Accelerate Software Development and Testing with the VMware Virtualization Platform

Challenges in Developing, Testing and Deploying Applications

Application development and testing remains a complex and difficult endeavor. Development and QA managers must focus on delivering projects on schedule, controlling costs, and ensuring software quality. However, meeting these demands is complicated by challenges that include the following:

- **Hardware Requirements**: Today’s complex applications demand significant amounts of hardware for development and testing. This hardware is needed for building multi-tier configurations and supporting development and testing against a large number of operating systems, patches, and application versions.

- **Inefficiency**: Inadequate hardware resources limit the productivity of development and QA groups. Productivity is also constrained by the need to spend significant amounts of time on lower-value operational tasks such as server provisioning, server configuration, application installation, and recreation of failure scenarios.

- **Limits to Test Coverage**: The ability to test more thoroughly and more effectively is limited by hardware availability and by the time and effort required to build and rebuild test scenarios for different operating systems, patch levels, application versions and hardware configurations. It is also limited by the difficulty of automating more complex test cases such as those that require rebooting.

Because of these challenges, development and QA organizations face project delays, difficult-to-control costs and undiscovered software problems that become costly support issues after applications are deployed.

Optimize Development and Testing with the VMware Virtualization Platform

The VMware virtualization platform has many features specifically designed for optimizing development and test environments. VMware technology packages a physical system—hardware configuration, operating system, applications and configurations—into a virtual machine container. These virtual machines are hardware independent, can share hardware resources with other virtual machines, can be easily migrated between physical systems and can be archived and copied just like files. These properties make virtual machines ideal for development and testing.

Among the ways that development and QA organizations can take advantage of virtualization to improve development and testing are the following:

- Use multiple operating systems and versions of operating systems (including Microsoft® Windows®, Linux and NetWare) simultaneously on a single machine—without repartitioning or rebooting
- Build and run complex multi-tier environments on a single computer by running multiple virtual machines simultaneously on a system and using virtual network segments to connect them to each other
- Create new servers in minutes by provisioning virtual machines to existing hardware
- Create libraries of reusable virtual machines that are preconfigured for different test configurations (different operating systems, operating system versions, patches, configurations, etc.) and can be rapidly provisioned to any available machine
- Improve collaboration between and among developers, testers, and support by allowing users to share and copy virtual machines
- Create and automate complex test sequences including ones that require system restart or simulate network bandwidth constraints

"With VMware, I can get 300 test machines in a space the size of a Volkswagen…. It’s a solution that I would recommend to any quality assurance manager who wants to leverage a hardware investment while scaling a testing environment."

Mike Linsennayer, QA Labs Manager, Symantec
Benefits of the VMware Virtualization Platform for Development and Testing

Customers who have implemented the VMware virtualization platform for development and testing have realized significant benefits that include the following:

• **Accelerating Project Completion:** The VMware virtualization platform dramatically simplifies common time-consuming tasks such as configuring servers, provisioning servers, and archiving and restoring configurations. As a result, productivity increases because teams spend less time on lower-value operational tasks and more time developing and testing. This increases productivity and makes it possible to complete software projects faster.

• **Slashing Costs:** Because VMware software utilizes desktop and server hardware more efficiently, it significantly reduces the amount of hardware needed for development and testing. With VMware software, multiple test configurations can run simultaneously on each system and can be quickly suspended or archived when idle to free hardware resources. These capabilities reduce not only the number of systems that organizations need to acquire but also reduce costs associated with power, network and storage infrastructure, and system administration.

**Summary**

The VMware virtualization platform for development and testing has been adopted by organizations worldwide to improve application development and testing. For these customers, VMware software has become an indispensable part of their development and testing infrastructure.

To learn more about VMware solutions and products, visit our Web site at http://www.vmware.com or contact us at us at 1-877-4VMWARE.

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