a strategic asset to the business. Imagine the possibilities—an environment in which computing, networking, and storage access resources are part of an elastic, scalable, flexible infrastructure that can be put into action at any moment. Cisco provides market-leading, innovative, standards-based solutions that combine to deliver the data center of the future. Working in tandem with the business, this new, open infrastructure offers enhanced performance, scalability, reliability, and manageability at less cost than your existing outdated RICS/UNIX infrastructure.

Cisco Support: Depth of Experience

"We received great support from Cisco Services in helping us test and deploy the implementation on schedule. They also helped us take advantage of features that we otherwise would not have known how to optimize for our needs. We were pleasantly surprised with Cisco's expertise and depth of experience with Cisco Unified Computing, Oracle, and data center technologies."

—Paul Di'Vittorio, Director of Private Cloud Architecture at EMC

For More Information

For more information about migration to Cisco UCS, contact your local account representative or use the following resources:

- To learn more about migrating to Cisco UCS, please visit http://www.cisco.com/go/migratetoucs.
- To learn more about Cisco UCS, please visit http://www.cisco.com/go/ucs.

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Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at **www.cisco.com/go/offices**.

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