

# Automate and accelerate your test and development cycles to get better products to market faster.

VMLogix LabManager™ unifies and automates the management of virtual lab IT infrastructure so that enterprises, SMBs and ISVs can develop, test and support software more quickly, cost-effectively and reliably. VMLogix LabManager simplifies and accelerates software delivery by letting teams easily build, share and deploy production-like environments across Citrix, Microsoft and VMware virtualization platforms.



#### **Lower cost**

Dramatically reduce the cost of software delivery and support through consolidation and on-demand self-serve provisioning and usage of lab IT infrastructure.

#### **Faster cycles**

Shorten time to market and turnaround times to customers by centralizing access to prebuilt production-like environments, and by automating the set-up and tear-down of test and development environments.

#### **Better quality**

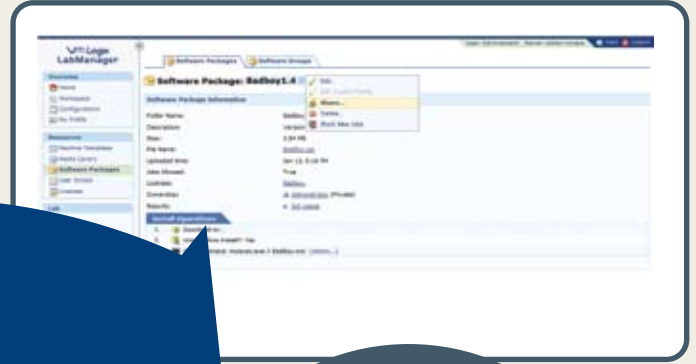
Improve software quality by automating manual and error-prone build and test processes, maximizing test coverage and reducing time to detect and reproduce errors.

#### **Increased productivity**

Maximize collaboration and productivity of distributed development, test and support teams by making production-like environments visible and shareable across the enterprise.

#### **Manage sprawl**

Control the proliferation and use of virtual machines by centrally managing virtual machines in the lab, including re-using virtual machines and retiring those that are not utilized often enough.



- Create a comprehensive library of production-like environments
- Automate and build on-demand a complete software stack of operating system, applications and data
- Install applications, run commands, execute scripts and manage all aspects of the environment



- Prevent virtual machine sprawl, ensure repeatability of delivery processes and ensure compliance of configurations across teams by sharing, replicating and synchronizing configurations among multiple locations and outsourcing partners
- Maximize utilization and minimize redundancy by sharing server, network and storage lab infrastructure among distributed teams



- Multi-machine configurations can be instantly deployed and synchronized in a completely secure, isolated and network fenced environment
- Enforce self-service policies, quotas and permissions, but also optimize deployments for maximum performance with dynamic pooling of virtual infrastructure and load balancing



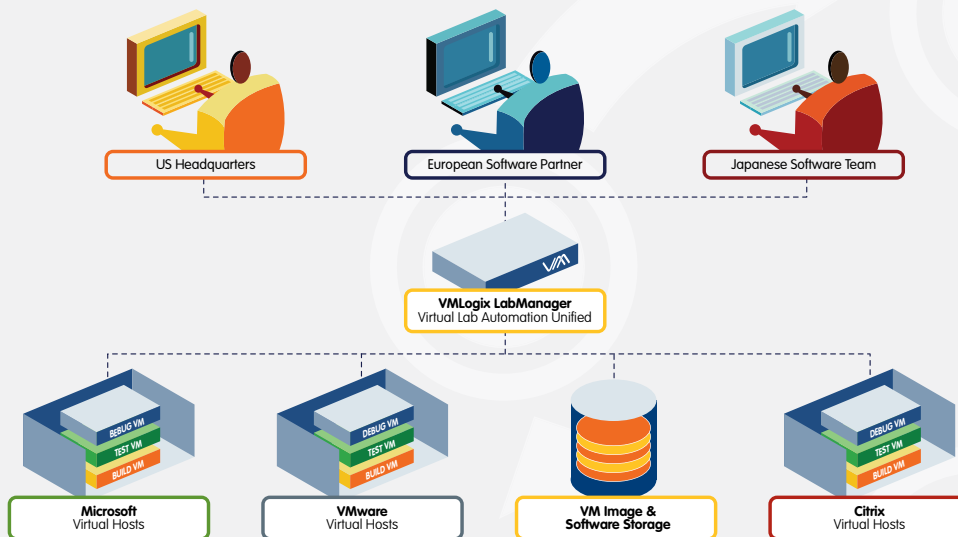
## Improve your Lab Management Process with VMLogix LabManager

### Lab Administration Benefits

- Monitor and maintain a comprehensive view of your lab resource utilization
- Optimize your storage utilization by leveraging differential image storage technology. Use LabManager to flexibly map storage to LabManager hosts
- Centralize your lab operations from multiple sites and allow multiple users & teams to access the lab infrastructure using a web management console
- Setup and enable lab user management for user access control to lab resources, software licenses, storage and so on
- Setup user quotas and policies to bound each user's access to lab resources
- Enable lab security and maintain audit-trails of users accessing the lab and/or making changes made to lab resources
- Leverage LDAP/AD OUs configured and map LDAP/AD users to the lab management system
- Leverage powerful reporting functionality to view lab performance

### Lab User Benefits

- Self-serve your lab requirements and create multi-machine configurations on demand
- Leverage LabManager product integrations with leading source control, build and test execution tools. Use the API to extend LabManager functionality for your custom requirements
- Create and deploy synchronized multi-machine configurations
- Entirely automate multi-machine configurations – including the process of setting up software stacks on guest operating systems, script execution, setting environment variables, executing commands and so on
- Collaborate with other lab users and share lab artefacts with appropriate permissions scoping (view/edit/delete)
- Execute multiple instances of the same configuration without IP/MAC or Windows SID conflicts
- Revert back to a 'clean' configuration with a single mouse click
- Capture flash movies of running guest OS consoles



### The Challenge

### Impact On

### VMLogix LabManager Solution

Sprawl of physical and virtual machines and machine images	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Consolidate and manage lab infrastructure, share pooled resources, set usage policies and quotas
New applications, upgrades and fixes that break production systems	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Test production changes in production like environments before deploying them
Resource-intensive and time consuming setup and teardown of multi-machine lab environments	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Automate deployment of multi-machine environments across virtual and physical machines with simple clicks, in a matter of seconds
Hand-offs between distributed development, test and support teams lengthen release cycles and decrease agility and responsiveness to customers and end users	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Accelerate application development cycle times by providing all users with self-service access to lab infrastructure
Exploding interoperability and test matrices	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Automate building of machine images and multi-machine test configurations, centralize storage of these images and configurations so that time can be spent on functional, integration and system testing instead of setup and teardown of environments
Time consuming troubleshooting of defects and customer production issues	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Make production-like environments available on-demand, allow capture of defects and movies detailing reproduction steps

Legend:  IT  Development  Test  Support

## Features

### Virtualization Support

Use industry leading virtualization platforms from vendors such as Citrix, Microsoft and VMware.

### Image Builder

Build and re-build multi-machine test configurations on-demand without manual user intervention.

### Build and Test Automation

Automate build and test execution by leveraging advanced configuration of software, tools, scripts and data at the guest operating system level.

### Self-service Web Management Console

Allow distributed development teams to easily create, manage, share and deploy build and test configurations based on self-service policies, quotas and user permissions.

### Global Multi-Site Development Support

Replicate, synchronize and share configuration libraries among multiple teams, locations and outsourcing partners. Use fine-grained access controls to scope resource ownership by user, team, business unit, or company.

### Remote Multi-Machine Console Viewers

View and interact with multi-machine test environments using VNC in a single browser window or Microsoft Remote Desktop.

### Automation APIs

Integrate LabManager with existing tools and programmatically control all operations using XML/RPC and command-line interfaces.

### Synchronized Multi-Machine Deployments

Deploy and synchronize multi-machine test scenarios without user intervention. Launch, suspend, resume, snapshot, revert, reset, shutdown, capture and share these deployments as a single encapsulated unit.

### Shared Snapshots

Capture and share (with scoped permissions) "live" multi-machine configurations from the configuration library. Captured configurations preserve memory and CPU state and can be redeployed instantly.

### IP Zones

Allow multiple users to safely deploy concurrent copies of suspended multi-machine configurations without changing MAC addresses, static IP addresses or Windows SIDs.

### License Management

Monitor and enforce compliance of software and operating system license usage on build and test machines.

### Differential Image Storage

Make the most of shared storage with advanced compression algorithms. Optimize storage of virtual machines using linked clones and differential disks.

### Software and ISO Library

Build and share (with scoped permissions) a central repository of operating systems and software media for easy provisioning into virtual machines.

### Security Controls and Audit Trails

Ensure system integrity with strict authentication, role-based access control and comprehensive audit trails.

### User Management

Define roles and personas and associate users with a specific role/persona. This determines the product UI and functionality that is available to the user upon login.

## Product Integrations

VMLogix LabManager has out of the box integrations available with the following:

### Source control tools

IBM Rational ClearCase, CVS, Subversion

### Build tools

IBM Rational Build Forge, Ant, Maven

### Test Execution tools

IBM Rational ClearQuest TestManager, HP Quality Center

Automation API to programmatically control all operations using XML/RPC and command line interfaces.

### Software requirements

- Microsoft Windows Server 2003 SP2
- Microsoft Internet Explorer 6.0+, Firefox 1.5+
- Cent OS 5.1/5.2

### Virtualization platform support

- Citrix XenServer 4.1
- Microsoft Virtual Server R2 SP1
- VMware Server v1.0.3
- VMware ESX v3.0.X
- VMware ESX v3.5
- Microsoft Hyper-V

### Memory requirement

- 4+ GB each for the LabManager server and host(s)

### Storage requirement

- 40+ GB for the LabManager server
- 200+ GB for each of the hosts