Tivoli software

IBM

IBM Tivoli System Automation for z/OS

Highlights

- Provides high availability for IBM z/OS systems and IBM Parallel Sysplex clusters through policy-based self-healing
- Helps minimize automation implementation, coding and support time
- Delivers comprehensive Parallel Sysplex management and automation functions, including single system image, single point of control and application automation
- Provides advanced IBM Geographically Dispersed Parallel Sysplex (GDPS) capabilities and integration, including automation modules and startup/shutdown procedures for IBM Tivoli System Automation and IBM Tivoli NetView
- Acts as a foundation for IBM IT Service Management solutions by providing an autonomic self-healing and self-managing data center environment and enabling advanced automation of your IT service continuity management, availability management and capacity management processes
- Offers an advanced suite of management and automation covering:
  - Automation application for IBM CICS, IBM IMS, IBM Tivoli Workload Scheduler, and IBM WebSphere and DB2 software
  - I/O resources including channels, devices, IBM ESCON and IBM FICON Directors
  - Systems including IBM z/VM guest systems and operator consoles
  - Integration with Tivoli software products such as IBM Tivoli Enterprise Console and IBM Tivoli Business Systems Manager
  - Integration with IBM Tivoli OMEGAMON for CICS, Tivoli OMEGAMON for DB2, Tivoli OMEGAMON for IMS and Tivoli OMEGAMON for MVS

System automation has become an essential component in today's IT environments where high availability is critical to success. But with advancements in system automation comes increased management complexity and escalating costs. To help meet these challenges, IBM developed IBM Tivoli® System Automation for z/OS®. Designed for organizations with single-processor z/OS systems and Parallel Sysplex® clusters, Tivoli System Automation for z/OS can help ease systems management, minimize costs and maximize application availability.

With Tivoli System Automation for z/OS, you can automate processor and system operations and I/O resources, including channels, devices, ESCON® and FICON® Directors. Tivoli System Automation for z/OS includes out-of-the-box automation for IMS™, CICS®, IBM Tivoli Workload Scheduler, and DB2®, mySAP and WebSphere® software. Plus, it enables integration with Tivoli software products, including Tivoli Enterprise Console® and Tivoli Business Systems Manager. You can

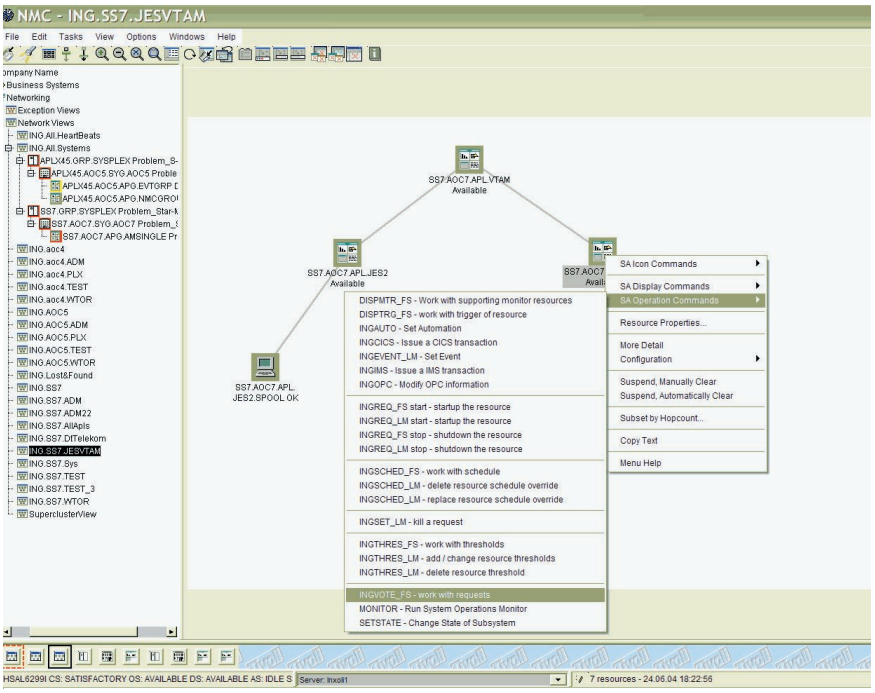
leverage the extensive capabilities of Tivoli System Automation for z/OS to implement a base for autonomic end-to-end automation of your on demand applications.

Enable end-to-end automation

Tivoli System Automation for z/OS now has the ability to communicate with IBM Tivoli System Automation for Multiplatforms, enabling integrated, end-to-end automation of your multi-tier, heterogeneous applications. That allows you to more effectively automate your entire application environment to increase availability. By delivering a Web-based single point of control across z/OS, Linux® and IBM AIX®, Tivoli System Automation for z/OS allows you to:

- Display aggregated and detailed status of application components.
- Start or stop application components on all platforms with a single action in the right order.
- Increase application availability by helping you resolve cross-platform dependencies like recycling your Web application when DB2 software is down.

With Tivoli System Automation for z/OS, you can also establish one operation and automation team responsible for z/OS, Linux and AIX applications, to help greatly simplify problem determination



The optional GUI allows point-and-shoot commands through a dependency-based resource tree view.

and resolution. Plus, Tivoli System Automation for z/OS also provides an end-to-end automation manager, which automatically learns about application components and their status from the platform-specific Tivoli System Automation. Only the cross-platform resources, groups and dependencies need to be defined.

Incorporate advanced disaster recovery capabilities

Designed to work with your z/OS environment, Geographically Dispersed Parallel Sysplex® (GDPS®) is an application availability solution from IBM Global Services that allows you to manage the remote copy configuration and storage subsystem, automate Parallel Sysplex operational tasks and perform failure recovery from a single point of control to improve application availability. GDPS helps automate recovery procedures for planned and unplanned outages to provide near-continuous availability and disaster recovery capability. With GDPS, you can have total confidence that your key business applications will be up and running when your employees, partners and customers need them.

Automate Parallel Sysplex applications

With Tivoli System Automation for z/OS, you can automate a Parallel Sysplex application as a whole — despite the number of resources it consists of or where they reside. Resources can have complex dependencies, can be started as required, can be moved to other systems or can be restarted in place, depending on the failure.

Tivoli System Automation for z/OS helps you handle cross-system dependencies, minimize complexity, maximize availability, optimize operations and model your configuration. You can make automation of true Parallel Sysplex applications a reality by leveraging:

- An advanced manager/agent design.
- Grouping of resources and definitions of business applications to facilitate starting, stopping or even moving of applications to another sysplex or LPAR.
- Powerful dependency support for modeling a configuration.
- Goal-driven automation.

Automate your on demand business

Tivoli System Automation for z/OS enables you to provide integrated, policy-based automation of z/OS UNIX® applications. You can use the software infrastructure to start, stop, monitor and recover z/OS UNIX applications and resources such as TCP/IP ports and UNIX files. Building on top of this infrastructure and the unique power of Tivoli System Automation for z/OS policies, you can automate a complex mySAP environment — achieving premium failover capabilities without writing a single line of code.

Under the Tivoli System Automation for z/OS infrastructure, elements of the automation engine that observe, react and take action remain within the Tivoli NetView® address space. Known as the automation agent, this portion of the automation engine must be present on every system that is to be automated. The coordinating, decision-making and controlling elements of the automation engine are grouped into a single address space known as the automation manager. Loaded with a model of the automated resources defined across the Parallel Sysplex cluster, the automation manager communicates with automation agents on each system through Cross-System Coupling Facility (XCF) and, optionally, IBM MQSeries® for z/OS, Version 5.2, shared queues. The automation manager receives updates about the status of resources in its automation model and sends orders to agents when it encounters various conditions within the model.

Use goal-driven automation to help simplify operations

The automation manager decides when and where resources need to be made available or unavailable. To make these decisions, it uses its awareness of the status, dependencies and location of resources and prioritized operator requests. The automation manager also follows policy goals that the automation administrator specifies. Goal-driven automation can greatly simplify operations — operators simply request what they want, and Tivoli System Automation for z/OS is designed to manage dependencies and resolve affected goals, even those in conflict.

Tivoli System Automation for z/OS

Supported platform

z/OS

Product requirements

- z/OS (5694-A01), Release 3, or later
- IBM Tivoli NetView for OS/390®, Release 4 (5697-B82)
- IBM Tivoli NetView for z/OS (5697-ENV), Version 5.1, or later

Easily manage messages

Because message automation of many applications and z/OS components is self-configured "out of the box," Tivoli System Automation for z/OS helps optimize setup and installation times. Even better, IBM ships self-configuration policies for changed or new messages through the service stream. For messages that are not self-configured, Tivoli System Automation for z/OS provides easy, single-action message management. The software automatically generates required z/OS and Tivoli NetView message definitions. And the powerful Tivoli System Automation for z/OS message policy enables different degrees of automation for different start types or message codes to be used.

Tivoli System Automation for z/OS populates the Message Processing Facility (MPF) list containing all messages that have been defined. When refreshing a configuration, Tivoli System Automation for z/OS also loads the appropriate Tivoli NetView Automation Table.

Group and conquer

In Tivoli System Automation for z/OS, groups are collections of resources that can be distributed within a Parallel Sysplex cluster. A group can be a part of any dependency or other group. Each resource can be a member of multiple groups and is referred to by a name that is unique across the sysplex or system. When you group resources and define aggregate or business applications in a sysplex-wide fashion, you can:

- Help minimize the complexity of automation definition and operations.
- Monitor important business applications and help verify that everything they require is available.
- Help simplify operations by showing the aggregate status of resources and by grouping actions such as startup and shutdown.
- Free operators from needing to know the various pieces that make up an application, their dependencies, how to start or stop them, and so on.

Leverage powerful dependency support

Resources can have complex dependencies of many kinds, inside and outside an application. Tivoli System Automation for z/OS gives you the power to define these dependencies, so that applications get what they need, start in the right order as quickly as possible and shut down fast without interference. Definitions for resource dependencies can involve:

- Preparing for startup and shutdown.
- Startup and shutdown.
- Resource availability or unavailability.
- Enabling automated change of resource status to achieve a goal.

Help optimize system health and performance

With Tivoli System Automation for z/OS, you can define and manage monitoring software — such as IBM Tivoli Monitoring — that runs inside or can be accessed from Tivoli NetView. Tivoli System Automation for z/OS introduces the concept of a monitor resource that can be associated with an application. A monitor resource can serve multiple applications, or an application can have multiple monitors. By using a monitor resource, you can associate health information with the application that the monitor links to. If more than one monitor resource associates with an application, the automation manager aggregates the health status of various monitors to produce the summarized health status of the application. Optionally, Tivoli System Automation for z/OS provides controls that allow you to trigger recovery actions when the monitor resource reports the first time a specific health condition is reached. Furthermore, you can trigger actions and update compound status when the monitor status changes.

Tivoli System Automation for z/OS also offers enhanced integration with Tivoli OMEGAMON® to help you proactively manage availability and performance through performance-driven automation. Tivoli System Automation for z/OS delivers performance-driven automation that enables a two-way interface to Tivoli OMEGAMON, allowing you to:

- Obtain and filter installation-defined exceptional conditions.
- Query Tivoli OMEGAMON performance metrics at regular intervals.
- Issue any Tivoli OMEGAMON command to help resolve the performance problem.

Automate z/VM guest machines, including Linux

With the support that Tivoli System Automation for z/OS provides for z/VM® guest machines, you can automate any operating system running in a z/VM guest machine — for example, a Linux image. You can start, stop and issue commands to the z/VM guest machine and monitor them.

Leverage systems management to support business goals and minimize costs

With Tivoli System Automation for z/OS, IBM continues to deliver systems management products — for single z/OS systems and Parallel Sysplex clusters — that can help you maximize your competitiveness and business application availability, and help minimize systems management costs.

Become an On Demand Business by implementing end-to-end automation applications

Through the deployment of Tivoli System Automation software, you can help your company implement IBM Tivoli IT Service Management strategies and become an On Demand Business. By providing an end-to-end self-healing and self-managing application environment, Tivoli System Automation for z/OS helps you automate your IT service continuity management, availability management and capacity management processes.

For more information

To learn more about Tivoli System Automation for z/OS and integrated solutions from IBM, contact your IBM sales representative or visit **ibm.com**/tivoli/products/system-automation-390

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