On Demand Insurance Business Problems

1. We lose customers because we process new policy applications too slowly.
2. Our claims processing is time-consuming and inefficient.
3. We need to do a better job of attracting new customers.
4. We need our employees to be more productive.
5. We need to grow revenue in existing accounts, and by partnering.
6. Our development teams are always behind schedule and over budget.
7. We need to gain maximum efficiency out of our IT infrastructure.

On Demand Insurance CEO
Efficient End-to-End Application Management with IBM Tivoli

- **Monitor IT Resources**
  - Monitor IT resources and correlate events to isolate, pinpoint and resolve problems automatically
    - IBM Tivoli Enterprise Console
    - IBM Tivoli Monitoring Family
  - **Monitor Applications/Business processes and Service Level Agreements**
    - Define business systems view and service levels to meet business objectives
      - IBM Tivoli Business Systems Manager
      - IBM Tivoli Service Level Advisor
  - **Monitor and Diagnose Transactions**
    - Resolve end-to-end application transaction problems before they affect end-users
      - IBM Tivoli Monitoring for Transaction Performance
      - IBM WebSphere Studio Application Monitor

Monitoring – Agent-based Vs. Agentless

**Agent-based Monitoring**
- Agent runs locally on the managed machine
- Minimal network traffic as data collected locally
- Monitoring very accurate as network failure doesn’t affect management
- No dependencies among managed machines
- Local intelligent agent can take automatic corrective action
- Agent installed on every machine

**Agentless Monitoring**
- No agent on the managed machine; monitoring done remotely via polling
- Constant polling results in increased network load
- Network failures can result in falsely showing managed machine being down
- Machine managing various resources is the single point of failure
- Very difficult to implement corrective actions without any local context
- No agent to deploy but isn’t necessarily simpler to deploy or less costly
IBM Tivoli Monitoring -- Intelligent Agent Enables Efficient Resource Monitoring

- Single, common agent for capturing all metrics
- Correlates metrics from multiple subsystems
- Identifies, notifies, cures problems at the source
- Provides out-of-the-box “best practices”

Tivoli Can Monitor a Broad Environment of Resources

Operating Systems:
- Unix, Linux, Solaris, Windows, OS/400
- Filesystems
- CPU
- Processes
- Network
- Memory
- Security

Databases:
- IBM DB2
- Oracle
- IBM Informix
- MS SQL Server
- Sybase

Messaging and Collaboration:
- IBM Lotus Domino
- Microsoft Exchange

Applications:
- MySAP.com
- Siebel

Web Infrastructure:
- IBM WebSphere
- MS .NET Runtime
- Apache
- MS Internet Information Server
- MS Internet Security & Acceleration Server
- iPlanet
- BEA WebLogic

Portal and Commerce:
- MS SharePoint Portal Server
- MS Commerce Server

Business Integration:
- IBM WebSphere MQ
- IBM WebSphere Business Integration
- MS BizTalk
- MS Host Integration Server

Host:
- zSeries (OMEGAMON)
### Fatal Flaw for Mercury Business Availability Center

**Lack of agents!**
- Increased network load with constant polling -- remotely logs into system to gather information using: TELNET, RLOGIN, HTTP, SSH and NETBIOS
- Inaccurate monitoring – disruption of network has the same affect as target machine being down, no data
- No best practices
- Minimal corrective actions
- Security risks

*Critical systems need a smart agent that can sense even when the network is down and can take corrective actions!*

Source: IBM Competitive Project Office Research, 2005

### Monitoring – Competitive Landscape

<table>
<thead>
<tr>
<th>Feature</th>
<th>IBM</th>
<th>MERCURY</th>
<th>Microsoft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-purpose Single Agent</td>
<td>✔️</td>
<td>🚫</td>
<td>✔️</td>
</tr>
<tr>
<td>Persistency Checking</td>
<td>✔️</td>
<td>🚫</td>
<td>✔️</td>
</tr>
<tr>
<td>Multiple Metrics Analysis</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Local Correlation</td>
<td>✔️</td>
<td>🚫</td>
<td>✔️</td>
</tr>
<tr>
<td>Heterogeneous platform support</td>
<td>✔️</td>
<td>✔️</td>
<td>🚫</td>
</tr>
<tr>
<td>Best Practices</td>
<td>✔️</td>
<td>🚫</td>
<td>✔️</td>
</tr>
<tr>
<td>Firewall Friendly</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Security</td>
<td>✔️</td>
<td>🚫</td>
<td>✔️</td>
</tr>
<tr>
<td>Scalability</td>
<td>✔️</td>
<td>🚫</td>
<td>✔️</td>
</tr>
<tr>
<td>Monitoring Accuracy</td>
<td>✔️</td>
<td>🚫</td>
<td>✔️</td>
</tr>
</tbody>
</table>

**LEGEND**
- 🚫 No Function
- ✔️ Function
- 🚫 Weaker Function

Source: IBM Competitive Project Office Research, 2005
Automatic correction of events is faster than human correction of events.

In order to correct the problem, you need to know the root cause.

Cause and effect events typically flood the monitor console; automatically selecting the root cause event is necessary to enable automatic correction.

Event correlation is the solution to this problem.

Example: Monitoring without Event Correlation

1. Database goes down
2. Error connecting to the database
Monitoring without Event Correlation

What's the root cause of all of these events?

Example: Monitoring with Event Correlation

1. Database goes down
2. Error connecting to the database
Example: Monitoring with Event Correlation

Update events in console

Classify events as “Cause” and “Effect” events

Pre-defined event correlation rules

Pre-defined resource associations

Error connecting to the database

Database goes down

Database

Application Server 1

Application Server 2

Example: Monitoring with Event Correlation and Automated Corrective Action

Condition
Clear events

Apply corrective actions automatically

“Restart database”

Application Server 1

Application Server 2
DEMO: Monitoring with Event Correlation and Automation

IBM Tivoli Enterprise Console with Event Correlation

Correlated events classified into cause and effect events

IBM Tivoli Enterprise Console with Event Correlation and Automation

Automated restart of database prompts previously correlated WebSphere and DB2 events to be cleared from the console

Fatal Flaw for Mercury Business Availability Center and Microsoft Operations Manager

No event correlation (root cause analysis) to intelligently pinpoint a problem!

Source: IBM Competitive Project Office Research, 2005
## Event Correlation - Competitive Landscape

<table>
<thead>
<tr>
<th>Feature</th>
<th>IBM</th>
<th>MERCURY</th>
<th>Microsoft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross System Correlation (Root-cause Analysis)</td>
<td>✓</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Automation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Filtering / De-duplication</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
</tr>
<tr>
<td>Network Events Correlation</td>
<td>✓</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Application/System Events Correlation</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
</tr>
<tr>
<td>Security Events Correlation</td>
<td>✓</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Console Usability</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Legend**
- No Function
- Function
- Weaker Function

Source: IBM Competitive Project Office Research, 2005

## Business Systems View and Service Level Agreements

**How can I make sure I'm delivering service levels needed to meet business objectives?**

**IBM Tivoli Business Systems Manager and IBM Tivoli Service Level Advisor** can help you...

On Demand Insurance CIO
Take Monitoring to the Next Level and Optimize for Business Value…

- Business applications/processes are enabled by multiple IT resources such as server, database, network and application components
- Business objectives are better met by monitoring business applications
- Business systems view groups IT resources into containers that represent business applications/processes
  - Improves ability to prioritize and determine business impact of events
- Service level management can define and track service commitments as viewed by the customer for a business application/process
  - Improves ability to predict service level trends to proactively manage service delivery

**Need Business Systems View and Service Level Agreements!**

Define Business View of IT Resources

What are the business views of critical applications?

- Apply for Policy
- Human Resources
- Customer Support
- Finance -- Payroll
- Claims Processing
- Networking Equipment
- Web Servers
- Application Servers
- Database Servers
- Other Resources
... Assess Business Impact of Resource Problems on Business

What are the business views of critical applications?

- Apply for Policy
- Human Resources
- Customer Support
- Finance – Payroll
- Claims Processing

What should I work on first?

- Networking Equipment
- Web Servers
- Application Servers
- Database Servers
- Other Resources

Tivoli Business Systems Manager

- Provides view of resources organized using Business System "containers"
- Ensures correct prioritization for problem management
- Provides business impact view of all resources affected by a problem resource
- Consolidates business impact information from multiple data sources
  - IBM Tivoli Monitoring family, TEC, NetIQ, BMC, CA, host system management products, etc.
- Allows administrators to take ownership of a given problem and update status
**DEMO: Business Systems View with Tivoli Business Systems Manager**

- Health view of critical business systems at a glance
- Detailed view of IT Resources in “Apply for Policy” business system

**Use Service Level Agreements To Measure Performance Against Objectives**

Service Level Agreements

- Apply for Policy
- Human Resources
- Customer Support
- Finance - Payroll
- Claims Processing

<table>
<thead>
<tr>
<th>Service</th>
<th>Networking Equipment</th>
<th>Web Servers</th>
<th>Application Servers</th>
<th>Database Servers</th>
<th>Other Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D2 - 13 E E Appl Management.ppt
Tivoli Service Level Advisor

- Define and record Service Level Agreements
- Proactively analyze trends and evaluate compliance of SLAs
- Send alerts for violations or trends toward violation (SNMP, Tivoli Enterprise Console, e-mail)
- Build end-to-end SLAs with data from multiple applications automatically discovered from the Tivoli Data Warehouse
- Accept data from various sources
  - IBM/Tivoli brand or virtually any application that provides performance or availability data

Tivoli Service Level Advisor Reports: Communicate IT Results

- Web-based reports for:
  - Executives
  - Operations
  - Customers
- Ready-to-use reports
  - SLA violations
  - Trends towards violations
  - Customer ranking
- Summary charts allow you to more quickly identify trouble spots
- Drill-down to detailed information
Fatal Flaw for Microsoft

No Service-Level Management!
- Cannot proactively analyze trends and evaluate compliance of SLAs
- Cannot identify and resolve service level issues before they impact the business

Source: IBM Competitive Project Office Research, 2005

Business Systems and Service Level Management – Competitive Landscape

<table>
<thead>
<tr>
<th>Feature</th>
<th>IBM</th>
<th>MERCURY</th>
<th>Microsoft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Business Systems View</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Service Desk agnostic</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>z/OS support</td>
<td>✔️</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>3rd party integration</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Predictive Service Level Management</td>
<td>✔️</td>
<td>✔️</td>
<td>✗</td>
</tr>
<tr>
<td>SLA Definition</td>
<td>✔️</td>
<td>✔️</td>
<td>✗</td>
</tr>
</tbody>
</table>

LEGEND ✗ No Function ✔️ Function ✔️ Weaker Function

Source: IBM Competitive Project Office Research, 2005
Resolve Transaction Problem Areas

Are transactions completing in a timely fashion?

User Experience

Claims Processing

Measure actual response times or simulate transactions to find problems before users

Networking Equipment

Web Servers

Application Servers

Database Servers

Other Resources

Transaction Monitoring

Transaction Decomposition

Transaction Deep Diagnostics

How do I fix it?

Tivoli Monitoring for Transaction Performance
Proactively Sense Performance Problems at the End User

Dashboard identifies transactions with response time problems

Click to see response time trend
Tivoli Monitoring for Transaction Performance
Quickly Isolate Problems

- Dynamic discovery of transaction topology
- Captures aggregate and/or instance data
- Baselines determine problem components
- Drill down to methods is available at low level trace
- Just-in-time instrumentation of J2EE application requires no modification to source code

Another click and problems are automatically identified by finding resources that are performing differently than normal

Client  Web Server  Application Server  Database

Fatal Flaw for Microsoft

No transaction management and diagnostics tools!

Source: IBM Competitive Project Office Research, 2005
**Transaction Performance Monitoring and Diagnostics – Competitive Landscape**

<table>
<thead>
<tr>
<th>Feature</th>
<th>IBM</th>
<th>MERCURY</th>
<th>Microsoft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction Simulation</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>End User Response Time Monitoring</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Web Services Transaction Support</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>End-to-End Transaction Decomposition With a single tool</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transaction Tracing across the network</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transaction Tracing into a Database</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic adjustment of rate of data captured</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Life Cycle Support</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LEGEND**

- ✗ No Function
- ✓ Function
- ✘ Weaker Function

Source: IBM Competitive Project Office Research, 2005

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**eBay**

**Business Challenge**
- Managing a fast-growing and dynamic marketplace that serves more than 75 million users worldwide

**on demand Business Benefits**
- Achieving greater efficiency in new service roll-outs, reducing new service development, reducing application downtime during rollouts
- Able to cost-effectively maintain high service levels with existing staff as growth skyrockets
- Helping maintain customer satisfaction through reliable service delivery
- Achieving rapid time-to-value through best practices

**Solution**
- IBM Tivoli Enterprise Console
- IBM Tivoli Monitoring Family
- IBM Tivoli Service Level Advisor
- IBM Tivoli Business Systems Manager

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"Because we've been able to automate management processes with IBM Tivoli software, we have been able to keep our availability high and manage more with the same staff. ... The IBM on demand automation roadmap will help us move to full-automation and gain new levels of resiliency, efficiency, responsiveness, and flexibility."

—Mark Hydar
Manager, Enterprise Management Systems
eBay
How Can You Be Ready… For What You Can’t See?

Thank You

- English: Thank You
- French: Merci
- Spanish: Gracias
- Portuguese: Obrigado
- German: Danke
- Italian: Grazie
- Russian: Спасибо
- Japanese: 多謝
- Hindi: धन्यवाद
- Tamil: இஸ்ரல்
- Polish: Dziękuję
- Traditional Chinese: 謝
- Simplified Chinese: 谢
- Korean: 감사합니다
- Thai: ขอบคุณ
- Korean: 감사
- Japanese: ありがとう

Rebecca: The anticipation commercial goes here