

Pulse

IBM SolutionsConnect 2013

Innovation in Application Monitoring

Application Insights

June 2013

Speaker: Luke McKenna, APM Development Leader





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Agenda

- Paradigm changes in application performance management
- What is SmartCloud Monitoring – Application Insight?
- Application Performance Diagnostics Lite
- Log Analytics
- List of Application Performance Management Open Betas running now



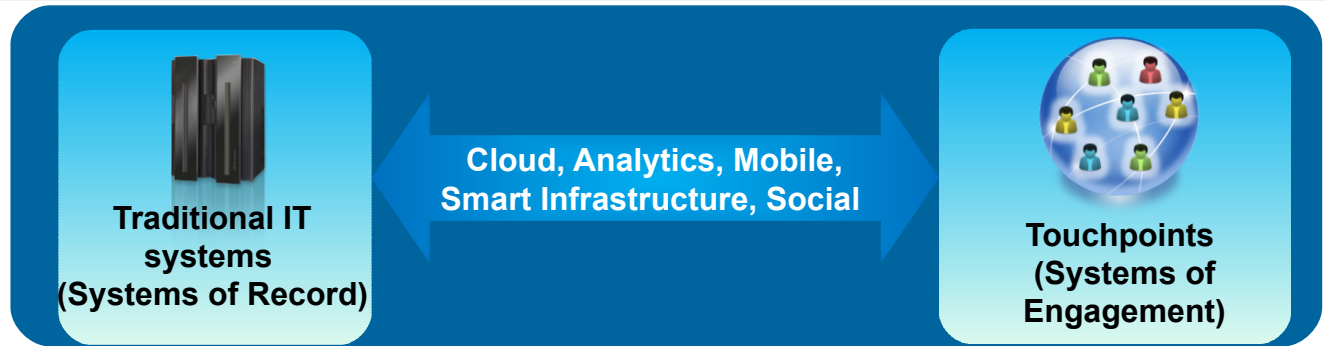


Paradigm changes in application performance management



The nature of the application is changing....

Rapid delivery of client facing applications and new consumption models are shifting focus and success metrics to support the business



Manage workloads and maintain security



Rapid innovation in the cloud



User experience and mobile management



Application Owners are getting more involved...

Application Owners care about application performance as it has a direct impact on customer experience

These are the 4 areas we see increased focus:

Customer experience is critical

- One bad service experience can quickly go viral
- Could result in negative brand image

Mobile access to applications

- Smartphone and mobile app usage is increasing dramatically
- Need to expand end user experience tracking to mobile

Becoming a key stakeholder

- Application Owners are taking a larger role in decision making process
- Decision making role increased two fold in past four years

Rapid application roll out

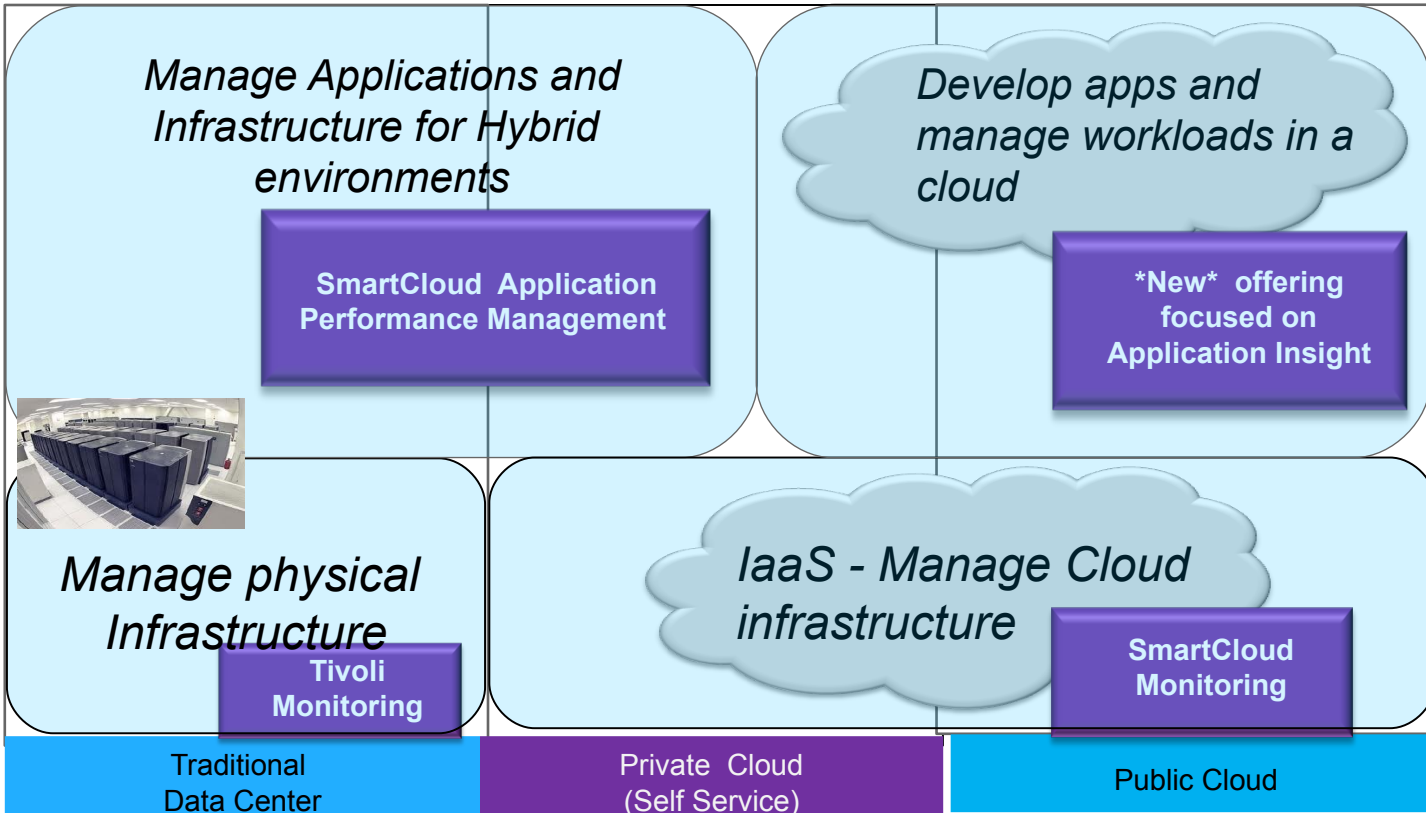
- Changing market necessitates improved responsiveness
- Faster time to market without disruption to applications



IBM's APM Offerings



IT
Ops



Application Owners



Cloud Tenant



MSP



IBM's direction for APM products

1

Empower Application Owners with full visibility into customer experience including mobile devices

2

Superior **Analytics with Actionable Insights** to enable faster problem resolutions and predictive outage avoidance

3

Support Application Developers with enhanced capabilities for deep dive diagnostics

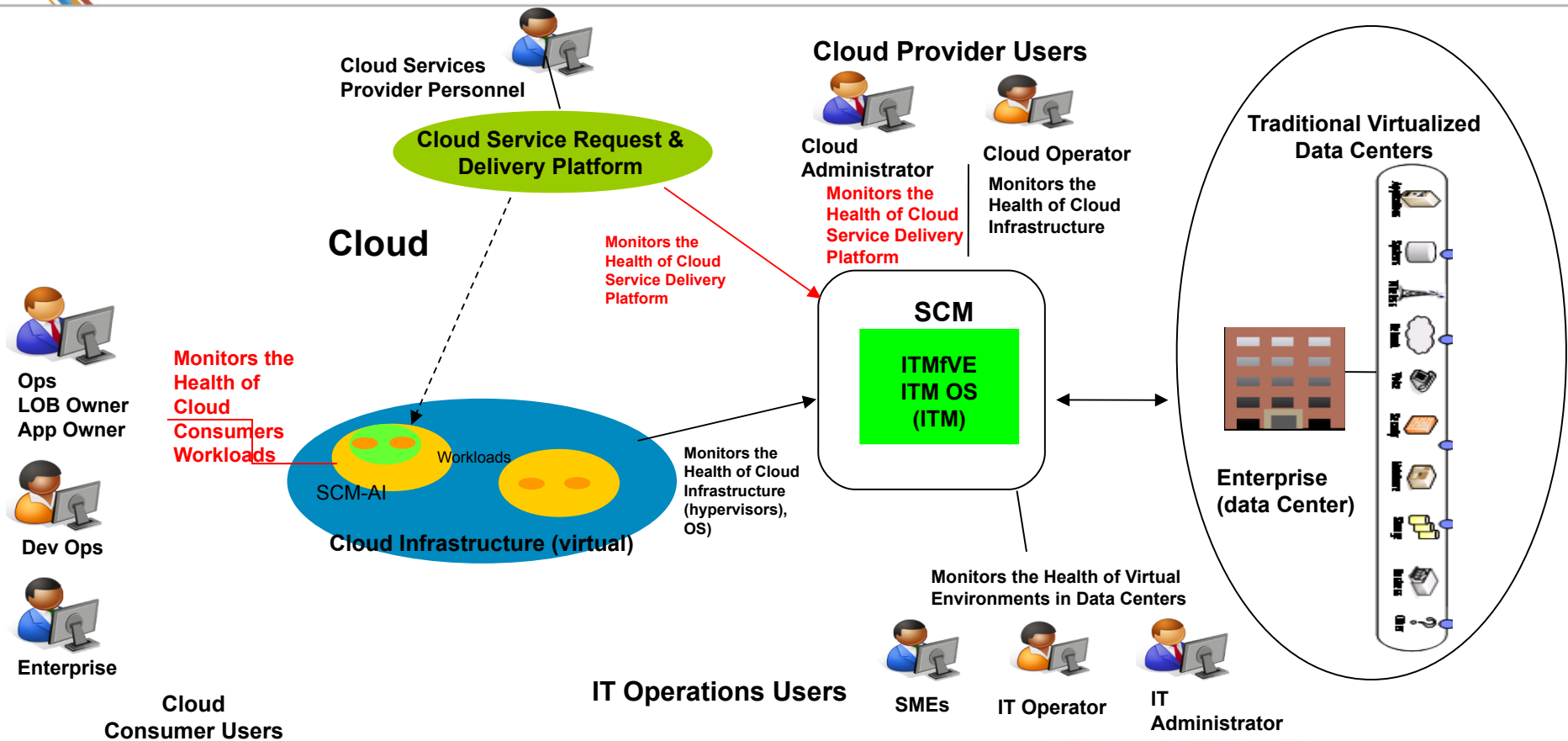
4

Revolutionize the Cloud with new elastic scaling architecture, designed for the cloud and hybrid applications

5

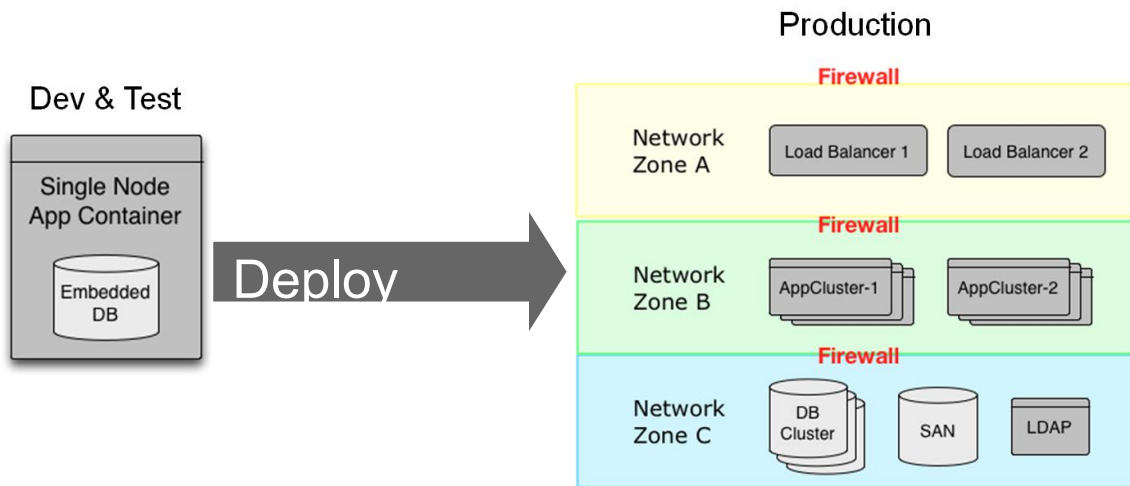
Simplify Solution Delivery with enhanced approaches to try & buy easy solution deployment

Cloud & Virtualization Environments



Continuous Delivery – You Need Monitoring

- Without proper monitoring, continuous delivery can lead to continuous firefighting
- Dev & Test environments don't simulate true production environments
- Application performance management tools are different across environments
 - Manual effort required to instrument each environment
- Instrumentation and thresholds are not defined for production by the subject matter experts





Virtualization in Your Department

- Do you use VMWare (or another hypervisor) in your department?
- Do you have pre-canned image templates? (E.g. “Web Server” image, “App Server” image)
- Do your pre-canned image templates have monitoring built in?
 - You can get basic monitoring embedded in the template images easily



What is SmartCloud Monitoring – Application Insight?





Guiding Principles

- **Fast Time To Value**

 - Infrastructure install must be on the order of minutes

 - Monitoring Built into the VMs so that monitoring is always available

- **Lightweight server**

- **Adaptive to highly dynamic environment** – VMs come and go all the time

- **Integration**

 - Events can be fed to any enterprise event management system

 - Historical data can be sent to a data warehouse

 - Any data can be pulled into other tooling

- **Broad platform coverage**

 - SCP, SCE, EC2, VMware, ...



IBM SmartCloud Monitoring Application Insight

Cloud service providers, and their users need a lightweight, elastically scalable solution for monitoring virtual machines and their applications, without having to wrestle with a complex monitoring infrastructure.

Insightful

- **Application-level metrics.** The monitoring infrastructure collects data from *within* the application, bringing into focus application-level data that the hypervisor can't see.
- **Intuitive interface.** Attractive web-based UI presents application-level data in an intuitive way that supports actionable insights at the application level.
- **Integration with cloud service provider platforms.** The monitoring infrastructure integrates with cloud provisioning systems to create a highly dynamic and automated ecosystem that aligns with customer business processes.

Lightweight

- **Quick time-to-value.** Newly provisioned virtual machines are automatically discovered, and are displaying performance metrics in the UI in under a minute.
- **Self-configuring.** Monitoring is established and maintained automatically, as the VM image is deployed.

Secure

- **Multi-tenant.** Multiple tenants may share the monitoring infrastructure within a safe and secure environment in which each can only access his/her own data (vNext).

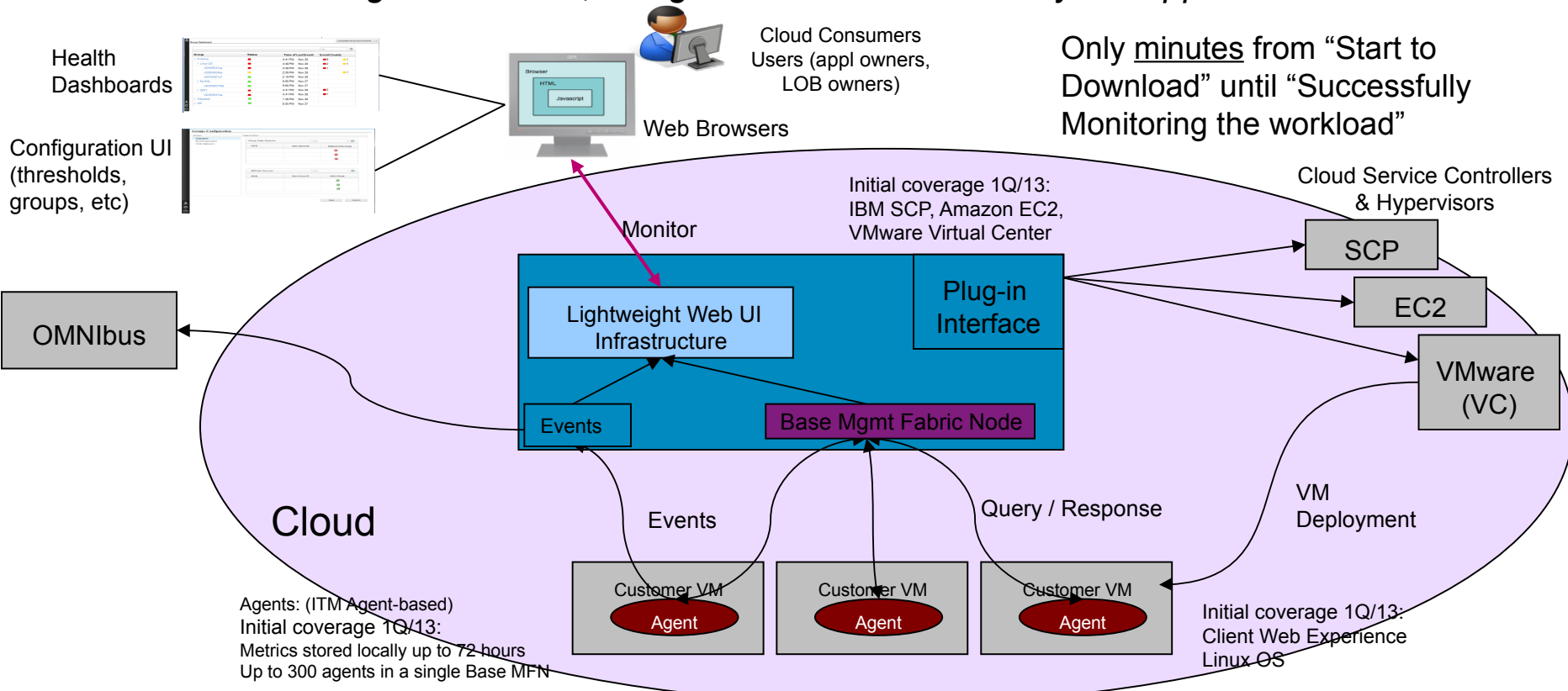


Focusing on three types of problems

- **Problem Type 1 : Application health in a dynamic environment at a glance providing key information for quick isolation of issues.**
 - Example 1 : A critical cloud application on OS/database/application server constituting the workload is experiencing increased resource utilization resulting in indications of impending failure. Show views that highlight the issues.
 - **A combined application view will pin point root cause of the resources causing the main issues**
- **Problem Type 2: Quick reaction / low touch to the elastic scaling nature of cloud applications.**
 - Example 2 : An application needs monitoring and the developer wants to activate it and get billed by usage with the click of a button and have it active in a minute or two.
 - **This scenario eliminates the hours of work IT folks have to do, and hands control to the application developer/owner.**
- **Problem Type 3: Multi-tenancy (vNext)**
 - Example 3 : As a service provider or application owner, I need to be able to securely provide resources for specific groups of virtual machines that are owned by a customer or line of business owner.
 - **By including a grouping capability and a very lightweight fabric management node, each “customer” can have their own server to get visibility into the health and performance of their virtual machines.**

Evolving for the Cloud

New elastic scaling architecture, designed for the cloud and hybrid applications



Only minutes from “Start to Download” until “Successfully Monitoring the workload”

Agents: (ITM Agent-based)
Initial coverage 1Q/13:
Metrics stored locally up to 72 hours
Up to 300 agents in a single Base MFN

Dashboard Screenshots



Group Dashboard



Last Updated: Feb 8, 2013 4:02:28 PM

Home >

Group	Status	Time of Last Event	Event Counts
+ Finance			
+ HR			
+ Inventory			
+ Marketing			
+ RetailSales			
- WebSales		2013-02-08 08:58:30.631	1 1
- Response Time		2013-02-08 08:55:49.7	1
v525400919686:T5		2013-02-08 08:55:49.7	1
v52540057ab18:T5			

Dashboard Screen Shots

Group Details: WebSales

Last Updated: Feb 8, 2013 4:03:58 PM

Home > WebSales >

Overview

Linux OS

MySQL

Response Time

Application Summary

Filter

Application Name	VM Host Name	Status	Average Response Time	Total Requests	Percent Failed	Percent Slow
9.37.33.85	v52540057ab18	✓	0.021	582	0%	0%
9.37.33.85	v525400919686	✗	0.01	582	0%	0%
WebSales.WeSellShoes.com	v525400919686	✗	7.165	3364	0%	6%
9.37.33.85	v5254001d75a7	✓	0.01	582	0%	0%

Total: 4

Transactions: Highest Failure Percentage

Dashboard Screen Shots



Response Time For Application WebSales.WeSellShoes.com On VM v525400919686

Last Updated: Feb 8, 2013 4:07:03 PM

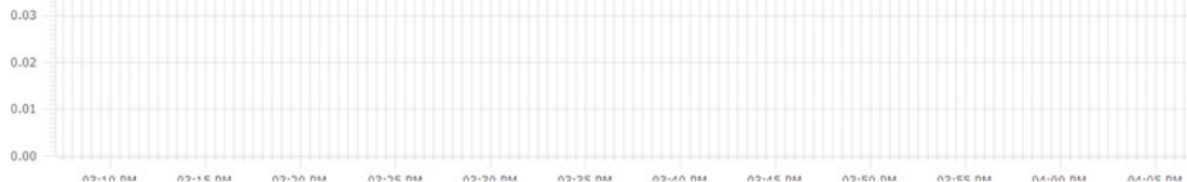
Home > WebSales > v525400919686.T5

Response Time

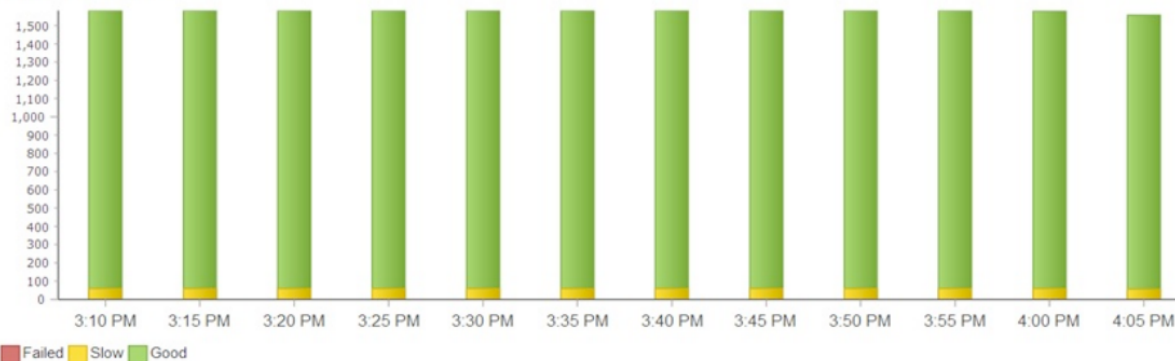
Linux OS

Events

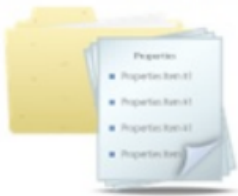
Extended Data



Overall Volume



Dashboard Screen Shots



Group Details: WebSales

Last Updated: Feb 8, 2013 4:12:12 PM

Home > WebSales >

Overview

Linux OS

MySQL

Response Time

VM Host Name	IP Address	Status	Up Time	CPU	Memory	Disk	Network Errors Per Minute
v5254007798c7	9.37.33.196	✓	3 DAYS, 05:07	1%	35%	72%	0
v5254000bc68a	9.37.33.149	✓	1 DAY, 01:57	0%	27%	72%	0
v525400d80b25	9.37.33.249	✓	1 DAY, 01:57	0%	28%	72%	0
v5254006dfc13	9.37.33.182	✓	3 DAYS, 04:17	0%	69%	30%	0
v52540008d99e	9.37.33.131	✓	3 DAYS, 05:05	25%	38%	72%	0
v525400864d6c	9.37.33.220	✓	3 DAYS, 04:29	0%	69%	31%	0

Dashboard Screen Shots



Linux Agent Details: v525400919686_iz

Last Updated: Feb 8, 2013 4:13:26 PM

Home > WebSales > v525400919686:LZ

Details Events **Extended Data**

- LT_KLZDSKIO
- LT_KLZPASSTAT
- LT_KLZPASMGMT
- LT_KLZPASCAP
- LT_KLZCPU
- LT_KLZCPUAVG
- LT_KLZDISK
- LT_KLZDSKIO
- LT_KLZDU
- LT_KLZIOEXT
- LT_KLZLPAR
- LT_KLZNFNS

TIMESTAMP	DKNAME	BLKWRTNSEC	BLKRDSECC	BLKSRD	DEVMI
2013-02-08 16:13:52.0	vda	31.5	0	767954	0
2013-02-08 16:13:52.0	vda1	31.5	0	766746	1
2013-02-08 16:13:52.0	vdb	0	0	3688	16



My Own Experience with SCM-AI in our Lab's VMWare Env

- VMWare used extensively in our lab, why not use SCM-AI?
- I posted my experience on the public forum under the heading: “Tips for installing on a fresh RH 6.3 64-bit machine in vCenter env” and ended with:

“Now it's up and running and working nicely. A second NIC added to my WRT VM operating in promiscuous mode means I can monitor web traffic from other Vms.”



Application Performance Diagnostics Lite

Helping developers more effectively diagnose application issues



Diagnostics Throughout the Lifecycle

41%

experience delays in integration, configuration and testing of applications*

Development



Proactive performance optimization

51%

applications rolled back due to quality issues escaping into production*

Testing



Improve QA effectiveness

45%

experience delays due to troubleshooting and fine-tuning issues in production*

Staging/
Production



Reduce resolution time with production visibility

Keys to obtaining value across lifecycle:

- Relatively painless to deploy and use
- Must work in all environments - development, test, and production
- Provides valuable data for use cases across all stages



Log Analytics

Helping developers more effectively diagnose application issues





- Search, and Index unstructured data to provide consolidated view

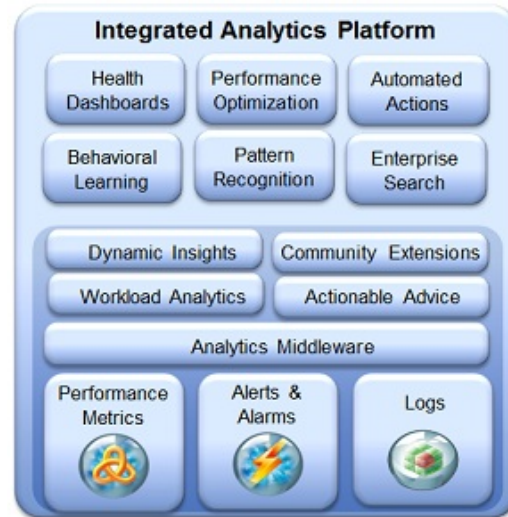
Faster Problem Resolution

Find & correct problems faster with tools that determine actions required to resolve issues

Resolve

- **Identify** problems quicker with insight to large unstructured repositories
- **Isolate** problems quicker by bringing relevant unstructured data into problem investigations
- **Repair** problems quicker with the right details quickly to hand.

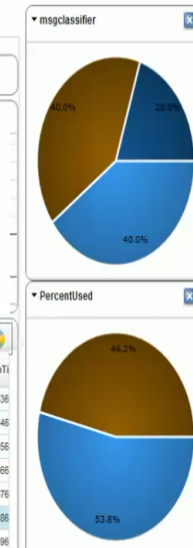
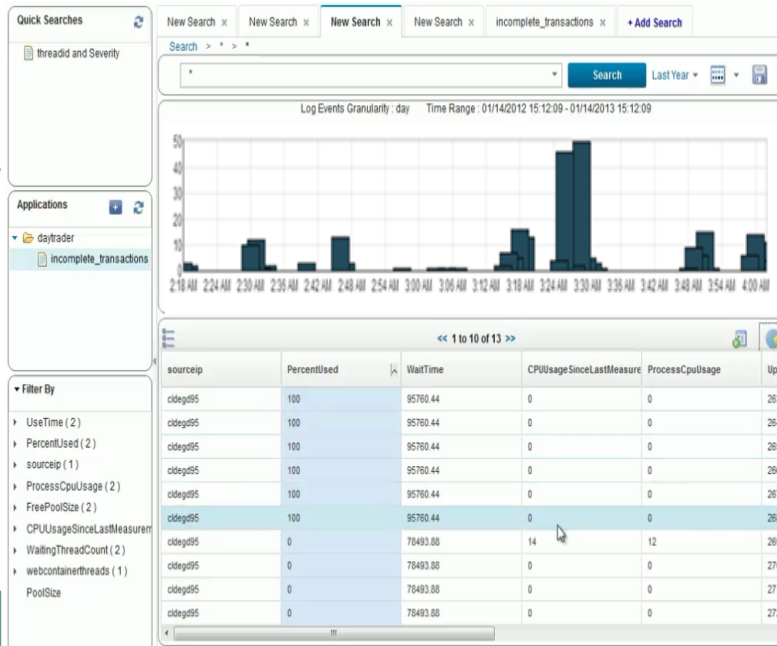
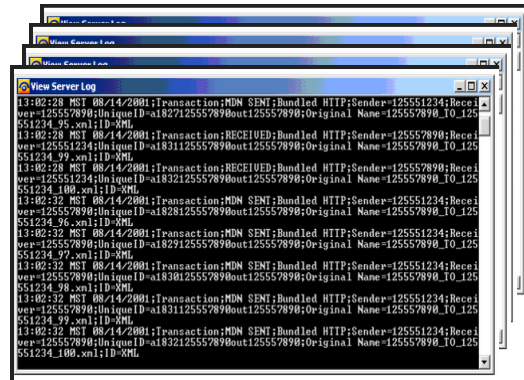
- Built on IBM's Big Data platform
- Integrate structured and unstructured data for better problem identification and resolution



- Extensible, with IBM and partner expertise built-in
- Get the last critical piece of data for identifying, isolating, and correcting problems faster

Log Analytics – What does it do?

Collects large volumes of obscure unstructured data and transforms it through analytics into actionable intelligence.



GBs of Obscure Log Files

Single Actionable Dashboard

Insight Packs



Intelligent Support Docs Integration through Advanced Text Analytics



Log Analytics Client Value

Log Analytics helps Application Specialists accelerate problem resolution through rapid analysis of unstructured data

Value

Highlights



- **Faster Problem Identification and Isolation**
- Quickly search structured and unstructured data.
- Perform cross domain analysis on this data.



- Collection and Annotation of data
- Generic Logs Support
- Federation of Data

- **Faster Problem Repair**
- By linking expert knowledge to log error/warning messages



- Advanced Text Analytics
- Downloadable insight packs on the ISM Library starting with WebSphere and DB2

- **Improved Service Availability and Maintainability of Custom Apps**
- Provide users with advanced insights into custom applications quickly



- Tools to create custom insight packs for your own applications



Link to IBM Service Management Connect:

<https://www.ibm.com/developerworks/servicemanagement/apm/index.html>

1. **SmartCloud Monitoring Application Insight** – A lightweight solution for monitoring the performance and availability of web-delivered applications
 - **Beta:** <https://ibm.biz/BdxaNn>
2. **APD Lite** - Simplified deep diagnostics of critical WebSphere Application Server and WebSphere Portal solutions
 - **Beta:** <https://ibm.biz/BdxaNb>
3. **SmartCloud APM Standard Edition**
 - **Beta:** <https://ibm.biz/Bdxutg>
4. **SmartCloud APM UI** - Easy to understand and customize dashboards
 - **Beta:** <https://ibm.biz/BdxaNN>
5. **SmartCloud APM monitoring for SOA environments** – IBM BPM, WebSphere DataPower, SOA Governance (WSRR)
 - **Beta:** <https://ibm.biz/BdxhdK>

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Application Performance Management

Connect. Learn. Try. Share.

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Join the Application Performance Management group and connect with other members who have an interest in Application Performance Management. You can also collaborate with the experts by accessing blogs, forums, and wikis listed below.

Continuous Open Beta

Your feedback helps influence the direction of development. Become part of our client-driven process to create high quality Tivoli products.

Select a product: IBM Application Performance Diagnostics | SmartCloud Application Performance Management Entry Edition | SmartCloud Application Performance Management UI | SmartCloud Monitoring | SmartCloud Monitoring - Application Insight | Tivoli Monitoring | Whole-system Analysis of Idle Time

Collaborate

BLOGS

- FIVE new Tivoli Monitoring modules released around agent topics
- Upcoming TUC Webcast: What's New in Tivoli Monitoring v7.4
- Tivoli Log File Agent Version 6.3 User's Guide available
- View all entries

WIKIS

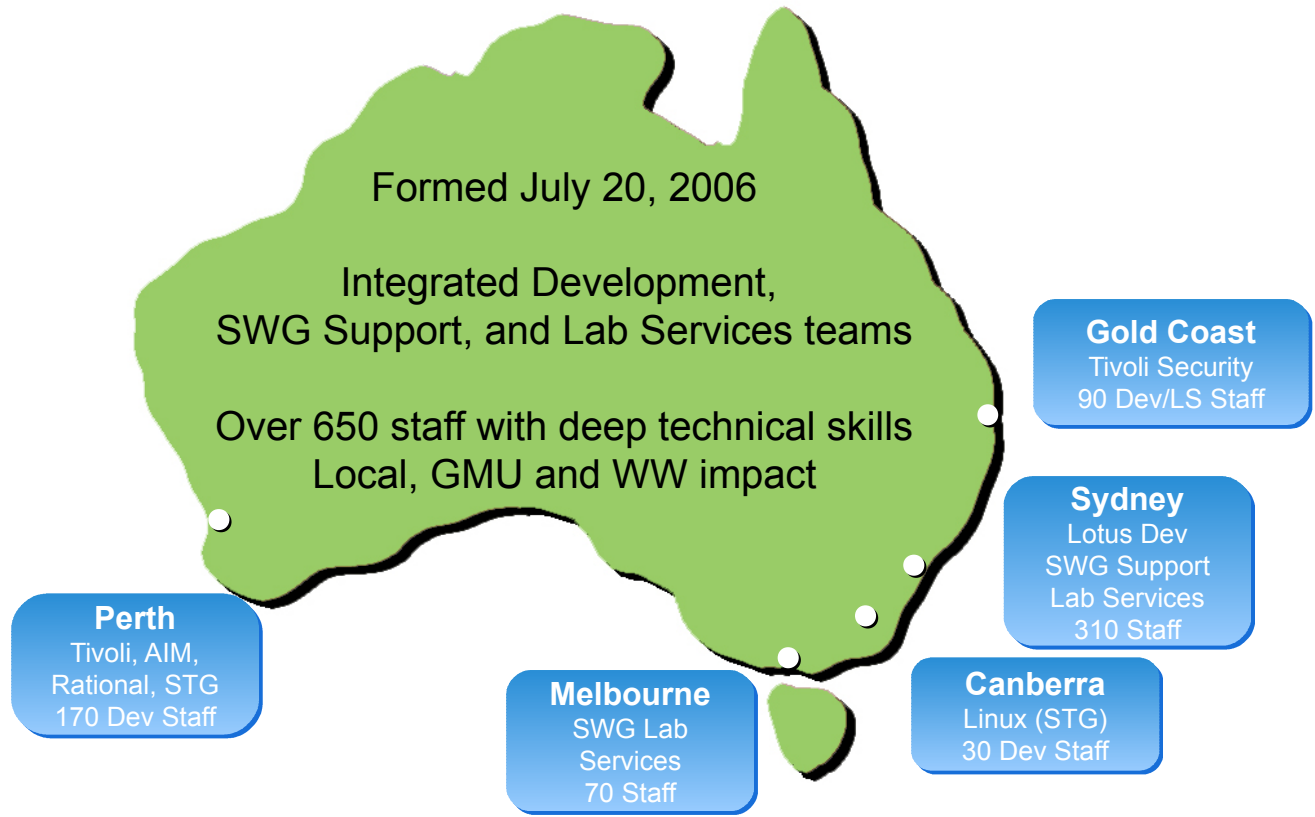
FORUMS

Communities

- Application Performance Management
- Asset Management
- Business Service Management
- Cloud Virtualization Management
- Data Center Automation
- Endpoint Management
- Jazz for Service Management
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