

RED HAT ENTERPRISE LINUX WITH SMART VIRTUALIZATION

DATASHEET

“Through a combination of Red Hat Virtualization and Red Hat management portfolio solutions, we received extensive support for the design and implementation of our new private cloud. The open interfaces of Red Hat Infrastructure-as-a-Service (IaaS) solutions allowed our cloud solution to maintain compatibility with major standards and prevent vendor lock-in for the future.”

THOMAS WENNINGER
COO I.T. SERVICES DEPARTMENT
HEAD OF I.T. INFRASTRUCTURE,
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INTRODUCTION

Red Hat® Enterprise Linux® has been delivering performance levels that IT organizations trust and rely on for more than 10 years. In the same way, Red Hat Virtualization has taken organizations beyond bare metal to meet critical virtualization demands for today—and the future.

Building on these foundations, Red Hat Enterprise Linux with Smart Virtualization combines these products to help organizations virtualize critical applications while delivering performance, scalability, and security.

BENEFITS

PERFORMANCE

Red Hat Virtualization is built on the Kernel-based Virtual Machine (KVM) hypervisor, a leading open source hypervisor platform. According to independent benchmarking results published by SPECvirt_sc2013,¹ the KVM hypervisor has achieved record-breaking performance benchmarks. This means that you can rely on Red Hat Enterprise Linux with Smart Virtualization to deliver the performance you need, independent of the selected hardware platform.

Additionally, Red Hat Virtualization running on Red Hat Enterprise Linux delivers the best performance, beating out both Lenovo and Oracle for two processor benchmark records in server consolidation.¹ This means that fewer virtual machines (VMs) are needed to achieve the same results, saving on software costs and hardware resources without sacrificing performance.

SCALABILITY

Red Hat Virtualization can quickly scale to meet evolving business demands. With host scalability of up to 160 CPUs and 12TB of RAM per host and comparable guest scalability up to 240 virtual CPUs and 4TB virtual RAM, you can virtualize even the largest x86_64 systems. Almost any workload on bare metal can be virtualized on Red Hat Virtualization and scale without limitations—with cluster support for up to 200 hosts.

EXTENDED HARDWARE SUPPORT

Red Hat Enterprise Linux has a rich ecosystem of hardware platform vendors. This ensures that the latest hardware features are rapidly adopted in Red Hat Enterprise Linux. Since the Red Hat Virtualization hypervisor shares a common kernel with Red Hat Enterprise Linux, you can utilize a wide variety of certified hardware platforms, and the hypervisor inherits features without additional engineering when new features are added to Red Hat Enterprise Linux.



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¹ Based on SPECvirt_sc2013 benchmark results as of August 28, 2017. All benchmark comparisons based on benchmark addressing performance evaluation of datacenter servers used in virtualized server consolidation at https://www.spec.org/virt_sc2013/results/res2017q3/.

SPEC® and the benchmark name SPECvirt_sc® are registered trademarks of the Standard Performance Evaluation Corporation.

In addition, continuous tuning and optimization of Red Hat Enterprise Linux immediately benefits Red Hat Virtualization, giving you a ready base of hardware platforms that are continually enhanced and expanded.

ENHANCED SECURITY

Virtual environments have unique administrative and security threats that must be contained in an efficient and secure process. The security features of Red Hat Virtualization include Red Hat Secure Virtualization (sVirt) and proven SELinux technologies. SELinux, first deployed in Red Hat Enterprise Linux 4.0, was developed by the National Security Agency (NSA), Red Hat, and the open source community.

Red Hat Virtualization architecture treats each virtual machine as its own process that is managed by a kernel-level hypervisor. Since each virtual machine is a process that can be labeled by SELinux, it establishes a security boundary around each virtual machine. This security boundary is monitored and enforced by the kernel, restricting the virtual machine's access to resources outside of its boundary, such as host machine data files or other virtual machines.

sVirt adds to SELinux's labeling capabilities and provides additional benefits for security administration, preventing administrators from creating manual labeling errors that can compromise virtual machines.

CENTRALIZED MANAGEMENT

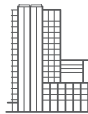
Red Hat Enterprise Linux with Smart Virtualization includes Red Hat Virtualization Manager, a centralized management feature with a search-driven graphical interface. Red Hat Virtualization Manager oversees the physical and logical resources of Red Hat Virtualization infrastructure and supports up to hundreds of hosts and thousands of virtual machines.

COST SAVINGS

Combining Red Hat Virtualization and Red Hat Enterprise Linux virtualizes workloads running on Red Hat Enterprise Linux with unlimited guests. The bundle is offered with significant cost savings over purchasing the products separately. Organizations realize additional savings when they free themselves from proprietary solutions and the resulting vendor lock-in costs.

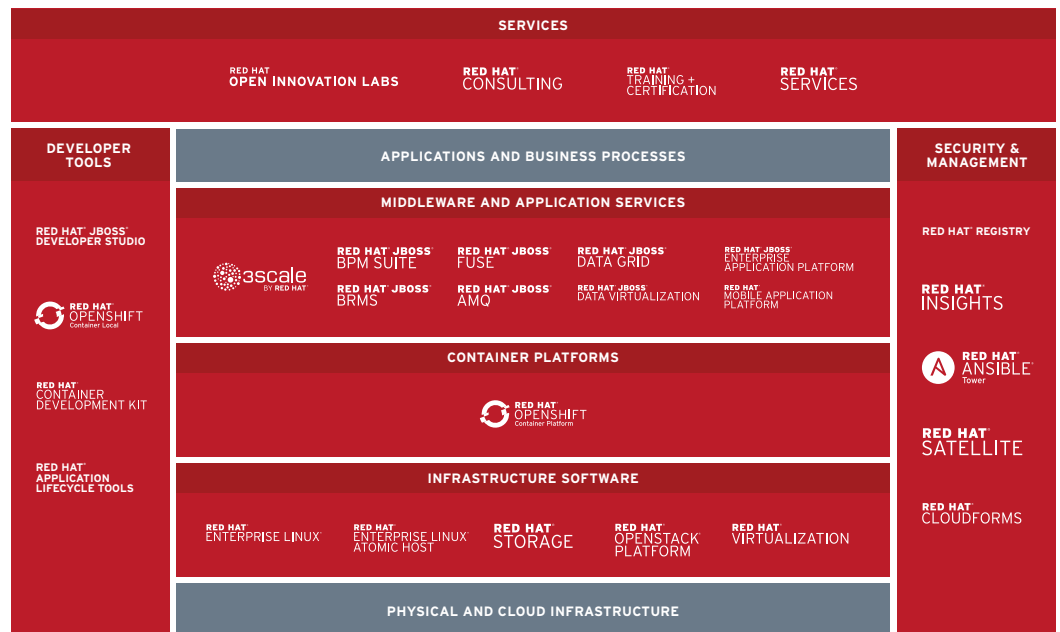
CONCLUSION

If your organization is already running Red Hat Enterprise Linux and you want to see your virtualization performance take off, the natural choice is Red Hat Virtualization. Benefit from a virtualization platform that takes advantage of many Red Hat Enterprise Linux features that enable your organization to deliver outstanding service—while you focus on adding value for your customers.



ABOUT RED HAT

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.



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