Performance management for the J2EE™ platform

Introducing Borland Optimizeit™ ServerTrace

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Agenda

- **The importance of performance management for J2EE systems**
- **Critical business need for managing J2EE performance**
- **Implementing an effective performance management strategy for J2EE**
- **Borland solution for streamlining J2EE performance management**

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The importance of performance management for J2EE systems

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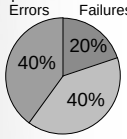
The real cost of business downtime

Verio
July 2000: Router problems affected 1,200 hosted Web sites for more than five days
Cause: Operator error
Cost: Free month of service to users; actual cost much greater in terms of lost sales

AT&T
13 April 1998 outage: Six to 26 hours
Cause: Software upgrade
Cost: $40 million in rebates
Forced to file SLAs with the FCC (frame relay)

eBay
12 June 1999 outage: 22 hours
Cause: Operating system failure
Cost: $3 million to $5 million revenue hit, 26 % decline in stock price

Causes of unplanned application downtime



Charles Schwab & Co.
24 Feb 1999 to 21 Apr 1999: Four outages of at least four hours
Cause: Upgrades/operator errors
Cost: Unknown; company announced that it had made a $70 million new infrastructure investment

Dev. Bank of Singapore
1 July 1999 to August 1999: Processing errors
Cause: Incorrect debiting of POS due to a system overload
Cost: Embarrassment/loss of integrity; interest charges

Hershey Foods
September 1999: system failures
Cause: Application rollout
Cost: Delayed shipments; 12 % decrease in 3Q99 sales; 19 % drop in net income from 3Q98

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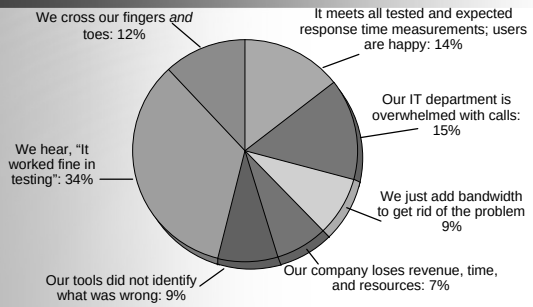
What happens when you roll out a new application?



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Critical business need for managing J2EE performance

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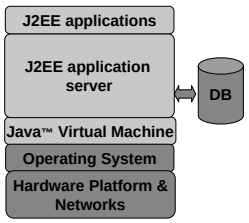
J2EE platform – solid technology but presents performance challenges

- **J2EE technology**
  - De facto standard for 65-75% enterprises worldwide *
  - Most enterprises are either in development stage or in QA testing
- **J2EE system**
  - Multi-tiered and multi-layered
  - System performance management is needed throughout the process



J2EE system architecture

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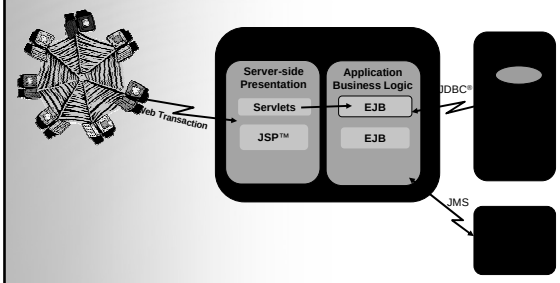
Complexity of Performance Management for J2EE



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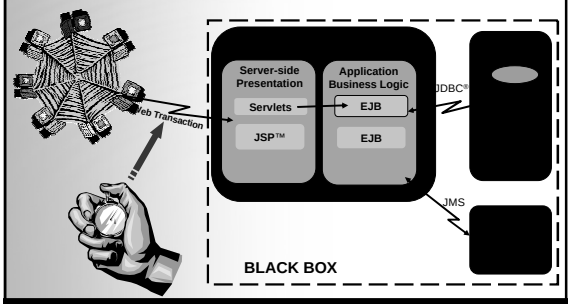
Need to look inside the black box



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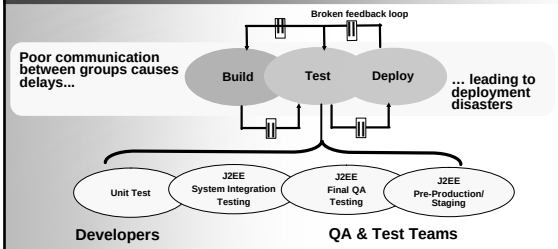
J2EE system performance management is often fraught with process inefficiencies



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Time consuming, inefficient process

Fixing J2EE system performance issues is often a costly, time-consuming process that reduces time to market:

"The average time of resolving a performance problem from the time the trouble ticket is pulled is 25.8 hours"

- Manage Java apps for premium performance, Newport Group Inc, January 2003

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Implementing an effective strategy for J2EE performance management

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J2EE system performance needs

- Visibility inside the J2EE "black box"
- Easy-to-understand performance information
  - High-level component information
  - Code-level granularity to pinpoint root cause
- Meaningful system diagnostics information that test engineers can pass to developers for action
- Accurate feedback so developers can locate and fix issues

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Iterative performance testing

- Profile code early in development to catch issues
- Review the effect of code changes on performance
- Requires method-level granularity

- View performance of the entire J2EE system
- Perform load testing
- See effect of load on the system
- Establish performance baseline

- Minimize performance problems by proactively managing performance
- Isolate and pinpoint problems
- Identify performance behavior trends

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The right tool for the right team

- Developers need VM-level information to identify performance issues at the code-level related to threads, objects, Java methods, memory leaks in the code, etc.
- Test teams need system-level performance information to understand J2EE system performance issues at the component level related to Web pages, business logic, messaging, and database connectivity
- Complete compatibility between code-level performance tool and J2EE performance tool makes it easier for developers to switch between tools to resolve performance issues efficiently
- Unambiguous, actionable diagnostics information about performance problems is essential for quick time-to-resolution

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Steps to effective performance management

1. Invest in performance management software
2. Implement performance management throughout the application lifecycle
3. Tighten application lifecycle processes

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Borland Solution: Optimizeit™ ServerTrace

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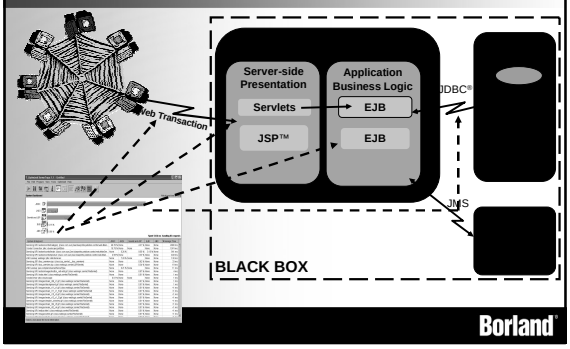
Looking inside the black box



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Borland® Optimizeit™ ServerTrace

Optimizeit ServerTrace delivers end-to-end performance management for J2EE applications:

- System Dashboard
- Component Health Views
- Automatic Application Quality Analyzer
- Diagnostic snapshots and XML reporting

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Features and Benefits

- **J2EE System Dashboard**
  - **Provides a single J2EE centric overview**
- **Component Health Views**
  - **Detailed view of all J2EE components including EJB™, JDBC®, JMS, JSP™, JNDI, Java™ Virtual Machine**
- **Automatic Application Quality Analyzer**
  - **Catch problems before they occur using predictive analysis capabilities**
- **Diagnostic snapshots and XML reporting**
  - **Communication framework for test teams and developers to achieve quick resolution of problems**

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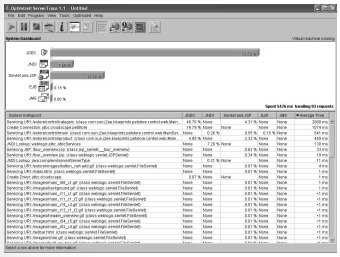
The System Dashboard

Easy-to-understand performance data quickly diagnoses J2EE system bottlenecks



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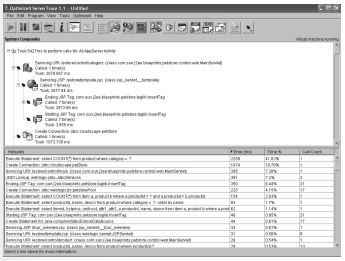
System Composite

Drill-down capabilities make it easier to pinpoint the exact cause and location of J2EE performance bottlenecks



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Value Proposition

- **Business Benefits**
  - **Reduce time to market, improve productivity, and minimize production disasters**
    - Improve technical and organizational efficiency for solving performance problems
    - Maximize ROI in hardware and software investments
    - Meet or exceed SLA targets
- **Streamline performance management**
  - **Quick isolation of J2EE system performance issues with relevant diagnostics information:**
    - enables appropriate development group to quickly fix problems
    - eliminates finger pointing between groups
    - supports test groups in delivering higher value

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ROI Benefits

"At Digital Rum, J2EE performance is mission critical. Thanks to Optimizeit ServerTrace we were able to increase our performance throughput between 2 and 4 times and solve problems that previously took over a day in just 15 minutes! By testing our applications in staging we are able to deploy with the confidence that everything is behaving as expected – if you are serious about J2EE performance, this is a must-have tool!"

- Mike Mason, Head of Infrastructure, Digital Rum

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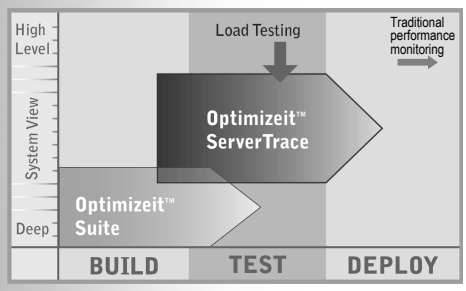
Optimizeit ServerTrace positioning



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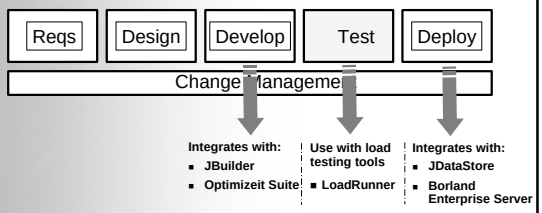
Application Lifecycle Fit



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Summary

- Poor performance impacts business success
- Managing J2EE performance is complex
- Implementing an effective strategy
  - Invest in performance management software
  - Implement performance management throughout the application lifecycle
  - Tighten application lifecycle processes
- Borland Optimizeit ServerTrace provides a comprehensive solution

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