IBM Tivoli Service Management & End to End Infrastructure Management

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Statement Of Direction And Intent

- All statements of direction or intent are provided for planning purposes only and are subject to change or withdrawal without notice
    - This presentation represents our current goals and objectives
    - We are listening to customer views on the future directions of our solutions

Agenda

- **IT Service Management**

- **z/OS Portfolio**

- **Tivoli Enterprise Portal and Integration**

- **Tivoli Technology Preview Announcement**

- **New OMEGAMON 4.1.0 Features**

- **ITSM & Infrastructure Management Summary**
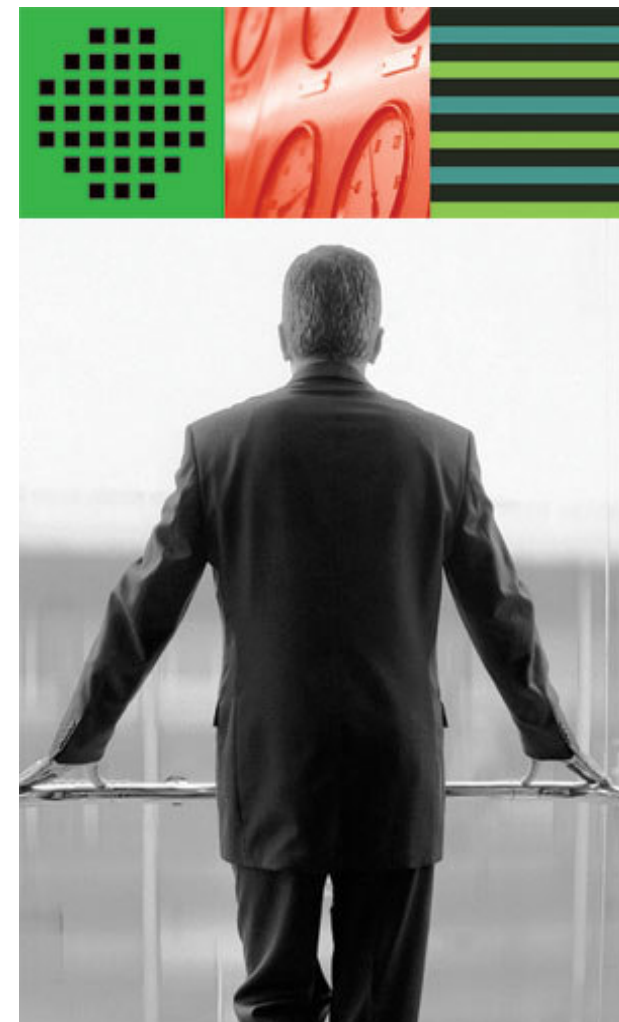
IT Organizations Face Tremendous Challenges

Challenges are coming from many fronts:

- **Change:** Market demands, workloads, service levels

- **Compliance:** Regulations, security, audit capabilities

- **Complexity:** Heterogeneous resources, organizational silos, composite applications

- **Cost:** Management and administration

Organizational Complexity Compounds the Problem

Managing composite applications across IT silos is major challenge

Desktop Experts and Tools	Network Experts and Tools	Application Experts and Tools	Database Experts and Tools	Server Experts and Tools	Mainframe Experts and Tools	Storage Experts and Tools

- Availability Management
- Change Management
- Service Level Management
- Security Management
- Information Lifecycle Management
- Release Management

Labor Cost

Sense Isolate Diagnose Take Action Evaluate **Time**
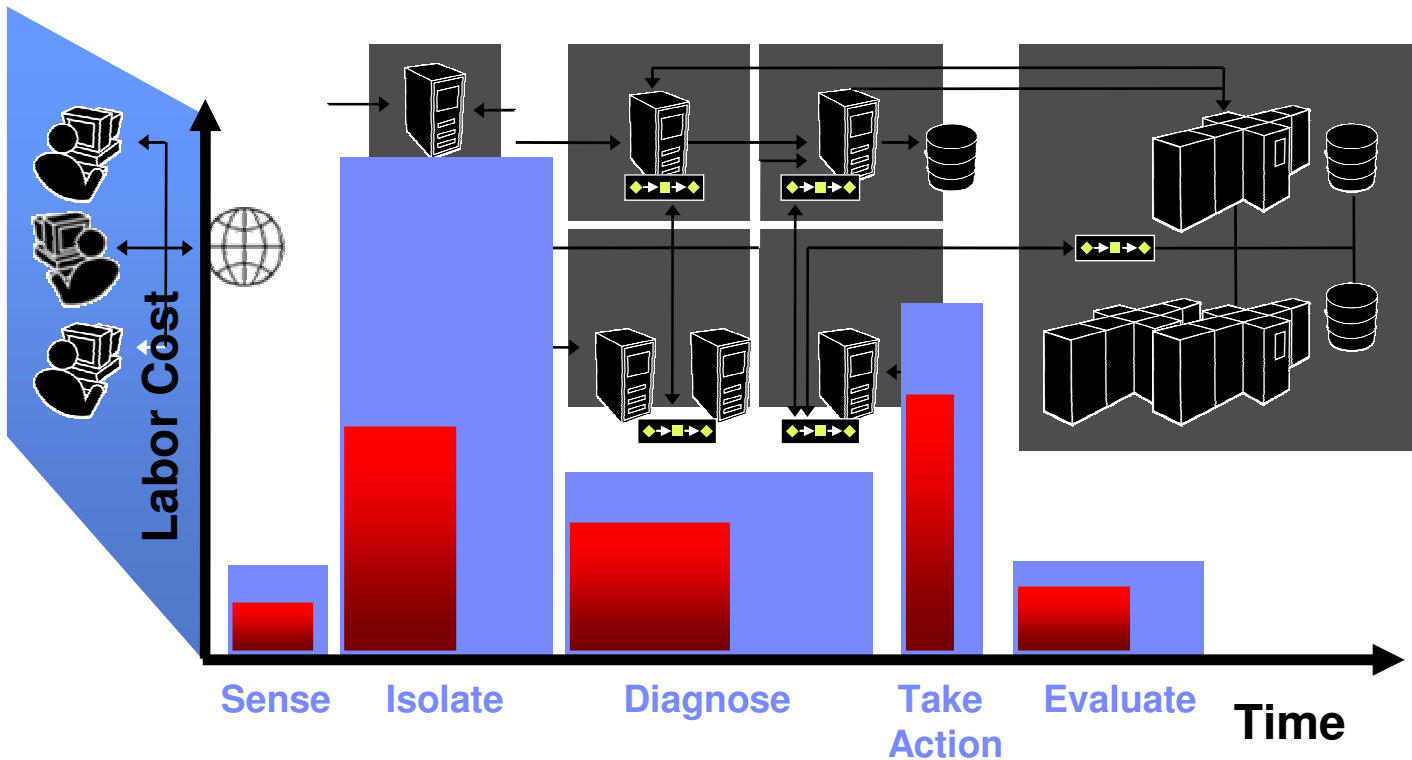
IT Operational Management Products

Integrated across silos through the ITSM platform to the IT process management products

IBM IT Service Management

IT Process Management Products

IT Service Management Platform

IT Operational Management Products

Best Practices

Tivoli Product Portfolio Available TODAY!

System z Tivoli Products in Technology Preview Announcement

Business Application Management	Server, Network & Device Management	Storage Management	Security Management
Products include:	Products include:	Products include:	Products include:
▪ **Tivoli Composite Application Manager Family**	▪ **Tivoli Enterprise Console**	▪ **Tivoli Storage Manager**	▪ **Tivoli Access Manager Family**
▪ **Tivoli Business Systems Manager**	▪ **Tivoli Monitoring Family**	▪ **Tivoli Continuous Data Protection for Files**	▪ **Tivoli Identity Manager Family**
▪ **Tivoli Intelligent Orchestrator**	▪ **Tivoli OMEGAMON Family**	▪ **TotalStorage Productivity Center**	▪ **Tivoli Federated Identity Manager Family**
▪ **Tivoli Service Level Advisor**	▪ **Tivoli NetView Family**		▪ **Tivoli Directory Server**
▪ **Tivoli Contract Compliance Manager**	▪ **Tivoli Remote Control**		▪ **Tivoli Directory Integrator Family**
▪ **Tivoli License Compliance Manager Family**	▪ **Tivoli System Automation Family**		▪ **Security Compliance Manager**
▪ **Netcool/Impact**	▪ **Tivoli Workload Scheduler Family**		▪ **Tivoli Security Operations Manager**
▪ **Netcool/RAD**	▪ **Tivoli Provisioning Manager**		
	▪ **Tivoli Configuration Manager**		
	▪ **Tivoli Decision Support for z/OS**		
	▪ **Netcool/OMNIbus**		
	▪ **Netcool/Proviso**		
	▪ **Netcool/Precision**		
	▪ **Netcool/Monitors**		

Tivoli Product Preview Announcement Summary

(Announced at SHARE Conference - Baltimore, MD August 15, 2006)

New Releases of IBM Tivoli Products
All new product releases are planned for GA during 4Q06 except as noted

Monitoring

IBM Tivoli OMEGAMON XE

- z/OS V4.1.0 *(First Quarter 2007 availability)*
- CICS on z/OS V4.1.0
- IMS on z/OS V4.1.0
- DB2 Performance Expert on z/OS V4.1.0
- DB2 Performance Monitor on z/OS V4.1.0
- Mainframe Networks V4.1.0
- Storage on z/OS V4.1.0
- z/VM and Linux V4.1.0

- IBM OMEGAMON z/OS Management Console V4.1.0 *(First Quarter 2007 availability)*

- Installation and Customization Assistance Tool (ICAT) V3.1.0 – a component with OMEGAMON products

- Tivoli NetView for z/OS V5.2 Sparkler Release

- Web Access v1.3 for InfoMan Sparkler Release

New Releases of IBM Tivoli Products
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Application Management

- IBM Tivoli Composite Application Manager (ITCAM)
  - WebSphere V6.1 and ITCAM for J2EE V6.1
  - SOA V6.1
  - Response Time Tracking V6.1 (Available now)

Automation

- IBM Tivoli System Automation
  - z/OS 3.1 – sparkler for TWS integration
  - Multiplatforms v2.2
- Tivoli Workload Scheduler
  - z/OS v8.2 – sparkler for TSA integration
  - z/OS v8.3

End to End Management from Tivoli
System z Portfolio

| IBM Tivoli Monitoring v6.1 | Tivoli Enterprise Console v3.9 | OMEGAMON XE on z/OS v4.1.0 | OMEGAMON XE for DB2 PE/PM v4.1.0 | OMEGAMON XE for CICS & IMS v4.1.0 | OMEGAMON XE for MF Networks v4.1.0 | OMEGAMON XE for Storage v4.1.0 | License Compliance Manager for z/OS v4.1 | Contract Compliance Manager v3.7 |

Service Level Reporting

Executive Dashboard

Web Server

Web Server

Web Server

Web App. Server

Web App. Server

Web App. Server

Web App. Server

MQ Mgr.

MQ Mgr.

MQ Mgr.

MQ Mgr.

DB2

DB2

DB2

DB2

DB2

WBIMB

| System Automation for Multiplatforms v2.2 | Composite Application Manager for WebSphere V6.1 | Composite Application Manager for R.T. Tracking V6.1 | Composite Application Manager for SOA V6.1 | NetView on z/OS v5.2 | System Automation for z/OS 3.1 | Workload Scheduler for z/OS 8.3 | Usage and Accounting Manager v6.1 |

Complete View Of Application Performance
A Dynamic Role-based Policy Workspace for Integrating IT Operations Silos

Tivoli Enterprise Portal (TEP)
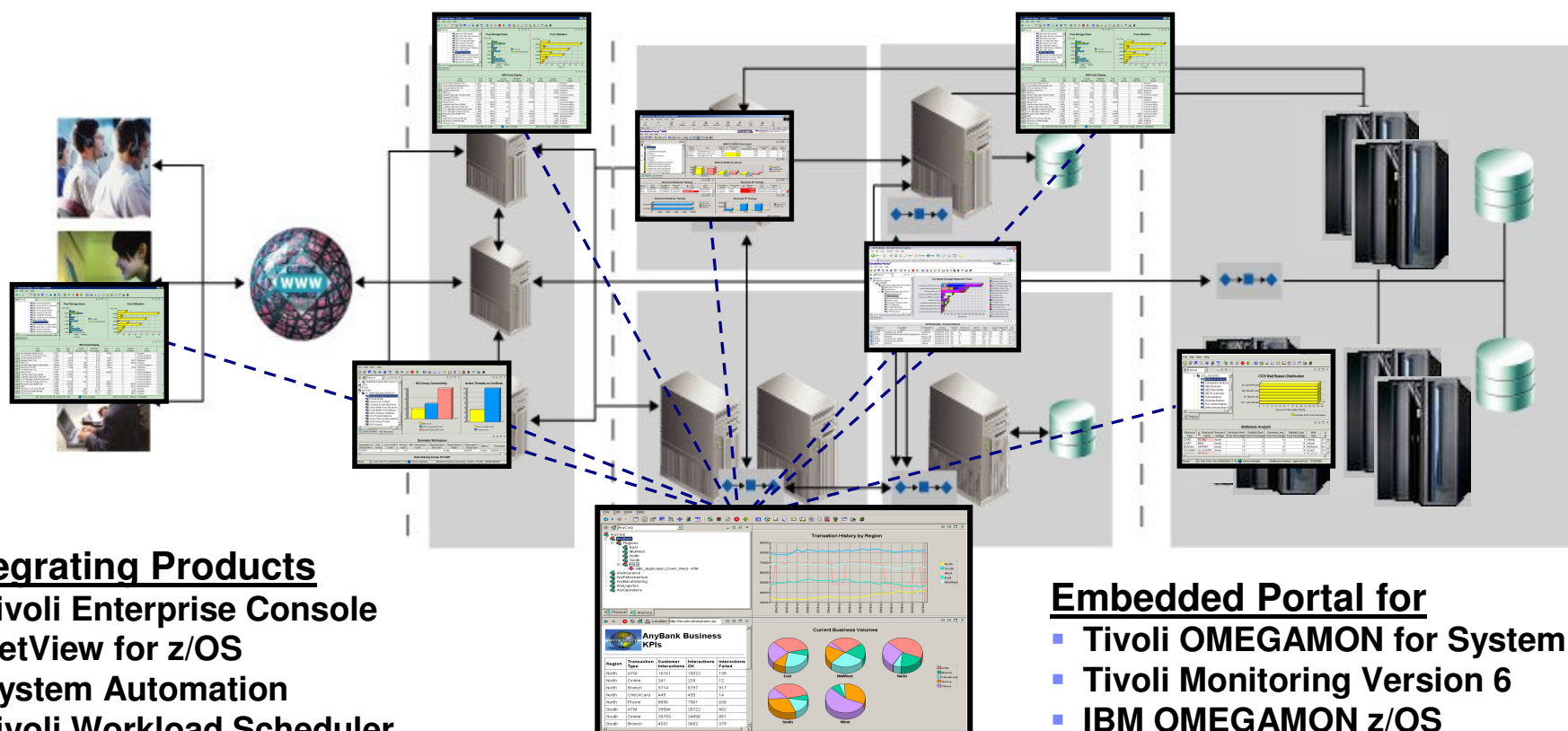
Integrating Products
- **Tivoli Enterprise Console**
- **NetView for z/OS**
- **System Automation**
- **Tivoli Workload Scheduler**
- **Tivoli Monitoring Version 5**
- **Tivoli Service Level Advisor**
- **Tivoli Business Systems Manager**

Embedded Portal for
- **Tivoli OMEGAMON for System z**
- **Tivoli Monitoring Version 6**
- **IBM OMEGAMON z/OS Management Console**
- **Tivoli Composite Application Manager Family**

Integrated End to End Support for Heterogeneous Environments
Available with IBM Tivoli Monitoring 6.1, OMEGAMON & Composite Application Manager

IBM Tivoli monitoring spans the breadth of your IT environment and provides fast time to value because it's so easy to deploy!

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

Tivoli Enterprise Portal

Everything at your Fingertips

Tivoli Composite Application Management Portfolio
Delivering high-performing composite applications

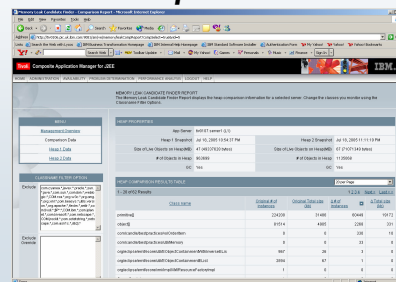**Analyze and Measure Transactions & Services**

Manage Application
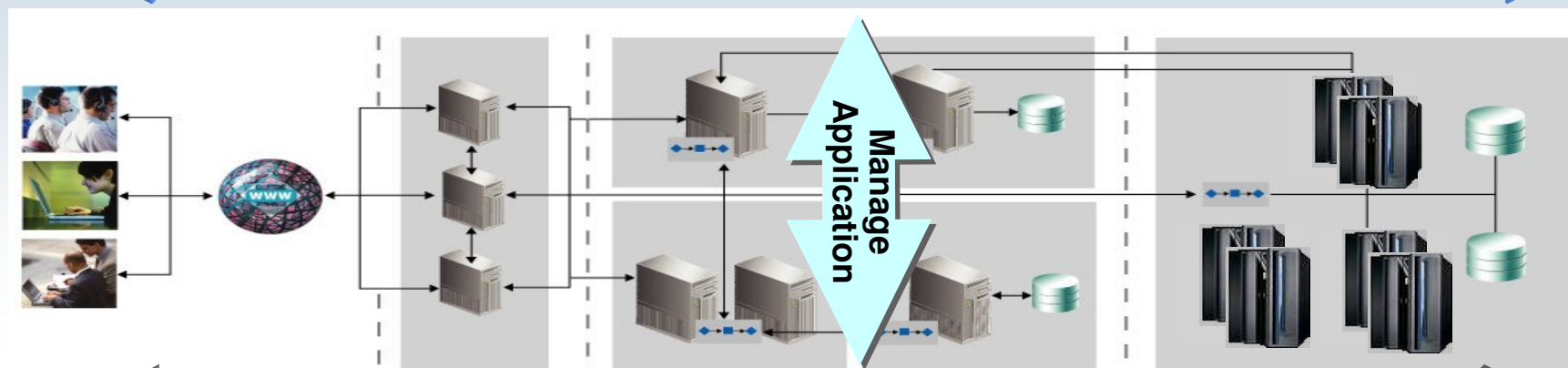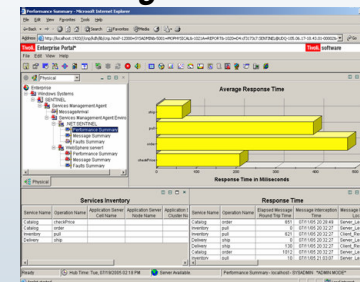
Monitor Infrastructure
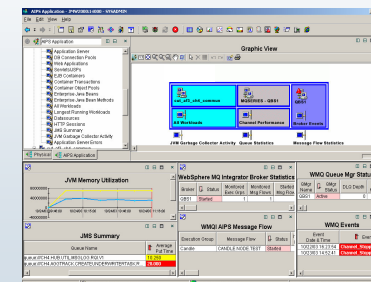
Composite Application Manager for for RTT
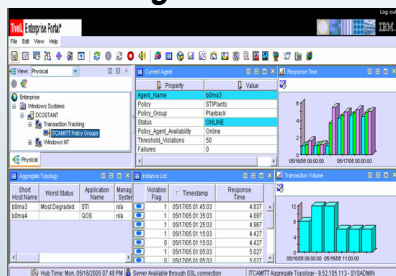
Composite Application Mgr for WebSphere & J2EE
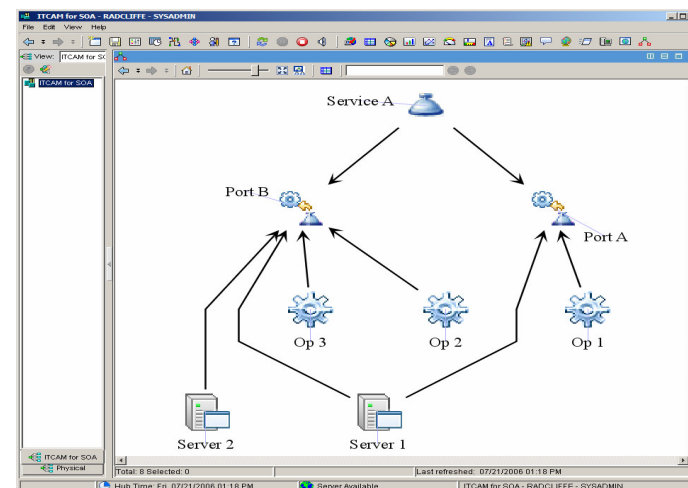
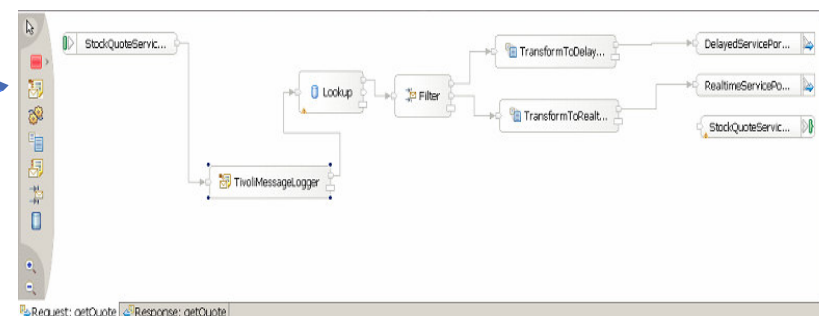*Composite Application Manager for SOA*

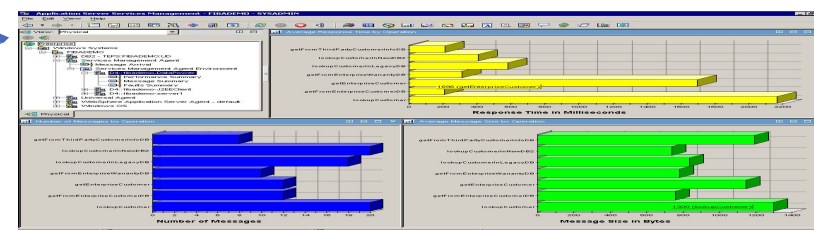*OMEGAMON XE and ITM*

Composite Application Management for SOA 6.1

- **Integration with WebSphere Service Registry and Repository**

- **Integration with the new WebSphere Enterprise Service Bus SCA runtime**

- **Additional integration with WebSphere DataPower SOA Appliance through SNMP monitoring OPAL solution**

IBM Tivoli Workload Scheduler

- **Single solution to integrate workloads** from multiple applications, across multiple platforms.

- **Improves availability and integrity** of production systems

- **High Availability and Fault Tolerant** architecture.

- **Enhanced TWS-WLM integration** to support new WLM scheduling features

- **New TEP integration** to monitor the status of TWS critical jobs

- **Dynamic real-time workload automation** in addition to traditional calendar and event-based scheduling

- New **Critical Path Monitoring** and management feature for TWS

Scheduling Web UI
New in 2006

Job Scheduling Console

Tivoli Enterprise Portal
New in 2006

TWS Servers

z/OS based   **Distributed**

End to End Job Scheduling

TWS Dynamic Workload Broker

New in 2006

TWS Agents

AIX, HP, Solaris, Windows, Linux, OS/400, z/OS...

TWS Business Agents

SAP   PeopleSoft   Oracle
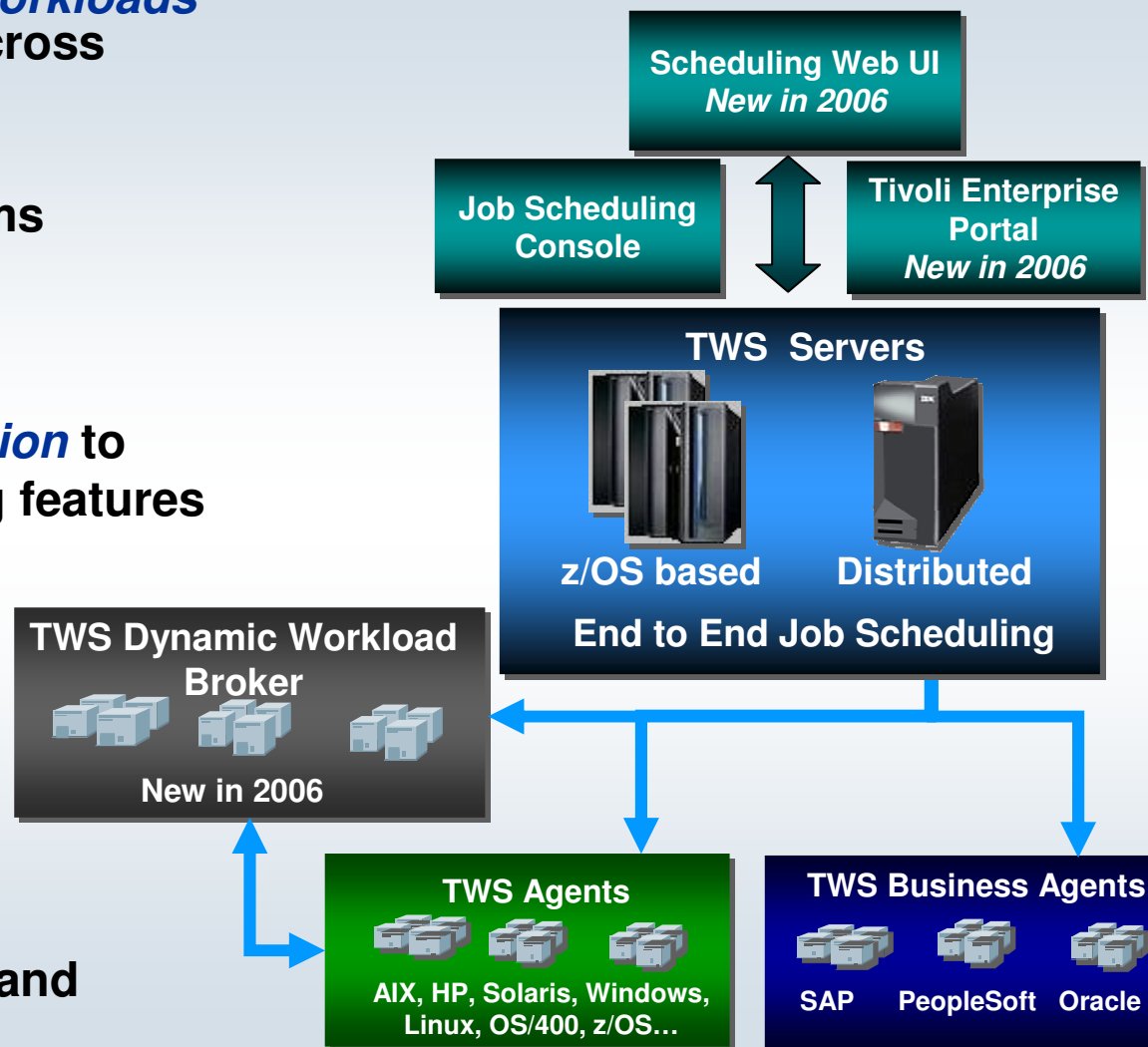
System Automation & NetView for z/OS

- **Enhanced Tivoli System Automation on z/OS** (TSA) integration with Tivoli Workload Scheduler (TWS)
  - Issue TSA commands from within the TWS console
  - TEP launch in context to TSA

- **TSA Multiplatform** provides integration with IBM High Availability Cluster Multiprocessing (HACMP) and Microsoft Server Cluster Service (MSCS)
  - Centrally manage high availability for composite applications running in heterogeneous environments

- **Tivoli NetView on z/OS** enhanced TEP integration
  - With OMEGAMON XE for Mainframe Networks and new interoperability with OMEGAMON XE for z/OS, DB2 PE/PM, and CICS

Major New Common OMEGAMON Capabilities

- **Delivered CCMDB TEP Discovery Library Adapter**

- **Added Globalization to Group 1 languages**
  - French, German, Italian, Spanish, Portuguese, Chinese (simple & traditional), Japanese, Korean

- **Extended Interoperability via Dynamic Workspace Linking**
  - intelligently link to other workspaces using the context available at the time of link execution to reduce problem resolution time

- **Added z9 Integrated Information Processor (zIIP) monitoring in OMEGAMON XE on z/OS & XE on DB2 PE/PM on z/OS**
  - Day 1 support via service for OMEGAMON XE z/OS and DB2 PE/PM V3.1.0 via PTF and enhanced support in 4.1.0
  - zIIP address spaces, service classes, LPAR data, DDF server thread data, workloads eligible for zIIP that are running on standard CPUs

Major New Common OMEGAMON Capabilities (**Cont)**

- **Extended Tivoli Data Warehouse (TDW) with support for Pruning and Aggregation**
  - Automatic deletion of data and consolidated reporting by groups, dates, etc.

- **Added IBM Support Assistant**
  - Plug-ins to improve product support

- **Added Problem Determination Guides**
  - Help customers diagnose and solve operational problems

- **Support for Agent Versioning added**
  - Multi-product version support enable incremental deployment of OMEGAMON 4.1.0 products

- **IBM Customization Assist Tool (ICAT) enhanced to simplify SMP/E and Run Time Environment (RTE) installation and deployment**

Dynamic Workspace Linking Functionality

Problem: **How do I quickly find a potential problem that requires multiple monitoring products?**

Scenario: **Dynamically link in context from CICS transaction to the associated DB2 thread**

Solution: **Dynamic Workspace Linking Product provided links & user customized**

OMEGAMON XE for DB2 PE/PM z/OS 4.1.0	OMEGAMON XE for CICS on z/OS 4.1.0	OMEGAMON XE for IMS on z/OS 4.1.0

OMEGAMON XE for z/OS 4.1.0

OMEGAMON XE for Storage 4.1.0	OMEGAMON z/OS Management Console 4.1.0	OMEGAMON XE for Mainframe Networks 4.1.0
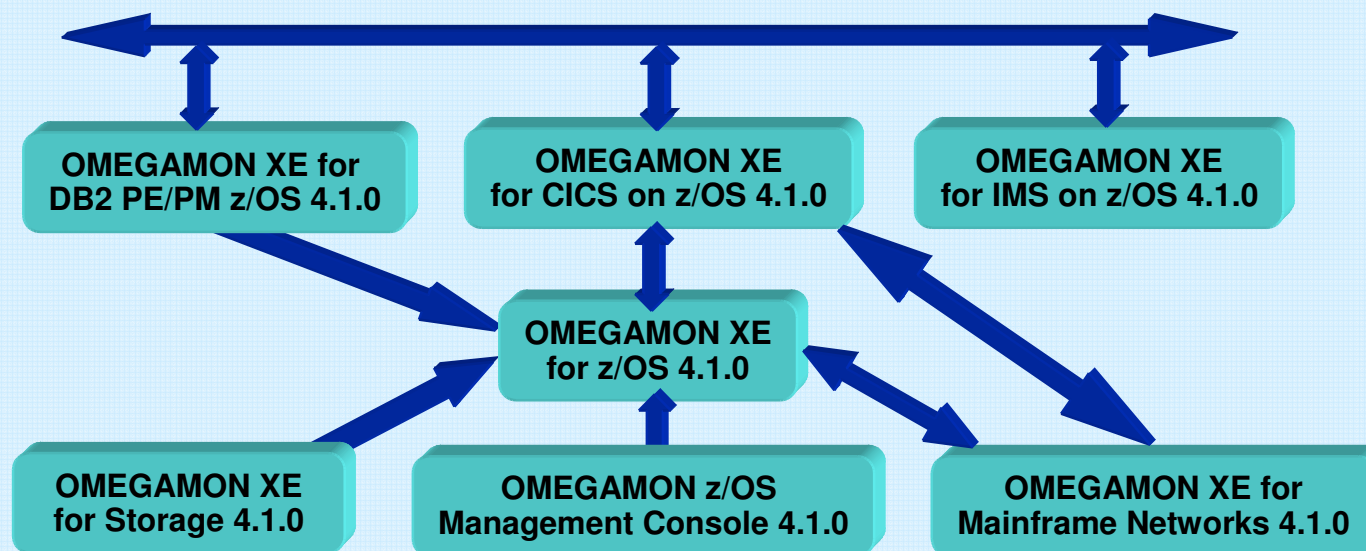
OMEGAMON XE on z/OS v4.1.0 *Highlights*

- **zIIP processor usage and reporting – also back fit in v3.1.0 (July)**

Availability 1Q2007

- **Basic RMF III launch, optional RMF collection for CF data**
- **Integration:**
  - Linking from OM XE DB2 PE/PM to OM XE on z/OS (enclave), DWL to OMEGAMON XEs, and z/OS Management Console (zMC)

- **Added to XE interface from CUA**
  - I/O rate by address space
  - Real Storage information

- **Tape drive situation support**

- **z/OS Exploitation**
  - Coupling Facility structure duplexing reporting
  - Plex wide zAAP support

- **Converged OM XE for USS into OM XE on z/OS**

zAAP / zIIP Reporting

Same changes to Address Spaces Workspace for Service Class

Address Spaces Workspace for Service Class Period

OMEGAMON XE for CICS on z/OS v4.1.0 *Highlights*

Availability 4Q2006

- **Enhanced CICS TS Support**
  - URIMAP summary, global counts and details for CICS web clients
  - Web Service analysis reports for Web Service Details, Virtual Host Detail, Pipeline Detail, Document Template Detail
  - Business Transaction Services (BTS) support for long running processes
  - Recovery Manager reporting for application performance tuning
  - Enqueue pool details for recovery
  - Enterprise Java analysis reporting

- **Dynamic Workspace Linking**
  - CICS Transaction -> DB2 Thread, CICS Transaction Analysis data,
  - DB2 Thread Exception Detail reports

- **CUA Migration to XE – Service Level Analysis (SLA) and Application Trace Facility (ATF)**

- **Integration with CICS PA**

OMEGAMON XE for IMS on z/OS v4.10 *Highlights*

- **TRF reporting improvements**
  - Increased precision expanding transactions to the millisecond

  Availability 4Q2006

- **DL/I call reporting for full function and Fast Path WFI regions**

  - Accumulation of all call types issued by an application during transaction processing

- **HALDB support**

  - DB summaries, partition details, VSAM / OSAM statistics

- **DBCTL detailed thread reporting for monitoring activity**

  - Allows detection and prevention of application bottlenecks and response time problems.

- **Enhanced IMS Connect reporting**

  - Provides summary of transaction performance, details about every transaction processed and auto-discovery of IMS Connect tasks

- **Product provided Dynamic Workspace Links (DWL) to OMEGAMON DB2 and CICS**

OMEGAMON XE for DB2 PM/PE on z/OS v4.1.0
Highlights

Availability 4Q2006

- **Support for zIIP processor usage**

- **New DB2 Top Ten Volume reports for the System z9 platform**

- **DB2 version 9 day one support**

- **Enhanced Thread Overview**
  - Show additional LOCK information and Changed Pages in all Group Buffer Pools

- **DWL for enclave to OMEGAMON XE on z/OS, OMEGAMON XE for CICS on z/OS and OMEGAMON XE for IMS on z/OS.**

OMEGAMON XE for Storage on z/OS v4.10 *Highlights*

Availability 4Q2006

- **New storage toolkit for DFHSM and DFDSS functions**
  - Database administrators can quickly and easily create commands or schedule actions to maintain and administer DASD storage via the TEP

- **Top ten volume reports**

- **New dataset attribute database**
  - Granular and versatile reporting capabilities at the dataset level that can be administered via the new storage toolkit function

- **New problem solving workspaces adding to your problem determination capabilities**
  - Intelligent situation analysis

- **Integration:**
  - DWL to other OMEGAMON XE on z/OS
  - Launch of Total Productivity Center (TPC)

OMEGAMON XE for Mainframe Networks on z/OS v4.1.0
Highlights

- **New performance reports**
  - VTAM buffer pool and address space workspaces

- **Enhanced FTP records**
  - Provided by the z/OS Communications Server Network Management Interface resulting in performance improvement

- **TN3270 server session workspaces provide performance and availability metrics for systems running z/OS version 1.8**

- **Advanced historical reporting**
  - Available using both new Tivoli Enterprise Portal workspaces and SQL queries against the Tivoli Data Warehouse database
  - DBCTL detailed thread reporting for monitoring activity allowing the detection and prevention of application bottlenecks and response time problems

- **Enhancements to Enterprise Extender (EE) reporting and High Performance Router (HPR) connections**

- **DWL to OMEGAMON XE on z/OS and NetView on z/OS for extended integration**

OMEGAMON XE for z/VM and Linux v4.1.0

Availability 1Q2007

- **Combined offering to monitors z/VM and Linux on System z**
- **Provides workspaces that display**
  - Overall System Health
  - Workload metrics for logged-in users
  - Individual device metrics
  - LPAR Data
- **Composite views of Linux on z running on VM**
- **Integrated with the VM Performance Toolkit**

New!
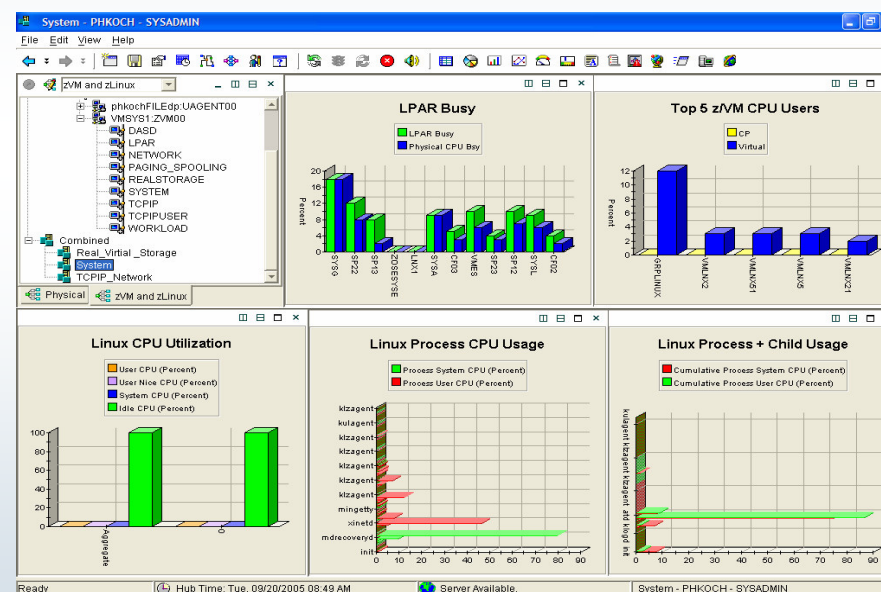
Modernizing the "Face" of z/OS

The way it's been

The way it can be

Expert-friendly, long learning curve for people new to platform

- Multiple UIs – no central system management portal
- Many interfaces not known to those new to System z
- Manual tasks requiring extensive documentation

✓ *Central* z/OS management portal
✓ *Simplified*, *automated* task-oriented mgmt interface, with integrated user assistance
✓ *Modern* look & feel; more familiar to those new to platform
✓ Focus on *customer goals*
✓ *Optional* for those who prefer traditional interfaces

Simplifying z/OS Operations Using OMEGAMON and Tivoli Enterprise Portal Technology - *New* management console

| Value |
|---|
| • Simplify z/OS management for the new generation of IT professionals

• Automating, eliminating, and streamlining tasks

• Easily upgradeable to full OMEGAMON solutions |

Capabilities

• Task oriented approach with GUI front end
 	
• z/OS Health Checker data plus Tivoli Enterprise Portal base capabilities
 	
   – Situations
   – Expert Advice & Take Action
 	
• Configuration status metrics for z/OS resources displayed using Tivoli Enterprise Portal
 	
   – Improved ease-of-use of z/OS management
 	
   – Value-add upgrades to comprehensive Tivoli Monitoring Services products

• **Available for no charge to z/OS customers**

• **z/OS 1.4 and higher**

IBM OMEGAMON z/OS Management Console
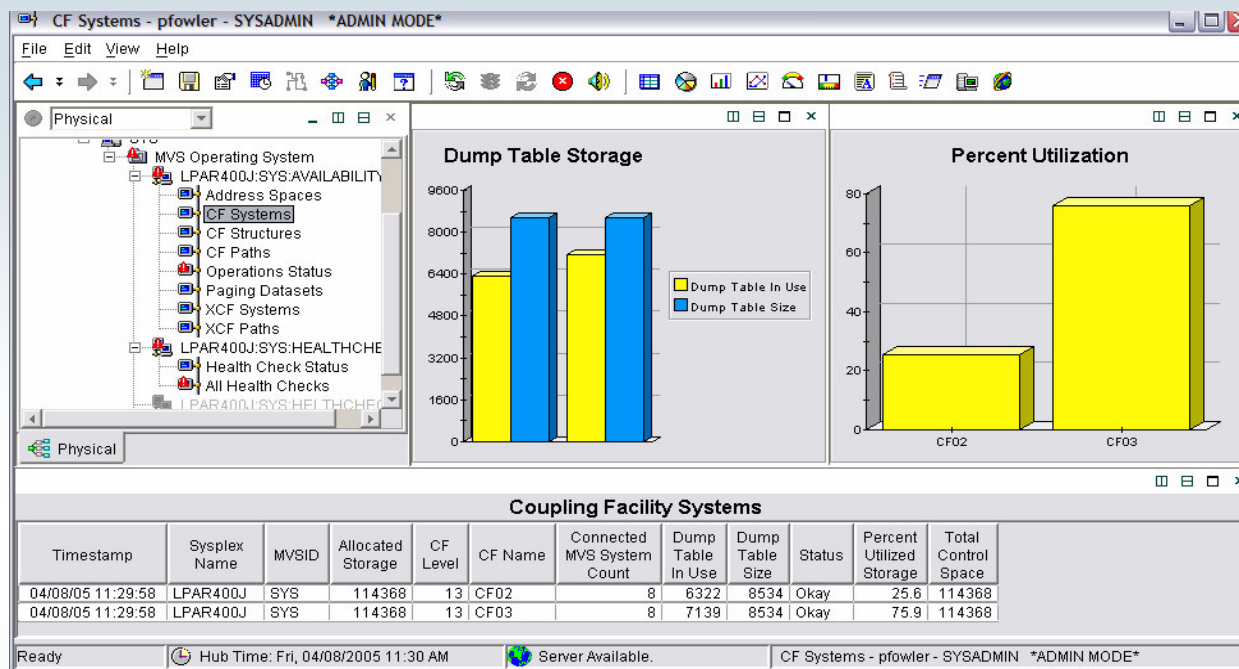
- Eliminates having to remember complex DISPLAY commands
- Visualizes status of sysplex resources and Health Checks
- Shipped 1.1.0 December 2005
- Shipped 1.1.1 with ITM V6 support March 2006

OMEGAMON zMC : Configuration Health Checks

IBM OMEGAMON z/OS Management Console v4.10
Highlights

**Availability
1Q2007**

- **Coupling Facility status details**

- **Coupling Facility Resource Manager (CFRM) status for contention issues**

- **LPAR Cluster status details**

- **Unix System Services data and processes reports**

- **DWL to OMEGAMON XE on z/OS for better integration and problem determination**

Summary

- *Operation Management Products for end-to-end management*
- *Aligned with IT Service Management – CCMDB and Process Managers*
- *Delivering comprehensive solutions that address key IT challenges*
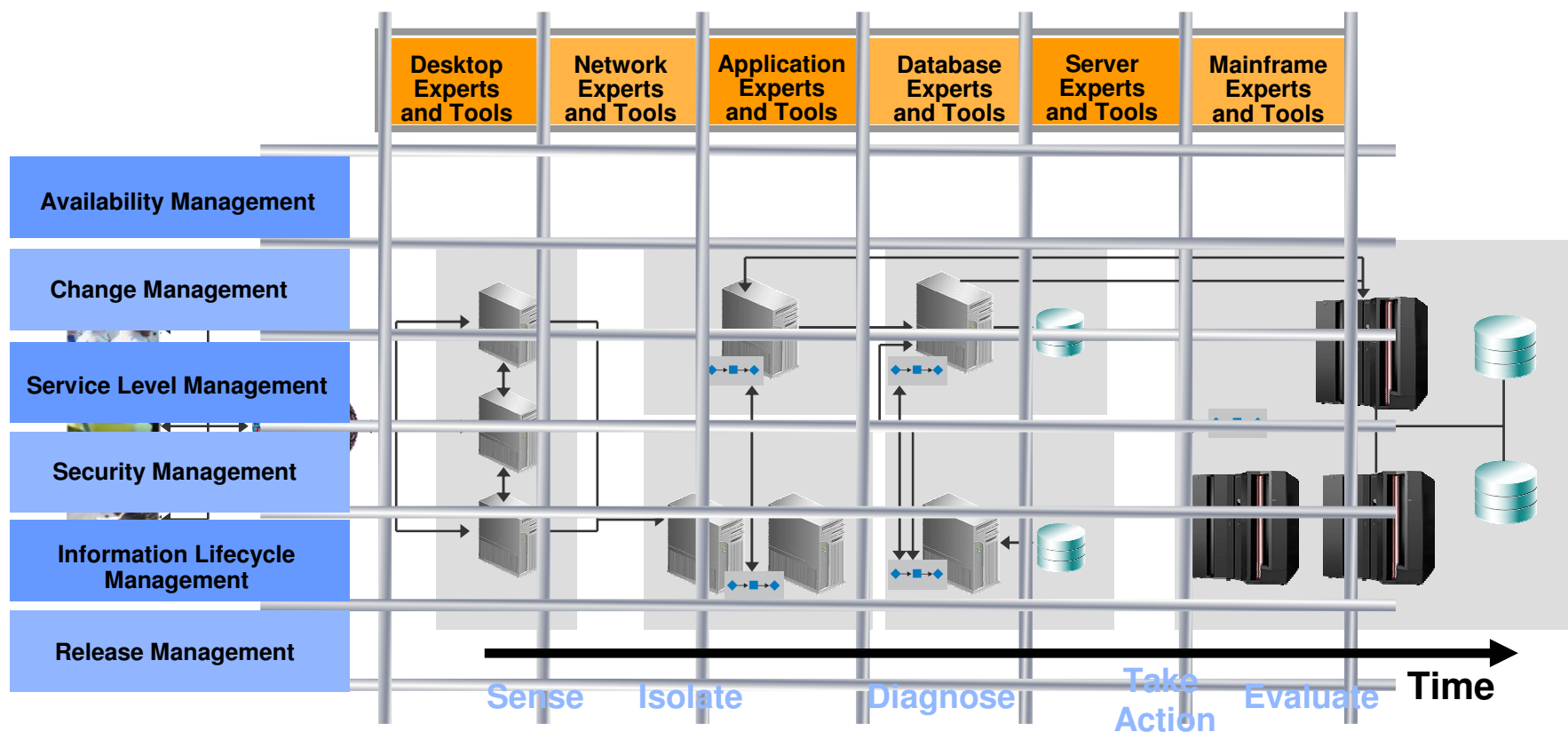
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