IBM System z Technology Summit

Maximize availability and performance
with Tivoli System Automation solutions

Presenter:

Title:

Increasing System Automation can improve availability across the entire enterprise

Key Takeaways

1. IBM provided leadership and best practices with System z Service Management Visibility, Control and Automation

2. Enterprise-wide Integrated Automation solution provides better availability and performance than separate products

3. IBM enhancing System Automation for z/OS for improved productivity and availability

IBM provides Visibility, Control and Automation to respond to changing priorities and to realize business potential

VISIBILITY

CONTROL

AUTOMATION

React with agility to competitive landscape

Execute with reduced risk & cost

Achieve desired business outcomes

IBM's System Automation Integrated Solution includes a number of key capabilities

Visibility
Problem Determination, Management and Resolution

Automation
Application, network and system command and message automation

OMEGAMON XE for Mainframe Networks

Msgs

NetView

IP support
SNA Support

Automation Engine

Cmds

System Automation for MP/zOS/AM

Integration across TBSM & OMNIbus

Events

Ctrl

GDPS Active/Active

Control
Commands, Management and Environmental Control

NetView and OMEGAMON for MfN working together create single view of enterprise networks

NetView — Network <u>Availability</u>

**OMEGAMON XE for Mainframe Networks** — Network <u>Performance</u>

- Common user interface integrates TCP/IP data from both NetView and OMEGAMON XE for Mainframe Networks.

- Integration function provides customers with a consolidated TCP/IP workbench
  - Allowing management of both TCP/IP availability and performance from the same user interface.

- Smart IP tracing to immediately learn where poor or unstable TCP/IP connections hamper application performance

NetView Enhanced Automation capability increases availability via consolidated message logging

- Provides centralized message logging and enhanced message attributes
- Enables easy integration with powerful Tivoli automation
- Proactively resolves issues without operator intervention

Netlog
Joblog
Syslog

Canzlog
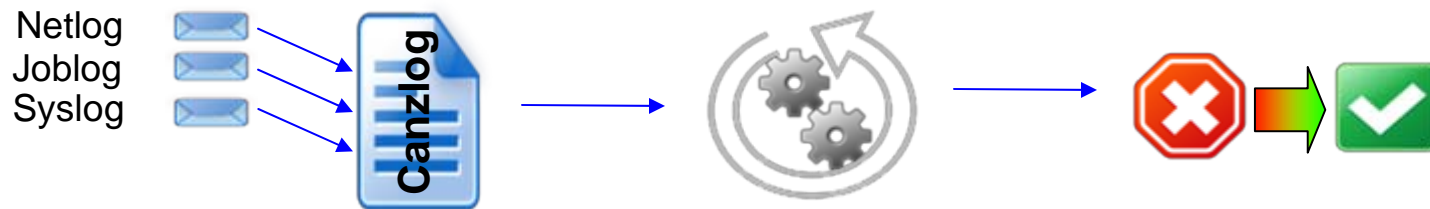
Customer Value

- Automatic capture of messages from multiple sources removing burden of understanding which messages are important
- Recording new message attributes to enhance automation capabilities, providing more control and flexibility

Business Value: 20 – 40% reduction in time to automate / resolve issues previously requiring operator intervention

Tivoli System Automation optimizes availability across multi-tier, composite application environments

End-to-end applications management, integrated operations management for multi-platforms

Key capabilities

- Single end-to-end point of control for resource automation throughout zEnterprise to reduce risk and assure service

- Central view and management of critical business processes

- Automated High Availability and Disaster Recovery to meet business service level requirements

- Contain costs with policy based automated, repeatable processes
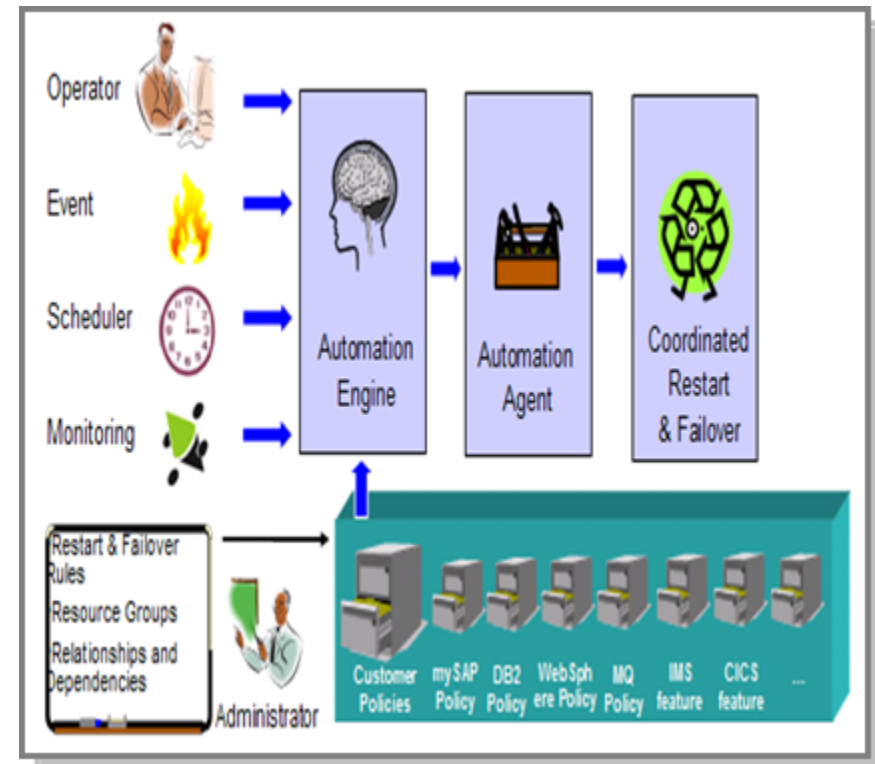
Tivoli System Automation capability on System z enables simplification across hardware and software
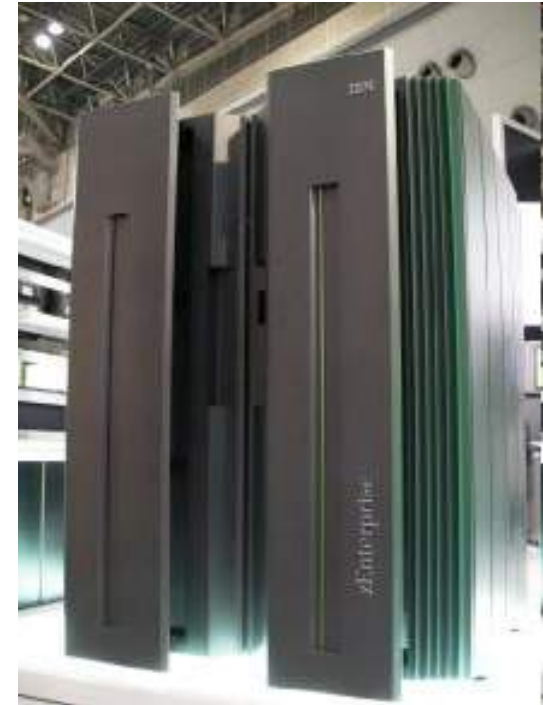
Systems & Applications

- Automate applications
- Automate repetitive and complex tasks
- Monitor applications, messages, and alerts

Processor

- Automate and control hardware operations
- Power on/off and reset processors
- Perform system IPL for z/OS, zVM and Linux
- Automate LPAR settings, e.g. weights/capping

I/O Switches

- Change configuration on the fly
- Stay operational through system-integrated switching
- Manage ESCON and FICON directors

4/25/2012

Significant usability and productivity savings with updated Tivoli System Automation for z/OS V3.4

- **Improve Time to Value by 80%** with new Autodiscovery

  - Find applications without manual effort

  - Addresses key customer requirement

- Faster automation customization via enhanced log visibility

  - **Save 80% on customization** to include job-related events

  - Increased administration productivity by 30% via data import and customization

- Faster system restarts with recycle enhancements

  - Lead to **50% higher availability**

- Ability to **speed automation by 90%** across z196/z115 and zBX blades with new zEnterprise API support

System Automation now provides autodiscovery to find applications and achieve faster value

Customer Challenge today: Automation rules have to be entered manually in SA z/OS policy database, which can be a time consuming process
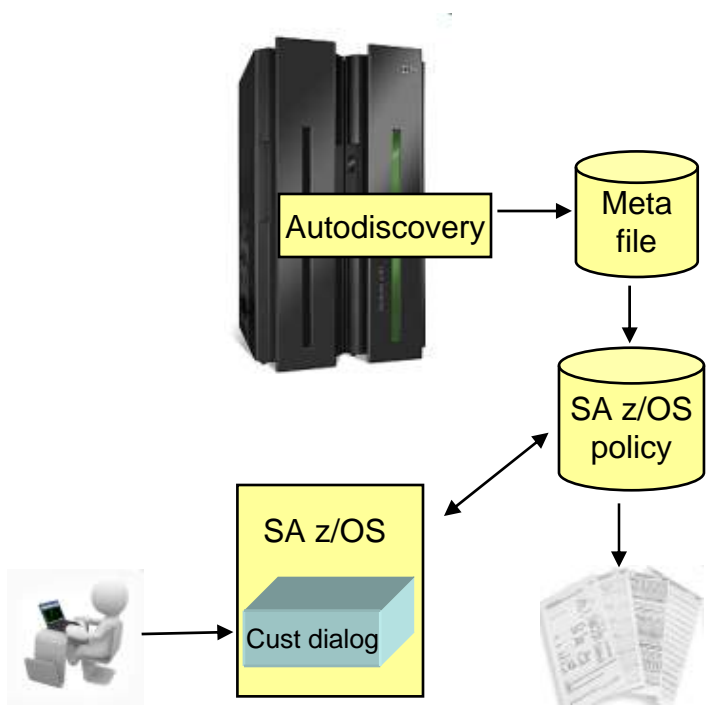
- Execute autodiscovery to collect all automation relevant data of software components installed

- Save data in Meta file

- SA z/OS builds policy using data Meta file and sample policies

- Automation programmer produces and examines report of policy data and makes adjustments

- SA z/OS is ready to use

Get up and running in 50% of time previously taken

Tivoli System Automation Application Manager 3.2.2 adds Cloud, monitoring and zEnterprise support

- **Continuous availability** of business applications in a virtualized infrastructure

  - Reduced operations cost thru automatic site failover solution for composite workload

  - Increased operational speed through reduced manual intervention and automated dynamic adaptations of policies reflecting environment changes

- IBM zEnterprise System **disaster recovery (DR)** support

  - Site failover of the entire business environment with no distance limit

  - Reduced operations cost thru simplified cross-platform DR capabilities

- **Improved Cloud Application Management**

  - High Scale application start/stop capabilities thru agentless adapter parallelization

  - Number of managed applications increased by 700%

  - DR for Cloud: Automated site failover thru SA AM/DB2 pre-canned replication policy

- **Performance-based automation (Smart integration with IBM Tivoli Monitoring)**

  - Enhanced availability through automatic recovery actions across multiple systems

  - Save 50% on environment customization effort

Improve overall operations and availability with ITM / System Automation Application Manager integration

- **New capability to define,** control and automate composite business applications **based on an existing ITM infrastructure**

- **System Automation benefits:**

  - Easy integration of ITM managed infrastructure – no need to re-instrument resources

  - Usage of different types of ITM agents available

  - No need to install adapters on managed endpoints

- **ITM/ITCAM benefits:**

  - Increase availability of ITM managed applications through automatic recovery

  - Define managed composite business applications

  - Manage Availability through automatic recovery in a composite context

 - Control applications monitored by ITM in consistent way

End-to-End Automation with SA Application Manager and ITM can simplify operations and increase availability

Scenario:

- Operator triggers start of application with command

- After startup, ITM Agents reports online status to SA

- SA AppMan sets aggregated state of "Online Trading Appl." to "online"

- ITM agents monitor application and report to SA AM

Value:

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

- SA AM 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

SA App Mgr

ITM

DB2   WAS   Web

Online Trading Application
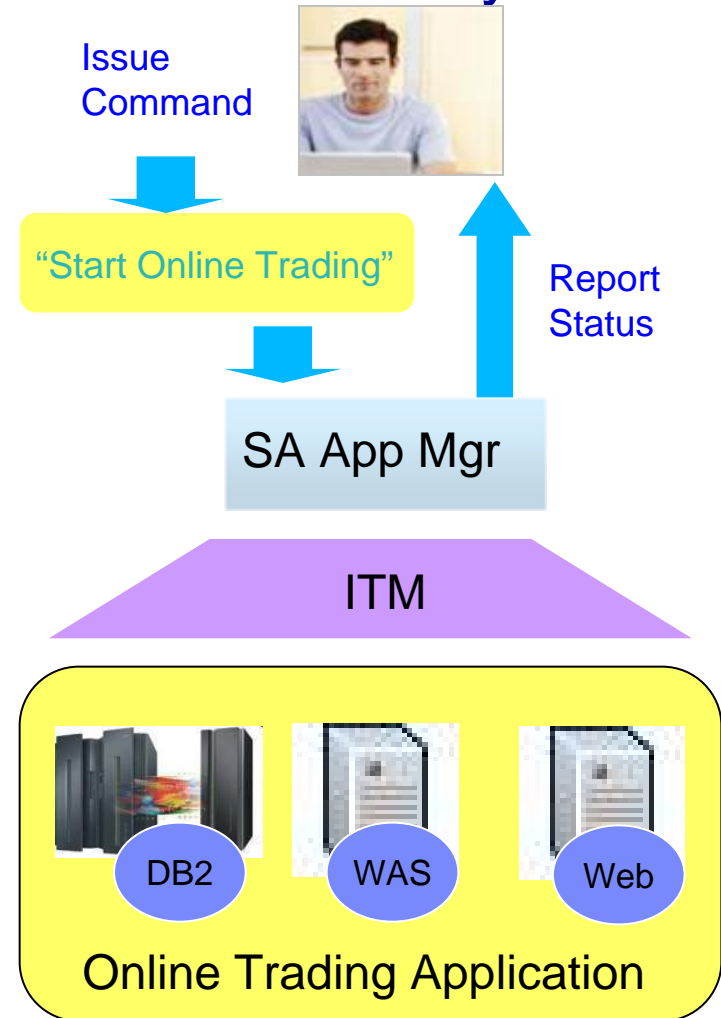
Customers are using automation today to improve availability enterprise-wide

## Use Case: Enterprise availability and performance

Customer Challenge:

- *Enterprise is composed of both distributed and z/OS assets*

- *Any interruption in the availability or performance of network resources can have significant impacts to business.*

- *Require solution that can quickly diagnose, resolve, and prevent network issues in a way that is both intuitive and consistent across heterogeneous resources.*
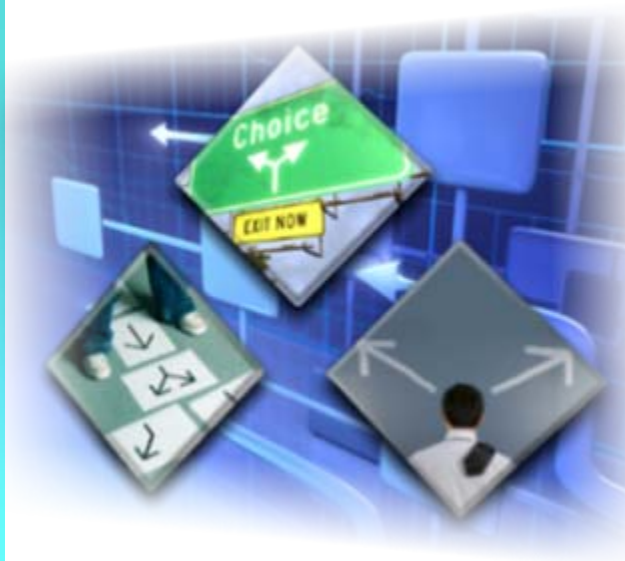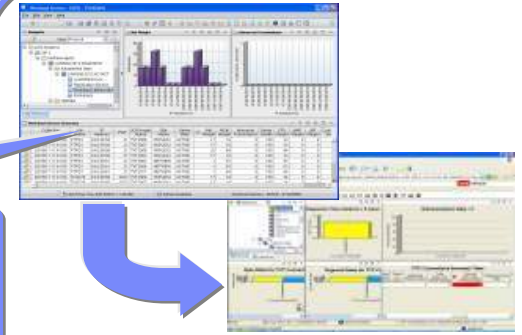
All components work together to keep applications and services available
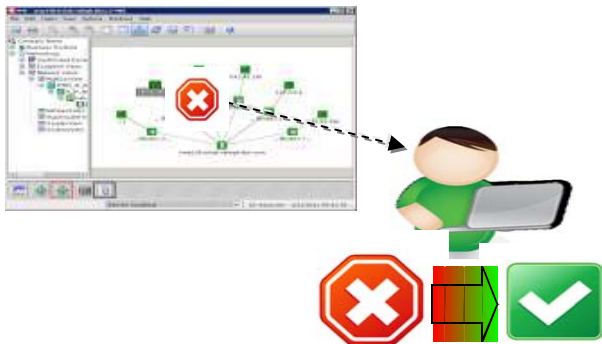
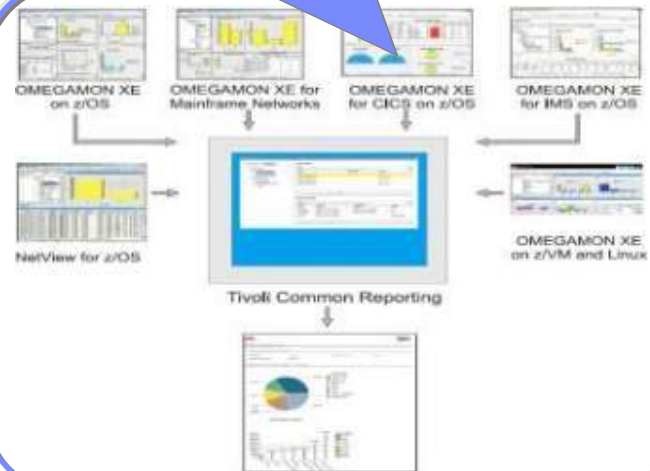Role appropriate views of the right data at the right time
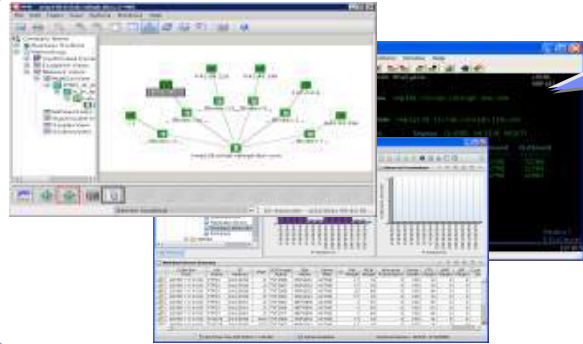
Rapid problem diagnostics via common UI and drill down between products

Alert me when thresholds are breeched and enable me to automate corrective actions for the future

Consistent historical views of resource performance and availability data

Global Food & Beverage Org gained real ROI from implementing System Automation

Challenge

- Unplanned downtime of large SAP app hurting business.

- System processed close to $20B of business

- Wanted solution that would span across multiple platforms and automate recovery of application components in case of failure

Customer View of Solution

"IBM Tivoli System Automation products automates high availability of our application infrastructure.

The current solution extends automation to the hardware and network layer in addition to keeping the SAP components and DB2 database highly available.

In case of any unplanned outages, TSA automatically initiates recovery across the stack which saves us millions of dollars in terms of lost business.

Additionally we drive operational efficiencies by being able to manage the entire application from one management console"

Business Benefits

- Eliminated most unplanned outages saving $Millions of dollars of lost business in a year

- Quickly and efficiently respond to unplanned outages

- Better managed and executed planned outages by using TSA

- Predictable and reliable recovery of application components has saved overtime and other labor related costs

- Drove operator efficiencies and better usage of IT teams

- Better alignment of application management duties with IT teams skills and responsibilities

Achieving 100% uptime 24/7 requires Business continuity and continuous availability solution

Use Case: GDPS High Availability

Customer Challenge:

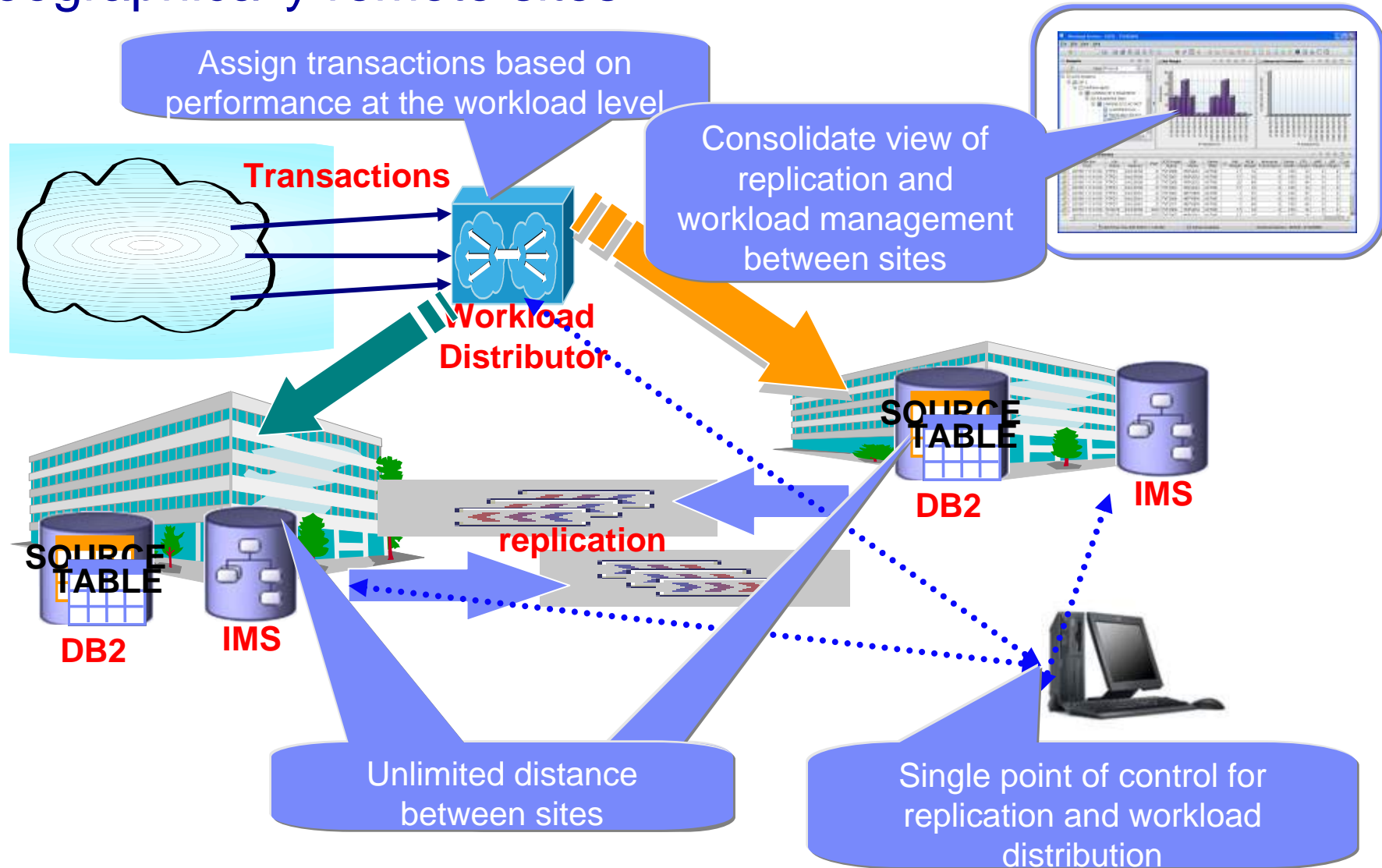- **Business continuity objectives have evolved from a failover model, in which service interruption is tolerated, to a continuous availability model, in which uninterrupted services is the expectation.**

- **When services are down, even for a limited time, revenue is lost.**

- **Need to ensure near instantaneous recovery of service availability, regardless of the outage.**
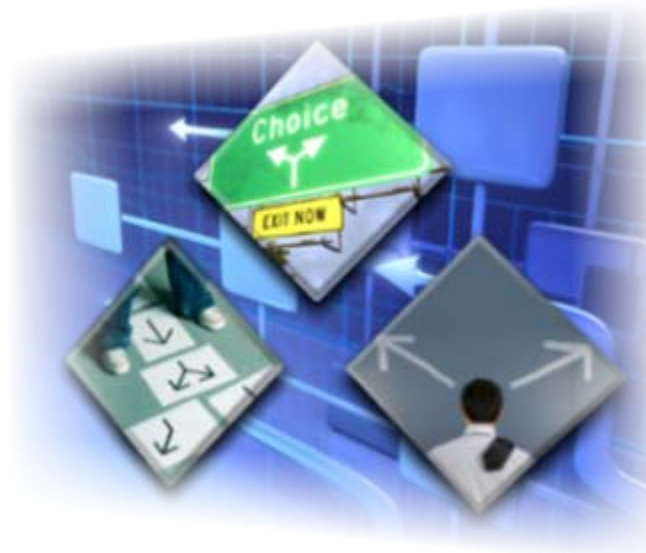
IBM's GDPS can provide continuous availability across geographically remote sites

Assign transactions based on performance at the workload level

Consolidate view of replication and workload management between sites

Transactions

Workload Distributor

SOURCE TABLE

DB2

IMS

replication

SOURCE TABLE

DB2

IMS

Unlimited distance between sites

Single point of control for replication and workload distribution

FIDUCIA banks: System automation to increase availability System z

Business Challenge:

- Improve availability in their mainframe environment by adding a system automation solution
- Reducing the risk that unplanned outages could threaten availability
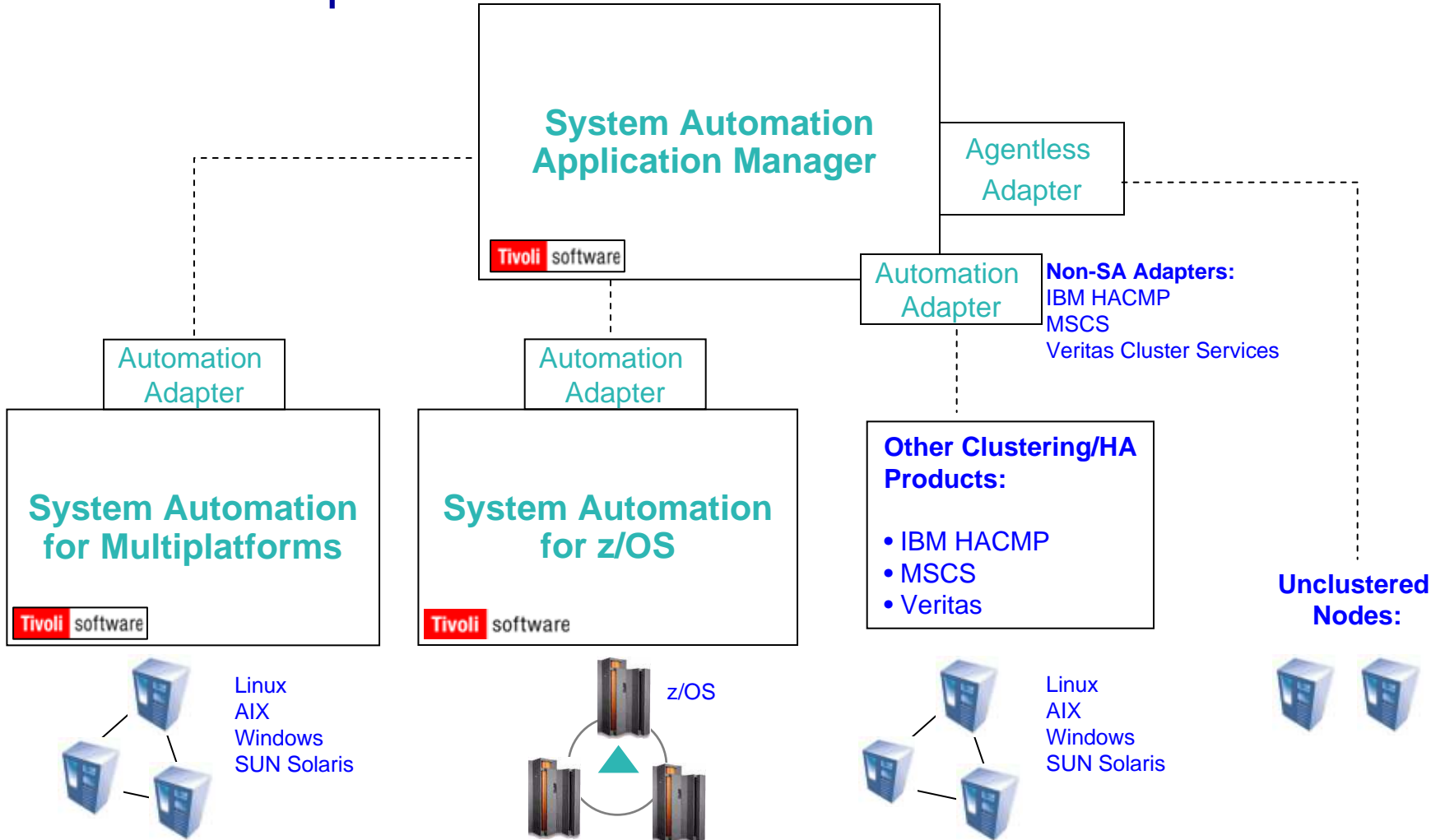
Software Solution:

- Tivoli System Automation for z/OS provides policy based automation capabilities
- NetView automated operations so that System z can run almost completely unattended

Business Results

- *Helps to ensure high availability in case of faults or outages*

- *Centralizes system administration and message management*

- *Enables smooth integration with other Tivoli products*

"The IBM system automation solution helps us deliver the high-availability services our customers expect." FIDUCIA IT AG

Entire System Automation family works together to provide Enterprise value

System Automation Application Manager

Tivoli software

Agentless Adapter

Automation Adapter

Non-SA Adapters:
IBM HACMP
MSCS
Veritas Cluster Services

Automation Adapter

Automation Adapter

System Automation for Multiplatforms

Tivoli software

System Automation for z/OS

Tivoli software

Other Clustering/HA Products:

• IBM HACMP
• MSCS
• Veritas

Unclustered Nodes:

Linux
AIX
Windows
SUN Solaris

z/OS

Linux
AIX
Windows
SUN Solaris

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/
Tivoli Application Dependency Discovery Manager	http://www-01.ibm.com/software/tivoli/products/taddm/
Tivoli Workload Scheduler	http://www-01.ibm.com/software/tivoli/products/scheduler/
Tivoli Netcool/OMNIbus	http://www-01.ibm.com/software/tivoli/products/netcool-omnibus/
Tivoli Business Service Manager	http://www-01.ibm.com/software/tivoli/products/bus-srv-mgr/
IBM Tivoli Monitoring	http://www-01.ibm.com/software/tivoli/products/monitor/
Tivoli OMEGAMON XE for Mainframe Networks	http://www-01.ibm.com/software/tivoli/products/omegamon-xe-mainframe/
Tivoli System Automation for z/OS	http://www-01.ibm.com/software/tivoli/products/system-automation-zos/
IBM Geographically Dispersed Parallel Sysplex	http://www-03.ibm.com/systems/z/advantages/gdps/index.html