Simplifying Operations

Track 5 Session 1:

IBM Performance Management and Service Management Suites work across the cloud to automate and monitor applications and business processes.

IBM z Systems Technology Summit

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Business success directly dependent on health of underlying IT systems, applications, and networks

- Complexity of today's enterprise environments demands solutions that integrate across all aspects of the enterprise stack both distributed or z/OS

- IBM Tivoli in unique position to deliver solutions at all levels of the enterprise stack, including monitoring and automation

- IBM Tivoli OMEGAMON and Automation solutions core of system and network availability integration, providing Visibility, Control, and Automation across the entire IT stack

Tivoli monitoring, automation and scheduling integration

Goal: *increase automation degree and make operations easier*

Tivoli OMEGAMON and IBM Tivoli Monitoring
Get technical data about an application
> Response Time
> Number of connections, queue length, etc...

Tivoli System Automation Family
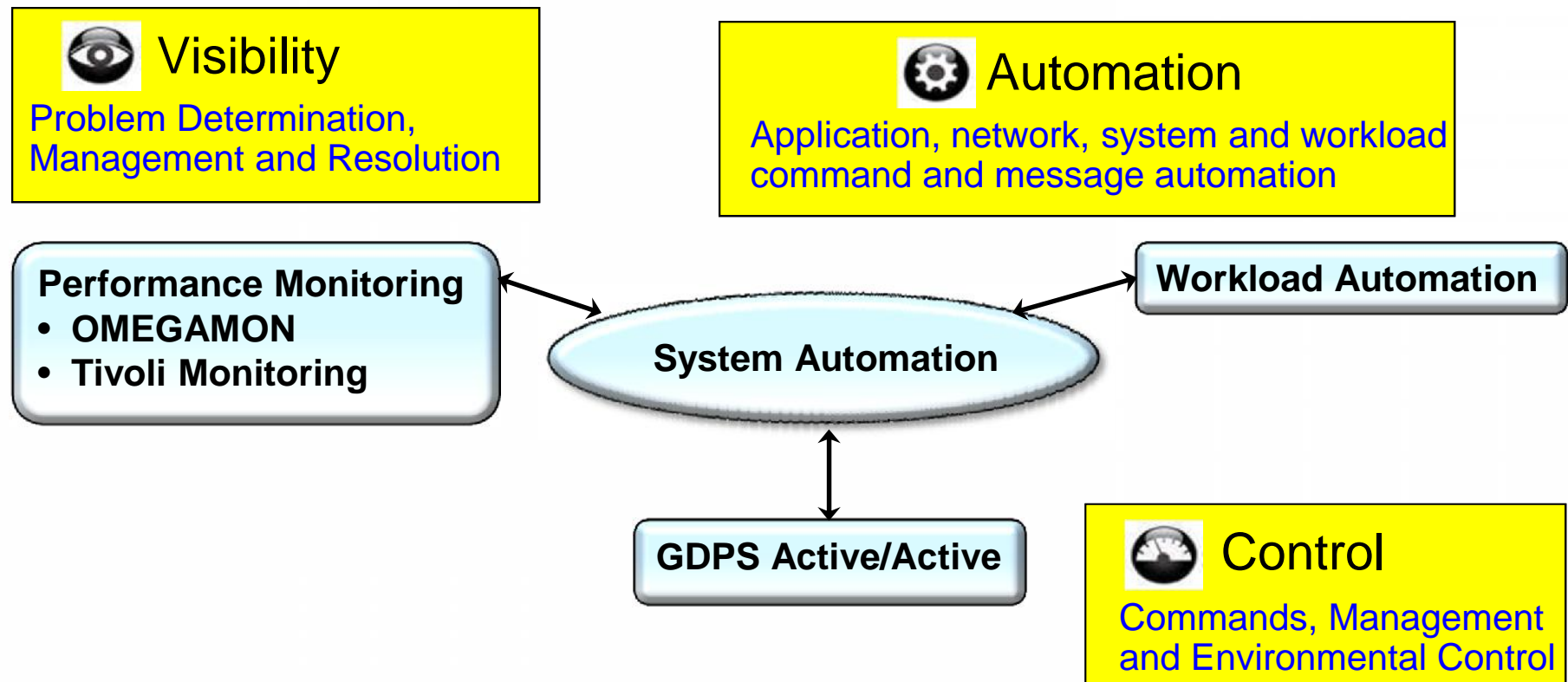Automate start, stop and recovery of application group & dependencies

Tivoli Workload Scheduler Family
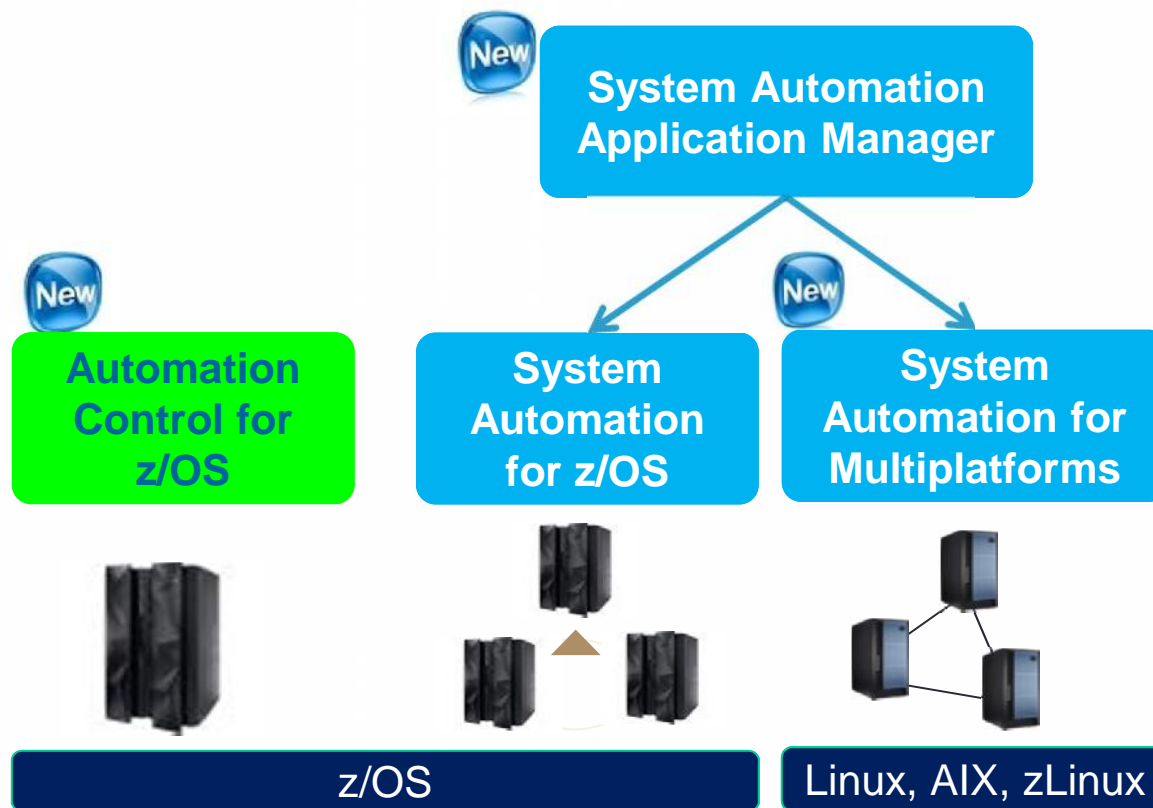Plan start and stop of application group in batch jobstream

IBM's System Automation integrated solution includes a number of key capabilities

Integrated System/Workload Automation solution:

Visibility

Problem Determination, Management and Resolution

Automation

Application, network, system and workload command and message automation

Performance Monitoring
- OMEGAMON
- Tivoli Monitoring

System Automation

Workload Automation

GDPS Active/Active

Control

Commands, Management and Environmental Control

IBM System Automation for cloud workloads to provide cost savings and improved productivity

IBM only vendor to provide end-to-end, cross-platform automation

New
System Automation Application Manager

New
Automation Control for z/OS

New
System Automation for z/OS

System Automation for Multiplatforms

z/OS

Linux, AIX, zLinux

New SA AM capability

•Dashboard user interface

•Automation policies to load-dynamic environments

New SA MP Capability

•SAP high availability

•Improved serviceability enhancements, logging and auditing

Enhanced OMEGAMON V5 family provides information to automation for improved enterprise management

Increased System Availability with faster problem resolution

- Enhanced 3270 user interface for SMEs

- Built-in Problem Solving Scenarios

- Anomaly detection with IBM zAware

Improved Productivity with simplified data

- Faster Install/Configuration/Maintenance

Reduced Costs with decreased resource usage

- Usage of zIIP specialty servers
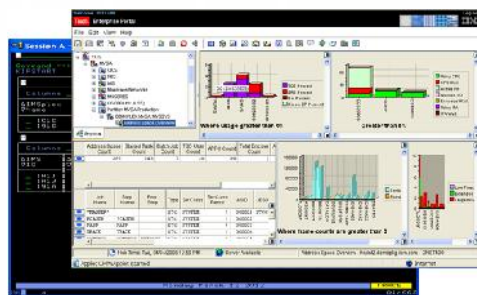
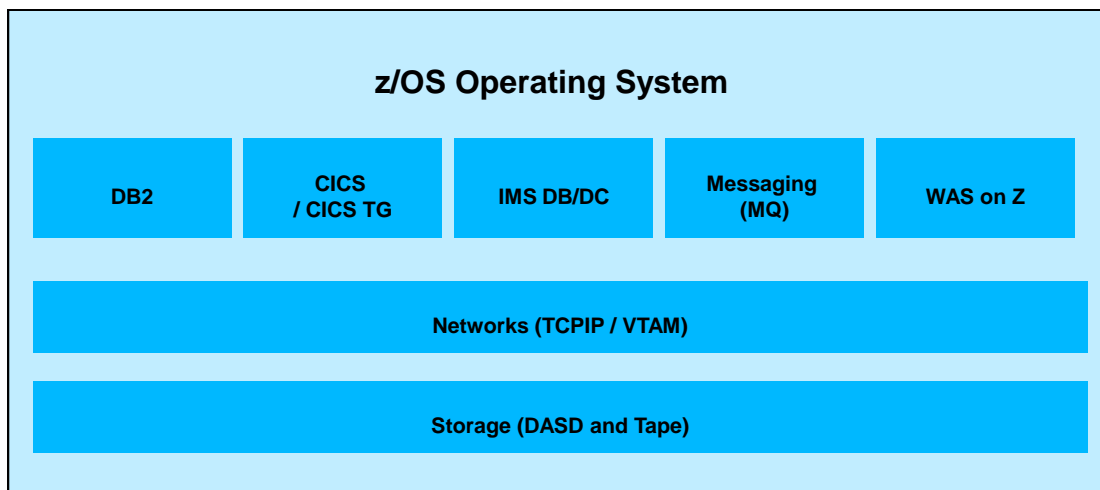- Simplified OMEGAMON architecture

> ***Benefits:***
> - Save up to 75% of time needed to find problems
> - Up to 73% of CICS SLA processing off-loaded
> - Reduce fix times from 90 minutes to 2 minutes

What is OM Performance Management Suite for z/OS?

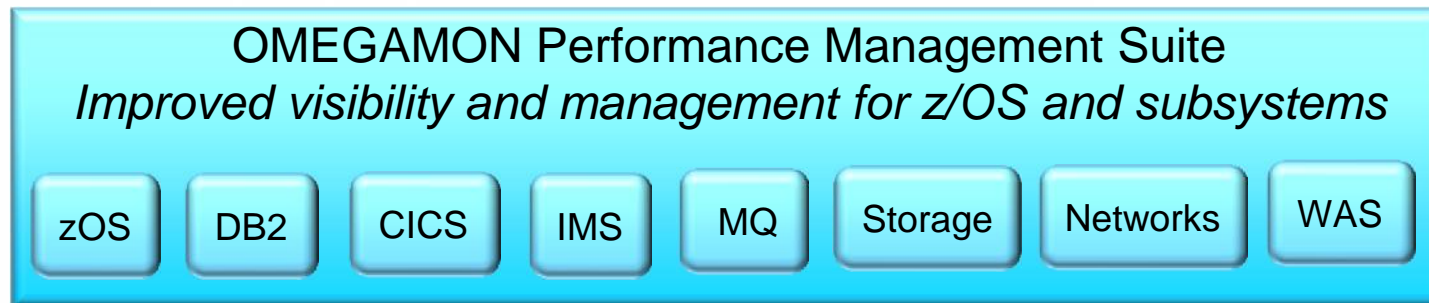**IBM Tivoli OMEGAMON Performance Management Suite for z/OS v5.3.0**

Tivoli OMEGAMON Performance Management Suite for z/OS provides an _integrated solution_ with extensive capabilities to manage on-line and middleware sub-systems like CICS, DB2, IMS WAS on z/OS and the z/OS Operating System, Networks and Storage which supports these capabilities

z/OS Operating System

DB2	CICS / CICS TG	IMS DB/DC	Messaging (MQ)	WAS on Z

Networks (TCPIP / VTAM)

Storage (DASD and Tape)

OMEGAMON Performance Management Suite V5
complete monitoring solution for z Systems

OMEGAMON Performance Management Suite
Improved visibility and management for z/OS and subsystems

| zOS | DB2 | CICS | IMS | MQ | Storage | Networks | WAS |

- Simple easy to install/configure support across family
- Integrated monitoring with both Enhanced 3270 User Interface and Tivoli Enterprise Portal
- Sophisticated alerting (situations)
- Reflex actions with "Take Action" function
- Launch in Context across family makes it easier to find problems that can span multiple subsystems
- Facilitates communications between groups "Expert Advise" function
- Foundation for enterprise-wide management

New in OMEGAMON XE v5.3.x

- OMEGAMON XE v5.3.x enhancements provides *__improved visibility and management__* of z/OS platform and middleware

- *Increased problem determination* capability with Enhanced 3270 User Interface Near-Term-History allows recent performance problem identification combined with real-time views for the new v5.3.0 components of the OMEGAMON Performance Management Suite for z/OS

- *Reduced time-to-resolution* of problems with new improved Enhanced 3270 User Interface workspaces including embedded data from Z/OS, CICS, MQ and Storage

- *Lower Cost of Ownership* with simplified Install/Config with Parmgen enhancements up to 60% in time and effort of first time users

- *Lower Resource utilization* of multiple functions with the streamlined code and increased usage of specialty processors decreasing CPU usage from 20% up to 90% of targeted functions

- *Increased ability to deliver service to your user base* with new zAware information workspaces and alerts through Enhanced 3270UI and IBM Tivoli Enterprise Portal (TEP).

- **Improve trend analysis and planning -** New Dataset Attribute Group Extraction (DAGX) allows analysis of dataset attribute groups using spreadsheet or other analytics tools outside of Tivoli Data Warehouse

- **Increased monitoring scope** for z/OS, CICS, and Messaging

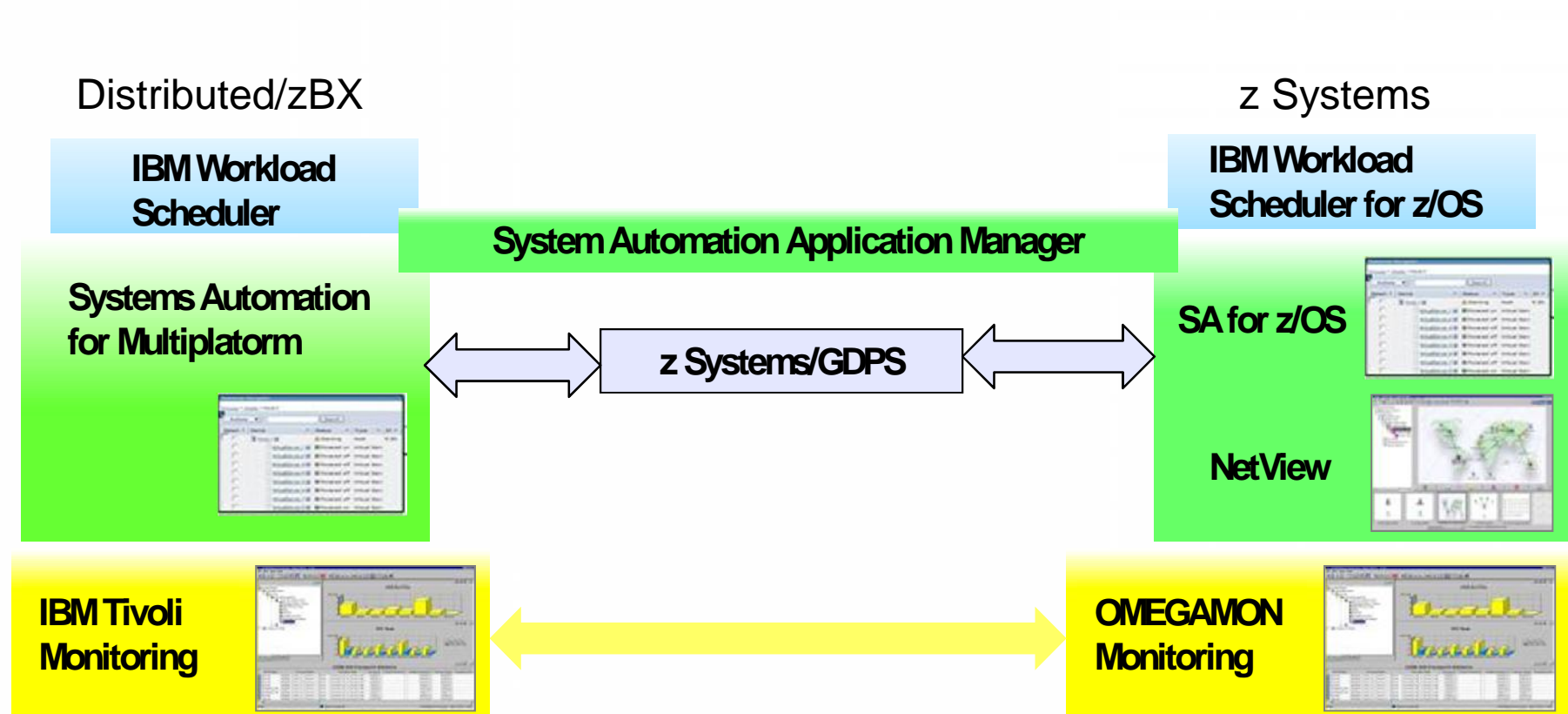# Maximizing Time and Personnel with OMEGAMONs

VISIBILITY

CONTROL

AUTOMATION

- *Increase ability to meet SLAs* by managing environment with intelligent alerting

- *Increase staff productivity* through managing by exception

- *Maximize efficiency of staff* with Common Tools and Processes

- *Create collaboration* through tool integration and information

- *Efficiency in doing the day to day management* - Link actions to situations
  - Automate problem responses
  - Capture expert knowledge
  - Common data and KPIs

Monitoring, System and Workload Automation work together across entire enterprise, including cloud

IBM provides end-to-end support including high availability

Distributed/zBX

z Systems

IBM Workload Scheduler

IBM Workload Scheduler for z/OS

System Automation Application Manager

Systems Automation for Multiplatorm

z Systems/GDPS

SA for z/OS

NetView

IBM Tivoli Monitoring

OMEGAMON Monitoring

IBM Automation Control for z/OS (IACz) targeted at Mid-market single z Systems environments

➡ Entry-level Automation solution on z/OS to start, stop, monitor, and recover z/OS Monoplex environments as well as local z Systems HW resources

➡ Automation Control for z/OS is an Easy to operate solution without additional software pre-reqs

Easy to install & configure - *Smart Configuration Assistance* dramatically improves Time To Value

Policy-based & Goal-driven – Maximize efficiency and availability of critical systems and applications.

Secure – Protect your Systems with role based security, simplified operations, and improved usability and auditability

Integrated – With z/OS and IBM Tivoli solutions to improve efficiency and availability

IBM z13

System Automation Application Manager offers new Dashboard UI and dynamic automation constructs

- **Continuous availability** of business applications even in virtualized infrastructure
  - Reduced costs with automatic site failover of applications forming composite workloads
  - Dynamic automation policy constructs allow to grow and shrink application stack on demand

- **Disaster recovery (DR)** capability
  - Site failover of entire business IT environment across unlimited distances
  - Reduced costs thru simplified cross-platform DR capabilities – integrated with GDPS

- **Enhanced Cloud** application management and visualization
  - Build-in for SCO cloud management stack automation
  - Monitor and control cloud applications and classic workload through modern Dashboard UI technology

- **Pro-active automation:** Smart integration with IBM Tivoli Monitoring (ITM)
  - Enhanced availability through automatic recovery actions across multiple systems
 - Save 50% on environment customization effort

End-to-End Automation with System Automation and monitoring simplify operations and increase availability

Scenario:

- Operator triggers start of application with command
- After startup, Monitoring Agents reports online status
- SA sets aggregated state of "Online Trading Appl." to "online"
- Agents monitor application and report to SA

Value:

- System Automation provides single view of entire application (distributed and z)

- SA can monitor application based on KPIs and manage problems before they become outages

- Manage availability with automatic recovery actions across entire application

- Automate operations to free up staff to handle more important tasks.

Issue Command

"Start Online Trading"

Report Status

System Automation

Monitoring

DB2   WAS   Web

Online Trading Application
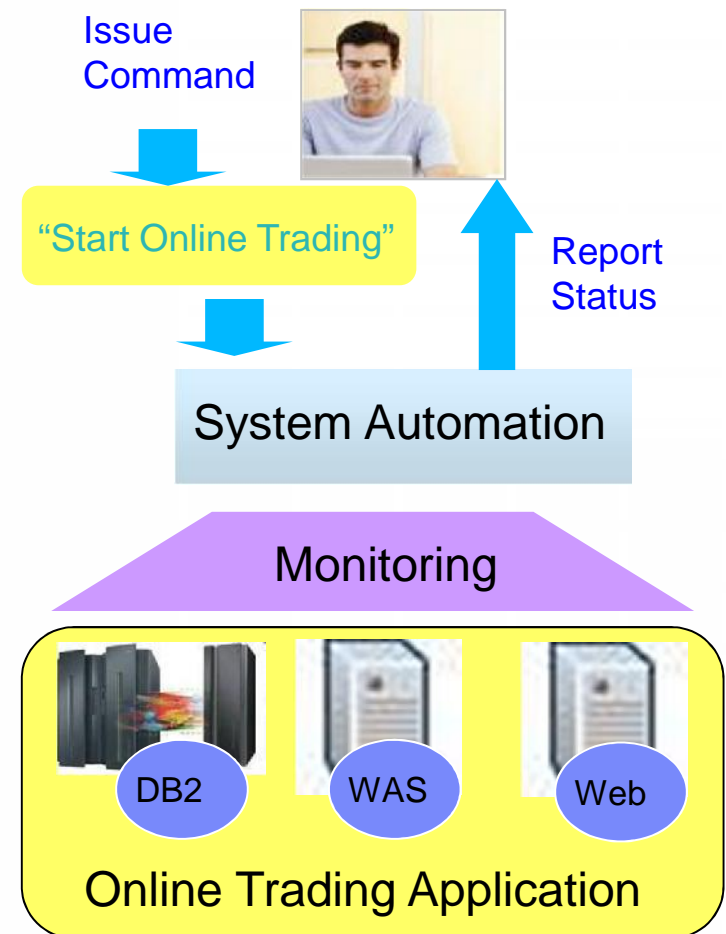
IBM Workload Automation V9 leverages new technologies and supports Cloud workloads

- Easily map all environment contraints
- Improved monitoring and reporting
- Streamlined Log Management

Reduce Costs

- Automated provisioning
- Self-Service dashboards
- Self-Service Catalogs

Incorporate Cloud

- Incorporate new job types
- Automated Trouble Ticket Mgmt

Decrease Risks

"Managing and monitoring TWS by mobile devices would be strategic and flexible for the future"

Garanti

"Thanks to TWS z/OS – ITOM integration we can save disk space while keeping outputs for a longer period of time"

ArcelorMittal

System Automation and Workload Scheduler together drive reduced risk and decreased costs

Tivoli Workload Scheduler and System Automation cooperate and communicate to provide integrated approach to all automation

– TWS does workload automation

  • Complex schedules

    • Holidays

    • First/last day stuff

– SA z/OS does application starting and stopping

  • Predefined start/stop command sequences

  • Takes care of dependencies, goals, and configuration

  • Thresholding

  • Automated recovery
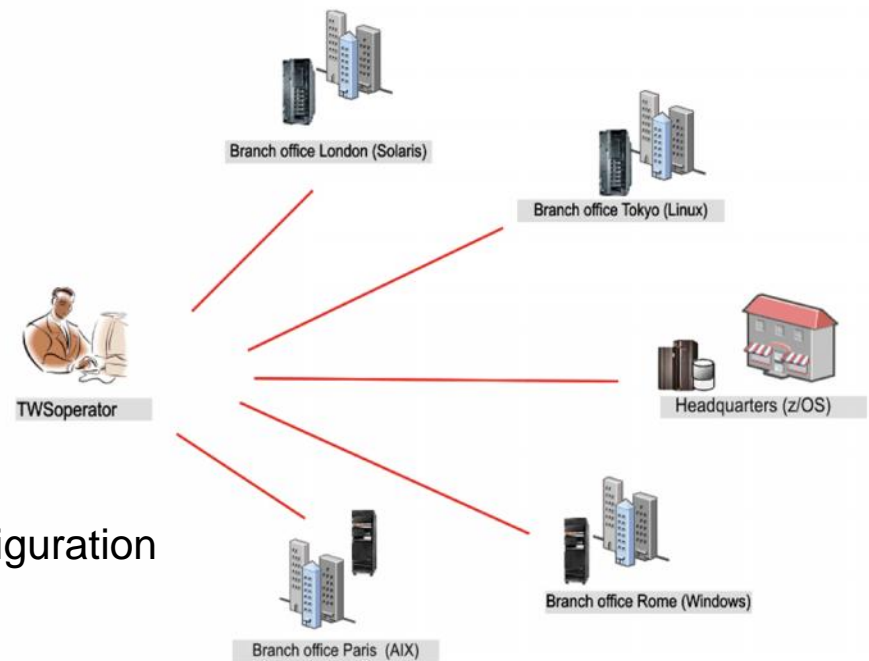
Together they provide single automation solution with higher automation degree

Integrate end-to-end scheduling with end-to-end automation

Tivoli Workload Scheduler (TWS) can use Tivoli System Automation Application Manager (SA AppMan) to request synchronous start/stops of complex business applications.
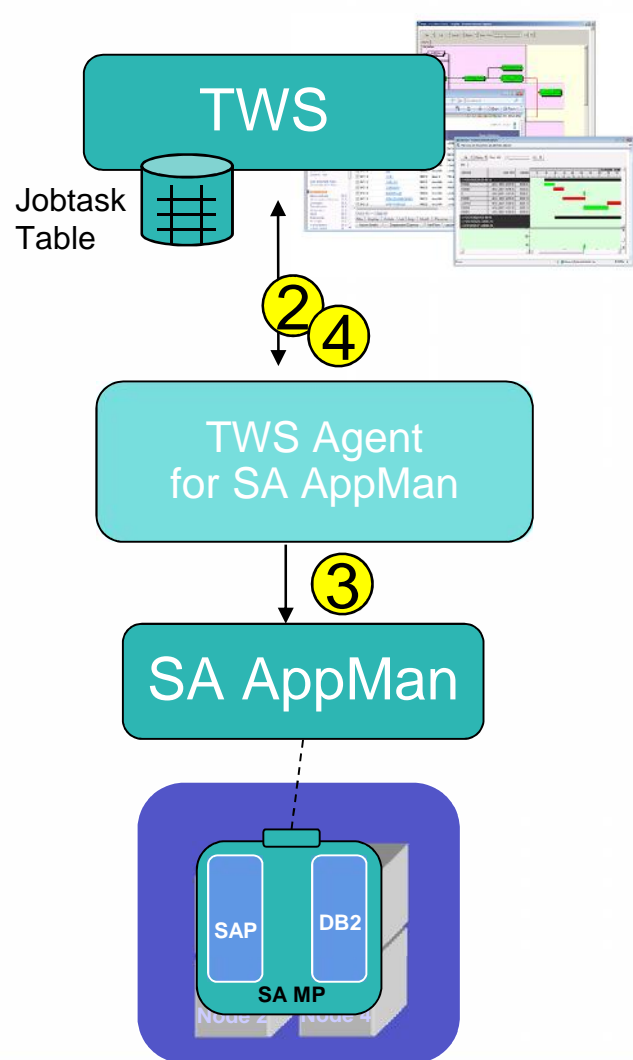
Value:

- Save cost through increased operator productivity
- Higher availability through reduced application and operator errors
- NO scripting required

Available with:

- Tivoli Workload Scheduler 8.6.1
- Tivoli System Automation Application Manager 3.2.2

TWS communicates to System Automation to manage workload/application requests

Jobtask Table

TWS

TWS Agent for SA AppMan

SA AppMan

SAP   DB2
SA MP
Node 2   Node 4

① ② ④ ③

Operations Team
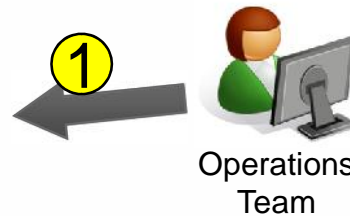
1. Operator defines scheduled start/stop actions for set of components

2. TWS uses agent for SA to issue start/stop request for composite business application

3. Agent uses SA Web Service to issue synchronous or asynchronous request

4. For synchronous requests agent waits for request completion and returns result. Waiting job-step can now continue

TWS works with System Automation for Multiplatforms to provide improved High Availability capability

- **TWS built-in high-availability features to switch components to other nodes in a network**
  - Monitoring components
  - Eliminates moving components as a manual operation
  - Common relationships taken into account

- **System Automation MP as third-party regulator**
  - More insight into status of all components (both hardware and software)
  - Solves split-brain situations
  - Maintains relationships automatically between components

IBM Service Management Suite for z/OS combines monitoring and automation for integrated capability

IBM Service Management Suite for z/OS

Tivoli Asset Discovery for z/OS	System Automation for z/OS
OMEGAMON Performance Management Suite for z/OS	NetView

- OMEGAMON and System Automation work together to provide simplified operations and reduced risk

- Exploit TADz to better understand application usage and save license charges and address audits

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Learn more about the individual capabilities of IBM's System Automation Solution

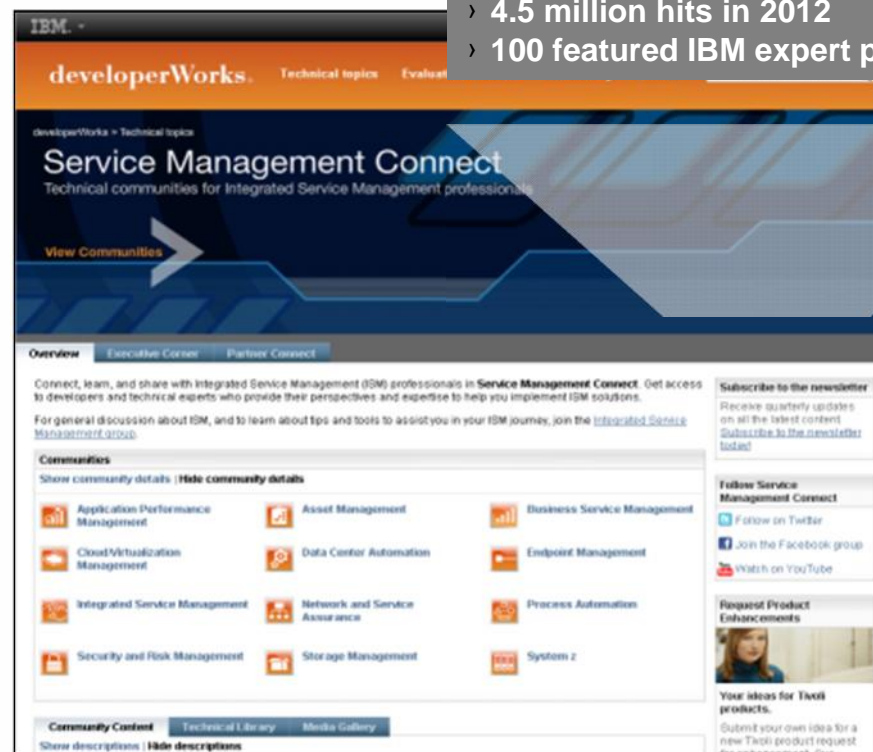|	
IBM Tivoli NetView for z/OS	http://www-01.ibm.com/software/tivoli/products/netview-zos/
IBM Tivoli Network Manager	http://www-01.ibm.com/software/tivoli/products/network-mgrproductline/
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IBM Geographically Dispersed Parallel Sysplex	http://www-03.ibm.com/systems/z/advantages/gdps/index.html

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