



# SAP ENVIRONMENTS EXCEL WITH RED HAT ENTERPRISE VIRTUALIZATION

## INTRODUCTION

Businesses must continue to innovate while controlling costs to succeed in today's competitive global markets. IT departments are under pressure to optimize capital expenditures, meet increasing demand with fewer resources, and quickly launch new services. Virtualization and cloud computing are technologies that can help organizations meet today's budget and business agility challenges.

Red Hat delivers the foundation operating system plus built-in virtualization and management in an SAP® certified offering. Red Hat Enterprise Linux is open source and certified on more platforms than any other, providing a standard solution without hardware lock-in. Red Hat Enterprise Virtualization enables consolidation and optimized use of resources, reducing power, cooling, and space requirements for capital and operations savings. SAP solutions running on Red Hat Enterprise Linux with Red Hat Enterprise Virtualization help enterprises address the challenges of flexibility and price/performance with a scalable SAP platform that is cloud ready.

## VIRTUALIZATION FROM RED HAT

Red Hat brings unique virtualization capabilities to SAP landscapes with an open source operating system (Red Hat Enterprise Linux) that is tightly integrated with a robust virtualization hypervisor and management infrastructure (Red Hat Enterprise Virtualization). Helping to ease SAP application deployment on physical servers or in the cloud, Red Hat Enterprise Virtualization features include:

- **Superior scalability.** SAP environments must be able to scale to support a dynamic user base. Red Hat Enterprise Virtualization offers up to 64 virtual CPUs and 2 TB of virtual memory per guest, to support growing numbers of workloads and users.
- **Full compatibility.** With proven compatibility between Red Hat Enterprise Virtualization and the complete SAP ecosystem, datacenter managers are assured that SAP applications will run as expected on the Red Hat platform.

- **Unmatched consolidation ratios.** Red Hat Enterprise Virtualization allows even the most demanding application workloads to be virtualized. Consolidation ratios of more than 400 virtual machines with SAP workloads running on a single server have been achieved.
- **Open Source Alternative.** Red Hat Enterprise Virtualization is the only end-to-end, open source, virtualization platform, providing a real alternative to high cost, proprietary technologies. And because Red Hat software is delivered by subscription, there are no costly, upfront license fees, no tiered editions, and no penalties for using vRAM or larger servers.

Red Hat Enterprise Virtualization uses the Kernel-based Virtual Machine (KVM) hypervisor that transforms the Red Hat Enterprise Linux kernel into a robust virtualization platform. KVM inherits the enterprise-grade characteristics of Red Hat Enterprise Linux, enhancing the performance, scalability, and security of SAP environments.

## Certified by SAP

Red Hat Enterprise Virtualization is certified for SAP business applications running on Red Hat Enterprise Linux. As a recommended enterprise operating system for running SAP applications, Red Hat Enterprise Linux provides the reliability and performance required by datacenters to safely and effectively run demanding SAP workloads.

The latest versions — Red Hat Enterprise Linux 5 and 6 — are certified to run the SAP NetWeaver Adaptive Computing Controller (ACC). ACC provides a single source of control to operate, observe, manage, and provision applications in a virtual environment. The combination of ACC and Red Hat helps administrators add, move, and reconfigure SAP applications to re-provision available resources to effectively meet changes in demand.

## Comprehensive Management

Red Hat Enterprise Virtualization Manager centralizes management of the entire SAP environment, including



datacenters, clusters, hosts, guest virtual servers, networking, and storage. The superior management capability built-in to Red Hat Enterprise Virtualization gives administrators complete visibility into the SAP application infrastructure, enabling efficient application management and run-time performance optimization. It also significantly increases the number of resources managed by each administrator, helping to reduce operational costs.

### Standards and Open Source

Realizing that multiple virtual platform choices help guard against single vendor lock-in, datacenter managers are asking for alternative virtual ecosystems. Industry standards and open source solutions encourage the creation of innovative features and offer flexibility. Red Hat and SAP work with standards groups and open source communities to deliver that choice.

Red Hat has joined with multiple vendors — including IBM, Hewlett-Packard, BMC Software, and Intel — to develop and support KVM. In addition to developing KVM-based solutions and facilities, these vendors formed the Open Virtualization Alliance (OVA) to provide users with reference architectures, best practices, and a support community to assist in building cloud and virtualized deployments where cost and freedom from vendor lock-in are key criteria in selecting a virtualization solution.

### BENEFITS OF RED HAT VIRTUALIZATION FOR SAP ENVIRONMENTS

Red Hat Enterprise Virtualization improves the operational efficiency of SAP environments by simplifying datacenter complexity and management. It can also reduce power and cooling needs by enabling applications to be deployed on fewer physical servers. In addition, the improved security and increased application isolation provided by Red Hat Enterprise Virtualization improves business continuity.

### Enhance SAP Application Performance

As user demands increase, application performance becomes critical. Red Hat Enterprise Virtualization enables organizations to take advantage of the benefits of virtualization without compromising performance or scalability. To verify this, SAP server performance was measured on an Intel server with 16 virtual CPUs running Red Hat Enterprise Virtualization.

The results show almost zero performance impact and excellent scaling on multiple system configurations. ([www.redhat.com/virtualization/rhev/server/performance](http://www.redhat.com/virtualization/rhev/server/performance))

### Reduce Operational Costs

Deploying SAP applications in virtualized environments based on Red Hat technology helps IT organizations reduce costs. Unlike solutions from other vendors, Red Hat Enterprise Virtualization is a fully open source product — like all Red Hat products. It is sold by subscription, without upfront license fees, multiple tiered editions, or other capacity-based fees. This means lower TCO, higher ROI, and shorter time to break-even than with other virtualization products.

### Ease Moving to the Cloud

As virtualization matures and cloud computing becomes mainstream, it makes sense to prepare for the transition. Red Hat software is the foundation for many private and public clouds. Virtualizing with Red Hat today can be particularly helpful in preparing SAP applications for this new paradigm. In fact 70% of SAP's certified cloud partners run Red Hat technology. Furthermore, Red Hat and SAP have teamed with Amazon to provide SAP cloud services.

### Support

Red Hat and SAP offer an integrated, single-source, support capability using SAP Solution Manager application management software and Red Hat Global Support Services support ticketing system. This joint effort streamlines the customer support model, reducing support costs, administration overhead, and resource requirements.

### RED HAT AND SAP

SAP is a leading provider of enterprise applications. Red Hat is the industry leader in commercial Linux and virtualization technology. Red Hat & SAP lead the way to help companies virtualize and access solutions and large data stores in the cloud or on-premise, offering a reduced datacenter footprint, improve business agility and streamlined support while delivering excellent performance, scalability and reliability

### FOR MORE INFORMATION

To learn more about how Red Hat and SAP can help optimize your IT infrastructure, contact your local sales person or visit [www.redhat.com/sap](http://www.redhat.com/sap)