



THE ULTIMATE TRIPLE PLAY

THE POWER OF RED HAT, DELL, AND INTEL

EXECUTIVE SUMMARY

More than ever, you need powerful, streamlined IT resources to succeed. Yet, IT budgets can be a major obstacle. With the release of Dell™ PowerEdge™ servers powered by the Intel® Xeon® processor E7 family, the time is right to migrate from proprietary RISC/UNIX® platforms to industry-standard servers running Red Hat® Enterprise Linux® .

Older proprietary platforms introduce risk, handicapping your operations with performance that falls behind newer systems and leaving your enterprise vulnerable without up-to-date security innovations. Factoring in the higher maintenance costs of older equipment, making a change is safer than retaining your current systems. Indeed, replacing your aging, proprietary hardware and software with a Red Hat, Dell, and Intel solution positions you to leverage new technical innovations at a lower cost. The combination of industry-standard systems and open software enables you to quickly optimize your environment and adapt to changes in demand and business processes.

WHY MIGRATE? WHY NOW?

Today's hyper-competitive economy dictates stringent cost-cutting measures. At the same time, embracing emerging technologies is key to maintaining a competitive edge. Growing trends toward cloud computing, increased reliance on mobile devices, and ever-increasing demand require a nimble infrastructure. With IT so vital to business success, it's important to create an environment that supports new initiatives without breaking budgets.

ACHIEVE UNPARALLELED FLEXIBILITY

Moving to a standardized platform gives you the scalability and performance to handle growing demand—without the vendor lock-in, limited options, and exorbitant costs of a proprietary solution.

- **Leverage the power of an open platform.** Open, industry-standard platforms provide quick access to high-quality, rapid innovation, more choice and flexibility, and the technical benefits and robustness of UNIX with the economics of open platforms.
- **Scale with built-in virtualization.** The Intel Xeon processor E7 family of CPUs in Dell PowerEdge servers includes Intel Virtualization Technology (Intel VT). Each system can function as multiple virtual servers when combined with the virtualization features in Red Hat Enterprise Linux. These features enable you to run more applications per server and dynamically allocate more resources to services on an as-needed basis.
- **Maximize resource utilization.** Fine-grained control assigns applications the right amount of resources in shared systems, enabling a single system to perform more work. Isolation techniques ensure applications do not impact one another and provide security to protect data.
- **Consolidate and save.** The inherent scalability in Dell servers, combined with virtualization technology in Red Hat Enterprise Linux, enables you to lower costs by consolidating many server workloads on one physical system.
- **Deploy applications and services faster.** Virtualization can help you decrease time-to-market and respond quickly to volatile business conditions by rapidly provisioning virtual servers. This technology, combined with the Red Hat cloud portfolio, provides a complete infrastructure for building and managing public or private clouds.

SIMPLIFY IT

Migrating to an open platform enables you to transform your IT infrastructure into one that is easy to deploy, grow, and manage. Red Hat, Dell, and Intel partner to make migration a simple, well-understood, and pain-free process. With extensive experience handling thousands of migrations over many years, Red Hat has established a proven migration methodology.

- **Standardize the environment.** Red Hat, Dell, and Intel collaborate extensively to ensure all components work together and are optimized. The consistency of the standardized platform makes it easier to launch new systems and services and keep them up and running.
- **Streamline procurement and support.** Dell provides a one-stop shop for hardware, software, services, and support, and works to directly resolve support-related issues. Launching new IT initiatives no longer requires chasing multiple hardware and software vendors.

Simplify administration. Dell engineers contribute to the operating system kernel, and device drivers are already integrated into Red Hat Enterprise Linux. In addition, enhancements to Linux make deployment on Dell servers faster, and Red Hat Network automates everyday maintenance tasks, helping save time and improve efficiency.

DRAMATICALLY REDUCE COSTS

Migrating from proprietary RISC environments to an open Red Hat, Dell, and Intel platform lowers capital and operating expenses as well as opportunity costs.

- Dell PowerEdge servers cost up to five times less than similarly configured RISC machines. In addition, service costs alone for RISC-based systems are often higher than Dell PowerEdge server acquisition costs.
- The Intel processors in Dell PowerEdge servers contain up to 10 cores and 20 threads per socket, so you can replace more servers with fewer servers and retain the same compute power.
- The innovative Red Hat subscription model eliminates costly upfront licensing fees, maintenance contracts, and additional expenses for software updates and support.

- UNIX administrators typically cost more than Red Hat Enterprise Linux administrators.
- Dell PowerEdge servers require less maintenance and power than aging, energy-inefficient RISC-based servers.
- Red Hat Enterprise Linux leverages the power management capabilities in Intel processors to reduce datacenter costs.

POWER YOUR ENTERPRISE

With performance, virtualization, and power management enhancements, the top-of-the-line Intel Xeon processor E7 family provides a solid foundation for Red Hat Enterprise Linux. Indeed, these processors deliver the industry's highest virtualization performance, with up to 25 percent better virtual machine performance than previous-generation Intel Xeon processors. The improved virtual machine performance supports higher consolidation ratios and better resource utilization^{2,3}. Red Hat Enterprise Linux is optimized for these CPUs, delivering faster task execution with up to 40 percent performance improvement for the most data-demanding applications^{1,2}. With support for Intel's energy-efficiency enhancements, such as Intel Intelligent Power Technology and Intel Turbo Boost Technology, the platform helps reduce datacenter power and cooling needs. In addition, Intel Hyper-Threading Technology support improves parallel processing without a comparable increase in power consumption⁴.

LEVERAGE ENTERPRISE-CLASS OFFERINGS AND SUPPORT

A Red Hat subscription provides access to all shipping versions of the operating system, a steady stream of feature enhancements, and proactive security updates. Updates are delivered in real-time, giving you fast access to the latest innovations, bug fixes, security errata, and support for new hardware and software. And, subscriptions can be transferred to upgraded hardware without penalty.

An active subscription gives you access to outstanding customer support. With a 24-hour global network of knowledgeable and savvy service engineers, you can virtually extend your in-house support expertise and deploy systems with confidence.



- **Reduced testing effort and churn with a 10-year lifecycle.** Red Hat provides support and maintenance during stated time periods for each of the major releases of Red Hat Enterprise Linux, known as the lifecycle. Major versions of Red Hat Enterprise Linux have a ten-year lifecycle. The lifecycle is designed to reduce the level of change within each major release over time, increasing predictability and decreasing maintenance costs.
- **More flexibility with extended support.** Organizations that need to stay on a particular version for an extended period of time, such as those running mission-critical workloads, can take advantage of the Red Hat Extended Update Support Add-On. This add-on extends the support period of an update or major release for 18 months and delivers overlapping release support to give enterprise customers more flexibility.
- **Enhanced features with a portfolio of add-on options.** A variety of enterprise options are available for Red Hat Enterprise Linux that enhance infrastructure and application availability and complete your environment. Add-on packages are available for high availability, shared storage, load balancing, scalable file system, high-performance networking, smart management, and extended lifecycle.

MOVE FROM TACTICAL TO STRATEGIC

The risks and lost opportunities associated with not migrating to a Red Hat, Dell, and Intel solution are serious. Every dollar spent on managing and maintaining a proprietary UNIX environment could be better spent on strategic IT initiatives to benefit your business. Until you migrate, your environment is less secure, less agile, and trails behind the competition. Because Red Hat, Dell, and Intel are at the forefront of technology advances—and driving them in many cases—this platform enables you to reap the benefits of the latest innovations before your competitors.

FOR MORE INFORMATION

Call your local Dell or Red Hat sales or services representative for more information on a Red Hat, Dell, and Intel solution. You can also email Dell-Sales@redhat.com or visit redhat.com/intelligence/dell.

1. Up to 40% generational compute-intensive throughput claim based on SPECint*_rate_base2006 benchmark comparing next generation Intel® Xeon® processor E7-4870 (30M cache, 2.40GHz, 6.40GT/s Intel® QPI, code-named Westmere-EX) scoring 1,010 (includes Intel Compiler XE2011 improvements accounting for about 11% of the performance boost) to X7560 (24M cache, 2.26GHz, 6.40GT/s Intel QPI, formerly code-named Nehalem-EX) scoring 723 (Intel Compiler 11.1). Source: Intel SSG TR#1131.
2. Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations, and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.
3. Up to 25% better virtual machine performance claim based on SPECvirt_sc2010 benchmark comparing next generation Intel® Xeon® processor E7-4870 (30M cache, 2.40GHz, 6.40GT/s Intel® QPI, code-named Westmere-EX) scoring 2,540 @ 162VMs to X7560 (24M cache, 2.26GHz, 6.40GT/s Intel QPI, formerly code-named Nehalem-EX) scoring 2,024 @ 126VMs. Source: Intel SSG TR#1118.
4. Intel Hyper-Threading (Intel® HT) Technology requires a system with an Intel processor that supports Hyper-Threading Technology and an Intel HT Technology-enabled chipset, BIOS, and operating system. Performance will vary depending on the specific hardware and software you use. See www.intel.com/info/hyperthreading/ for more information, including details on which processors support Intel HT Technology.

RED HAT SALES AND INQUIRIES

NORTH AMERICA
1-888-REDHAT1
www.redhat.com
sales@redhat.com

**EUROPE, MIDDLE EAST
AND AFRICA**
00800 7334 2835
www.europe.redhat.com
europe@redhat.com

ASIA PACIFIC
+65 6490 4200
www.apac.redhat.com
apac@redhat.com

LATIN AMERICA
+54 11 4329 7300
www.latam.redhat.com
info-latam@redhat.com