



***The Modern Mainframe...
At the Heart of Your Business***

IT Service Management



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**Service Oriented Finance Needs to Satisfy
Service Levels For Their Critical Applications**

I must make sure to meet my service levels. With these new applications, it's more important than ever, but the CEO won't increase my budget for operations



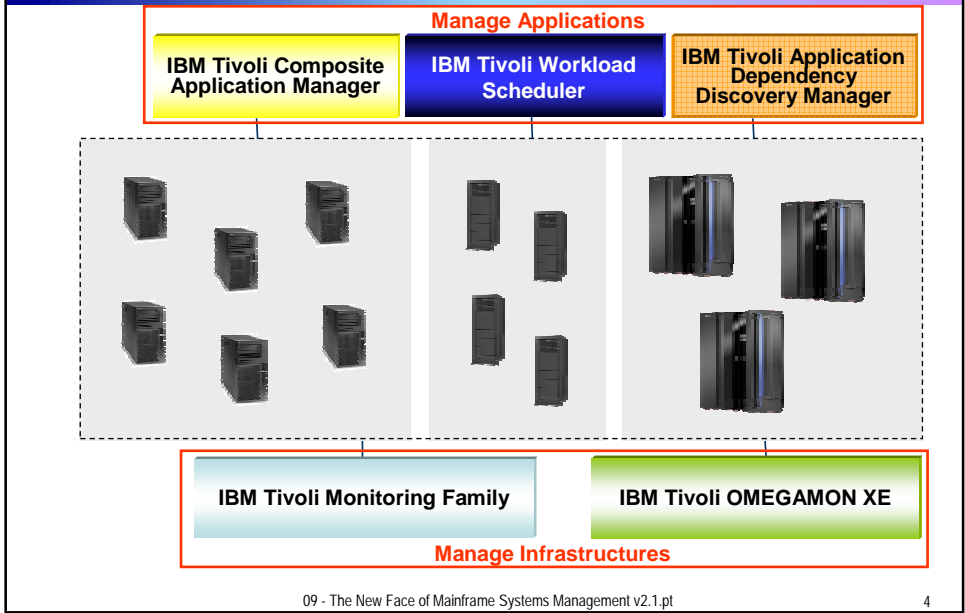
**Service Oriented Finance
Data Center Manager**

**IBM Tivoli can help,
without adding staff**



IBM

End to End Systems Management from IBM



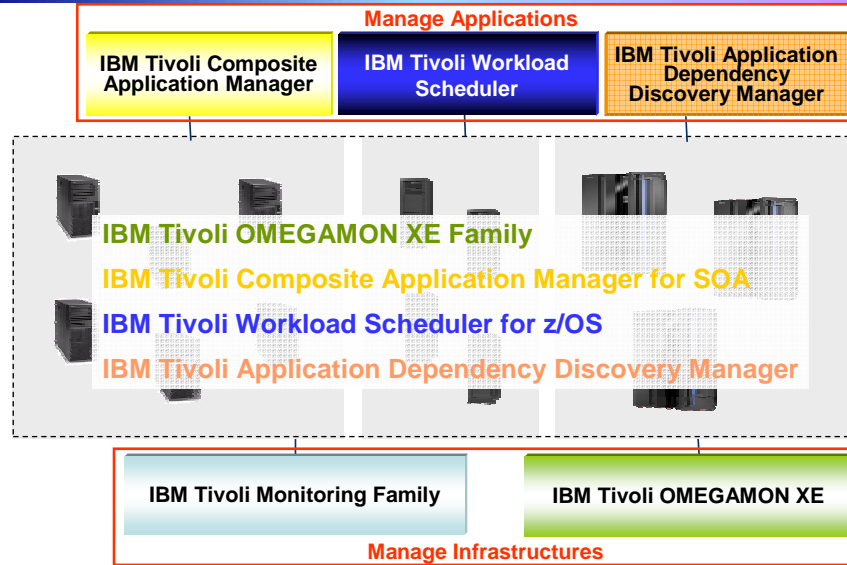
End to End Systems Management from IBM

IBM Tivoli can monitor the breadth of your IT environment

Platforms	Databases	Applications	Business Integration	Web Infrastructure	Messaging & Collaboration	Universal Agent
Unix	DB2 (Z & Distributed)	SAP	CICS	WebSphere (Z & Distributed)	Lotus Domino	Agent-less Adapter URL, SNMP, File, Socket, UDB.... Agent Quick attach API
Windows		.NET (full suite of MS apps)	IMS			
Cluster(s)	Oracle		IIS			
Linux	SQL	J2EE	WebSphere MQ	iPlanet	Exchange	95+ Custom Packages available for modification
z/VM		Citrix				
z/OS	Sybase	Siebel	WebSphere MQ Integrator	Apache		
VMWare	Informix	Tuxedo		WebLogic		
OS/400						

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Let's Focus on Some Products for Mainframe Management



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Mainframe Management with IBM Tivoli

- **Manage Resources**
 - ▶ Monitor health of the mainframe components and middleware such as DB2 and CICS
 - *IBM Tivoli OMEGAMON XE Family*
- **Manage Web Services**
 - ▶ Monitor web services to identify the source of bottlenecks or failures in services
 - *IBM Tivoli Composite Application Manager for SOA*
- **Manage Traditional Batch Workloads**
 - ▶ Monitor, plan and control the processing of batch workload
 - *IBM Tivoli Workload Scheduler for z/OS*
- **Manage Changes**
 - ▶ Discover and visualize application topology to track changes and compliance
 - *IBM Tivoli Application Dependency Discovery Manager*

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Monitoring Solutions for the Mainframe

Operating Systems:

IBM Tivoli OMEGAMON XE on z/OS

IBM Tivoli OMEGAMON XE on z/VM and Linux

Networking:

IBM Tivoli OMEGAMON XE for MF Networks

Data Management:

IBM Tivoli OMEGAMON XE for DB2 PE on z/OS

IBM Tivoli OMEGAMON XE for DB2 PM on z/OS

IBM Tivoli OMEGAMON XE for IMS on z/OS

Host Transaction Processing:

IBM Tivoli OMEGAMON XE for CICS on z/OS

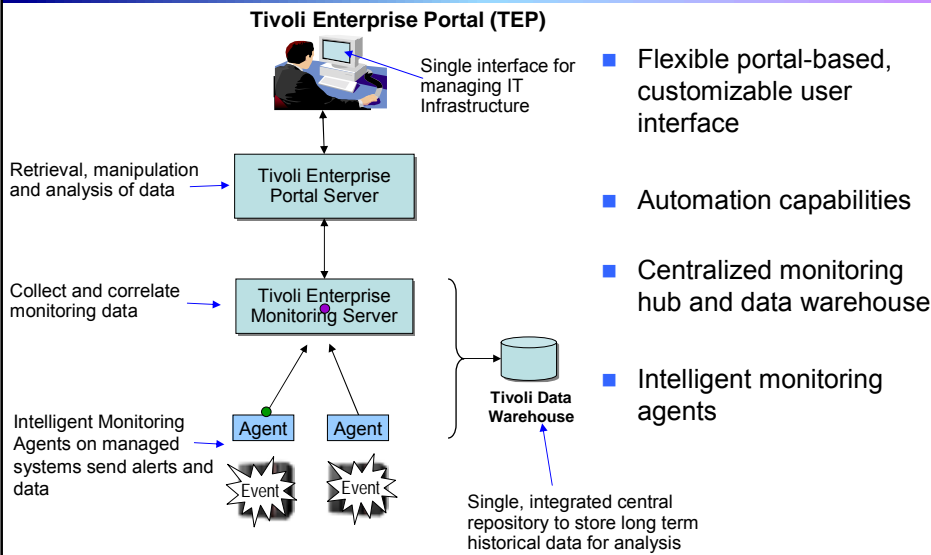
Storage Management:

IBM Tivoli OMEGAMON XE for Storage on z/OS

- Common monitoring services
 - ▶ Robust, centralized monitoring hub and data warehouse
 - ▶ Intelligent monitoring agents
 - ▶ Common portal-based user interface
 - Tivoli Enterprise Portal (TEP)
 - Runs on Linux on the mainframe

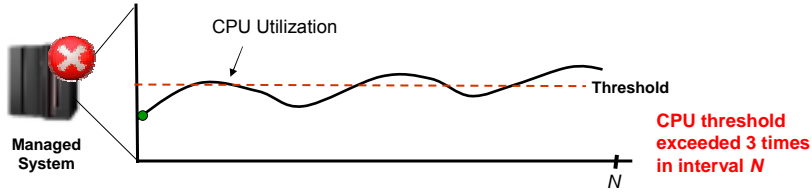
- Language globalization
 - ▶ French, German, Italian, Spanish, Portuguese, Chinese (simple & traditional), Japanese, Korean

Common Monitoring Services Complete and Easy to Deploy



- Flexible portal-based, customizable user interface
- Automation capabilities
- Centralized monitoring hub and data warehouse
- Intelligent monitoring agents

Intelligent Monitoring with Situations and Automation



- Detect and repair incidents as they occur with both supplied and customizable *situations*
 - ▶ Out-of-the-box supplied *situations* include combination of metrics and thresholds to trigger, identify, notify and solve problems
 - ▶ Built-in situation editor allows to customize to create granular notification and eliminate false alarms
- *Expert advice* can help obtain detailed explanation of problems and recommendation for resolution
- *Take action* to automatically resolve recurring problems by running existing or customized scripts

IBM Tivoli OMEGAMON XE Monitoring Solutions

Operating Systems:

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We will see one of these monitors in action!

Host Transaction Processing:

IBM Tivoli OMEGAMON XE for CICS on z/OS

IBM Tivoli OMEGAMON XE for Storage on z/OS

Monitor z/OS with IBM Tivoli OMEGAMON XE on z/OS

- Monitor key mainframe resources to diagnose bottlenecks
 - ▶ CPU, LPARs, I/O, enqueue, paging, coupling facility, DASD, and more
 - ▶ Manage and tune Workload Manager service classes
 - ▶ zIIP and zAAP processor usage and reporting
- Quickly resolve problems with increased productivity
 - ▶ *Customizable workspaces* help pinpoint performance issues
 - Dynamic workspace linking to other OMEGAMON XE monitors to improve problem resolution
 - ▶ *Situations* - Predefined, customizable out-of-the-box automation situations to respond promptly to problems
 - ▶ *Expert advice* – View advice about an alert. Advice customizable to provide site-specific information
 - ▶ *Take action* - Resolve problems by running built-in scripts or easily create new scripts

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Monitor DB2 Performance with IBM Tivoli OMEGAMON XE for DB2 PE on z/OS

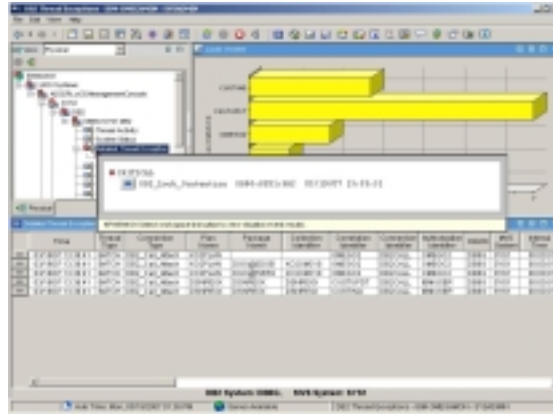
- Monitor, analyze and tune the performance of IBM DB2 Universal Database and IBM DB2 applications
 - ▶ Monitor threads, lock conflicts, I/O, buffer pools, and SQL cache
 - ▶ Monitor interaction of DB2 with CICS, IMS, and batch processes
 - ▶ Monitor DB2 Connect and track communication between DB2 Connect and host thread
- Provides in-depth analysis with a wide range of detailed, customizable reports
- Increase productivity
 - ▶ *Customizable workspaces, intelligent situation definition, expert advice and take action*

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DEMO: Resolve DB2 Lock Conflicts with IBM Tivoli OMEGAMON XE DB2 PE on z/OS

- Monitor DB2 threads
- Raise a *situation* isolating lock conflict between DB2 threads updating customer records
- *Take Action* to issue cancel command to resolve conflict



Monitoring Web Services

How about monitoring applications based on Web services/SOA?



Data Center Manager

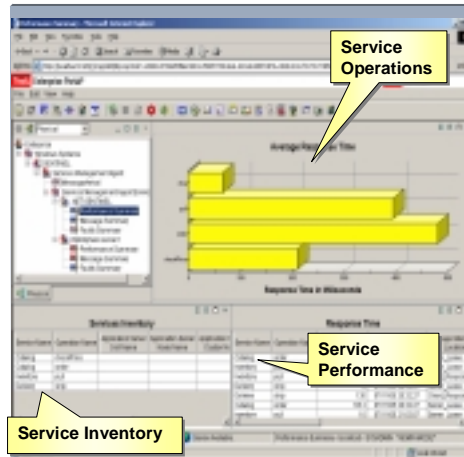
You can do this with IBM Tivoli Composite Application Manager (ITCAM) for SOA!



IBM

Manage Your Services Using IBM Tivoli Composite Application Manager (ITCAM) for SOA

- Isolate web service performance problems
 - ▶ Track key service metrics such as response time, number of messages, message size, faults
- Automation to resolve issues
 - ▶ Built-in and extensible alerts, situations enable powerful automation scenarios
- Integration with WebSphere Service Registry and Repository (WSRR)
 - ▶ Allows for reconciliation of services registered in WSRR with those monitored in target systems by ITCAM for SOA
 - ▶ Forwards status information to WSRR to allow users to select services based on performance and other metrics



Managing Batch Workloads

What about managing batch workloads ?



Data Center Manager

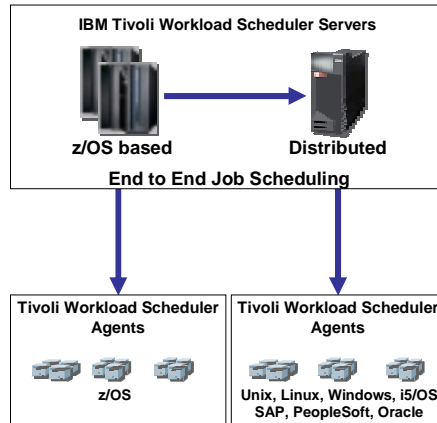
Let me tell you about **IBM Tivoli Workload Scheduler for z/OS!**



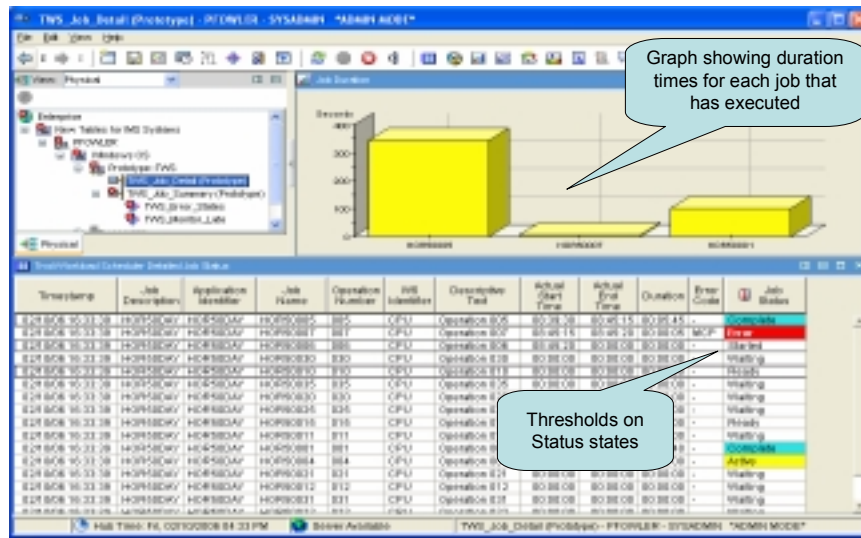
IBM

Workload Management with IBM Tivoli Workload Scheduler for z/OS

- Automates, plans and controls the processing of production workload across your environment
 - ▶ Drives workload performance according to business objectives
 - ▶ Dynamic real-time workload automation in addition to calendar and event-based scheduling
 - ▶ Critical path monitoring and integration with System z Workload Manager to reduce delay in a critical batch workload
- Integrates with IBM Tivoli Workload Scheduler (for distributed platforms) to provide a true end-to-end Job Scheduler solution



Details for a Job Description Example – IBM Tivoli Workload Scheduler for z/OS



Manage Change

How can we track changes to our systems to make sure everything is at it should be?



Data Center Manager

Let me show you how **IBM Tivoli Application Dependency Discovery Manager** can help you achieve this!



IBM

IBM Tivoli Application Dependency Discovery Manager

- Discover deep configuration values and change histories, including:
 - ▶ Changes to configurations of web servers, application servers, databases
 - ▶ Application and OS patches
 - ▶ Alternations of network and storage settings

- Compare configurations to reveal policy violations and audit impact of changes

- Automatically senses, creates and maintains maps that describe run-time dependencies
 - ▶ Applications and their dependencies; servers hosting applications; networks; storage
 - ▶ Over 200 out-of-the-box discovery sensors

- Runs on Linux on the mainframe

Claims Processing Application

Component: /fvincia-ib-cs35ov-net-7003

General | Configuration | Patches | Resources | Application Descriptors | Runtimes | Config Files | Dependencies | Admin Info

Java Applications | EJBs | JSPs | Connectors | Other

Name	File Name	Application
ib.acct_db_client	/home/eng/bel/elements/1/config/vars/ib/acctdb/client_ib_client.jar	
ib.acct_db_driver	/home/eng/bel/elements/1/config/vars/ib/acctdb/client_ib_client.jar	
ib.acct_db_driver	/home/eng/bel/elements/1/config/vars/ib/acctdb/client_ib_client.jar	
ib.acct_db_driver	/home/eng/bel/elements/1/config/vars/ib/acctdb/client_ib_client.jar	
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ib.acct_db_driver	/home/eng/bel/elements/1/config/vars/ib/acctdb/client_ib_client.jar	
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ib.acct_db_driver	/home/eng/bel/elements/1/config/vars/ib/acctdb/client_ib_client.jar	

IBM Tivoli Application Dependency Discovery Manager -- Discovery Sensors

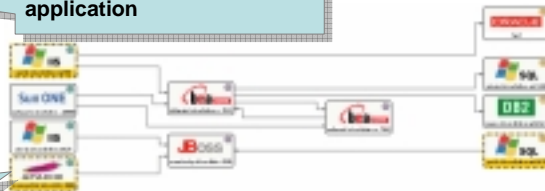
- Web Servers
 - ▶ Apache
 - ▶ iPlanet/SunOne
 - ▶ IIS
 - ▶ IBM HTTP Server
- Application Servers
 - ▶ WebSphere
 - ▶ WebLogic
 - ▶ JBoss
 - ▶ Apache Tomcat
 - ▶ Lotus Domino
 - ▶ Oracle Application Server
 - ▶ CICS
- Databases
 - ▶ Oracle
 - ▶ Sybase
 - ▶ DB2
 - ▶ MS SQL
 - ▶ PostGRES SQL
 - ▶ MySQL
 - ▶ IMS
- Applications
 - ▶ VMWare ESX Server
 - ▶ PeopleSoft (via custom server templates)
 - ▶ SAP
 - ▶ Seibel (via custom server templates)
 - ▶ Netegrity (via custom server templates)
 - ▶ MQ Series
- Universal Data Sensor for 3rd Party Applications
 - ▶ CiscoWorks
- Services
 - ▶ MS Active Directory
 - ▶ SunOne Directory Server
 - ▶ WFS (Samba)
- Supported Hosts/OS
 - ▶ Red Hat Linux, Suse Linux
 - ▶ AIX, HP-UX, Solaris
 - ▶ Windows
 - ▶ OpenVMS
 - ▶ z/OS
- Routers and Switches
 - ▶ Cisco Routers and Switches
 - ▶ Extreme Switches Summit
 - ▶ HP Procurve Switches (SNMP supported)
- Firewalls
 - ▶ Cisco PIX
 - ▶ Netscreen Firewall
 - ▶ Checkpoint Firewall (Nokia and Solaris installs)
- Load Balancers
 - ▶ Alteon Load Balancer
 - ▶ F5 Big IP Load Balancer
 - ▶ F5 DNS Server
- Storage Devices
 - ▶ Emulex HBAs
 - ▶ Brocade Switches (SNMP supported)
 - ▶ Disk Arrays, SAN switches (via TPC)

IBM Tivoli Application Dependency Discovery Manager – Identify Changes



1) Select change history window to identify changed components in any application

2) Changed configuration items are easily identified



Page	Component	Change	Date	Attribute	Old Value	New Value	Id
...
...
...

3) View detailed history of the changes by attribute

IBM Tivoli Application Dependency Discovery Manager - Audit via Comparison

Enables easy comparison of like configuration items to a 'master' copy

Dissimilar attribute values are highlighted

Summary

With IBM Tivoli solutions, you can keep your business up and running efficiently without adding staff!



IBM

