The Modern Mainframe – At the Heart of Your Business

The New Face of Mainframe Operations

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On Demand Insurance CIO Needs to Satisfy Service Levels

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

On Demand Insurance CIO

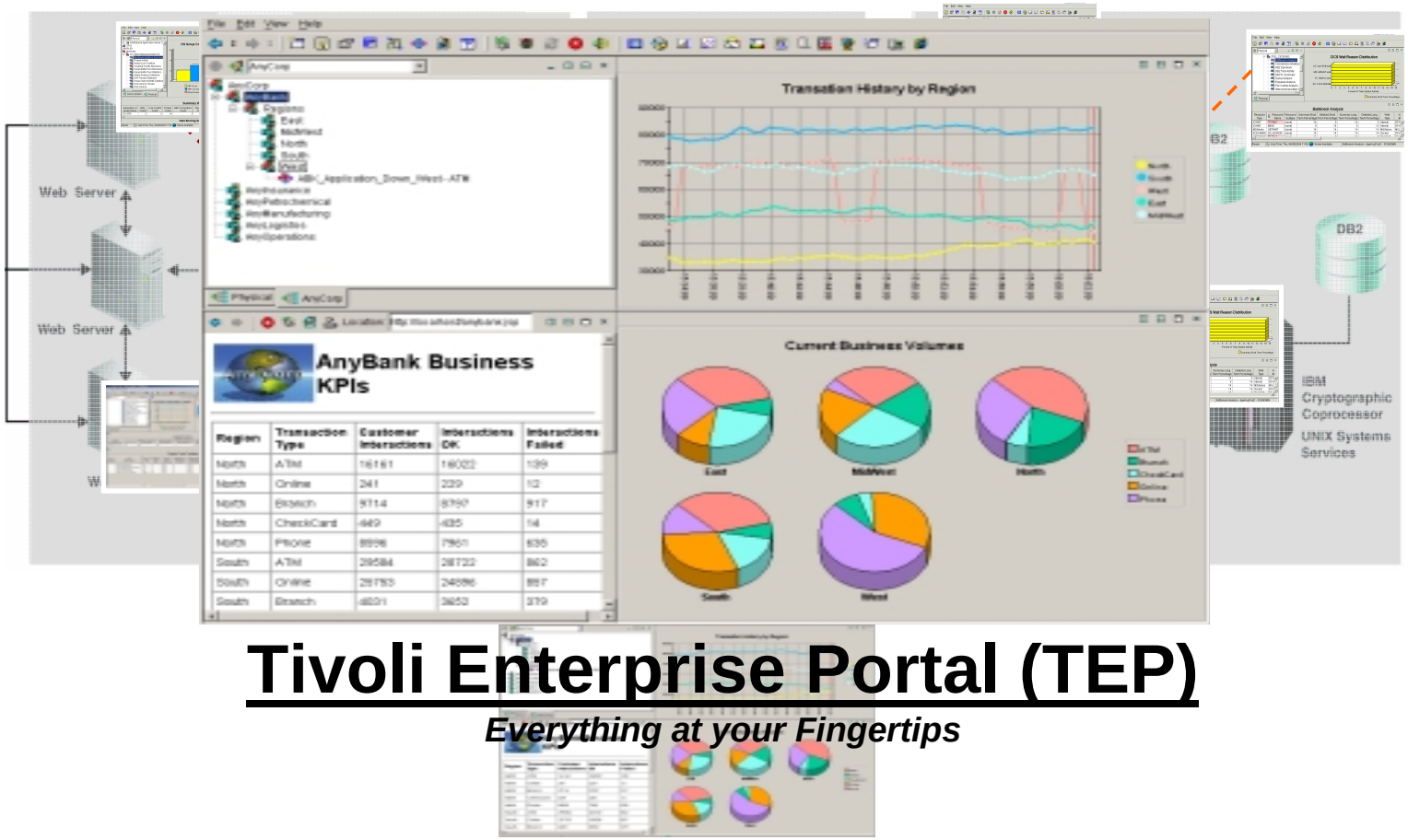
IBM Tivoli can help, **without adding staff**

IBM

A Complete View of IT Infrastructure Operation

One view through one portal to monitor the overall health of the infrastructure

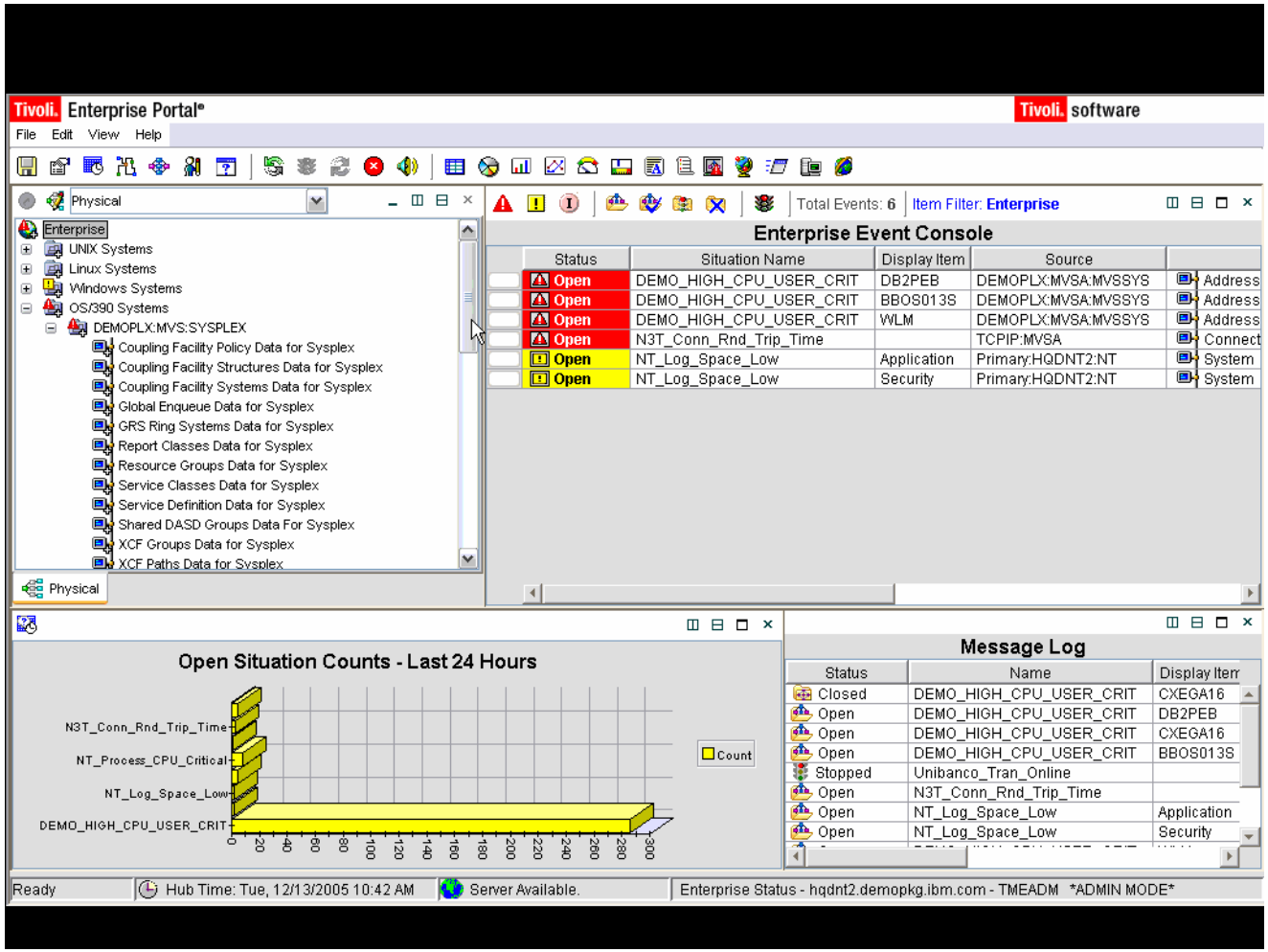
IBM Tivoli Monitoring (Distributed) **ITCAM** **IBM Tivoli OMEGAMON XE (System z)**



Tivoli Enterprise Portal (TEP)

Everything at your Fingertips

DEMO: Tivoli Enterprise Portal (TEP)

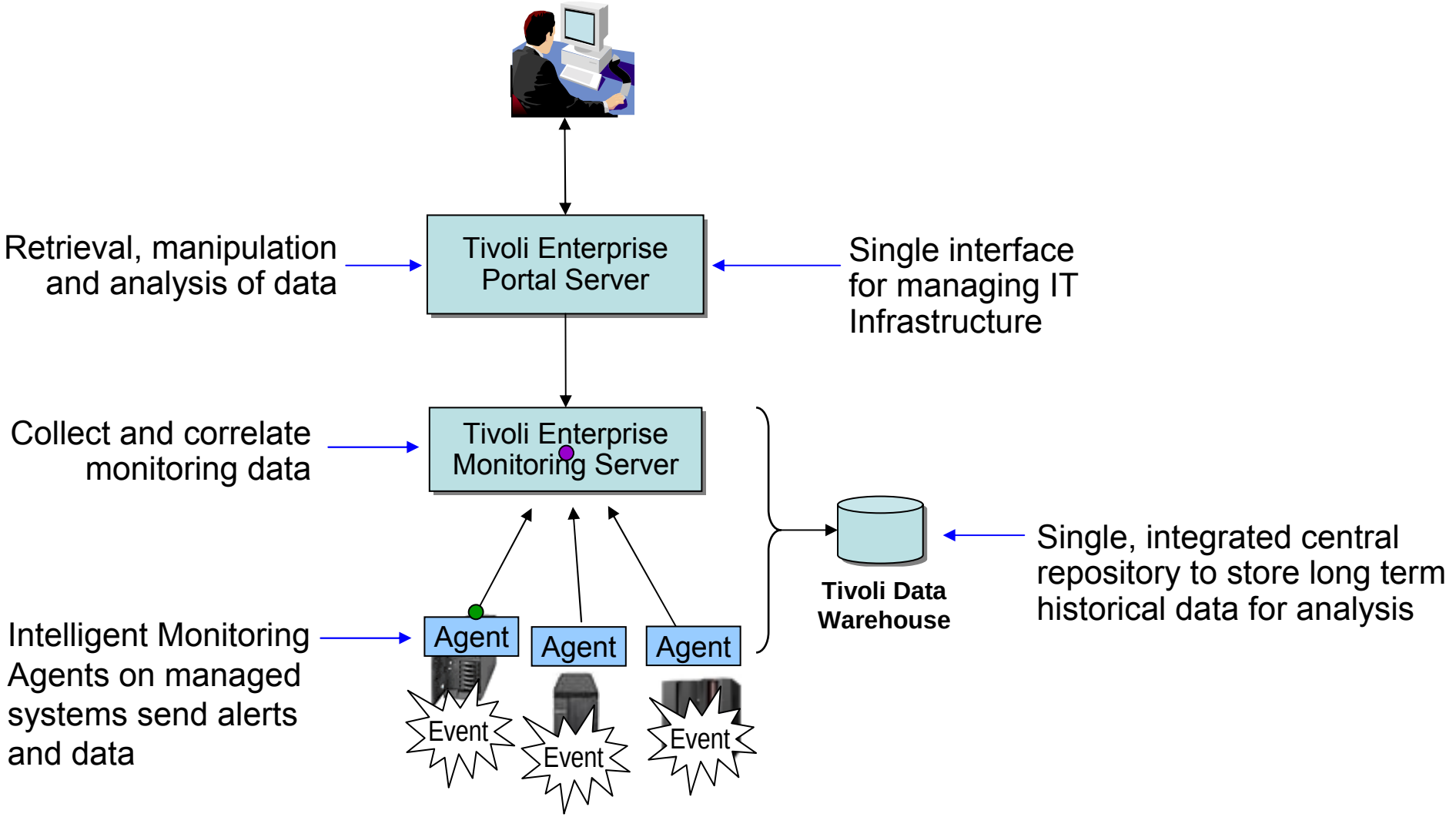


A Dynamic Role-based Portal for Integrating IT Operations

Tivoli Enterprise Portal (TEP)
A Dynamic Role-based Portal for Integrating IT Operations

- A common user interface makes operations management across all platforms easier
- TEP is used to display information from IBM Tivoli solutions, including:
  - IBM Tivoli OMEGAMON family; IBM Tivoli Monitoring (ITM) family; IBM Tivoli Composite Application Manager (ITCAM) family; IBM Tivoli Workload Scheduler family
- Integrated end-to-end monitoring allows for fast resolution of complex problems quickly and easily
- Using TEP, it is easy to create customized role-based views of the enterprise
  - Workspaces for operators, Systems Programmers, Application Programmers, Network Administrators, and IT Management

Comprehensive Monitoring Services

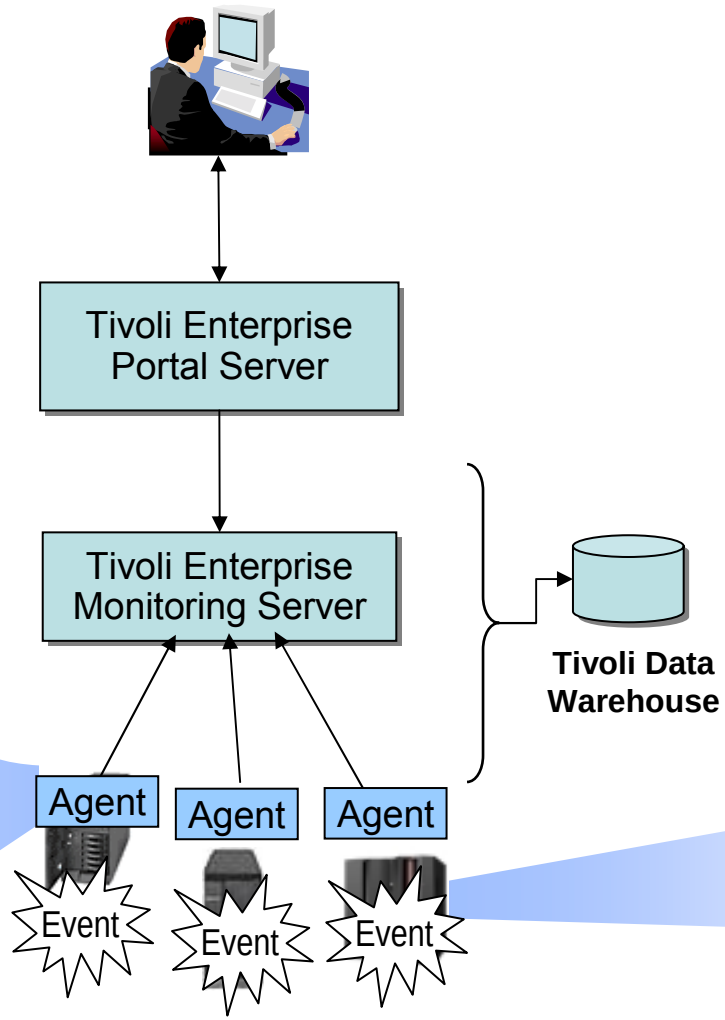


Integrated End-to-End Monitoring with IBM Tivoli

Platforms
- z/OS
- Linux (z and distributed)
- UNIX
- Windows
- OS/400
- z/VM
- VMware

Web Infrastructure
- WebSphere (z and distributed)
- IIS
- iPlanet
- Apache
- WebLogic

Business Integration
- CICS
- IMS
- WebSphere MQ
- Web Services/SOA



Collaboration
- Lotus Domino
- Exchange

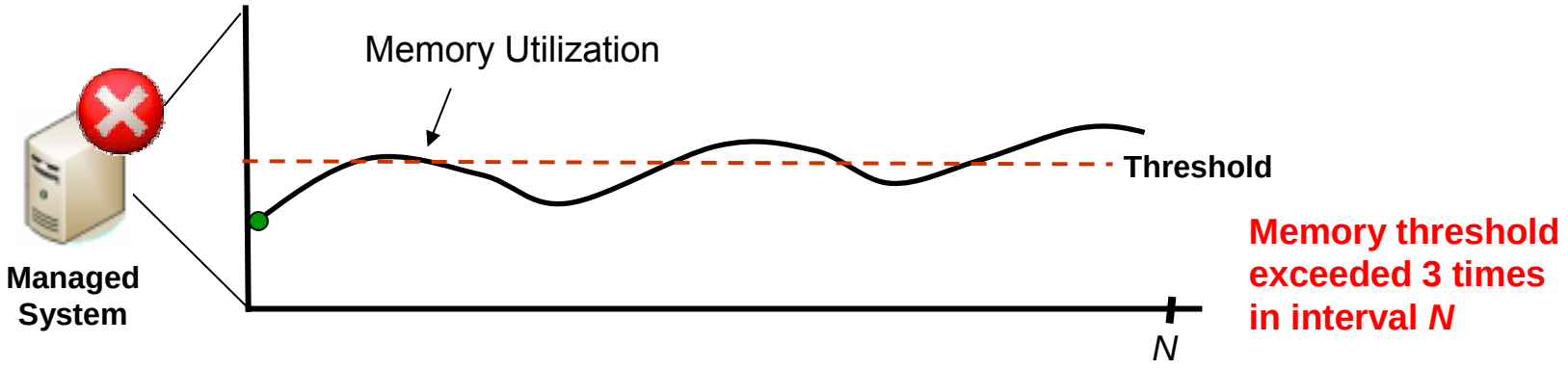
Database
- DB2 (z and distributed)
- Oracle
- MS SQL
- Sybase
- Informix

Applications
- J2EE (z and distributed)
- .NET (full suite of MS applications)
- SAP
- Citrix
- Siebel
- Tuxedo

Available with IBM Tivoli OMEGAMON XE family, IBM Tivoli Monitoring family and IBM Tivoli Composite Application Manager family

Define Situations that Indicate Abnormal Operations

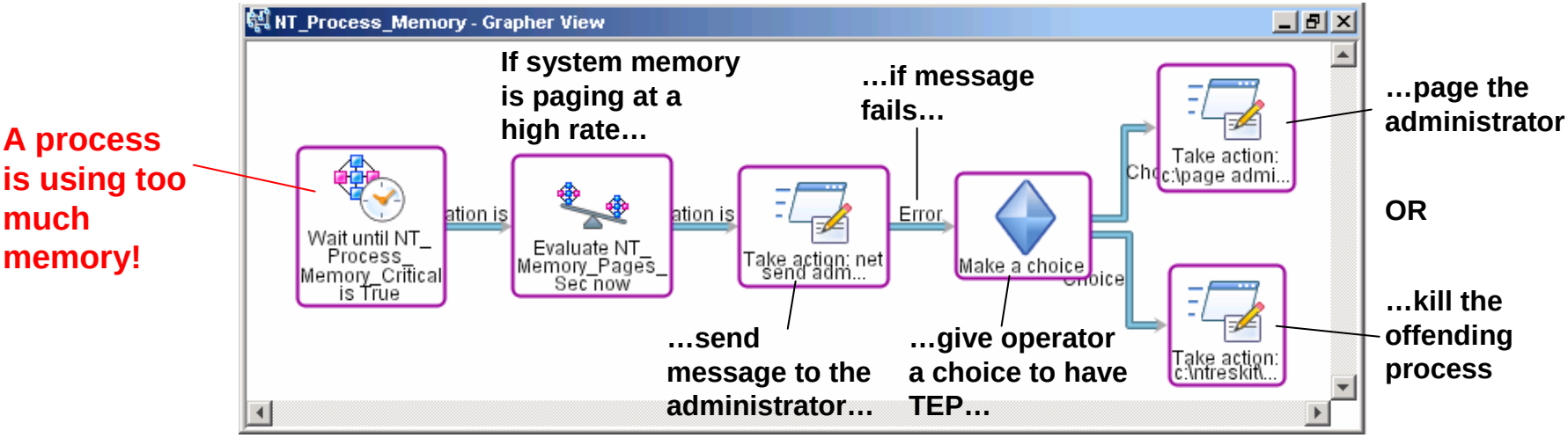
- Agents send **metrics** to the Monitoring Server
  - Examples: CPU usage, Disk usage, memory usage
- Operators define threshold values for metrics by specifying **conditions**
- Operators define **situations** that contain one or more conditions to test
  - When all conditions are met, the situation causes an alert
  - Management agents come with pre-defined situations that can be modified or extended



Automate Responses Using Policies

- A **policy** comprises a series of automated steps called *activities* that are connected to create a workflow
  - Policies perform actions, schedule work, and automate manual tasks
  - Policies can be fully-automated or require user intervention
    - Allows operator intervention and decision-making

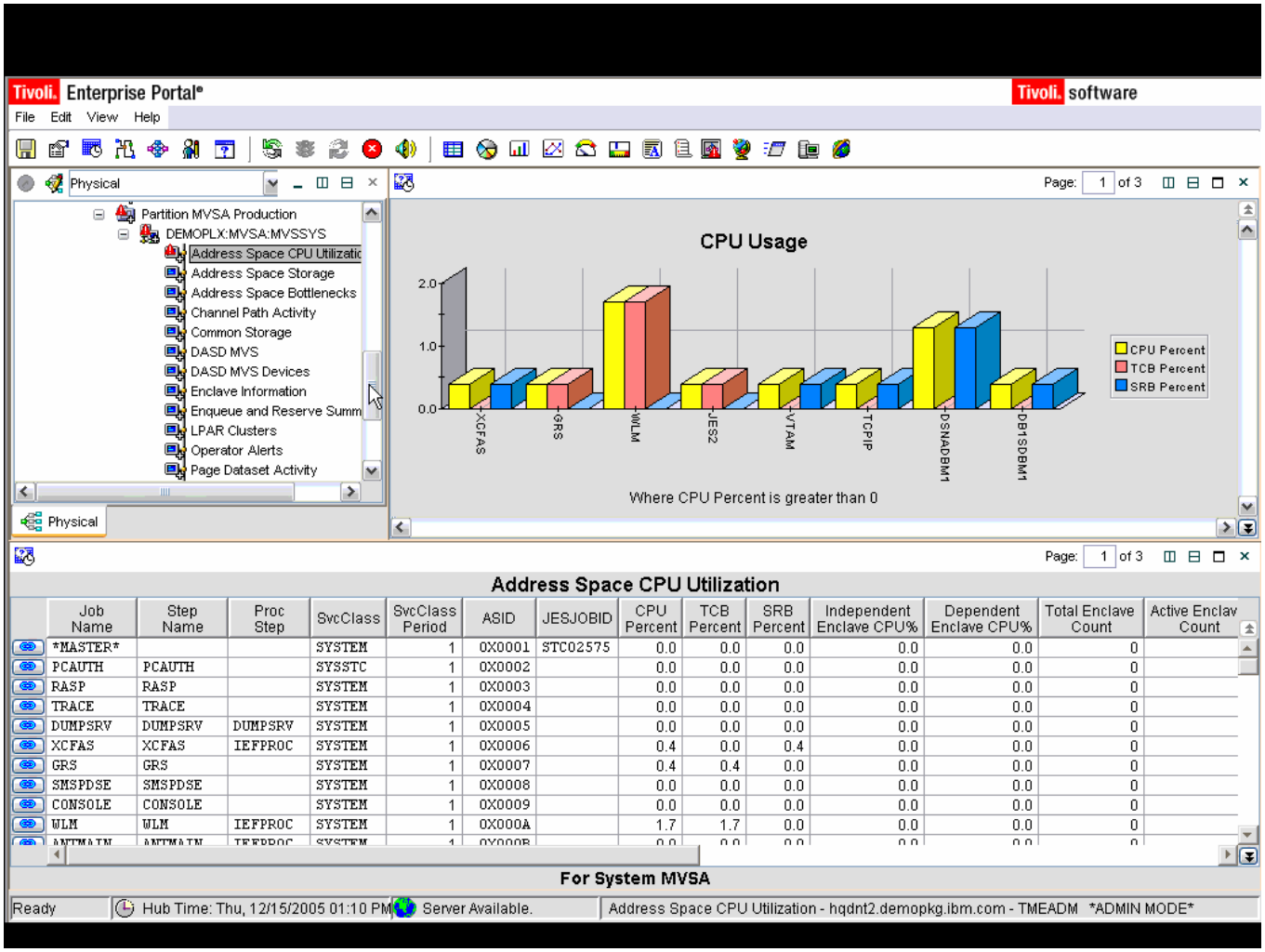
- Use the **Workflow Editor** to create and manage automated response policies



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

- Monitor key resources – CPU, LPARs, I/O, enqueue, paging, and others
- Manage and tune Workload Manager service classes
- Monitor Parallel Sysplex environments, such as Coupling Facility status and related resource metrics
- Real-time performance metrics for IBM Cryptographic Coprocessors
- zAAP processor usage and reporting for Java workloads
- Processor usage and reporting for zIIP (introduced on System z9)
- Predefined, customizable out-of-the-box automation situations
- Expert advice explains alerts and offers potential fixes
- Dynamic workspace linking to other OMEGAMON XE products

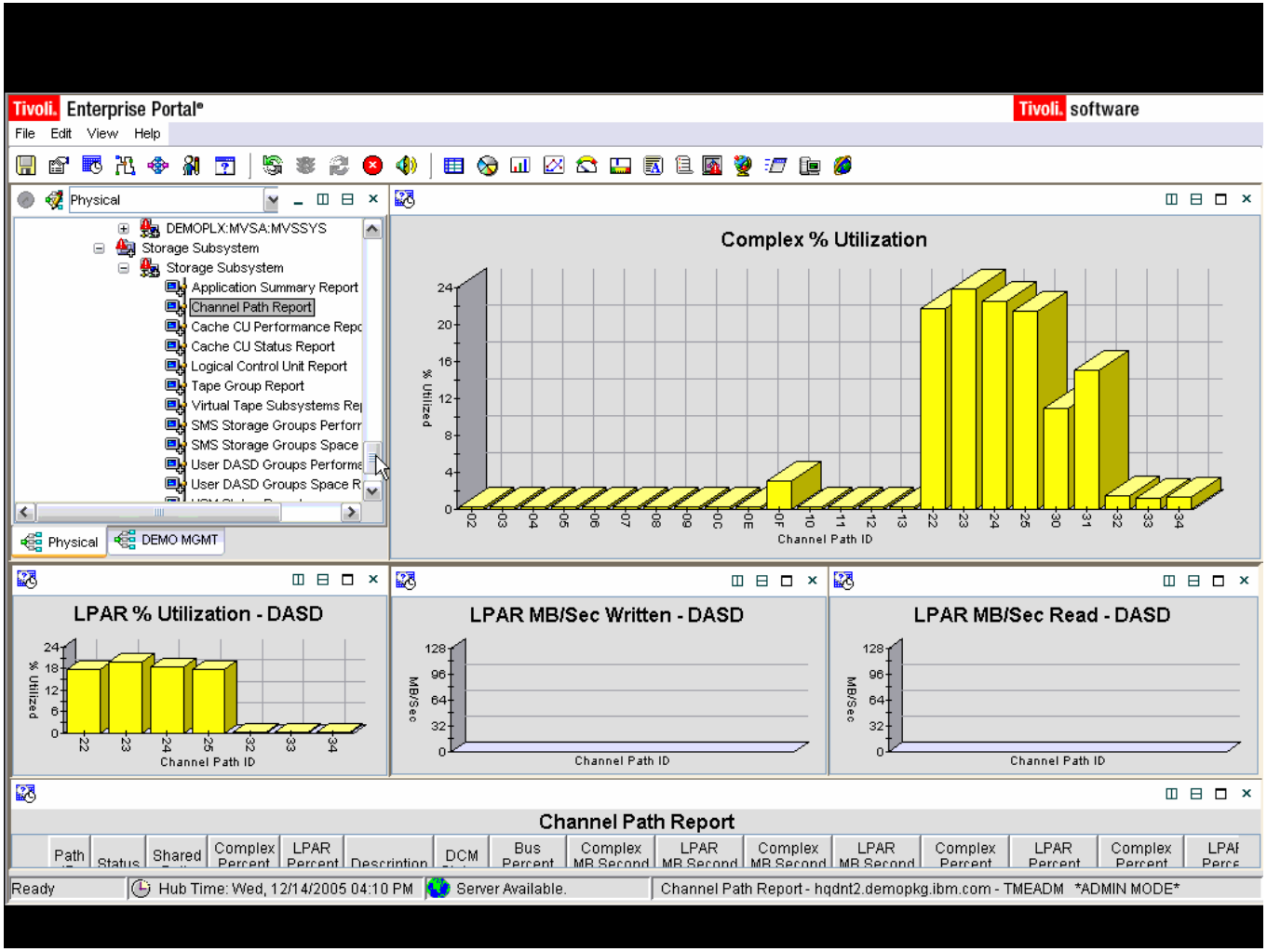
DEMO: Monitor z/OS with IBM Tivoli OMEGAMON XE



Manage Networks with IBM Tivoli OMEGAMON XE for Mainframe Networks and IBM Tivoli NetView for z/OS

- Manage VTAM sessions and TCP/IP connections from a single integrated interface
- Provides detailed analysis of TCP/IP connections that are slow, unstable, or down
- Measures application throughput rate and generates alerts if it increases over the baseline
- Measures transaction round-trip time, round-trip variance time, and other key metrics which provide a picture of end-user performance
- Automatic trouble ticket creation using IBM Tivoli Information Management for z/OS and Peregrine ServiceCenter

DEMO: Network Monitoring with IBM Tivoli OMEGAMON XE and IBM Tivoli NetView for z/OS



Monitor CICS systems with IBM Tivoli OMEGAMON XE for CICS on z/OS

- Monitor transaction resource usage and performance
- Identify tasks waiting for specific resources and pinpoint excessive wait times
- Monitor Java applications using the Java Virtual Machine (JVM) in CICS in addition to CICS dispatcher and TCP/IP connection
- Monitor Virtual Storage Access Method (VSAM) files and identifies record level sharing lock contention
- Correlate CICS log streams with associated facility structure to fine-tune CICS systems
- Correlate DB2 threads with CICS transactions to enable quicker problem identification and resolution

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

- Monitor, analyze and tune the performance of IBM DB2 Universal Database and IBM DB2 applications
- Monitor threads, I/O, buffer pools, and SQL cache
- Monitor interaction of DB2 with CICS, IMS, and batch processes
- Monitor DB2 Connect – track communication between DB2 Connect and host thread
- Provides in-depth analysis with a wide range of detailed, customizable reports

DEMO: Monitor DB2 Performance with IBM Tivoli OMEGAMON XE

The Value to A Real Customer

A Case Study – Large European Financial Services Company

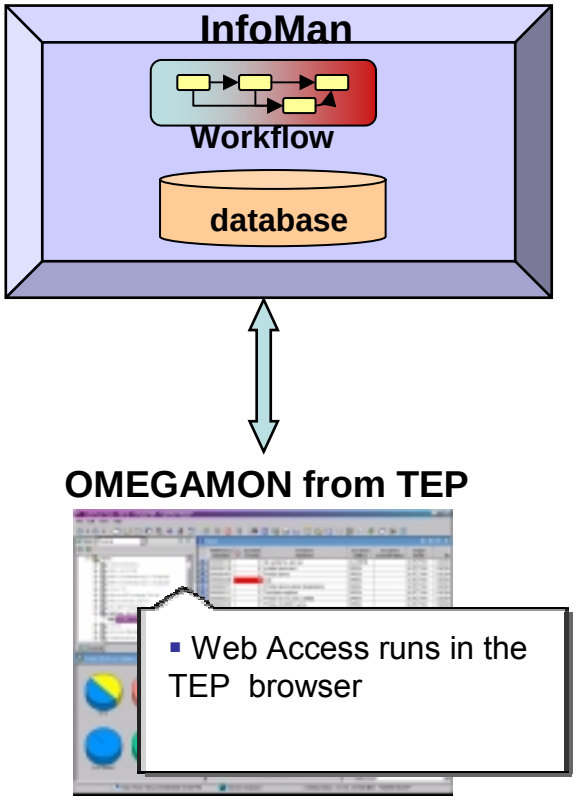
- Migrated from BMC system management tools to IBM Tivoli OMEGAMON XE family
- Benefits
  - The Tivoli applications offer a richer set of features that have led to several benefits, including the following:
    - **10 percent increase in availability**
    - **20 percent improvement in I/T staff productivity**
    - **30 percent reduction in I/T costs**
  - I/T staff detect problems before they occur and take steps to prevent them, resulting in increased system availability for the entire company and improved customer service.

Incident Management

Did you know that you can link OMEGAMON to **IBM Tivoli Information Management for z/OS (InfoMan) for trouble ticketing?**

Incident Management with IBM Tivoli Information Management for z/OS (InfoMan)

- **Automatic** incident creation from IBM Tivoli OMEGAMON and IBM Tivoli NetView
- Problem entry, assignment, notification, tracking and escalation
- Change-request tracking and approval
- Utilities to integrate with customer-built applications
- InfoMan and IBM Tivoli Web Access for InfoMan offer Blackberry support for viewing information and approvals



Monitoring Web Services

How about monitoring newer applications based on Web services/SOA?

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IBM Tivoli Composite Application Manager (ITCAM) can help you!

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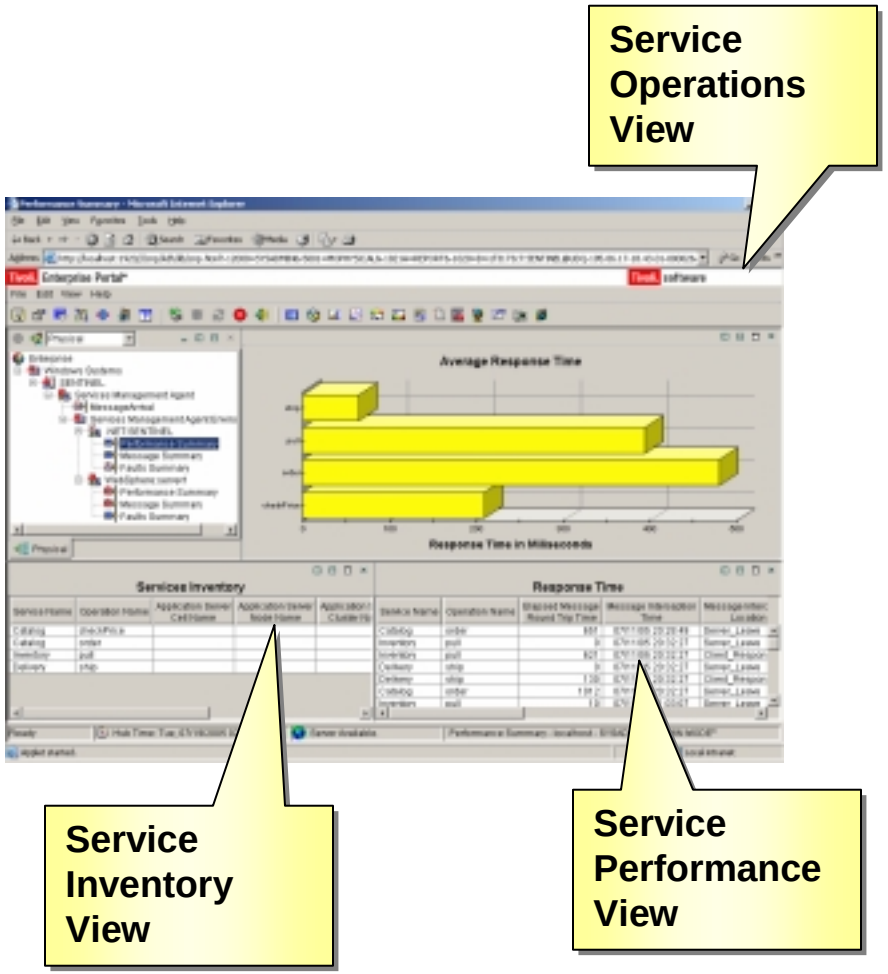
Monitor Web Services with IBM Tivoli Composite Application Manager (ITCAM) for SOA

- Provides service monitoring views in TEP
  - Maintains service performance with built-in and extensible alerts, mediations, situations and workflows
- Supports IBM WebSphere family including WebSphere Application Server, WebSphere Process Server, WebSphere ESB
- Cross-workspace linkages enable launch in context from services to application components and IT resources



Managing Batch Workloads

What about managing batch workloads across my SOA-enabled System z?

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

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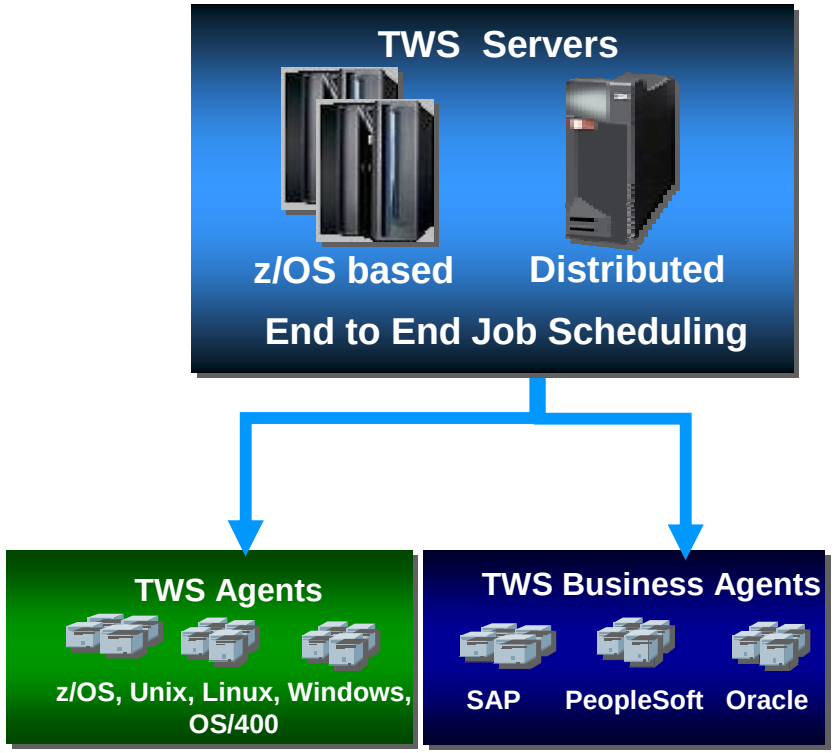
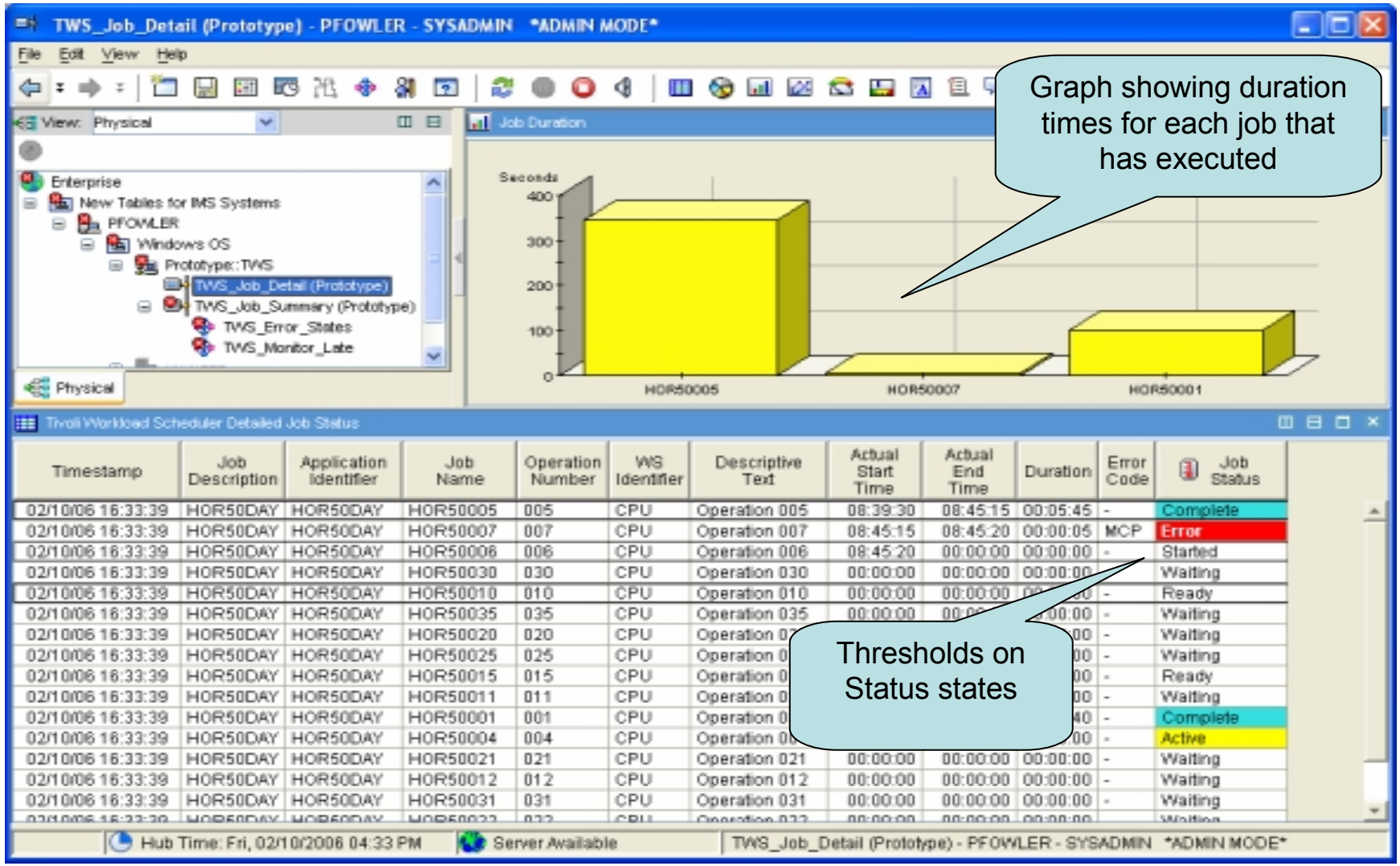
Workload Management with IBM Tivoli Workload Scheduler (TWS) for z/OS

- Automates, plans and controls the processing of production workload from TEP
- 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 WLM 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



Summary

Using the **IBM Tivoli** management products we were able to **simplify operations without adding staff**

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