

Automate, Optimize and Manage Test Labs Effectively

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The Rational Software Conference

Let's **build** a smarter planet.

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Agenda

- Test Lab Management Challenges
- Rational Test Lab Manager Overview
- Demo
- Q & A



Market Impact on Business Innovation

Delicate balance for CIOs

Market Pressures

- IBM CEO studies of 2006 & 2008
 - ▶ Tremendous drive for *business transformation and change*
 - ▶ Increasing gap between expectation of change & organization's history to manage it
- Recent global "Secular Bear Market" may take years to recover
- Survival means drastic changes in expenditures



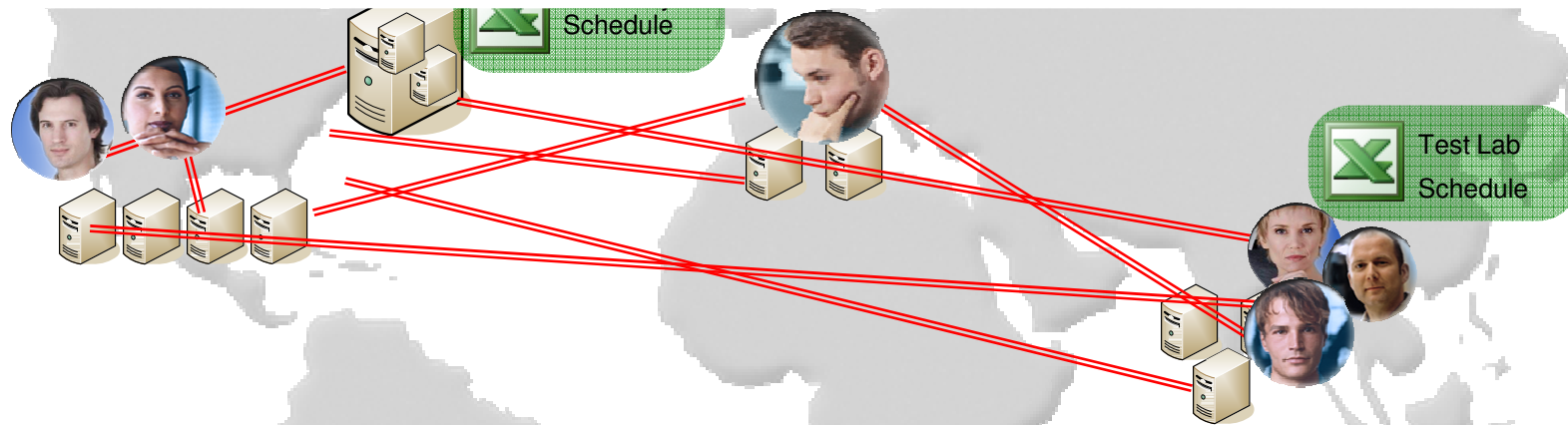
Advice

- Manage what you can control – economy is not one of them
 - ▶ Spending – where it counts for long term growth
 - ▶ Growth & Earnings Assumptions – don't trust your models
- Focus on quality
- Reduce debt

Sources: Sequoia Capital Report Oct 2008 & IBM CEO Study May 2008

Test lab management is a hidden cost center

Test lab sprawl and ad-hoc processes are costing organizations



Problem

Managers don't have full visibility or control of their test lab

*Testers are spending **40%** of their time searching for or building new lab machines*

Test lab managers need multiple tools for managing virtual and physical lab assets



Business Impact

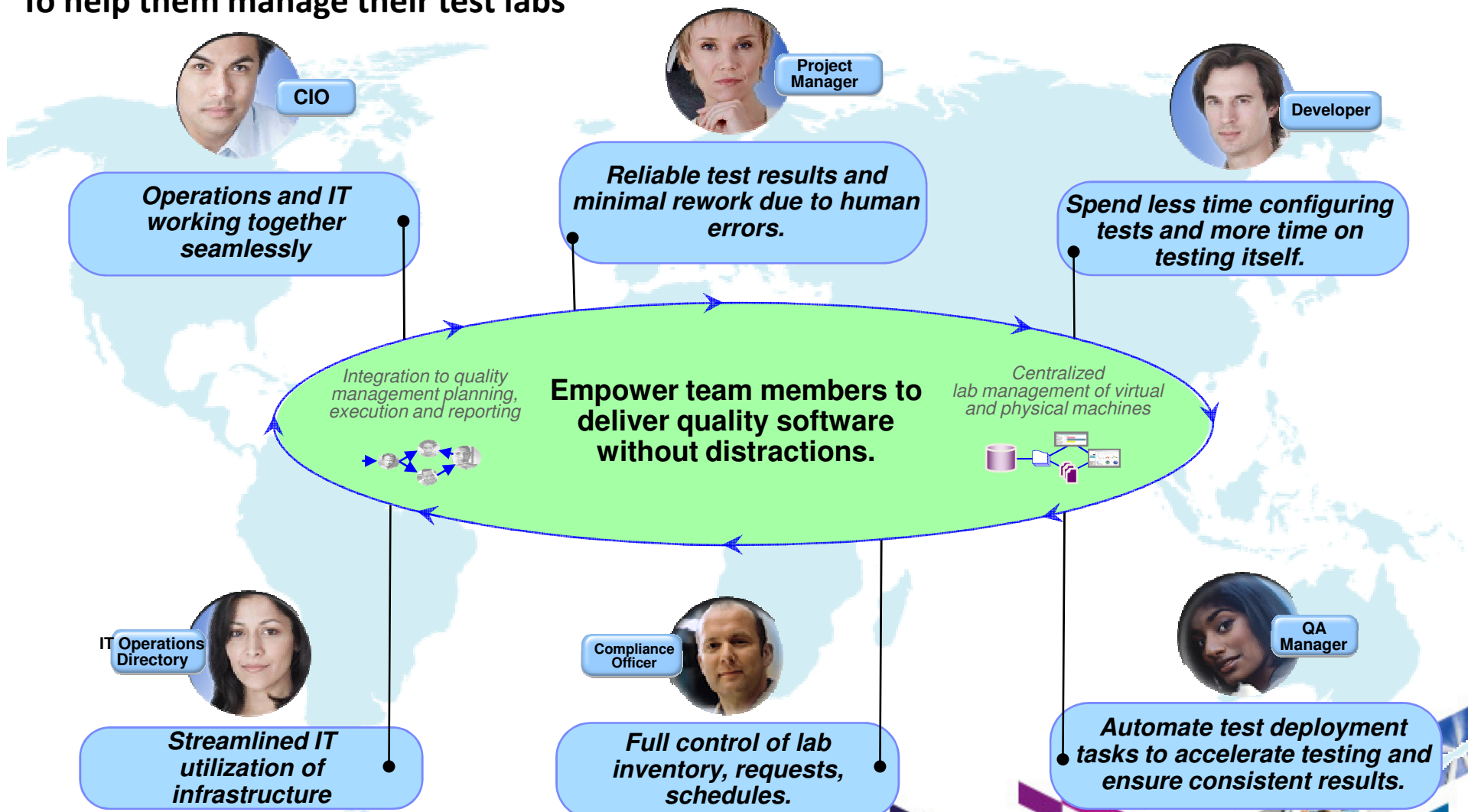
Test lab sprawl leads to spiraling cost of test infrastructure

Slower delivery and diminishing quality of software

Increased overhead cost of keeping track of lab assets and schedules



What customers want... To help them manage their test labs



Why Test Lab Management?

- Quality is paramount
- Testing is vital to understand quality
 - Application complexity
 - Multiple platforms and environments
 - Globalization
 - Multi-cultural support
- Changing trends
 - Virtual Environments
 - Cloud labs
 - Off-shore test lab



A Day in a Life of a Lab Administrator



Presentation
Layers/Clients

Application
Servers

Database
Servers



Plan resources



Identify resources



Manage resources



Reserve resources



Automate resources



Utilize resources



Track Utilization



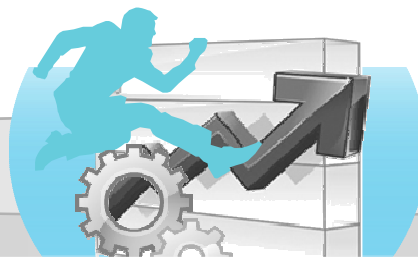
The goal: Predictability and consistency in software delivery

Process driven lifecycle collaboration, powered by automation, to govern software quality



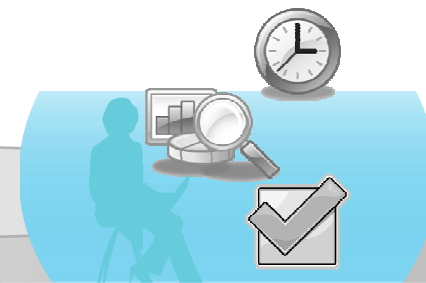
Collaborate

Collaborative, continuous, and comprehensive information sharing reduces defects and increases customer satisfaction



Automate

Automating labor-intensive activities reduces time-to-market and increases predictability and consistency to improve return on investment



Report

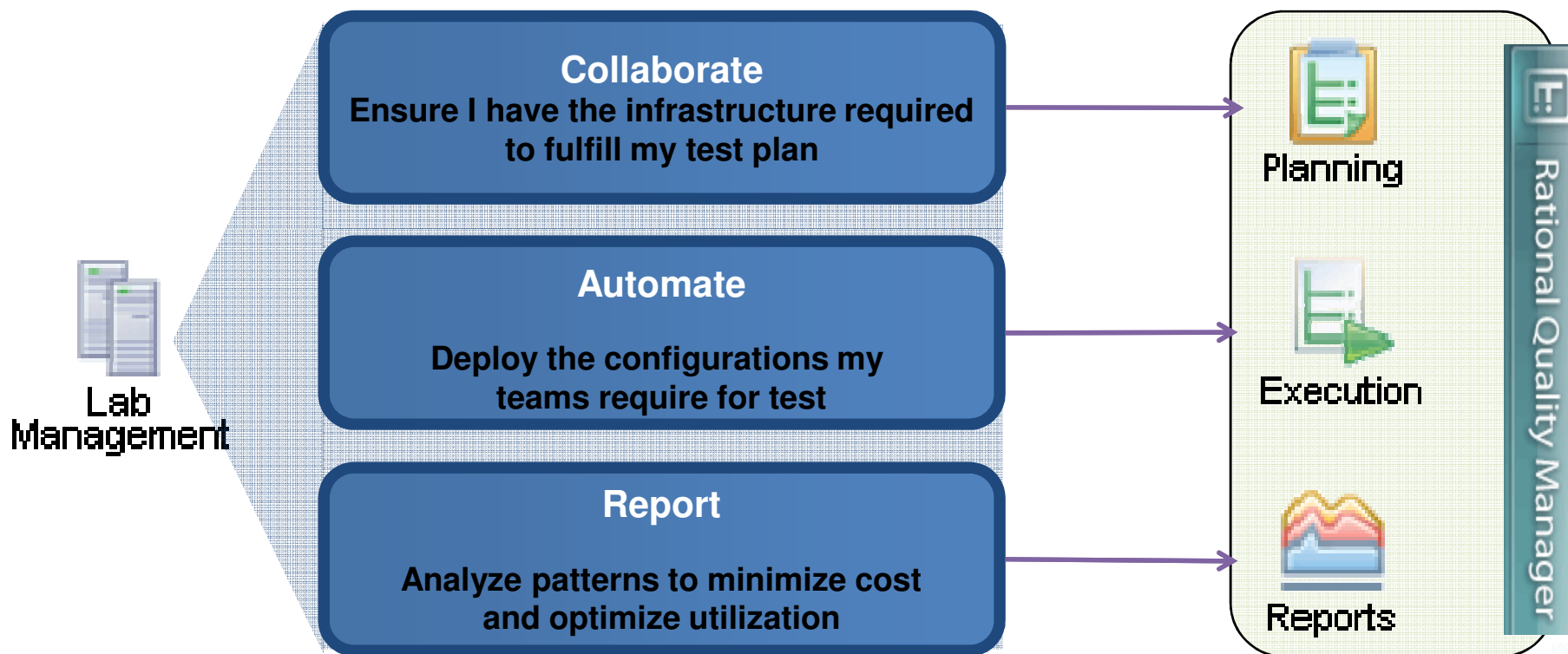
Moment by moment understanding of software quality and project metrics for immediate corrective action and release decisions

jazz TEAM SERVER



IBM Rational Test Lab Manager

Integrate test lab activities into the Quality Management lifecycle



Configuration aware testing

Test the right cases instead of everything. Plan optimal execution

**800 Total
Combinations**



**10 different
CPU Types**



**DB2
Oracle
MySQL
Derby**



**Windows XP
Win XP SP2
Win Vista
SLES 10
Win 2003**



**Pairwise
Optimizations**

**Less than
20 Combinations**

OS	Browser	Protocol	CPU	DBMS
XP	IE	IPv4	Intel	MySQL
XP	Firefox	IPv6	AMD	Sybase
XP	IE	IPv6	Intel	Oracle
OS X	Firefox	IPv4	AMD	MySQL
OS X	IE	IPv4	Intel	Sybase
OS X	Firefox	IPv4	Intel	Oracle
RHL	IE	IPv6	AMD	MySQL
RHL	Firefox	IPv4	Intel	Sybase
RHL	Firefox	IPv4	AMD	Oracle
OS X	Firefox	IPv6	AMD	Oracle

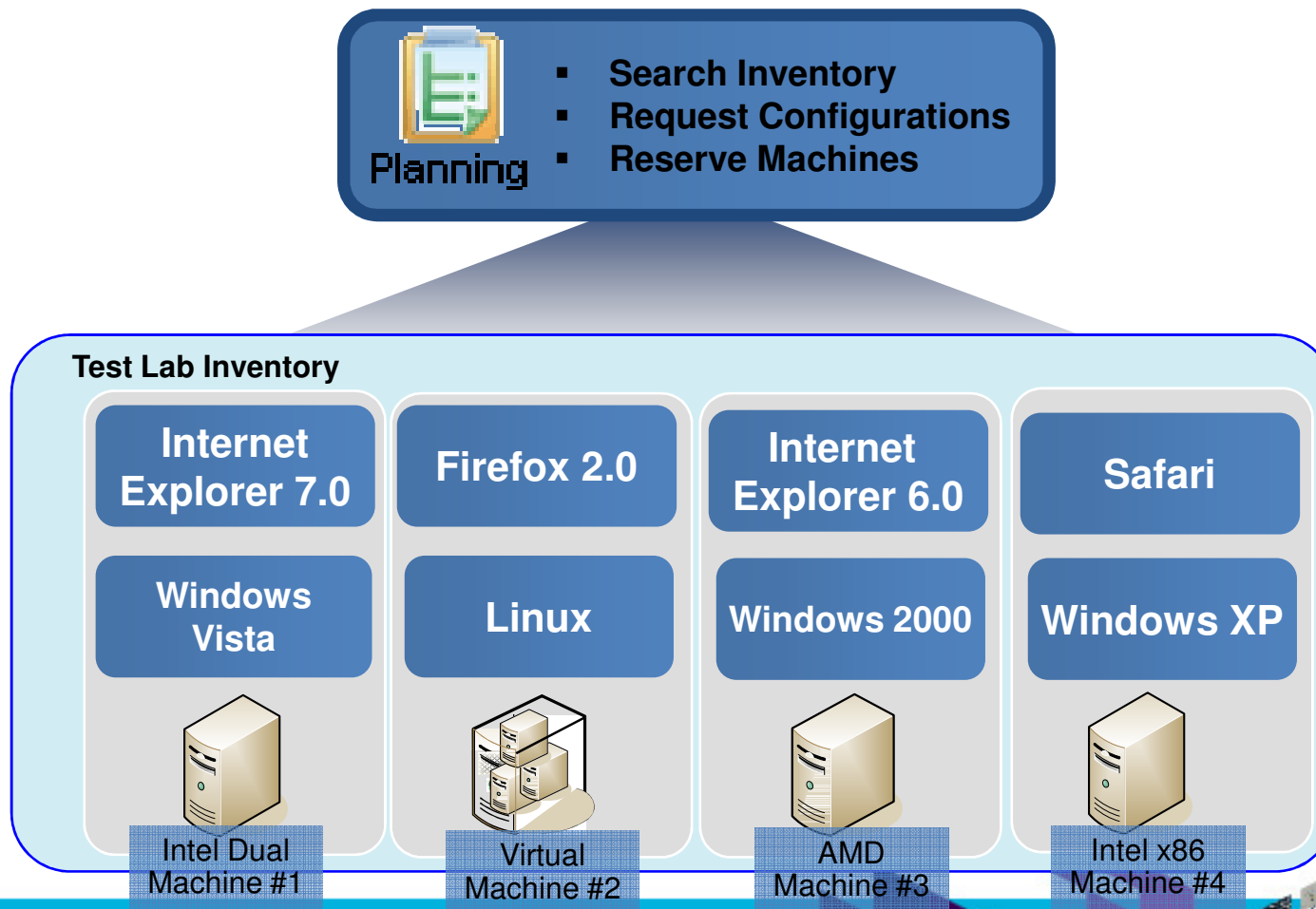
Configuration

**Plan for test
awareness
execution across**

**all of your target
environments**

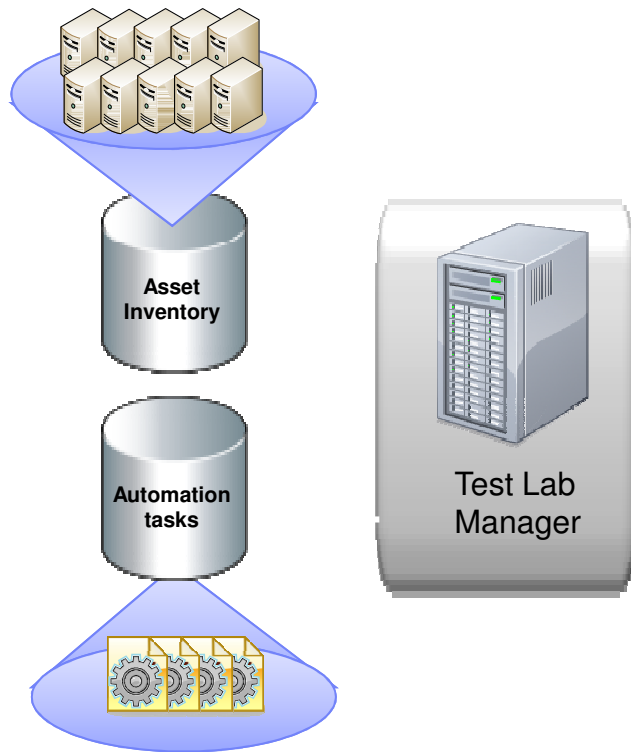
Collaborate: Request, Reserve and Schedule

Staff can search inventory by hardware, operating system and software

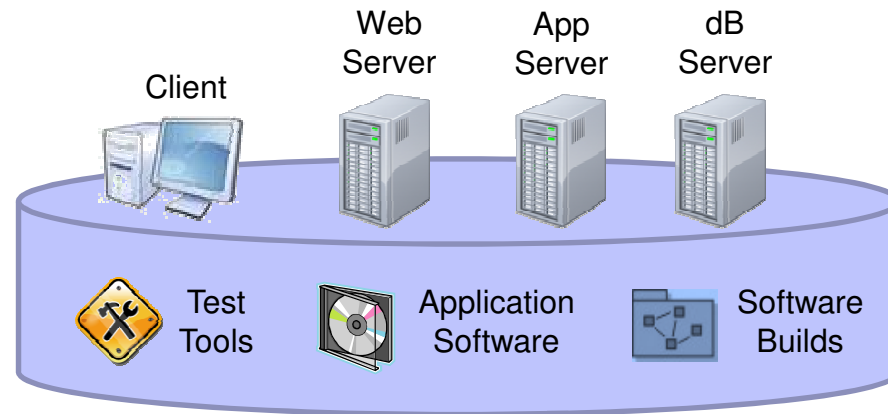


Test Lab Management: Accelerate Test Cycles

Quickly deploy a test environment to verify the latest build



1 Quickly locate and reserve test machines

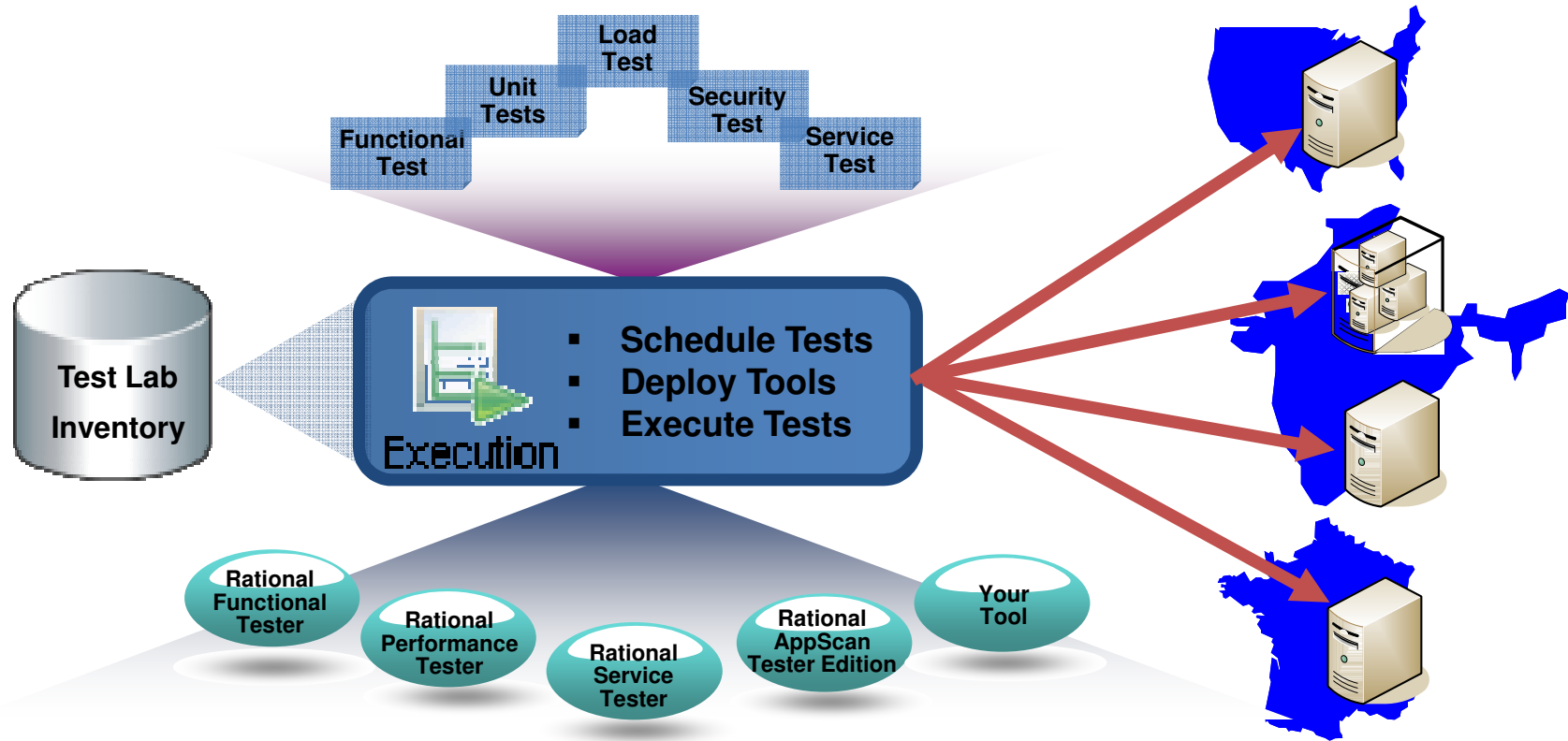


2 Automatically install or update test and application software



Automate: Deployment of tests and tools

Progressing toward autonomic testing



Report: Visibility of lab inventory, usage and schedules

Reports

- Inventory
- Requests & Reservations
- Schedule
- Utilization



▼ Lab Manager (1 - 5 of 5)

<input type="checkbox"/>		Lab Resource Utilization	Lab resource utilization in machine groups
<input type="checkbox"/>		Requests by State	Requests by State
<input type="checkbox"/>		Request Response Time	Average request response time by user
<input type="checkbox"/>		Machine Free Time Rate	Free time rate per machine
<input type="checkbox"/>		Total Reservations by Machine	Total reservations length by machine

Requests

View: All Unassigned

Show All Items per page Previous | 1 - 1 of 1 | Next

ID	Summary	Created	Respond By	Assigned To	Priority	Status
1	Need Lab Machine for testing Firefox on Vista Ultimate	32 minutes ago	Sep 23, 2008			

Reservations

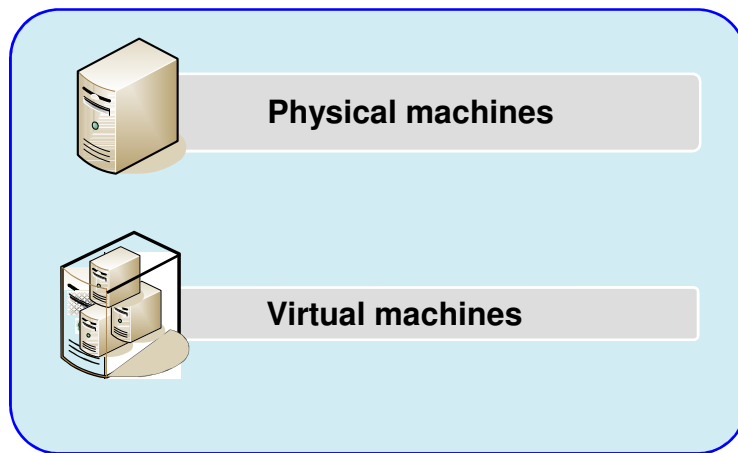
View: All My Reservations

Show All Items per page Previous | 1 - 3 of 3 | Next

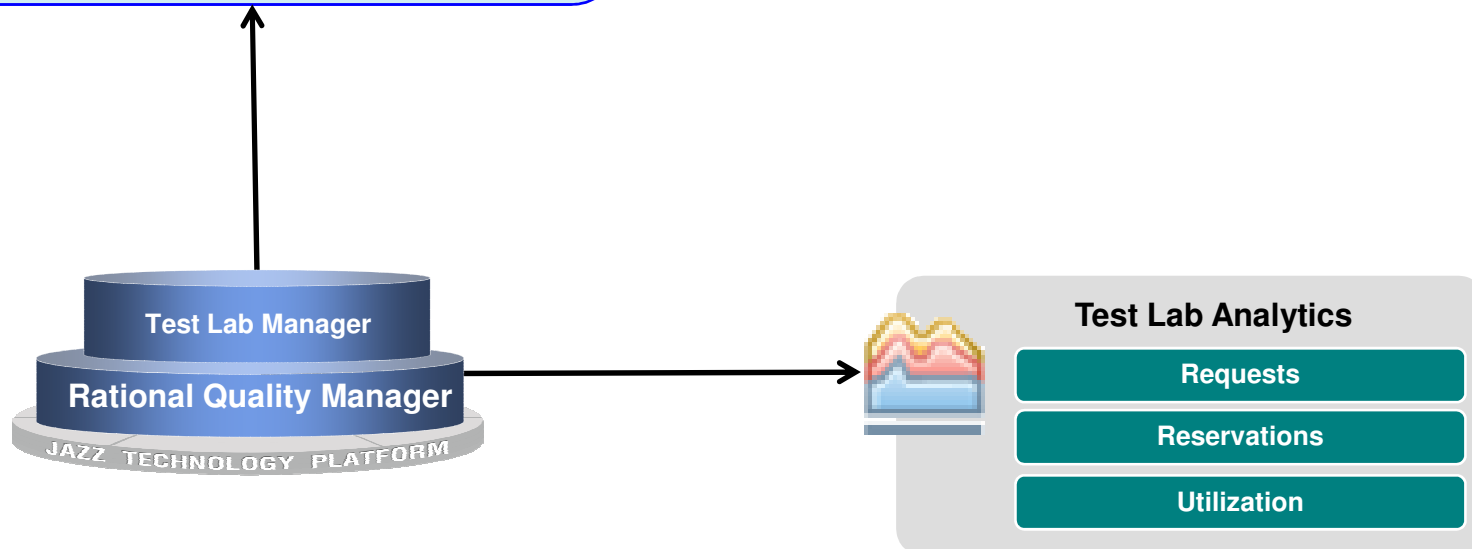
ID	Machine	Start Date	End Date	Request ID	Request Status	Assigned To
1	Standard Internet Explorer 6.0 Image	11 hours ago	Sep 18, 2008			
2	Customer IE 6 Windows XP Image	11 hours ago	Sep 18, 2008			
3	Windows Vista with Firefox Customer Test Image	Sep 19, 2008	Sep 19, 2008			



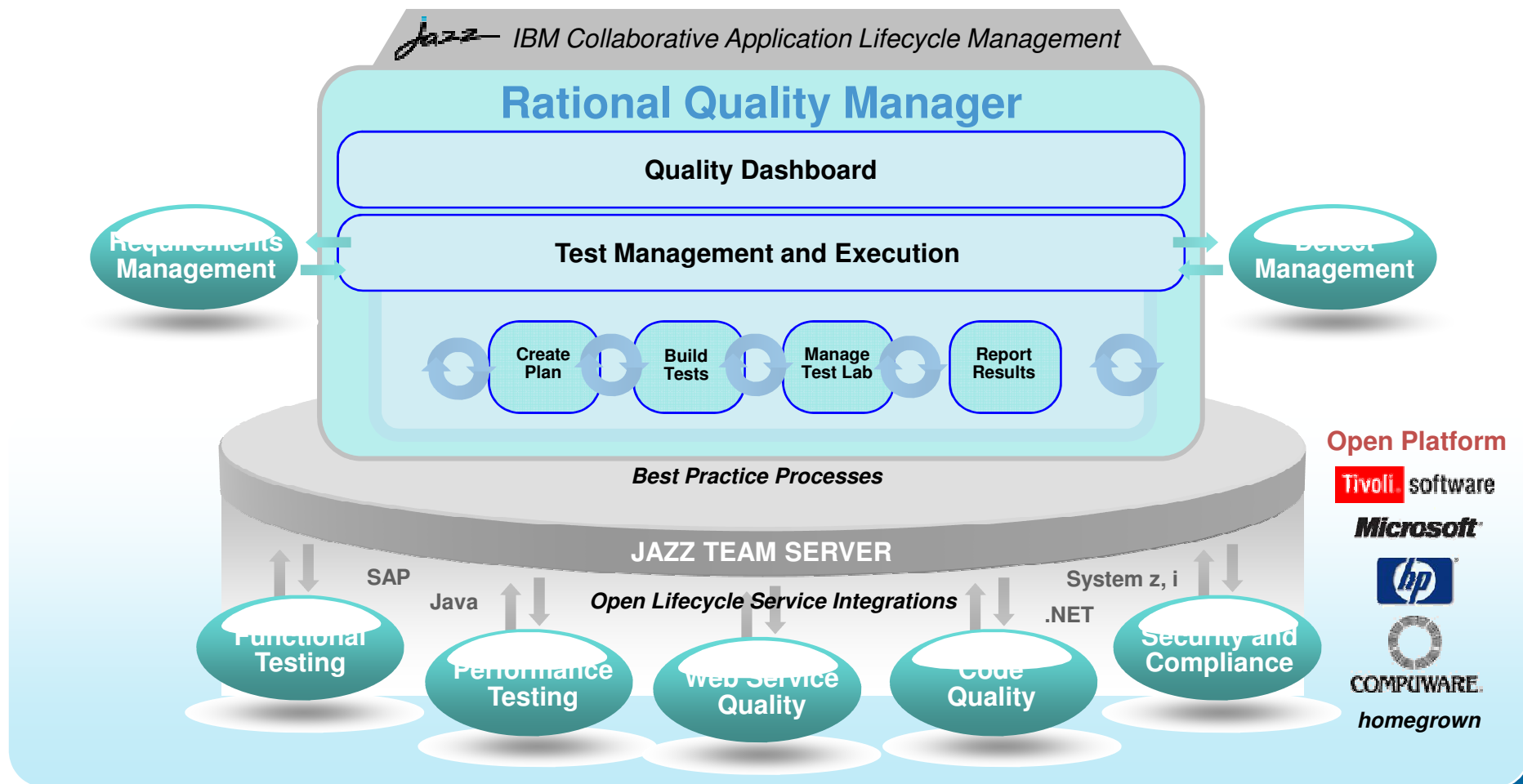
Collaborate: Comprehensive lab management



- Track the state and availability of lab resources
- Integrate virtual machines into the lab inventory
- Create resource pools to control access to critical resources



Centralized test management hub allowing full lifecycle support across all types of testing and platforms



Rational Test Lab Manager Delivers

Streamlined test lab management reduces costs and accelerates testing

QA
Manager



Reduce test lab overhead by 75%

- Integrate lab management with your quality management process
- Fuel reuse by centralizing the inventory of virtual and physical machines and their configurations

Operations
Manager



Reduce test infrastructure costs by 50%

- Analyze usage patterns to optimize lab utilization and capacity plan
- Centralize inventory and remove redundant configurations
- Integrate with provisioning and discovery solutions to realize autonomic test lab management

Tester



Improve tester productivity by 40%

- Quickly find machines in the central repository based on hardware, operating system or installed software
- Self-service test requests and scheduling of test lab assets
- Automatic generation of test cases based on test lab configurations

Source: IBM estimates

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DEMO

Let's build a smarter planet.





IBM

Thank You