RED HAT ENTERPRISE VIRTUALIZATION

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RED HAT CLOUD INFRASTRUCTURE

FREQUENTLY ASKED QUESTIONS

Red Hat Cloud Infrastructure is a single-subscription offering that integrates three products: Red Hat Enterprise Virtualization, Red Hat CloudForms, and Red Hat Enterprise Linux OpenStack® Platform.

RED HAT CLOUD INFRASTRUCTURE AT-A-GLANCE

- Provides infrastructure as your needs grow—from traditional applications to private cloud, hybrid cloud, and public cloud
- Meets private cloud use cases based on existing datacenter virtualization, traditional workloads, and hybrid deployment models
- Provides a public cloud approach, eliminating the possibility of "shadow IT" occurrences
- Includes the top virtualization benchmarks for performance and scalability[1]

INTRODUCTION

Today's datacenter demands are rapidly evolving as new technology standards such as cloud-enabled workloads, which are significantly different from traditional workloads, are being adopted. To maintain a competitive edge, organizations must adopt these technologies while cost effectively using existing investments, preventing vendor lock-in, and enabling innovation. Organizations can achieve this with an open hybrid cloud approach that allows them to keep the old and have the new—without compromise.

Red Hat® Cloud Infrastructure enables customers to do this. Built upon the trusted and enterprise-hardened Red Hat® Enterprise Linux® platform, the solution empowers customers to build and manage a private Infrastructure-as-a-Service (IaaS) cloud based on datacenter virtualization and management technologies for traditional workloads. It also provides an on-ramp to a highly scalable, public-cloud-like infrastructure based on OpenStack.

Cost effective and more comprehensive than alternative solutions, Red Hat Cloud Infrastructure works with your existing infrastructure investments offering you choice and full control of your strategic direction.

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1 http://www.spec.org/virt_sc2013/results/specvirt_sc2013_perf.html]

RED HAT CLOUD INFRASTRUCTURE

QUESTION: What is Red Hat Cloud Infrastructure?

ANSWER: Red Hat Cloud Infrastructure enables customers to build and manage a private IaaS cloud with integrated datacenter virtualization and management technology. It also provides an on-ramp to a highly scalable, public-cloud-like infrastructure based on Red Hat Enterprise Linux OpenStack Platform.

With Red Hat Cloud Infrastructure, you can implement an integrated infrastructure, at a compelling pricepoint, to increase your IT department's value and improve manageability.

Red Hat Cloud Infrastructure is a single-subscription offering that integrates the following products:

- Red Hat Enterprise Virtualization: A complete datacenter virtualization product for Linux and Windows workloads that enables you to build an agile, secure, and highly scalable virtualization foundation with the features needed for traditional enterprise application workloads.
- Red Hat CloudForms: A cloud management product that provides visibility and control over existing heterogeneous virtual infrastructures, enabling you to deploy, monitor, and manage cloud services across virtualization technologies including Red Hat Enterprise Virtualization, VMware vSphere, Microsoft Hyper-V, a growing number of public cloud providers such as Amazon, and Red Hat Enterprise Linux OpenStack Platform.
- Red Hat Enterprise Linux OpenStack Platform: Delivers an integrated foundation to create, deploy, and scale a secure and reliable public or private OpenStack cloud. It delivers a cloud platform built on Red Hat Enterprise Linux, optimized for and integrated with Red Hat's OpenStack technologies—giving you the agility to scale and quickly meet customer demands without compromising on availability, security, or performance.

More information can be found at **www.redhat.com/rhci**.

QUESTION: Are the components of Red Hat Cloud Infrastructure integrated?

ANSWER: Yes. All three components are integrated. Red Hat CloudForms manages Red Hat Enterprise Virtualization and Red Hat Enterprise Linux OpenStack Platform environments. Red Hat Enterprise Virtualization and Red Hat Enterprise Linux OpenStack Platform share Networking services (Neutron) and an Image library (Glance). The advantages of this are significant. With both products deployed, you don't have to create and audit an image to ensure that it meets corporate compliance and security regulations, twice.

Instead, you have a single set of images and don't have to worry about inconsistency and non-compliance issues. In addition, more sophisticated networking technologies are accessible at the virtualization layer, including integration with software-defined networking technologies.

QUESTION: Is training available for the three Red Hat Cloud Infrastructure components?

ANSWER: Yes, training is available for all three components, with multiple delivery options.

Red Hat Enterprise Virtualization Administration (RH318) is available in a variety of settings, including: traditional classroom, virtual, private on-site, and virtual self-paced. Customers can also elect to take the Red Hat Certified Virtualization Administrator exam (EX318) in an effort to attain RHCVA certification.

Red Hat OpenStack Administration (CL210) is available in the same settings: traditional classroom, virtual, private on-site, and virtual self-paced. Customers can take the Red Hat Certificate of Expertise in Infrastructure-as-a-Service (IaaS) exam (EX210) in an effort to attain the RHCVA certification.

Red Hat CloudForms Administration (CL220R) is available as self-paced training.

Visit **www.redhat.com/training/paths/cloud-virtualization.html** for more information or contact a training specialist directly at (866) 626-2994.

RED HAT ENTERPRISE LINUX OPENSTACK PLATFORM

QUESTION: What are the key benefits to customers?

ANSWER: By deploying Red Hat Enterprise Linux OpenStack Platform, IT departments can focus on becoming service providers to their internal or external customers. As business demands arise, Red Hat Enterprise Linux OpenStack Platform provides the capability to respond quickly and elastically—providing just the resources needed at the appropriate time.

The time necessary to provision, configure, and deploy systems to support the business goes from days or weeks to minutes. Scaling applications—either up or down—can be done quickly in response to user demand. And best of all, these benefits come with the solid security and reliability that Red Hat Enterprise Linux delivers.

To learn more, visit **www.redhat.com/openstack**.

QUESTION: Many companies offer production support for OpenStack. Why should I choose Red Hat?

ANSWER: Red Hat has the unique advantage of experience, having already turned several major open source projects (e.g., Fedora, JBoss Application Server, GlusterFS) into successful, enterprise-ready products (e.g., Red Hat Enterprise Linux, Red Hat JBoss Enterprise Application Platform, Red Hat Storage Server).

In addition, the Red Hat OpenStack Cloud Infrastructure Partner Network ecosystem is the world's largest ecosystem for commercial OpenStack deployments. This network connects both business and technical resources to third-party technology companies that are aligned with Red Hat's OpenStack technologies. Since the launch of the network in April 2013, hundreds of software, plug-in, and hardware systems have been added to the list of certified and supported OpenStack commercial solutions. The partners building these solutions work closely with Red Hat to offer customers an enterprise-ready and commercial-grade OpenStack infrastructure, with complementary technologies integrated across compute, networking, and storage.

Also, Red Hat is a founding member of the OpenStack Foundation and the top corporate contributor for the OpenStack Grizzly and Havana community releases.

QUESTION: What release of OpenStack does Red Hat Enterprise Linux OpenStack Platform currently implement?

ANSWER: Red Hat Enterprise Linux OpenStack Platform 4 is based on the Havana release of OpenStack. Red Hat Enterprise Linux OpenStack Platform will maintain an approximate six-month release cadence, remaining approximately 2-4 months behind each community OpenStack release. The delayed release enables Red Hat to thoroughly test the code with confidence to ensure that the bits work in your enterprise environment. Red Hat Enterprise Linux OpenStack Platform also provides a one-year software support product life cycle.

QUESTION: What is RDO and how does it differ from Red Hat Enterprise Linux OpenStack Platform?

ANSWER: Red Hat Enterprise Linux OpenStack Platform is an enterprise-ready, commercially-supported product from Red Hat.

RDO, a freely available, community project, is suitable if you want to deploy OpenStack on Red Hat Enterprise Linux or its derivatives (e.g., Fedora, CentOS, Scientific Linux, etc.) without support or certification. Visit openstack.redhat.com today to download RDO and join the community of users and developers deploying OpenStack on Linux.

RED HAT ENTERPRISE VIRTUALIZATION

QUESTION: What sets Red Hat Enterprise Virtualization apart from its competitors?

ANSWER: Choice with no proprietary lock-in: Red Hat Enterprise Virtualization is a fully-featured, enterprise-ready virtualization platform. As an open source solution, Red Hat Enterprise Virtualization does not limit its customers to what one company believes they need and they're not forced into vendor lock-in.

- Cost: Based on open source software and offered through a subscription model, the pricing of Red Hat Enterprise Virtualization is significantly less than other virtualization solutions. There are no complicated product editions or costly add-ons. All features and components are included in one simplified subscription offering. Learn more at **redhat.com/rhev**.
- Scalability and performance: The Red Hat Enterprise Virtualization Kernel-based Virtual Machine (KVM) technology is an industry-leading platform based on independent, public SPECvirt benchmarks capable of supporting the highest possible VM density1 translating to fewer server hosts and lower infrastructure costs.
- Enterprise management: Red Hat Enterprise Virtualization offers a feature-rich server virtualzation management system that provides advanced capabilities for hosts and guests, including high availability, live migration, storage management, system scheduler, and more.

- Security: Red Hat Enterprise Virtualization provides military-grade security with the hardened, kernel-level SELinux and sVirt security technologies. These technologies were developed in conjunction with the United States Department of Defense and ensure isolation between VMs and between each machine and the Red Hat Enterprise Virtualization Hypervisor.
- Integrated VDI: Red Hat Enterprise Virtualization integrates the features and functionality for deploying both virtualized servers and complete virtual desktop infrastructure (VDI) within the same cluster, at no additional cost. Choose to deploy both Linux and Windows servers and/or desktops.

Learn more at **www.redhat.com/rhev.**

QUESTION: What guest operating systems does Red Hat Enterprise Virtualization support?

ANSWER:

- Red Hat Enterprise Linux 3 (32-bit and 64-bit)
- Red Hat Enterprise Linux 4 (32-bit and 64-bit)
- Red Hat Enterprise Linux 5 (32-bit and 64-bit)
- Red Hat Enterprise Linux 6 (32-bit and 64-bit)
- Windows XP Service Pack 3 and newer (32-bit)
- Windows 7 (32-bit and 64-bit)
- Windows 8 (32-bit and 64-bit)
- Windows Server 2003 Service Pack 2 and newer (32-bit and 64-bit)
- Windows Server 2008 (32-bit and 64-bit)
- Windows Server 2008 R2 (64-bit)
- Windows 2012 (64-bit)

QUESTION: Can I download an evaluation version of Red Hat Enterprise Virtualization?

ANSWER: Yes, a free 30- or 60-day downloadable evaluation is available at **redhat.com/promo/rhev3**. The evaluation site includes details on system requirements, step-by-step evaluation labs, documentation, and links to the Red Hat Customer Portal community with tips and guidance for a successful evaluation.

RED HAT CLOUDFORMS

QUESTION: What are the benefits of CloudForms 3?

ANSWER: As your needs change, CloudForms evolves, protecting your investments and providing a continuum of capabilities as you progress toward IaaS models. Red Hat gives you choice and flexibility along the way so you don't get locked into proprietary solutions. It also lets you use existing virtualization and cloud investments from Red Hat, VMware, Microsoft, and Amazon.

For traditional datacenter virtualization, CloudForms provides robust management for Red Hat Enterprise Virtualization, VMware vSphere, and Microsoft Hyper-V.

If you're looking to move workloads that demand maximum uptime to a private cloud, CloudForms serves as a robust cloud engine across multiple heterogeneous virtualization technologies. In addition, CloudForms provides public cloud integration (hybrid cloud), letting you use Amazon EC2 as an extension of your datacenter. This provides controlled life cycle management for your on-premise and Amazon-allocated workloads, aggregating that information with your enterprise's virtual infrastructure landscape into a single, unified management console.

For other workloads, or next-generation cloud applications with built in fault-tolerance, CloudForms acts in concert with Red Hat Enterprise Linux OpenStack Platform to provide a massively-scalable public-cloud-like infrastructure with management, self service provisioning, chargeback, and more. This architecture also allows you to regain control of any "shadow IT" applications built on Amazon, by either migrating them to Red Hat Enterprise Linux OpenStack Platform or governing them with CloudForms.

Learn more at **www.redhat.com/cloudforms**.

QUESTION: What does CloudForms provide for virtual and cloud environments?

ANSWER: For virtual environments, CloudForms provides monitoring and tracking, capacity management and planning, resource usage and optimization, VM lifecycle management, and policies to govern access and usage.

For private or hybrid clouds, CloudForms provides a self-service portal and catalog, controls to manage requests, quota enforcement and usage, chargeback and cost allocations, and automated provisioning.

QUESTION: How does CloudForms enhance Red Hat Enterprise Virtualization?

ANSWER: Red Hat Enterprise Virtualization Manager manages KVM hypervisors and helps define a customer's virtual datacenter by setting up hosts, storage, and networks, creating VMs, and establishing high availability and load balancing policies. CloudForms provides additional capabilities.

It:

- Extends Red Hat Enterprise Virtualization management capabilities by adding performance monitoring, discovery, self-service provisioning, policy-based compliance, charge-back, and greater automation capability.
- Ties together and federates multiple Red Hat Enterprise Virtualization deployments—providing a centralized management console for large and distributed virtualized deployments.
- Supports both VMware vSphere and Microsoft Hyper-V in addition to Red Hat Enterprise Virtualization and a growing number of public clod providers such as Amazon and Red Hat Enterprise Linux OpenStack Platform.

ABOUT RED HAT

Red Hat is the world's leading provider of open source solutions, using a community-powered approach to provide reliable and high-performing cloud, virtualization, storage, Linux, and middleware technologies. Red Hat also offers award-winning support, training, and consulting services. Red Hat is an S&P company with more than 70 offices spanning the globe, empowering its customers' businesses.

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