Featured Speaker:

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IBM Systems magazine

IBM

New Automation Control for z/OS replaces scripts with policies

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IBM continues to enhance z/OS Automation capability to support expanding business requirements

Key Takeaways

- Policy Based Automation improves productivity and increases zEnterprise availability
- **IBM Automation Control for z/OS** provides single System z environments with improved availability, lower admin costs and faster, easier install/config
- Enhance zEnterprise visibility and control with integrated monitoring and automation

Single System z mainframes require easy automation to minimize and simplify Data Center operations

System z operations continue to focus on ease-of-use

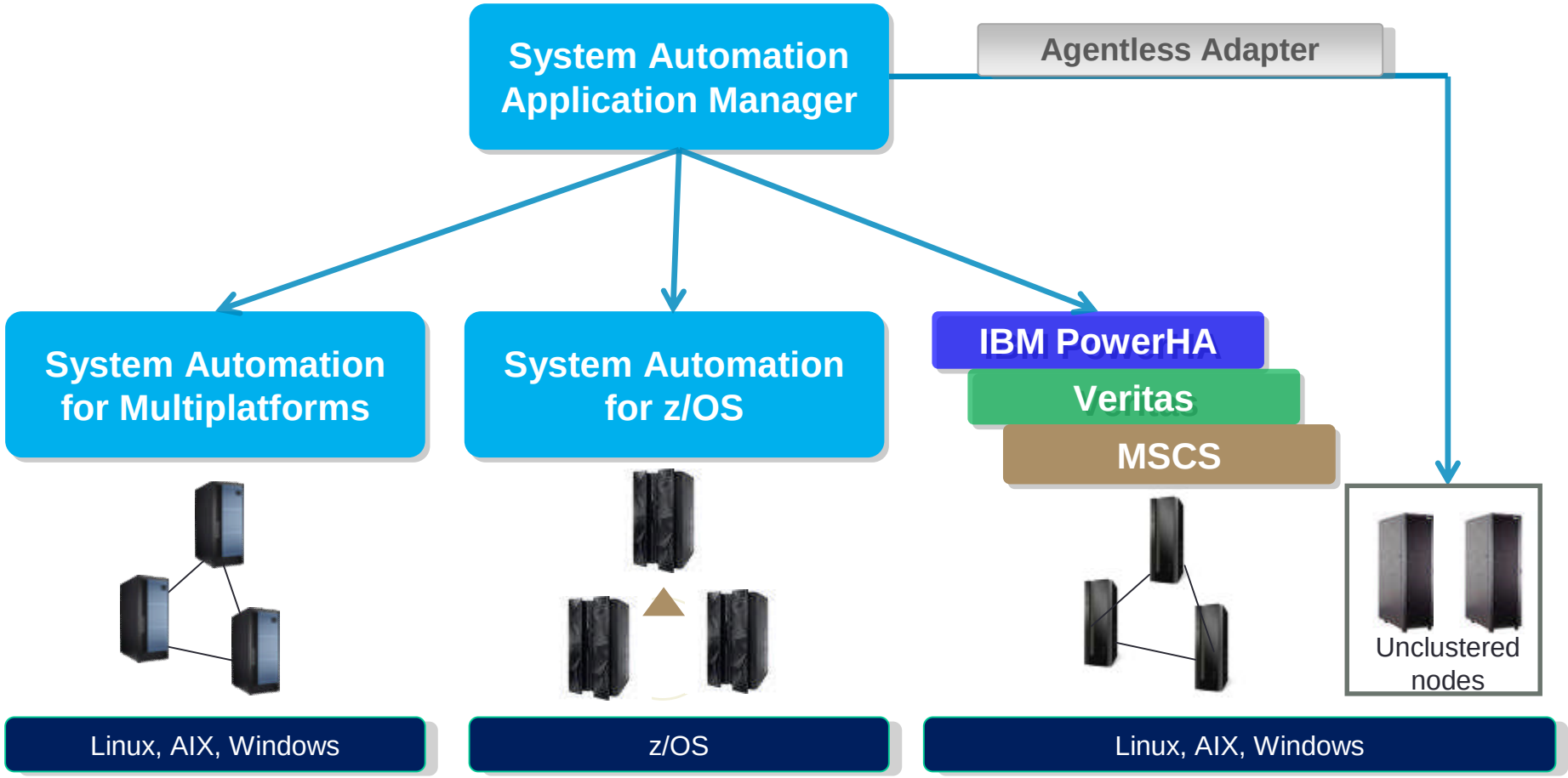
Today's IT Challenges:

- Considerable manual effort, resulting in confusion and errors
- Fast changing business requirements needing application changes
- Availability outage until problems solved manually by operations
- Over provisioning of resources – human and computer
- Challenging business requirement for 100% availability

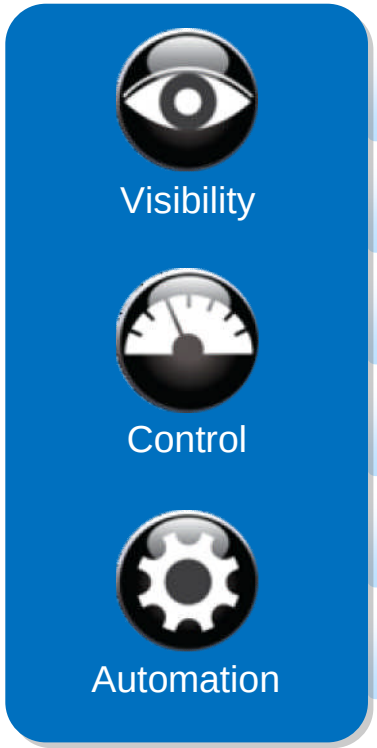
System z automation solution needs to provide quick ROI

IBM System Automation family works together to provide Enterprise-wide cost savings with increased availability

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



Key System Automation Capabilities and Differentiators



- **Integration with Tivoli Monitoring**
- **Increased availability through pro-active automation**
- **Reduced risk of operation**
- **50% less customer maintained code**
- **Driving down Cost of Operations**
- **80% reduced effort for HA setup**

High Availability

Automated Operations

Disaster Recovery

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

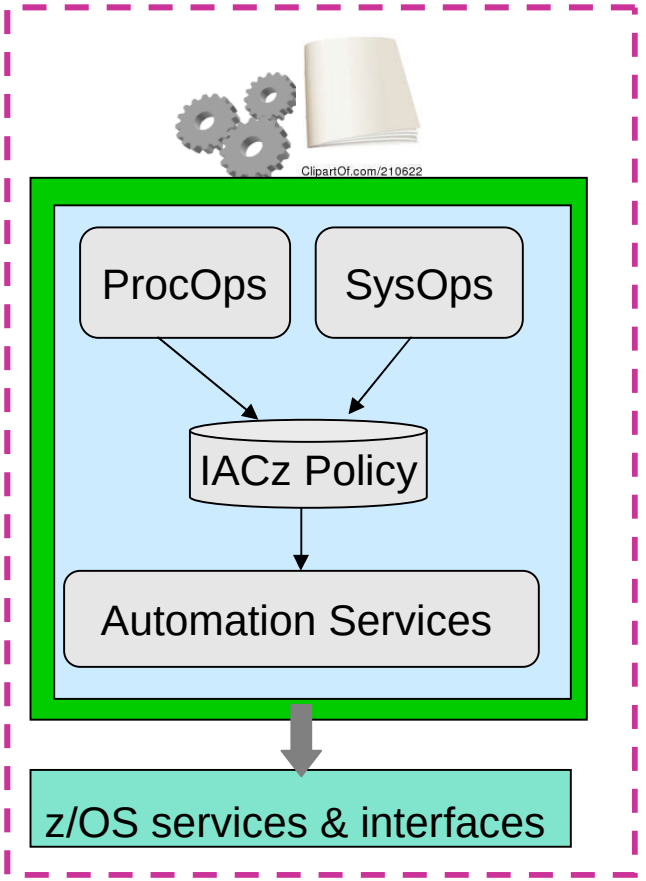
Gain value of IBM System Automation with single simplified product

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.

Lightweight - Reduces both administrative and operational tasks as well as customization and programming effort with wizard based approach

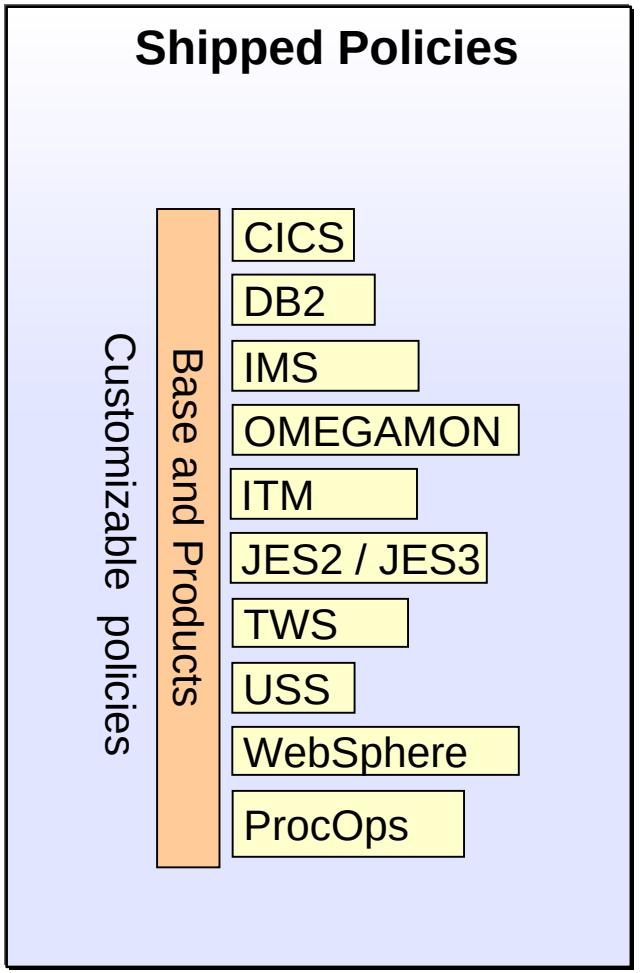
Integrated – With z/OS and IBM Tivoli solutions to improve efficiency and availability



IBM Automation Control approach on z provides unique, easy-to-implement and execute policy-based methodology

Goal Driven Automation defined via Policy

- **Policy based automation** w/o need for programming
  - Faster time-to-value
  - Less maintenance cost
  - Significantly reduces human errors
- **Intelligent relationships**
  - Management of entire application with a mouse click
  - Spans LPARs
  - Controls orderly startup and shutdown
- **Sophisticated Application Grouping**
  - Defined application dependency
  - Enables move of entire application either automatically or manually
  - Restart & Failover rules



Obtain Automation Visibility with IACz Policy Report

Web-based Policy reporting shows dependencies, hierarchies, groups and systems

Automation Control for z/OS Policy Database Report

```
UserId:                HUT
PolicyDB Name:         PULSE_AC
PolicyDB data set:     'HUT.PULSEAC.PDB'
Creation Date:         Wednesday, 21 Nov 2012
Creation Time:         10:23:05
```

Selected Entry Type(s)

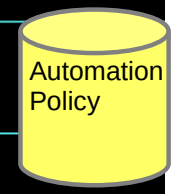
ENT: Enterprise, AT and MRT Specifications
GRP: Groups
SBG: SubGroups
SYS: Systems
APG: ApplicationGroups
APL: Applications
EVT: Events
SVP: Service Periods
TRG: Triggers
PRO: Processors
MTR: Monitor Resources
ENS: zEnterprise Ensembles
TMR: Timers
TPA: Tape Attendance
MVC: MVS Components
MDF: MVSCOMP Defaults
SDF: System Defaults
ADF: Application Defaults
AOP: Automation Operators
NFY: Notify Operators
NTW: Networks
XDF: Sysplex Defaults
RES: Resident CLISTs
SCR: Status Display

```
                    Policy Database Report Parameters
Option ===> 1

  1 Create report for a complete enterprise
  2 Create report for entry type or entry name
          Entry Type. . . . . . . . . . APL
          Entry Name. . . . . . . . . . *

Report options:
  Data set type . . . . . FS          (PDS FS)
  PDS name  . . . . . .
  File system directory . /ACReport/Enterprise
  Member / file name  . . ALL
  Mode  . . . . . . . . . ONLINE      (ONLINE BATCH)
  Format  . . . . . . . . HTML        (FLAT HTML)
  HTML file split . . . . 1           (1 to 99 or *)

Job statement information:  (used for BATCH report)
//HUTBLD1 JOB ('HUGD03160 TACZ VIA CUST DAILOG MENU'),GEISSLER
//           NOTIFY=HUT,MSGCLASS=X,MSGLEVEL=(1,1)
//*
```



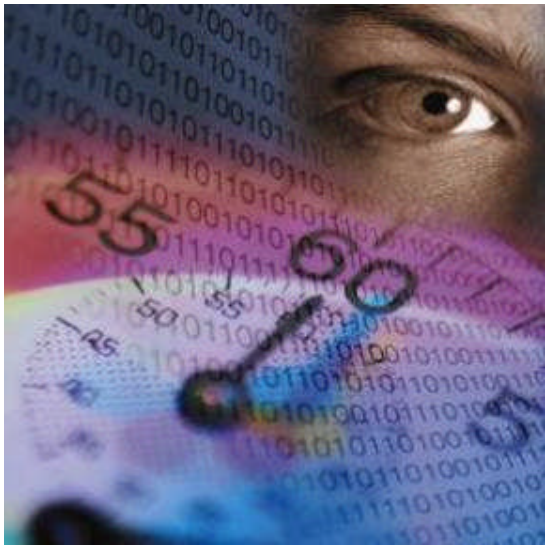
Example of IACz Policy Database Report

IBM Automation Control for z/OS optimizes availability across composite application environments

Applications management, and integrated operations management

Key capabilities

- Monitor, control, and fully automate z/OS monoplex environments as well as local System z hardware resources
- Central view and management of critical business processes
- Automated availability across LPARs to meet business service level requirements
- Contain costs with policy based automated, repeatable processes



Automation Control allows reacting to events as a human would, but much faster, more efficiently and effectively.

IACz offers additional unique benefits for smaller System z customers – Single zEnterprise mainframe

- **Automated Operations**
  - Reduced effort for configuration, customization, operations, and administration
  - Ensure availability of critical systems and applications
- **Policy based and Goal driven**
  - Start, stop, monitor, and recover z/OS applications/resources
  - Reduces need of user scripts
- Easy-to-use **graphical user interface**
- Easy Setup via **Configuration Assistance**
- **Premium Security**
  - Avoid user exits to provide granular security
  - Exploit z/OS's security access facility
    - Leverage existing security governance
- **Integration** with IBM Tivoli software enterprise solutions
  - including IBM Tivoli Monitoring and IBM Tivoli Workload Scheduler

IBM Automation Control for z/OS can provide value across all System z resource availability challenges

Higher availability, easier operations

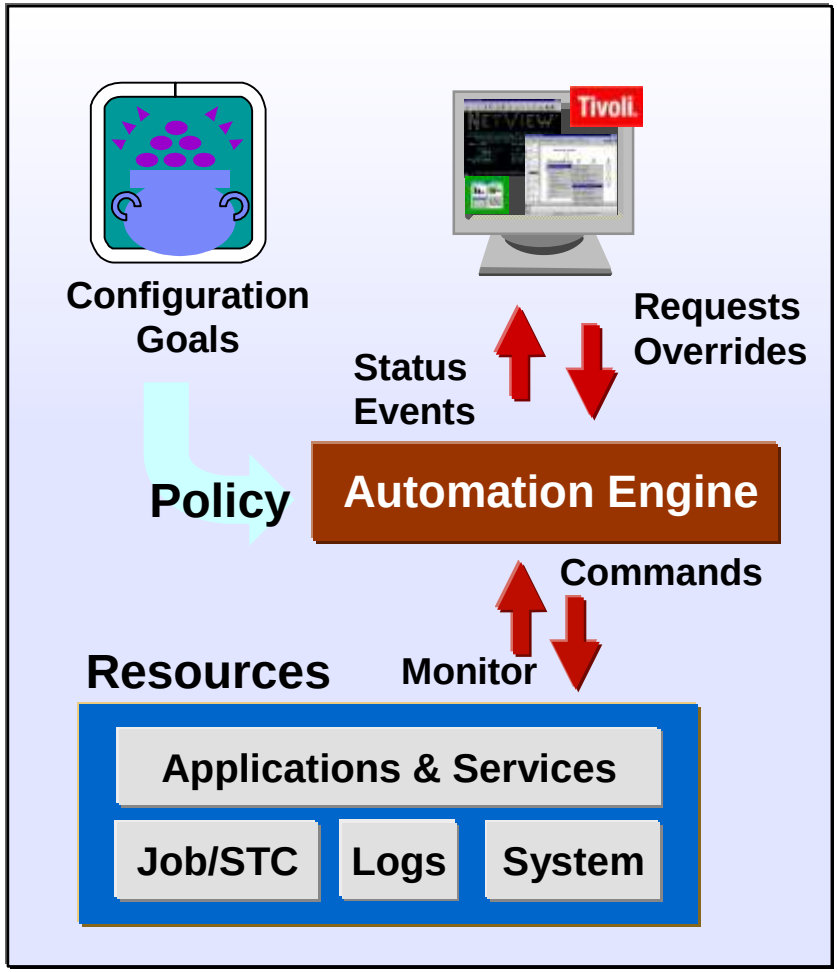
- z/OS IPL and stop time reduced by 50% over rules based
- Simplified policy-based operations

Reduced automation costs

- Plug ‘n play automation modules
- Simplified Message Management
- Policy cloning and nested classes
- Definition effort reduced 70%

Higher degree of automation

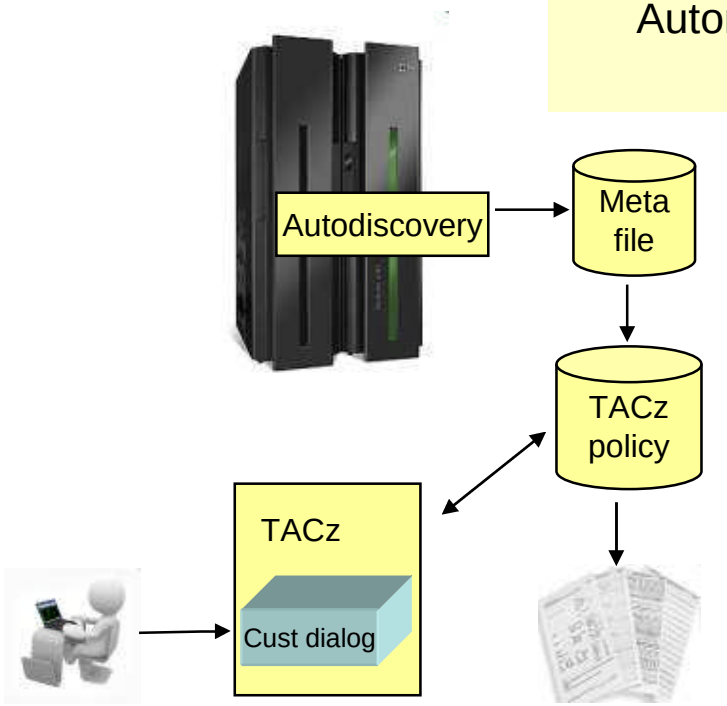
- 95% of applications supported
- Manage application relationships
- Dynamic reactions on missing resources
- zOS/VM/Linux support



Single System z automation provides autodiscovery to simplify configuration and application management

Customer Challenge today:

Automation rules have to be entered manually into policy database, which can be time consuming process

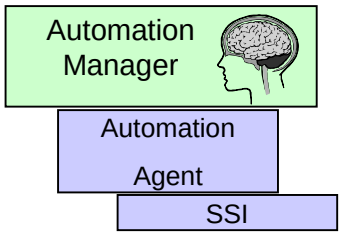


- Run **autodiscovery** to collect all automation relevant data of software components installed
- Save data in Meta file
- IACz builds policy using Meta file
- Operations examines report of policy info and makes adjustments
- IACz ready to execute

Get up and running in 50% of time previously taken

New Configuration assistance capability simplifies installation and on-going maintenance

- Simple configuration to get base automation components running
  - Automation manger
  - Automation agent
  - Subsystem interface

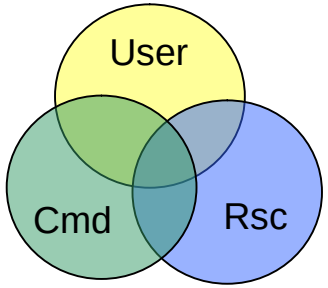


- Use of **configuration assistant** that automates configuration process
- Keep number of configuration variables down to necessary minimum
- Benefit from lab **experience** using “standard” option set (stylesheet)
- Post install/**configuration verification** to ensure all necessary steps (in particular steps that have to be done by other persona) have been completed

IACz provides role based security to simplify operations and improve usability and auditability

- There are 3 dimensions to consider
  - User (human person or technical user)
  - Command and parameters
  - Object / Resource

  → intersection between dimensions access permitted



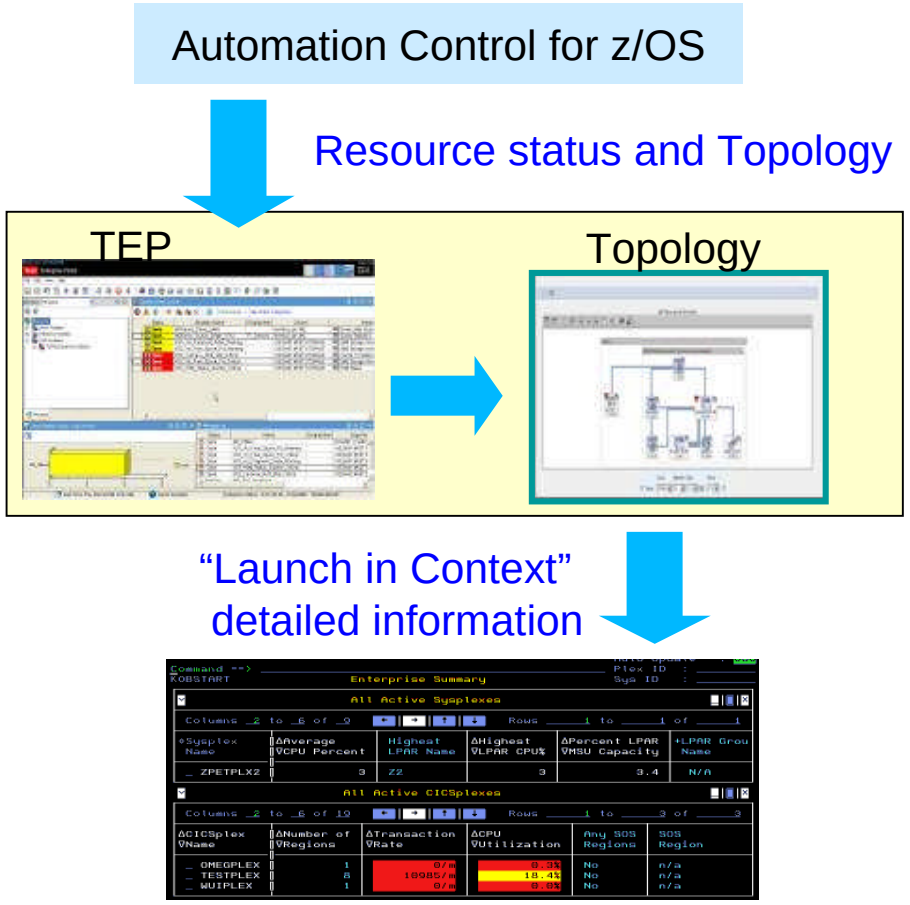
- **Recommended roles**
  - USER (least privileged): 'Display only' commands (no change)
  - OPER: Day to day operation
  - ADMIN: configuration changes, debug and repair actions
  - AUTOOP: basic infrastructure – no restrictions
  - SUPER (fully privileged): no restrictions – emergency use

Easy and smart definitions with Configuration assistant

Quicker visibility and direct navigation for easier, enhanced problem determination and management

Addresses key customer requirement for additional graphical display of configuration information rather than just 3270-like view

- Ability to launch to detailed view directly from high level Topology view
  - –See problem and deep dive to cause quickly
- Significant decrease in IT and people resource usage and problem determination time
- Allows Operations to direct System Programmers directly to problem



Policy Based Automation instead of coding allows operations to quickly respond to change

Customization (ISPF):

Customization Dialog

```
 MENU  OPTIONS  HELP
------------------------------------------------------------------------------
            Automation Control for z/OS 1.1 Customization Dialog
Option ===> _

  0  Settings          User parameters

  BR Browse            Browse the Policy Database
  1  Edit              Edit the Policy Database
  2  Build             Build functions for Policy Database
  3  Report            Generate reports from Policy Database
  4  Policies          Maintain Policy Database list
  5  Data Management   Import policies into a Policy Database
  U  User              User-defined selections

  X  Exit              Terminate Customization Dialog

  To switch to another Policy Database, specify the Policy Database
  in the following field, or specify a ? to get a selection list.
  Current Policy Database . . . PULSE_AC

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                         (C)  Copyright IBM Corp. 1990, 2013
```
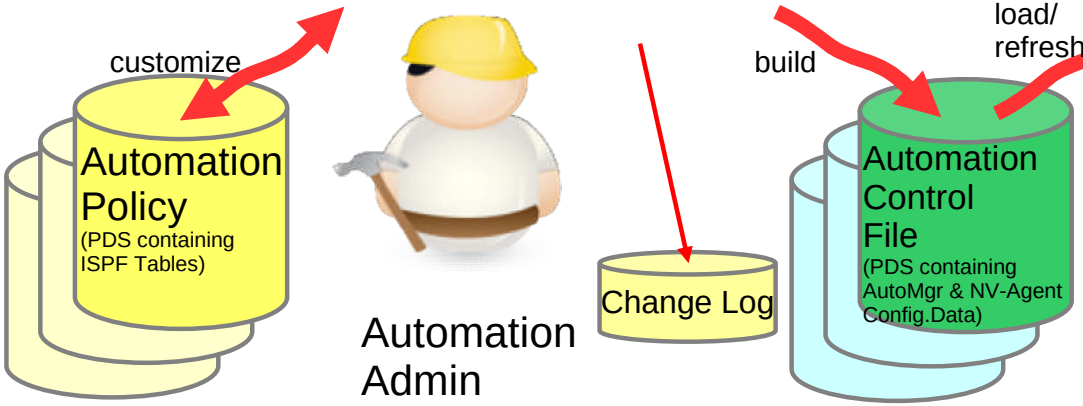

Operation (AutoMgr & Agent):

Operations FrontEnd

Operator



Recommended to use

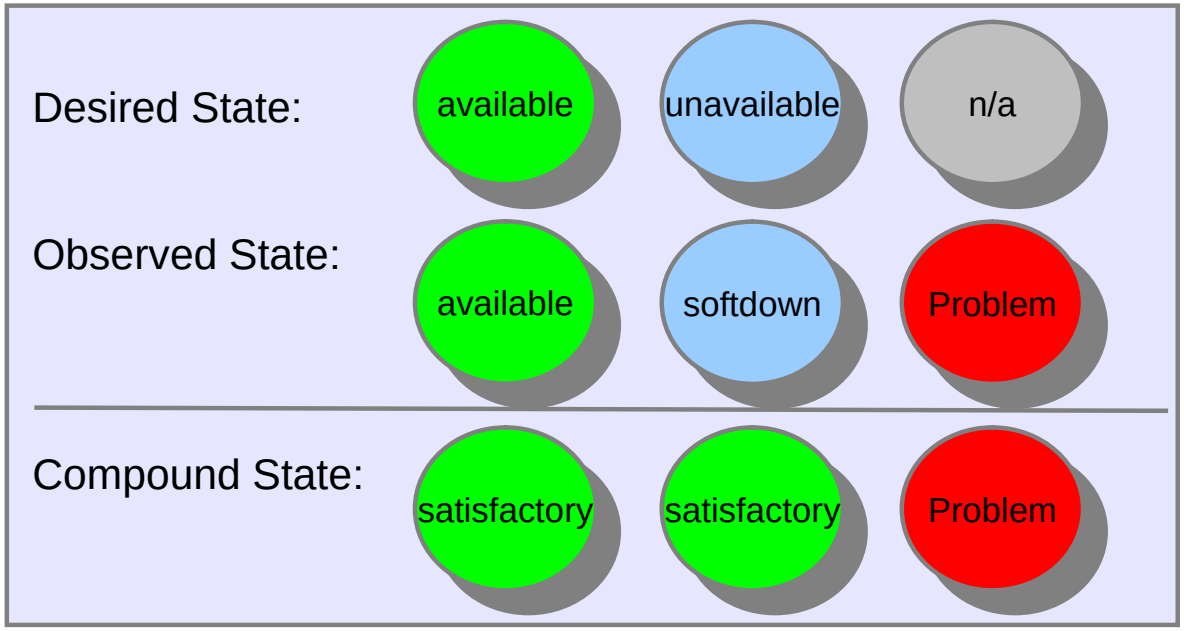
Generation Data Groups (GDG)

For mass updates → alternatively FLATFILE updates available

Runtime Environment provides goad oriented approach with persistent requests

- Automation Control's duty to manage resources according to automation policy
- Operator may overrule policy driven automation by sending Request to Automation Control to change resource Desired State
- Automation Control aims to enter & keep that Desired State
- Requests are persistent.

Good practice to remove injected requests w/ policy driven automation



NO scripting necessary!

Pro-active Automation leveraging OMEGAMON provides ability to quickly correlate and fix problems

- Accelerated rate of change drives need for increased visibility & automation into application & IT infrastructure
- Monitoring IT resources alone provides incomplete view of application performance and makes problem isolation and resolution a complex, expensive task
- Lack of drilldown capability to find root cause of problems
- Increased risk of revenue loss and brand damage

"Organizations spend 54% of each outage detecting and identifying."
– EMA Decreasing IT Operational Costs by Accelerating Problem Resolution

The Solution: Pro-active Automation:
Automation Control for z/OS & OMEGAMON XE

Integrate monitoring and automation to create Pro-Active Automation to find and resolve problems faster

Exception display and simple actions

- Create message filtering and message automation
- Monitor issues for potential automation
- Exploit OMEGAMON exceptions for automation
- Execute take action for particular situations
- Escalate problems as needed

Integration of monitoring and automation

- Manual correlation of problems across applications
- Exploit single user interface to enable seamless operations
- Develop escalation with extended information

Pro-active automation

- Correlate of problems across applications
- Resolve problems or workaround
- Adaption of thresholds
- Switching on of traces as needed avoids overhead

IACz offers additional unique benefits for smaller System z customers – Single System z mainframe

- Single/self-contained easy to install, easy to customize, easy to operate solution without additional software pre-reqs
- Reduced skill requirements through reduction of external interfaces, roles based security, out of the box Hardware management and simplified messages
  - 35% faster installation
  - 50% faster security set up
- Get up and running quickly
- Significantly improved over AF/Operator

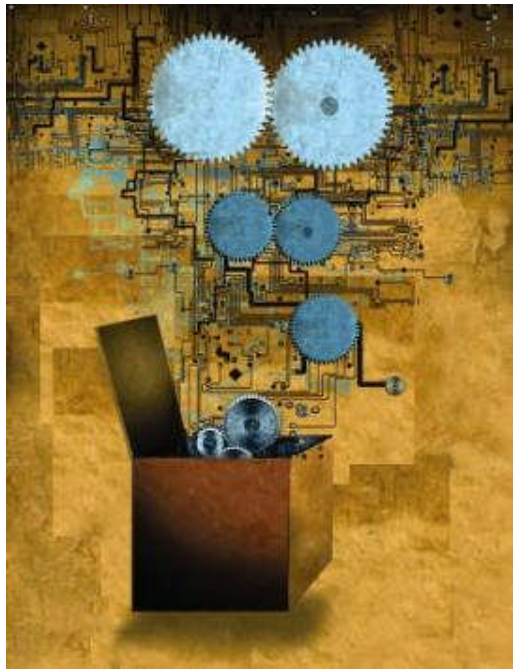
IACz provides quick business value focused at smaller single System z environment

Drive down Cost of Operations

- 50% reduced zOS IPL and stop time
- 80% reduced effort for HA set up using policies
- 70% less time required to add a new DB2 subsystem

Dramatically reducing risk in mainframe operation

- 50% reduction in customer maintained code
- Ability to manage 4x more automated resources without increasing staff



IBM Automation Control for z/OS cost effectively simplifies smaller System z environments

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- **IBM Automation Control for z/OS** provides single System z environments with improved availability, lower admin costs and faster, easier install/config
- Enhance zEnterprise visibility and control with integrated monitoring and automation

Learn More: http://www.ibm.com/software/products/us/en/ibm-automation-control-for-zos