Trends and Directions in Application Performance Management

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PCTY2012
Pulse Comes to You

Optimizing the World’s Infrastructure
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Agenda

• Business Challenges
• Trends for APM
• How does IBM’s APM solution address these trends?
Businesses are facing unparalleled challenges

- Market conditions drive the need for **rapid rollout of new and enhanced business processes supported by applications**—without any disruption to critical application availability and performance that could result in revenue loss or negative brand image.

- More than **70% of CEOs** are seeking a better understanding of customer needs and improved responsiveness*. This need to **proactively manage change** continues to drive the importance of process effectiveness and efficiency**.

- **Cloud and virtualization provides flexibility, but**
  - Introduces lack of visibility into the complete application landscape
  - Changes skills needed in the data center—shifts skills to Cloud and Service Level management

- **Constant pressure to reduce cost and optimize resources** in the Data Center results in the need
  - To increase performance management automation
  - For analytics tools to reduce Software and Hardware costs

* 2012 CEO C-Suite Study
** McKinsey Global Technology Survey recently showed process effectiveness & efficiency as #1 & 2 respective priorities.
Trends for APM

Increasing involvement of Line of Businesses means …. *Application is King!*

- Quickly deliver new services
- Provide greater visibility of Business Processes and application performance and availability
- Prioritize workloads based on business rules

**• Data Center Transformation**

- Managing Cloud and Virtualized environments
- Visibility of end user experience and view of complete application

**• Limited expertise coupled with velocity of change**

- Dramatically simplify your view into the health of the Application environment
- Simplify presentation of information that guides user to problem resolution
- Closer collaboration between Development and IT Operations
How Does IBM’s APM Solution Address these Trends?

IBM Tivoli APM enables you to accelerate speed of delivery and optimize performance of applications and capability across physical, cloud and hybrid IT infrastructures.
IBM SmartCloud Application Performance Management

*Intelligently managing your critical applications in cloud and hybrid environments*

- **Comprehensive solution** that offers the right visibility, control and automation for critical applications
- **Modular design** to get started quickly and add capabilities as they are needed.
- **Analytics** to improve capacity utilization and optimize performance
- **Single, integrated reporting tool**, based on Cognos, making it simple and easy to customize reports
- **Delivers breadth of domain coverage** in combination with a single trusted source of information for more accurate and faster problem diagnostics
- **Differentiated configurations**
  - Production & non-production editions
  - **Entry Edition** available for mid market clients

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Ensure Application Performance
Understand End User Experience
Rapidly Isolate Problems
Reduce Downtime
Improve SLA compliance

[www.ibm.com/Tivoli/APM](http://www.ibm.com/Tivoli/APM)
Provide greater visibility of Business Processes and application performance and availability

- End User Experience
- Simplified view of application environment
- Better management of Business Processes
End User Monitoring

Ensure end user’s experience always meets expectations

- See what your users are experiencing
- Identify problems before they affect SLAs:
  - Real-User monitoring
  - Robotics monitoring
- Continuously validate production system performance
  - Captures performance and availability data of actual users for SLA reporting
  - Monitors network traffic for HTTP(S) requests to the web server
  - Completely non-invasive, agentless monitoring
- If you have a problem, find out about it before the customers complain

50% of problems found through customer complaints to help desk!
Understand End-to-End Application Performance
Quickly isolate the failing component in an Agile Environment

Integrated Agentless and Agent-based transaction tracking

• Start with agentless for fast initial deployment
  – Track flows through network traffic analysis
  – Include Public, Private and hybrid Cloud application segments

• Seamless transition to agent-based
  – Detailed, Instance-level Transaction Tracking

• Flexibility to mix and match
  – Use Agentless for most domains
  – Add Agent-based for problematic or high-risk domains
Better Management of Business Processes
SmartCloud APM brings visibility to the IBM BPM IT infrastructure

BPM
IBM BPM
Visibility, governance, and collaboration to optimize business processes and manage change to facilitate innovation and growth

SmartCloud APM
SmartCloud APM diagnoses and repairs IT infrastructure problems impacting process performance
Better Management of Business Processes

Deliver a tightly integrated APM solution for end-to-end performance management of IBM BPM solutions

• Reduce time and cost of change, and ensure business agility with IBM Tivoli’s APM solution

Top Down - Business Process has long processing times
  – Drill down from a Business Process to isolate, identify, and repair the IT resource related root cause of problems.
  – Launch in context from BPM monitoring to deep dive diagnostics.

Impact Analysis – issue with an application server
  – Identify which business processes are impacted
  – Prioritize IT resource problem resolution based on impact to Business Processes

Join the Beta Program!

PCTY2012

Optimizing the World’s Infrastructure
Limited expertise coupled with velocity of change

- Dramatically simplify your view into the health of the Application environment
- Application Diagnostics for DevOps
Dramatically Simplify your view into the health of the Application environment

**New State of the Art Dashboards**
- Take guesswork out of end user experience with smart drill downs
- Easy to understand dashboards
- Quickly renders data
- Customizable with a wide variety of widgets and data sources
- Runs on smart devices

**Ease of Use**
- Create and customize reports with our premier reporting analytics tool, based on Cognos.

**Time to Value**
- Combining all WebSphere monitoring into just one data collector.
Businesses need the ability to change quickly

Customers are looking for an improved experience and have plenty of options, pressuring businesses to continuously deliver new functionality

Customers
Desire for fast and continuous innovation

Line of Business
Requirements

1st gap

Development Team
Agile Development

Operations Team
Traditional Operations

Change is primary cause of incidents so with constant change ...

Tools are different across teams causing communication gaps and additional manual effort with more opportunity for error

Development & Test Environment very different from production leading more issues in production. by
APM enables successful Continuous Delivery

Enable continuous delivery with fewer rollbacks by using the same tools for instrumenting and testing applications earlier in the development lifecycle

- **IBM SmartCloud APM for Continuous Delivery**
  - **Define monitoring instrumentation and metric thresholds** as application requirements
    - Improves accuracy and effectiveness of monitoring, ultimately reducing time to problem resolution
  - **Build, Test, and Deploy Applications into production** that already include the monitoring instrumentation
    - Eliminates the communication barriers between Developers/Testers/Operators
    - Improves the success rate of production rollouts
Application Diagnostics for DevOps

- Diagnose critical J2EE, WebSphere Portal, BPM solutions with guided, **task oriented approach** for diagnostics, based on best practices
- Optimize code by isolating performance bottlenecks and other issues found in test or production
- Time To Value in under 1 hour!
Open Beta Programs Available today!

1. SOA application infrastructure monitoring, covering:
   - IBM BPM based business process solutions
   - SOA Governance: SLA Policy driven monitoring of services
   - Performance monitoring of WebSphere DataPower SOA appliances

2. Deep diagnostics of critical WebSphere Application Server and WebSphere Portal solutions

3. Dramatically simplify your view into the health of the application environment with new easy to understand, easy to customize dashboards

Details on IBM Service Management Connect

Join the Discussion!

- **IBM Service Management Connect**
  - Connect and Collaborate with IBM and the APM community
  - Participate in design programs and beta’s
  - Access whitepapers, demos, downloads, and much more!

- **Tivoli RFE**
  - Collaborate directly with Tivoli Product Development Teams and other product users
  - Submit enhancement requests and track progress
  - Vote on priorities!

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IBM SmartCloud Application Performance Management Roadmap

**SmartCloud Application Performance Management**

**V7.5**

- **A single solution to manage Performance, Availability, and Capacity for your complex application infrastructure**
  - Targeting both Operations and Applications Development teams
  - Real time end User Response
  - End User Experience Monitoring
  - Low Overhead Service Availability Monitoring
  - Agentless and agent-based Transaction Tracking
  - Breadth of domain coverage for diagnostics
  - Performance and Predictive Analysis Reporting
  - Per managed OS instance pricing

- **Enhanced User Experience:**
  - APM user interface - Web based dashboards

- **Platform Support:**
  - Enhanced SAP, DataPower, DB2 & Siebel capabilities

**1H 2012**

**Future**

- **New Functionality:**
  - IBM BPM monitoring

- **Enhanced User Experience:**
  - APM user interface

- **Platform Support:**
  - Currency support – Jboss, Netweaver

**2H 2012**

**vNext**

- **New Functionality:**
  - Dev Ops
  - Enhanced Agentless transaction tracking
  - End user experience enhancements
  - Network & Storage aware APM

- **Enhanced User Experience:**
  - APM UI
  - Software appliance with launchpad **
  - Cloud consumer monitoring **

- **Market driven**
  - Additional customer driven enhancements

- **Improved Integration:**
  - Advanced Edition
  - Tealeaf & Green Hat integration
  - .NET deep dive

- **Platform Support:**
  - Platform currency
  - Ruby, Python, PHP

**1H 2013**

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**2H 2013**

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**1H 2014**

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**2H 2014**

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Middleware SC APM coverage

- **Web Servers**
  - Apache
  - IBM HTTP Server
  - Sun Java System Web Server
  - Microsoft Internet Information Server

- **Operational monitoring of App Servers**
  - WebSphere Application Server (Base, ND, VE)
  - Microsoft .NET (not deep dive)
  - Jboss
  - WebLogic
  - SAP Netweaver
  - Oracle Application Server
  - Sun Java System App Server
  - Apache Tomcat

- **Databases**
  - DB2
  - Oracle
  - Sybase
  - Microsoft SQL Server

- **ERP**
  - PeopleSoft Enterprise
  - Siebel
  - SAP

- **WebSphere Middleware**
  - WebSphere Process Server
  - WebSphere Portal Server
  - WebSphere Cloudburst
  - WebSphere Extreme Scale
  - WebSphere Extended Deployment (including Compute Grid)
  - BPM (coming in Q4 2012)
  - CICS Transaction Server
  - CICS Transaction Gateway
  - IBM Workload Deployer
  - **ESB/ SOA – no deep dive**
    - WESB (WebSphere Enterprise Service Bus)
    - WebSphere Message Broker
    - WebSphere Service Registry & Repository
    - DataPower appliances

- **Messaging**
  - WebSphere MQ
  - WebSphere MQ File Transfer
  - WebSphere Message Broker
  - Tuxedo Server
  - Tuxedo MQI
Middleware SC APM coverage (continued)

- **OS Coverage**
  - Windows, Unix, Linux

- **Virtual Servers**
  - Linux Kernel-based
  - NetApp Storage
  - Vmware
  - Citrix XenApp *
  - Citrix XenServer *
  - Citrix XenDesktop *
  - Cisco UCS *

- **MS Applications**
  - .NET (not Deep Dive)
  - Lotus Domino
  - Lotus Sametime
  - Microsoft Active Directory
  - Microsoft BizTalk Server
  - Microsoft Cluster Server
  - Microsoft Exchange Server
  - Microsoft Host Integration Server
  - Microsoft Hyper-V Server
  - Server (Forefront Threat Management Gateway)
  - Microsoft Office Communications Server (Microsoft Lync Server)
  - Microsoft SharePoint Server

* Priced feature of SmartCloud Monitoring.
Includes SmartCloud Monitoring

Enables users to intelligently manage their cloud resources and virtual machines. Users can enjoy real cost savings with cloud optimization and automation, and resiliency from resource and workload analytics.

- **Visibility**
  - Integrated “out-of-the-box” contextual views of health and performance of the virtual environment
    - Physical and virtual servers, storage and network resources
  - Receive real-time proactive & predictive alerts
  - Side-by-side and historical data to identify problems quickly

- **Virtual Environment Management**
  - Out-of-the-box alerts, best practices, expert advice and workflows for detecting performance problems and identifying their source
  - Web 2.0 dashboards, operational workspaces and reports

- **Capacity Planning**
  - Predict physical and virtual resource capacity bottlenecks and trends
  - Gain business agility by determining room for expansion

- **Optimization**
  - Right-size virtual machines
  - Policy-driven workload placement for performance and security optimization
IBM SmartCloud APM v7.6 – Focus on Currency

SOA
- WebSphere Message Broker v8
- WebSphere App Server v8.5
- DataPower v5
- DB2 V10

WebSphere
- WAS V8.5
- WebSphere Portal V8.0
- WebSphere ESB V8.0
- WebSphere XD VE V8.0
- XD CG V8.0

Business Process Management
- IBM BPM V7.5.1, V8.0

Messaging
- WebSphere MQ 7.1 toleration
- WebSphere Message Broker v8 toleration (includes Application/Library support)

Microsoft Platform
- .NET 4.5
- Exchange server 2010
- IIS 8.0
- Active Directory 2012

Coming soon!
- SAP Netweaver v7.1, v7.3
- JBoss v5.1
What’s New?

SmartCloud Application Performance Management makes it easier than ever to optimize end user performance, prevent outages and diagnose failures in applications!

- More OOB, Cognos-based, reports

- Middleware and ERP Solution enhancements
  - DB2
    - Added High Availability Disaster Recovery (HADR) monitoring support
    - Supports customizable SQL queries

- WebSphere DataPower Appliance
  - Monitors user defined, application domains (in addition to default domain)
  - Supports DataPower XC10 appliances

- SAP
  - Provides single management of heterogeneous SAP environments
    - Integrates with SAP Solution Manager
    - Supports SAP NetWeaver Process Integration (PI)
    - Displays SAP’s usage of DB2

- Siebel and Peoplesoft currency
Supported IBM BPM Component Types

Tivoli’s APM solution will monitor these components:

- BPMN / BPD processes (IBM BPM Standard and Advanced)
  - Mostly Human workflow with integration to other BPEL and BPD processes, Web services and external systems
- BPEL processes (IBM BPM Advanced)
  - Mostly automated processes with some human interaction
- SCA Component / Mediation Flows (IBM BPM Advanced)
  - Convert data representations between components
  - Implement message flows
  - Interact with external systems like WSRR, DBs
- Human Tasks (BPM Advanced)
  - Implementation of manual activities in BPEL processes
  - Triggers for manual invocation of SCA components
- Adapters (BPM Advanced)
  - Integration of back-end systems (Flat file, JDBC, …)