Drivers for Enterprise Virtualization Diversification

Open source is a key driving force as organizations consider second-vendor virtualization adoption to attain more diversity, data center power and agility.

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VIRTUALIZATION IMPLEMENTATION continues to have an enormous impact on midsize and large organizations, promising further breakthroughs as adoption of multiple virtualization platforms becomes the norm in the data center.

Today organizations can access a range of virtualization options, from proprietary single-vendor platforms to Linux-based open source solutions. In general, virtualization not only reduces data center expenses but also offers companies a compelling array of benefits: increased processing agility, better resource management and streamlined implementation, to name a few. In addition to improving key data center processes, such as business continuity (BC) and high availability (HA), virtualization provides companies with disaster recovery options critical to their success.
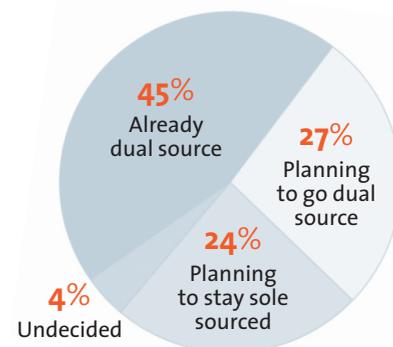
However, the relatively high cost of adoption can also be an inhibitor, especially for organizations considering proprietary, closed source solutions. In addition to having general security concerns, companies are increasingly wary of committing to a single virtualization vendor. In a recent (October 2011) IDG Executive Research poll of top CIOs and IT managers, 41 percent expressed concern about single-vendor lock-in and 43 percent were uneasy about the rising costs of proprietary,

closed source virtualization initiatives. Additional concerns about meeting service-level agreement (SLA) requirements and adequate availability compounded single-vendor issues.

Amid these uncertainties, it's been well established that the functionality of Linux-based, open source virtualization is equal to that of proprietary solutions. In addition to offering increased scalability, high performance and interoperability, open source has proven that, over time, an open virtualization solution costs less than half as much as a closed source proprietary alternative. Moreover, as in other areas of IT, the affordability and increased market maturity of virtualization have led to a rapid shift to multivendor deployments.

In the IDG Research study, 51 percent of the respondents whose companies are experienced in virtualization expressed interest in vendor diversification and see it as a means of ensuring high performance levels. The presence of a second open virtualization solution, such as Red Hat Enterprise Virtualization (RHEV), functions partly to ensure optimal first-vendor performance. In addition, open source virtualization such as RHEV guarantees that all SLAs are met on time and on budget.

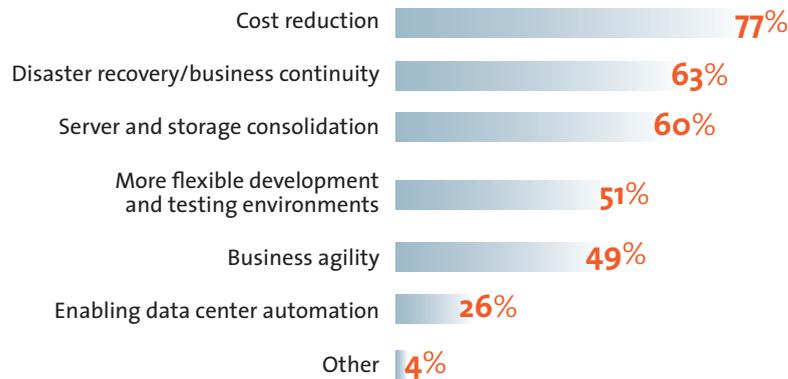## Do you plan to utilize more than one virtualization vendor for your virtualization initiatives?

- **45%** Already dual source
- **27%** Planning to go dual source
- **24%** Planning to stay sole sourced
- **4%** Undecided

SOURCE: 2011 IDG Research study for Red Hat based on 78 qualified CIO Peer2Peer Research Panel members.

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What Drives Virtualization Initiatives

Cost reduction, disaster recovery/business continuity and server and storage consolidation are top drivers of virtualization objectives.

Cost reduction	**77**%
Disaster recovery/business continuity	**63**%
Server and storage consolidation	**60**%
More flexible development and testing environments	**51**%
Business agility	**49**%
Enabling data center automation	**26**%
Other	**4**%

SOURCE: 2011 IDG Research study for Red Hat based on 78 qualified CIO Peer2Peer Research Panel members.

IDG's survey also indicates that 37 percent of the companies with a mature virtualization infrastructure desire strong Windows/Linux performance, and the demand for this functionality continues to grow. However, for companies limited to one virtualization vendor, cross-platform performance is rarely an option. As organizations evaluate second-source vendors to achieve optimal performance levels, they invariably choose open source, since it offers increased interoperability, scalability and management controls as well as lower costs. In addition, open virtualization provides better security access as well as the unparalleled ability to mitigate network viral attacks. Finally, virtualization solutions such as RHEV offer extensibility for modifying code and meeting unique hardware and software requirements as needed, unlike closed source systems.

A key aspect of RHEV is its leverage of the KVM (Kernel-based Virtual Machine) hypervisor, which boasts Linux kernel compatibility. This competitive open source option is considered a value-add, versatile part of Linux. Its performance capability is superior to that of proprietary, single-vendor virtualization software. This is further substantiated by the standardized SPECvirt_sc2010 benchmark, which tests all critical components responsible for handling server consolidation, such as hardware, virtualization technology, VM operating systems, and guest application software stacks. RHEL KVM-based implementations consistently held the top five SPECvirt_sc2010

benchmarks. As a result of its KVM technology, RHEV is the strongest scale-up and scale-out resource on the market as well as the only KVM-based virtualization platform that's enterprise-ready.

An example of real-world application of open source solutions: Qualcomm Inc., a leading developer and innovator of advanced wireless technologies, first implemented Red Hat Enterprise Linux in 2003. The company, which builds processors used in many Android phones, plays a central role in the rapid adoption and growth of 3G and next-generation wireless worldwide. Qualcomm became an early adopter of the virtualization technology integrated into the Red Hat Enterprise Linux 5 platform in March 2007. The company became active in the Red Hat Enterprise Virtualization beta program in 2009. This provided Red Hat with onsite testing of the performance, scalability and density features the solution offers. Today Qualcomm deploys Red Hat Enterprise Virtualization as a strategic virtualization platform and leverages the solution's integrated KVM hypervisor to also deploy Red Hat Enterprise Linux and Microsoft Windows guests. It manages these virtual instances with the management tools included in Red Hat Enterprise Virtualization.

For most companies, virtualization represents an evolving process of achieving greater data center power and agility. As organizations consider second-vendor virtualization adoption to attain more diversity, open source has become a key driving force. KVM-based products such as RHEV offer unmatched scalability and the capacity to virtualize mixed Linux/Windows environments. Consequently, businesses save money through consolidation and sharing of IT resources without the expense and limitations of a proprietary system. As industry leaders focus on this type of multivendor approach to virtualization, RHEV is emerging as the first choice in terms of scalability, functionality, interoperability and performance.

As the specific business needs of companies grow, so will the requirement for exceptional virtualization capabilities. Look for open source to fill that need. RHEV, in particular, represents vendor independence and more dynamic mixed IT environments, for SMBs as well as large enterprises. Open virtualization offers numerous compelling advantages for businesses and shows even greater potential as companies choose diversification over proprietary vendor lock-in. ■

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