RUNNING YOUR APPLICATIONS ON THE RED HAT VIRTUALIZED PLATFORM:

WHAT PARTNERS NEED TO KNOW

If you've already been certified to run on Red Hat® Enterprise Linux®, you're ready for the Red Hat Enterprise Virtualization. Virtualization is the hottest topic in IT today. Your customers are looking for solutions that cut capital and operational costs, and which have a demonstrable return on investment (ROI). That's why—despite IT budget cuts across the board—spending on virtualization is expected to increase significantly in 2009 and beyond.

Virtualization provides an abstraction layer between the operating system and the underlying hardware. This decoupling of the operating system breaks the traditional one-to-one relationship of applications to servers, giving organizations enormous flexibility in deploying hardware. By doing this, virtualization has begun to transform the way enterprises manage their IT resources. This enables them to build infrastructures that are flexible, scalable, and—most importantly—economical, while laying the foundation for creating truly agile organizations.

Yet despite the huge amount of interest virtualization has generated over the past few years, industry experts estimate that only a fraction of data center servers and enterprise desktops have been virtualized to date. This is expected to change significantly over the next few years. Red Hat is leading the way by dramatically improving virtualization performance and scalability. By enabling enterprises to take applications that historically have not been candidates for virtualization, and run them on virtualized x86 hardware, Red Hat is setting the stage for mainstream acceptance of the technology.

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Red Hat makes it easy for you to prepare for the new market opportunities created by the Red Hat Enterprise Virtualization. Certify your application on Red Hat Enterprise Linux just once, and you're done. No additional testing or paperwork, no further expense. You can assure your customers that your software will run under Red Hat Enterprise Linux on both physical machines and on virtual machines on the Red Hat virtualization platform. This enables you to boost revenue potential without a corresponding increase in development, testing, or support costs.

GIVE YOUR CUSTOMERS WHAT THEY WANT

The main reasons for your customers' interest in virtualization? Improvements in service delivery—and cost, cost, cost. Virtualization saves customers money. In most data centers, server utilization rates are dismal—amounting to less than 30 percent by some estimates. Through virtualization, companies can boost their utilization rates to upward of 70 percent, saving significant dollars that they would otherwise spend over-provisioning hardware. Operating costs are slashed, too. Fewer servers mean less power and cooling requirements, and fewer ongoing maintenance, management, and labor expenses.

Your customers who have committed to a Red Hat Enterprise Linux environment are particularly attuned to these cost advantages. Many of them have moved to Red Hat Enterprise Linux so they can run their enterprise applications on commodity x86 machines instead of proprietary ones. The idea of leveraging their hardware investments even further through virtualization is a compelling one. And because Red Hat delivers virtualization integrated into the Red Hat Enterprise Linux operating system, the benefits of virtualization come at no additional cost. By ensuring that your applications will run in the Red Hat virtualization platform, you boost customers' ROI even more—and create more sales opportunities for yourself.

YOUR CHALLENGES

To meet market demand, you must ensure your applications run on virtual machines as well as physical machines. It seems simple. But there are significant barriers to entry.

First, there are business issues: if you license your software based on number of processors, what do you charge if a single server is running multiple instances of your application? What happens if your customers want to move your application over to a different system altogether?

Then there are the even thornier technical issues. Virtualization involves complex interactions between your application, the operating system, and the underlying hardware. Testing the multitude of possible combinations is extremely time-consuming and expensive. You must provide support to customers experiencing problems, determine the root causes of those problems, and fix them. Then those fixes must be tested and deployed—and the cycle begins again.

Given that resources are limited, you have to make tough decisions. Which virtualized environments should you support? What assurances can you give your customers about deploying your products in those environments? How do you handle any problems that your customers experience?

Underlying all these questions is an even more central one: What kind of support can—and should—you expect from your operating system and hardware partners to help you help your customers master this new approach to computing?

RED HAT EASES THE TRANSITION TO VIRTUALIZATION

Red Hat makes it easy to deploy virtualization. Our pledge to our software partners: Certify your applications once on Red Hat Enterprise Linux on a supported hardware platform and follow documented public Application Binary Interface (ABI) guidelines and we guarantee that your certified applications will run under Red Hat virtualization technology without any modifications or additional testing.

Red Hat supports both kernel ABI and user-space ABI. At the kernel level, Red Hat guarantees that the ABI won't change within a major release. If your software is certified to run on Red Hat Enterprise Linux 5 on a physical server, and you move to Red Hat Enterprise Linux 5.2 or 5.3, the kernel ABIs will remain constant and your software will run in a virtualized environment. Your applications will continue to run without issues. Once certified, your Red Hat Enterprise Linux-certified applications will be compatible from a user-space ABI perspective as well, which ensures the compatibility of library functions used by applications.

As part of Red Hat's guarantee, we also pledge that if you experience any issues specific to virtualization, Red Hat will modify the hypervisor or operating system to ensure complete compatibility.

Our pledge to our software partners: certify your applications once on Red Hat Enterprise Linux and we guarantee that your certified applications will run under Red Hat virtualization technology.

Because Red Hat's established mechanisms and processes for certifying hardware in the physical world are extended to the virtualized space, you can also feel confident that your applications will run in the Red Hat virtualized environment as new hardware becomes available.

VIRTUALIZATION MYTHS

Virtualized environments are costly to implement and manage. Third-party virtualization products are expensive and require pricey maintenance and support contracts. But because virtualization capabilities are built into the Red Hat Enterprise Linux 5 operating system at no additional cost, the cost barriers to entry for your customers all but disappear.

Virtualized applications take huge performance hits. Although leading proprietary virtualization technologies cause application performance to decrease by as much as 50 percent, enterprise applications such as DB2, SAP, and Oracle run under Red Hat Enterprise Linux in Red Hat's virtualized platform with a fraction of that overhead.

Virtualized applications can't scale. Conventional wisdom says that virtualized environments are only good for small workloads. But by taking advantage of the virtualization technology in Red Hat Enterprise Linux 5, your customers can run even their high-end production systems on virtual machines.

GIVE YOUR CUSTOMERS VIRTUALIZATION NOW – WITH NO HASSLES AND NO ADDITIONAL COSTS

As your customers make the transition from a physical to a virtualized IT platform, you have choices to make. Where should you invest your development dollars? Your personnel resources? Where do the greatest market opportunities lie?

With Red Hat, these concerns go away. You focus on delivering the best possible applications to your customers. You give them the option of running those applications in either physical or virtual environments. We take care of the rest.

REFERENCES AND OTHER RESOURCES

Case study: Red Hat virtualization and Tapasol enable cost-effective deployment of Servusnet informatics software: http://customers.press.redhat.com/2009/02/13/red-hat-virtualization-tapasol-solutions-and-servusnet-informatics/

Red Hat Enterprise Linux 4 Application Compatibility:
https://www.redhat.com/f/pdf/rhel4/AppCompat.pdf

Red Hat Enterprise Linux 5 virtualization:
https://www.redhat.com/rhel/virtualization/

3,000+ Red Hat Virtualization Enabled ISV Applications:
http://www.redhat.com/partners/isv/virtualization/

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