



KEY HIGHLIGHTS

INDUSTRY: TECHNOLOGY



CHALLENGE

A test lab at IBM's Westford, Massachusetts, facility sought to reduce the time and cost of testing software builds. The lab also needed to standardize disk images and to rapidly redeploy complex test cases to verify bug fixes. Some of these test cases required more than eight hours to set up the first time they were run.

SOLUTION

IBM implemented VMware® Lab Manager, which builds on VMware Infrastructure 3 environments by automating the rapid setup and replacement of complex multimachine software configurations.

VMWARE AT WORK

- VMware Infrastructure 3
- VMware Lab Manager

DEPLOYMENT ENVIRONMENT

- ESX Server running on IBM X336 servers with Intel Xeon dual-core HT CPUs
- IBM N3700 iSCSI storage device
- Guest operating systems: multiple operating systems (vary by test)
- Applications: multiple enterprise and specialty applications (vary by test)

"Thanks to automation features alone in VMware Lab Manager, we're saving two hours per person per build-verification test. Without VMware, this dramatically improved efficiency would not be possible."

Paul McGrail, Systems Management Specialist,
IBM

IBM

IBM creates, develops and manufactures advanced information technologies, including computer systems, software, networking systems, storage devices and microelectronics.

At the company's Westford, Massachusetts, facility, the IBM Lotus Development Group creates and tests software that lets businesses communicate and collaborate more effectively. In 2006, one of the company's build-verification labs faced several challenges. Many servers had multiple operating systems installed on the same hardware (multiboot), which raised IT security and compliance concerns. Using multiple server platforms prevented the lab from standardizing disk images. Rolling back systems to a previous state to ensure clean test beds was a slow process. Setting up a complex test case required several hours, and it was rarely reusable. Lastly, replicating exact hardware conditions for future tests and bug-fixing were difficult.

In an effort to improve the efficiency of its testing procedures, IBM deployed VMware® Lab Manager to manage a virtualized test lab running VMware Infrastructure 3. With Lab Manager, IBM developers can rapidly capture the complete state of complex multimachine test configurations and redeploy that state, at will, to a set of managed servers.

Results

- Achieved a 10:1 server consolidation ratio, with 10 virtual machines running on each physical server's 16GB of memory
- Cut setup time of previously conducted complex tests from about eight hours to only a few minutes
- Saved two hours per person, per build using Build Verification Testing automation
- Reduced costs immediately by retiring older Pentium and rack servers
- Projected additional savings—from the current \$1,100 per virtual machine to less than \$500—by expanding the project for 2008
- Managed a large portfolio of both fenced and unfenced deployment configurations (fencing lets multiple users deploy configurations simultaneously, without having to change machine settings such as IP addresses, MAC addresses and security IDs)
- Created rapidly deployable standard configurations and disk images
- Reduced time required for testing saved states, including testing clean operating-system installations, upgrades, prior builds and bug fixes; lowered build-verification testing by two hours per person per build