

# New IBM Automation Control for z/OS - Replacing Manual Scripting with Policies

Ulrike Muench (UMuench@de.ibm.com)  
IBM Corporation

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14074



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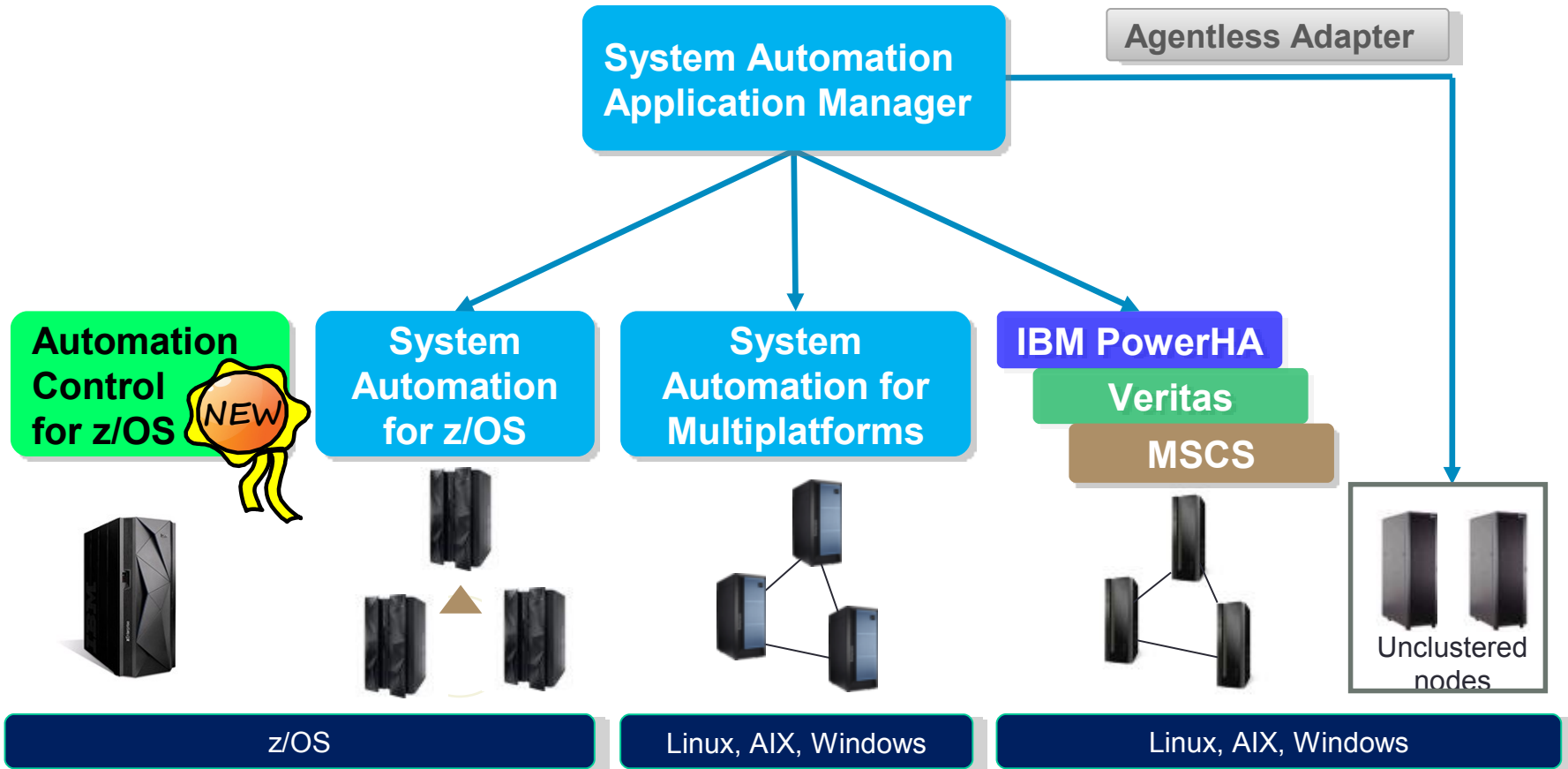
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# IBM System Automation family works together Enterprise-wide

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



# Why Another Automation Product for z/OS?



## Other products do not fit my needs...

- Too big for me
- Too many functions which I don't require
- Too expensive for my needs
- Too much effort to maintain my own scripts
- Too time consuming



# What is an Appropriate Low-end Automation Product for z/OS?

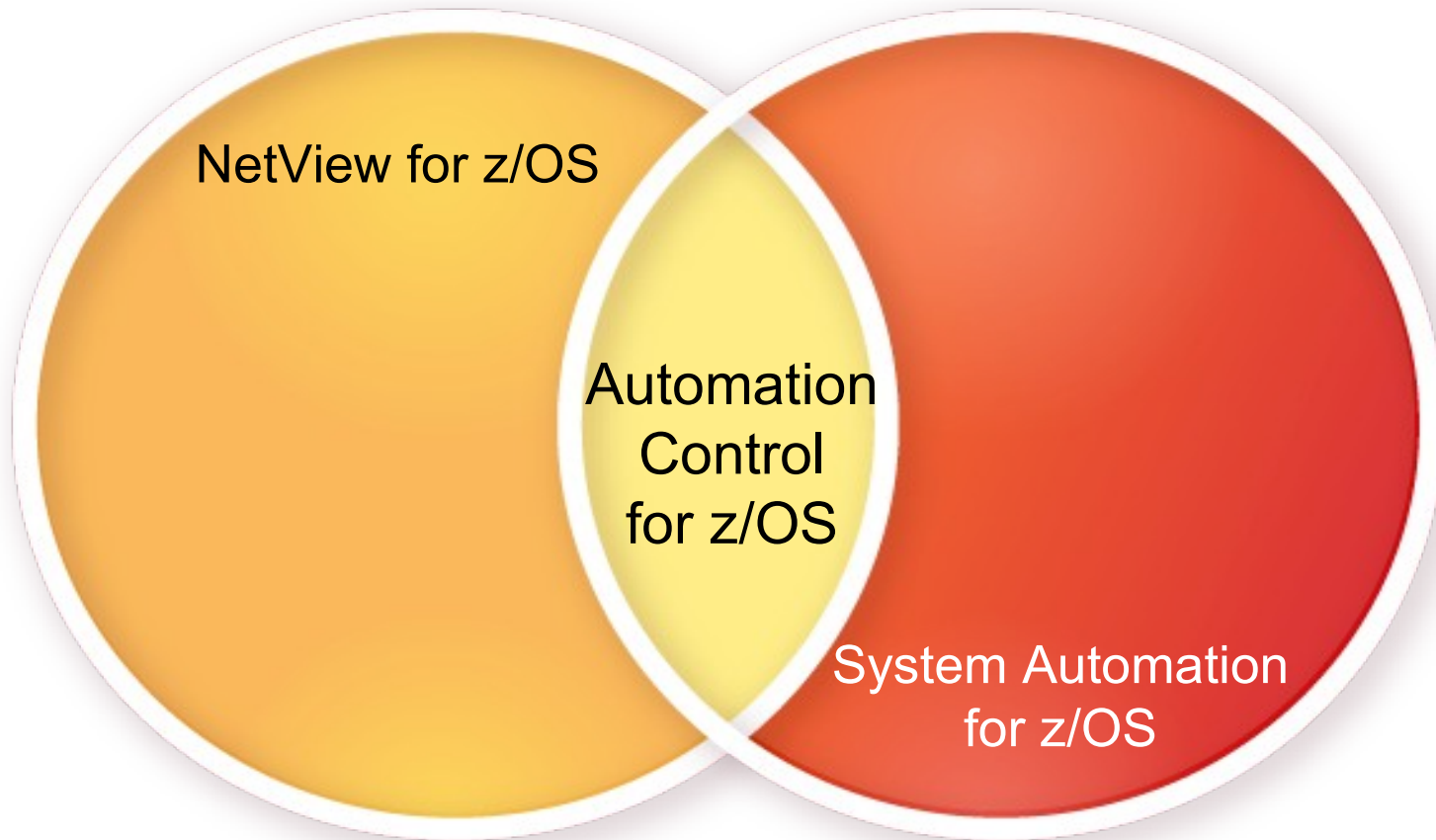
- Easy to install and configure
- Easy to administrate the automation
  - Policy-based, no scripting
- Easy to operate
  - Goal-driven through policy
- Easy to integrate with other IBM products
- Easy to migrate to premium class SA z/OS
- Priced for low-end z/OS installation
  - charged only once (OTC) without additional prerequisites



# What Does All That Mean?



# 'Fit My Needs' - for Low-end z/OS Installations



Combining the Strengths



# Application Automation + Hardware Operations



**z/OS  
Application  
Automation  
(SYSOPS)**

**IBM Automation Control for z/OS**

**System z  
Hardware Operations  
(PROCOPS)**

- ✓ Automate repetitive and complex tasks in **Single System 'Monoplex' Environments**
- ✓ **Policy-based automation administration:**  
Reduces automation implementation time, coding, and support effort
- ✓ **Goal-driven automated operation:**  
According to your policy.  
Monitors, applications, messages, and alerts  
Increase availability and performance through proactive automation

- ✓ **Policy-based automation administration**
- ✓ Automate and control **hardware operations on local CPC**
- ✓ Power off and reset local CPC
- ✓ Perform system IPL for z/OS and VM
- ✓ Automate **local LPAR settings**, e.g. weights and capping





# Application Automation - SysOps

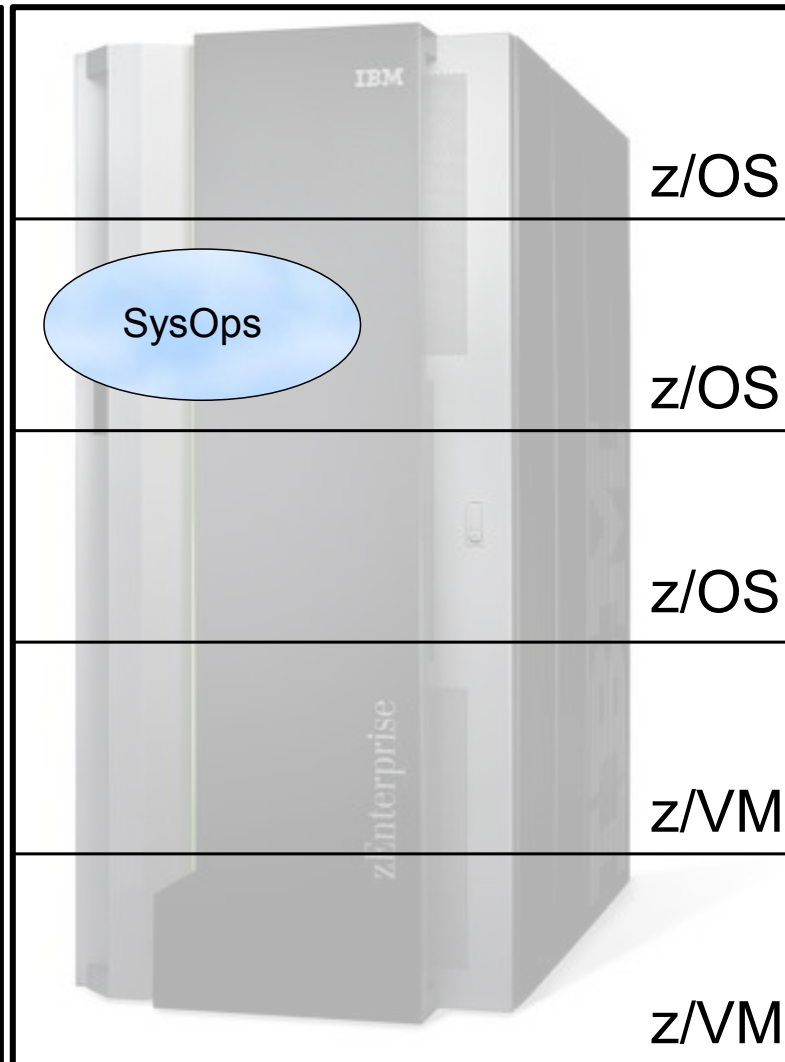
## Within a Monoplex z/OS...

### Application Automation (SysOps) controls:

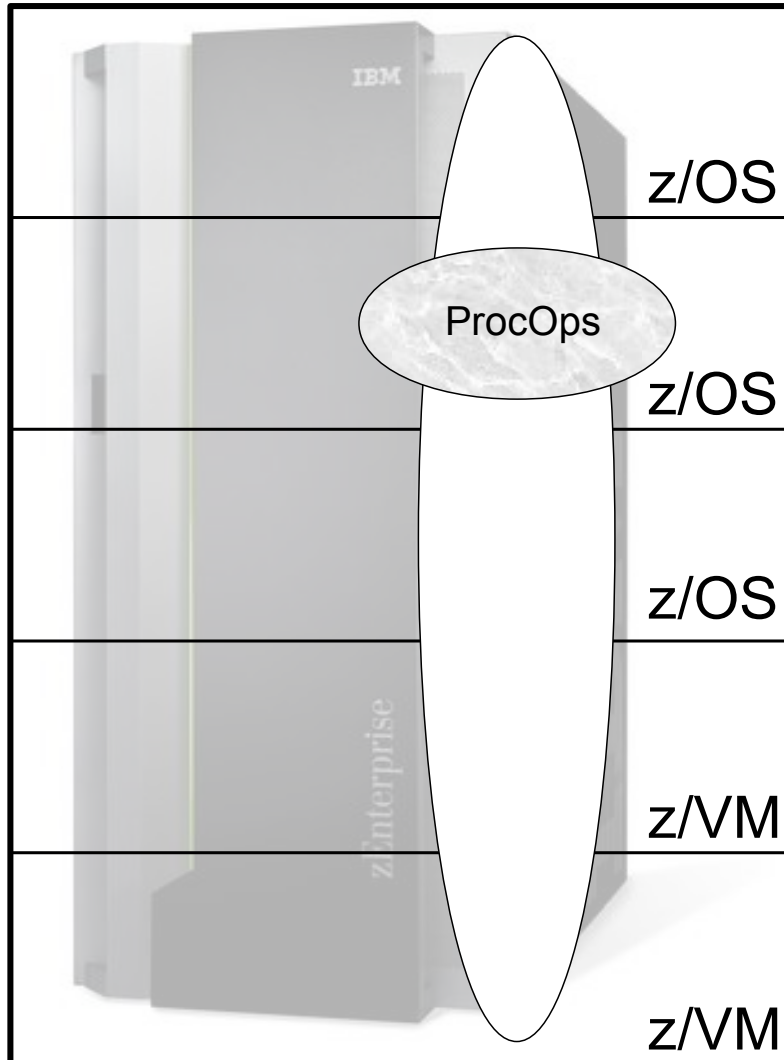
- z/OS Address Spaces
  - z/OS Applications
  - USS Applications
  - Monitors
- Groups of Applications
- Dependencies between applications, groups and monitors
- Schedules

### SysOps provides:

- Easy Configuration
- Policy-based Administration
- Goal-Driven Operations
- SPOC for up to three z/OS's within a sysplex (requ. add. licenses)



# Hardware Operations - ProcOps



## Within a local CPC ...

### Hardware Operations (ProcOps) runs:

- on the z/OS-System where 'Automation Control for z/OS' is installed

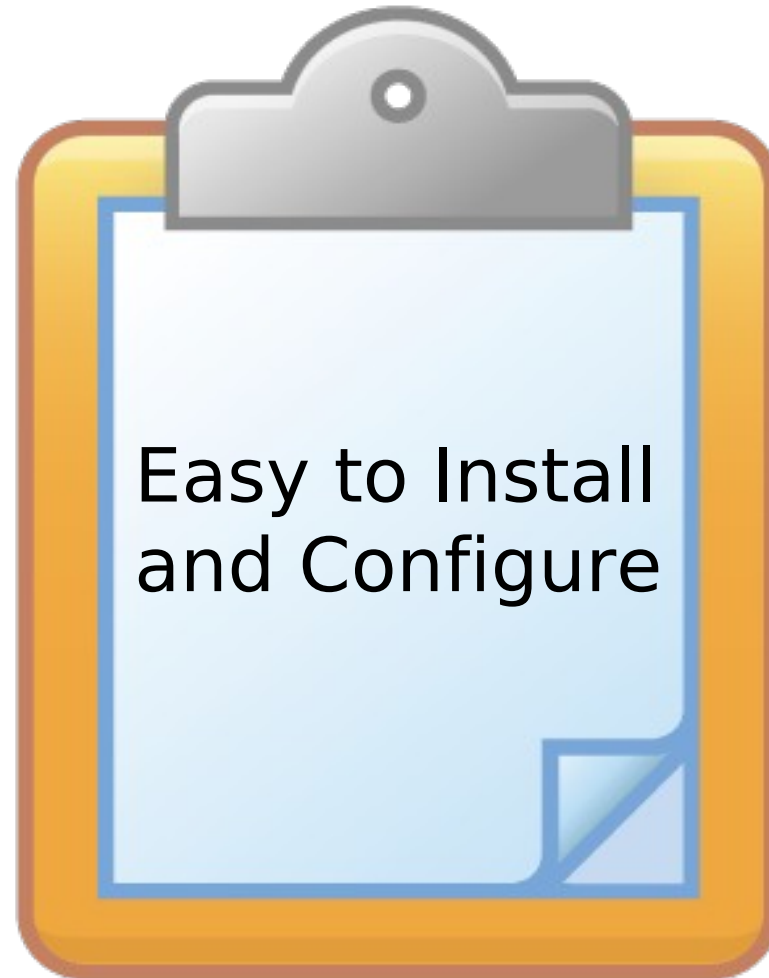
### ProcOps controls:

- CPC
- local LPARs
- local operating systems (z/OS, z/VM)
- Activation Profiles
- Capacity
- zBX Blades
- zBX Virtual Servers

### ProcOps provides:

- Single Point of Control for the local hardware operations

# What Does All That Mean?



# Product Packaging Information

## Product packaging

- New FMIDs packaged together and delivered as single product number:  
**5698-LSA**
- Manual “IBM Automation Control for z/OS - Getting Started”

## Package includes (among others)

- FMID HSAL110: Base Automation Control automation component (SA)
- FMID HNVL11B: Base Automation Control automation infrastructure (NetView)

## Installation

- SMP/E install process
- Single Program Directory explaining requirements and installation steps

## Globalization

- Automation Control for z/OS is globalized similar to NetView for z/OS and System Automation for z/OS
- Translation to Kanji not planned for Automation Control for z/OS

# Traditional Product Configuration (=post SMP/E Installation)

## Chapter 7. Installing SA z/OS on Host Systems

Overview of Installation Tasks	51
Step 1: SMP/E Installation	52
Step 2: Allocate System-Unique Data Sets	55
Step 2A: Data Sets for NetView	55
Step 2B: Data Sets for I/O Operations	56
Step 2C: Data Sets for Automation Agents	56
Step 2D: Data Sets for Automation Managers (Primary Automation Manager and Backups)	57
Step 3: Allocate Data Sets for the ISPF Dialog	58
Step 4: Customize SYSJPARMLIB Members	59
Step 4A: Update IEAAPFxx	59
Step 4B: Update SCFIEEzxx	60
Step 4C: Update MPTISTxx	60
Step 4D: Update LPAISLxx	61
Step 4E: Update LNGLSLxx	61
Step 4F: Update BEPSNxx	62
Step 4G: Update BESSNxx	63
Step 4H: Update SSMFPMxx	63
Step 5: Customize SYSJPROCLIB Members	63
Step 5A: NetView Startup Procedures	63
Step 5B: Startup Procedures Required for System Operations Only	64
Step 5C: I/O Operations Startup Procedures	65
Step 6: Customize NetView	66
Step 6A: Customize NetView Alert Information	66
Step 6B: Customize NetView ENBPARM Data Set	66
Step 6C: Modifying NetView DBPARM Data Definitions for an Automation Network	71
Step 6D: Customizing NetView for Process Operations	71
Step 6E: Customize the NetView Message Translation Table	72
Step 6F: Add the INDCRPGG REEXX Function Package	72
Step 7: Preparing the Hardware	73
Step 7A: Preparing the HMC (Console Workplace 2.8 and Earlier Versions)	74
Enable the HMC API and Set the Community Name	74
BCP Internal Interface	74
SNMP	74
HMAC Object Definition	75
Step 7B: Preparing the HMC (Console Workplace 2.9 and Later Versions)	76
Enable the HMC API and Set SNMP Community Names	76
BCP Internal Interface	77
CPC Object Definitions on the HMC	77
Step 7C: Preparing the SE (Console Workplace 2.8 and Earlier Versions)	78
Configure SNMP	78
Enable the API and Set the Community Name	79
Set the Cross-Partition Flags	80
Step 7D: Preparing the SE (Console Workplace 2.9 and Later Versions)	80

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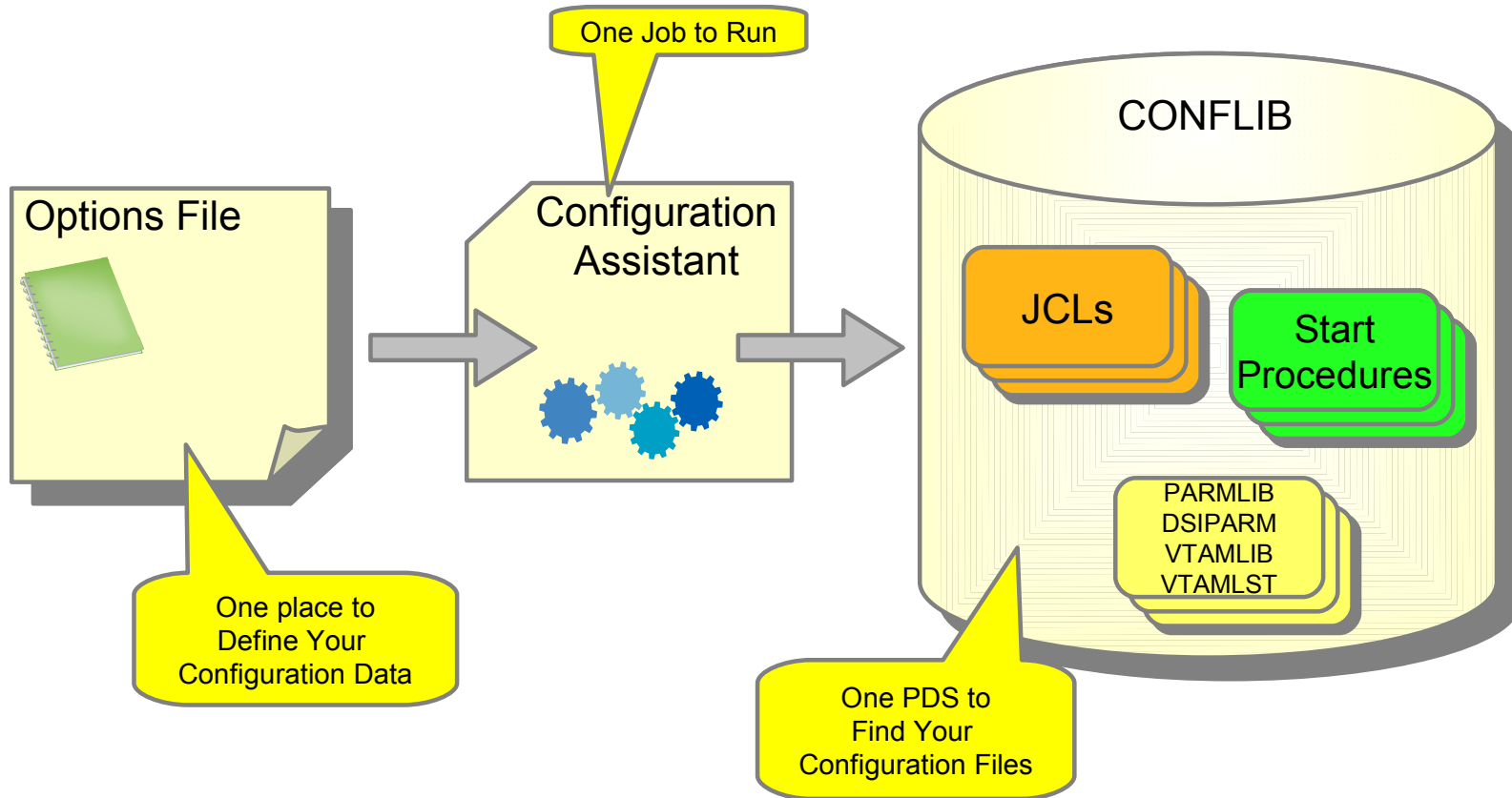
UNSKUTED	121
UNSPMIM	121
UNSCINSE	121

This chapter describes the tasks required to install SA z/OS components on the SA z/OS host systems. This chapter includes information on installing SA z/OS on both local point and target systems. The target system installation does not require some of the steps used for the local point installation. Any installation step that does not apply to the target systems is indicated. Many of the installation steps have corresponding planning activities and explanations in chapters 2 through 6 of this book. Chapter 8 describes installation on workstations.

In this chapter, the single installation steps are marked as either being required for all or certain SA z/OS components or as being optional. Optional denotes steps that may or may not need to be performed based on your environment, your system management procedures, and your use of the SA z/OS product. For each of these steps you need to decide whether it is required for your installation or if it is optional. Each optional step explains why it is optional and describes the circumstances when you will need to perform it.

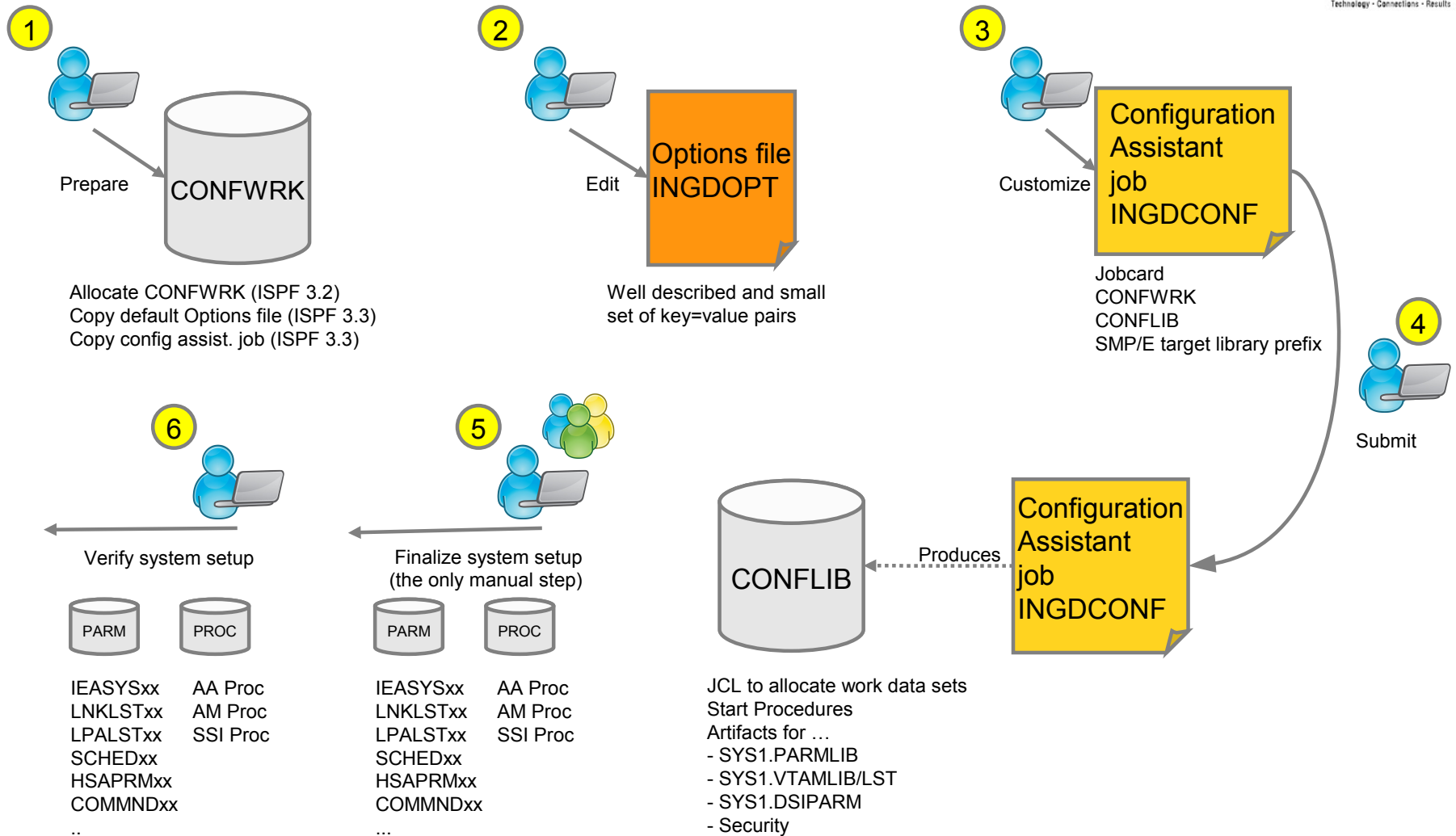
- Read the Installation manual ...
  - ... decide which of the many installation steps apply to your z/OS environment.
- Perform those steps by....
  - ... adapting all the identified sample files and ...
  - ... filling in your environmental data at multiple places spread across the sample files.
- And do all this ... in a consistent way!

# The Configuration Assistant Approach



Generating Configuration Files for one system.

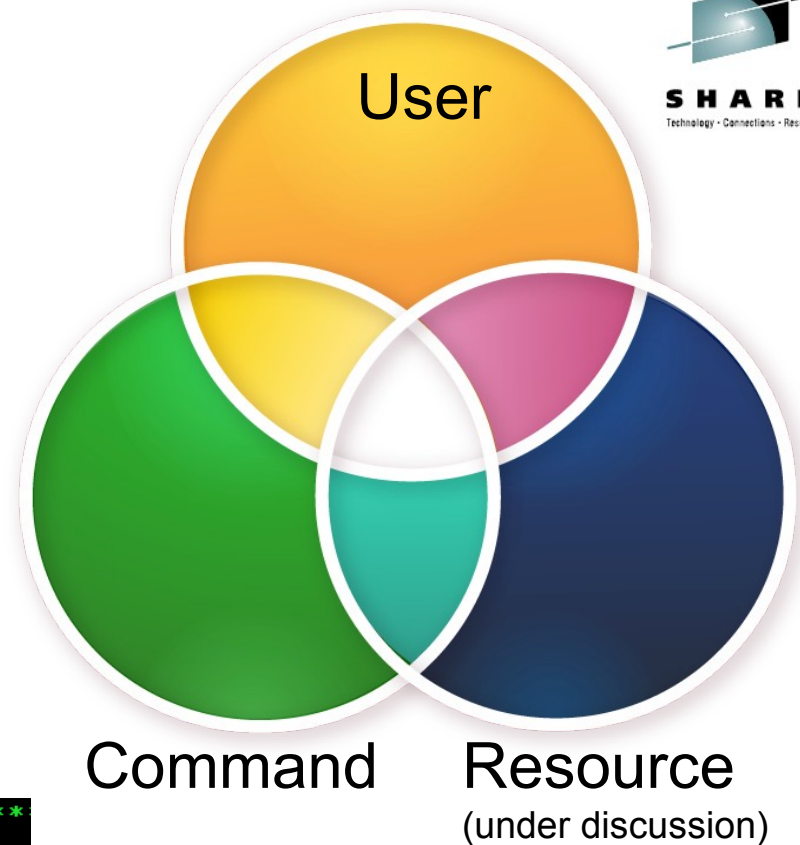
# Configuration Steps





# SAF Security Support

- There are 3 dimensions to consider
  - User (human person or technical user)
  - Command and parameters
  - Resource accessed
- Access is permitted, when there is an intersection between these dimensions
- To simplify, organizations typically define roles (= SAF groups) of users with similar access patterns



```
/* *****  
/* Content:  
/*  
/* #1# Set RACF Options (SETROPTS)  
/* #2# Define RACF variables (RDEFINE)  
/* #3# APPL Profile definition (RDEFINE)  
/* #4# NETCMLS Profile definition (RDEFINE)  
/* #5# SYSAUTO Profile definition (RDEFINE)  
/* #6# Security Role Definition (ADDGROUP)  
/* #7# Set Role permissions (PERMIT)  
/* #8# Define automated operators  
/* and assign them to a role (ADDUSER ALTUSER)  
/* #9# Assign human operators to a role (CONNECT)  
/* #10# Set OMVS Security (RDEFINE PERMIT)  
/* #11# Permit Data Set Access (ADDSD PERMIT)  
/* #12# Refresh RACF Options (SETROPTS)  
/* *****
```

Supported SAF groups:

- SuperUser
- AutoOperator
- Administrator
- Operator
- User

# What Does All That Mean?



# Easy to Administrate: Policy-based Automation

## Customization Dialog

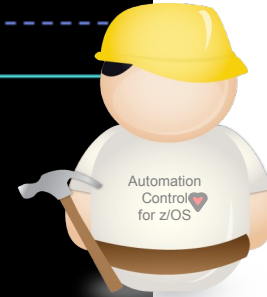
```
MENU  OPTIONS  HELP
-----
Option ==> Automation Control for z/OS 1.1 Customization Dialog

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

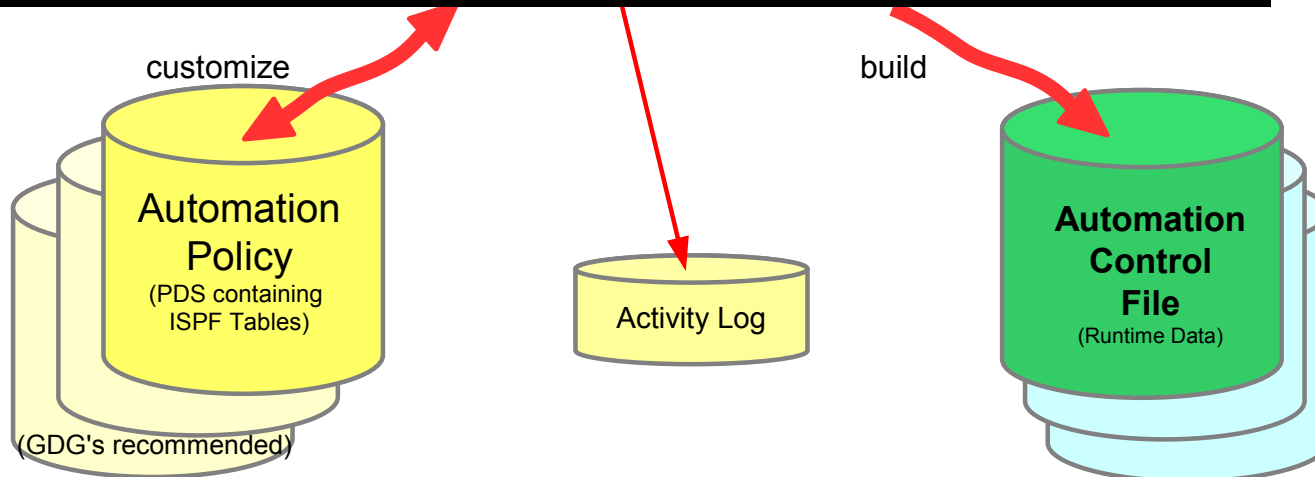
X  Exit             Terminate Customization Dialog

To switch to another Policy Database, specify the Policy Database name
in the following field, or specify a ? to get a selection list.
Current Policy Database . . . ACLAB1

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```



Automation Administrator



# Policy-based Automation – Defining an Application



Adding the DB2 Master Addr.Space  
==> 'DB21MSTR' <==

- Select Entry Type 'APL' and enter 'NEW DB21MSTR'
- Appl.Type: DB2  
Subtype: MSTR
- Define further policy attributes
  - DB2 CONTROL  
Subsystem-ID, Active Log Dataset
  - STARTUP / SHUTDOWN  
Start and Stop Commands
  - RELATIONSHIPS  
e.g. HasParent JES2 & RRS
  - ..or.. **UPWARD CLASS** to inherit from a Class  
DB2 CONTROL, STARTUP, SHUTDOWN, RELATIONSHIPS, ...
- WHERE USED  
link DB21MSTR to a System  
(through an Application Group (APG)).

**Entry Type Selection**

Option ==> \_\_\_\_\_ More:

Enter number or entry type or use "BR <entry type>" for browse

1 ENT	Enterprise	30 TMR	Timers
2 GRP	Groups	32 TPA	Tape Attenda
3 SBG	SubGroups	33 MVC	MVS Compon
4 SYS	Systems	34 MDF	MVSCOMP De
5 APG	ApplicationGroups	35 SDF	System Def
6 APL	Applications	36 ADF	Application
7 EVT	Events	37 AOP	Automation Opera
8 SVP			

**Define New Entry**

Command ==> \_\_\_\_\_

Define new entry of type Application

Entry name	DB21MSTR
Subsystem Name	DB21MSTR
Object Type	INSTANCE
Application Type	DB2
Subtype	MSTR
Job Type	
Job Name	DB21MSTR

(CLASS INSTANCE)  
(IMAGE JES2 JES3 CICS IMS DB2 OPC USS  
TCP/IP INFOSPHERE LIFELINE MQ blank)  
(For types CICS IMS DB2 OPC TCP/IP  
INFOSPHERE LIFELINE MQ or blank)  
(MVS NONMVS TRANSIENT)

**Automation Policy**  
(PDS containing ISPF Tables)

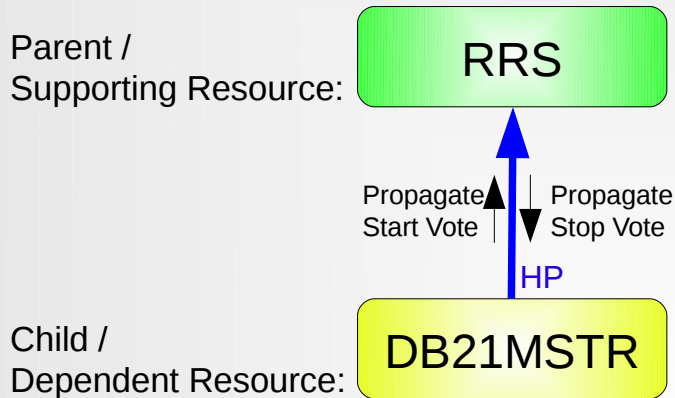
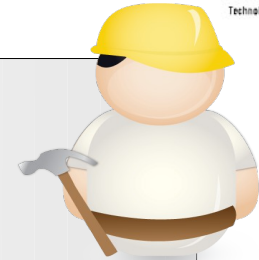
**Policy Selection** Row 1 to 22 of 22

Entry Type	: Application	PolicyDB Name	: AUTOMATION_CONTROL
Entry Name	: DB21MSTR	Enterprise Name	: AUTOMATION_CONTROL
Action	Policy Name	Policy Description	
	DESCRIPTION	Enter description	
	UPWARD CLASS	Select a class to inherit data from	
	APPLICATION INFO	Define application information	
	AUTOMATION FLAGS	Define application automation flags	
	APPLICATION SYMBOLS	Define application symbols	
	TRIGGER	Select trigger	
	SERVICE PERIOD	Select service period	
	RELATIONSHIPS	Define relationships	
	MESSAGES/USER DATA	Define messages and user data	
	STARTUP	Define startup procedures	
	SHUTDOWN	Define shutdown procedures	
	THRESHOLDS	Define error thresholds	
	MINOR RESOURCES	Define application minor flags and thresholds	
	SYSTEM ASSOCIATION	Define primary and secondary associations	
	GENERATED RESOURCES	List resources generated for this entry	
	MEMBER OF	List resources where this entry is a member	
	DB2 CONTROL	Define DB2 subsystem specific data	
	WHERE USED	List application groups linked to this entry	
	COPY	Copy data from an existing entry	

\*\*\*\*\* Routine of data \*\*\*\*\*

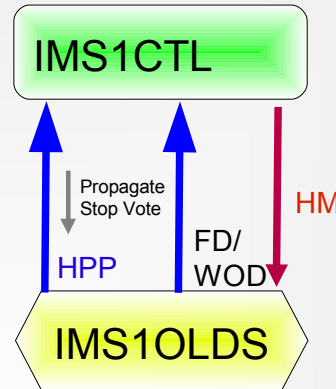
**All changes tracked in Activity Log**

# Policy-based Automation – Relationships



## HasParent

- start DB21MSTR when RRS is up
- stop RRS when DB21MSTR is down
- Vote propagation to actively
  - start the parent
  - stop the child



## HasPassiveParent + ForceDown/ WhenObservedDown + HasMonitor

- Don't start IMS1CTL when starting IMS1OLDS
- But stop IMS1OLDS when stopping IMS1CTL
- Recycle IMS1OLDS if IMS1CTL fails
- propagates health state from IMS1OLDS to IMS1CTL

# Policy-based Automation – Defining a Relationship



Define Relationships for Adr. Space  
'DB21IRLM'

Select Entry Type 'APL',  
then select 'DB21IRLM',

Select Relationships

Define the Relationship type

- Several relationships types could be defined e.g. ...
  - MAKEAVAILABLE
  - MAKEUNAVAILABLE
  - PREPAVAILABLE
  - PREPUNAVAILABLE
  - HASPARENT
  - HASPASSIVEPARENT
  - HASMONITOR
  - ....
- Conditions like
  - WhenAvailable
  - WhenHealthFatal
  - ....

All changes tracked  
in Activity Log

```
Option ==> Entry Type Selection
More:
Enter number or entry type or use "BR <entry type>" for browse

1 ENT Enterprise
2 GRP Groups
3 SBG SubGroups
4 SYS Systems
5 APG ApplicationGroups
6 APL Applications
7 EVT Events
8 SVP Service Periods
9 TMR Timers
30 TMR Timers
32 TPA Tape Attendance
33 MVC MVS Components
34 MDF MVSCOMP Defaults
35 SDF System Defaults
36 ADF Application Defaults
37 AOP Automation Operators
38 NFY Notify Operators
39 NTH Network
```

```
Policy Selection Row 8 to 19
Entry Type : Application
Entry Name : DB21IRLM
PolicyDB Name : AUTOMATION_CONTROL
Enterprise Name : AUTOMATION_CONTROL

Action Policy Name Policy Description
RELATIONSHIPS Define relationships
MESSAGES/USER DATA Define messages and user data
STARTUP Define startup procedures
```

```
Relationship Selection List Row 1 to
Command ==>
Entry Type : Application
Entry Name : DB21IRLM
PolicyDB Name : AUTOMATION_CONTROL
Enterprise Name : AUTOMATION_CONTROL

External Startup . . . ALWAYS (INITIAL ALWAYS NEVER)
External Shutdown . . . ALWAYS (FINAL ALWAYS NEVER)

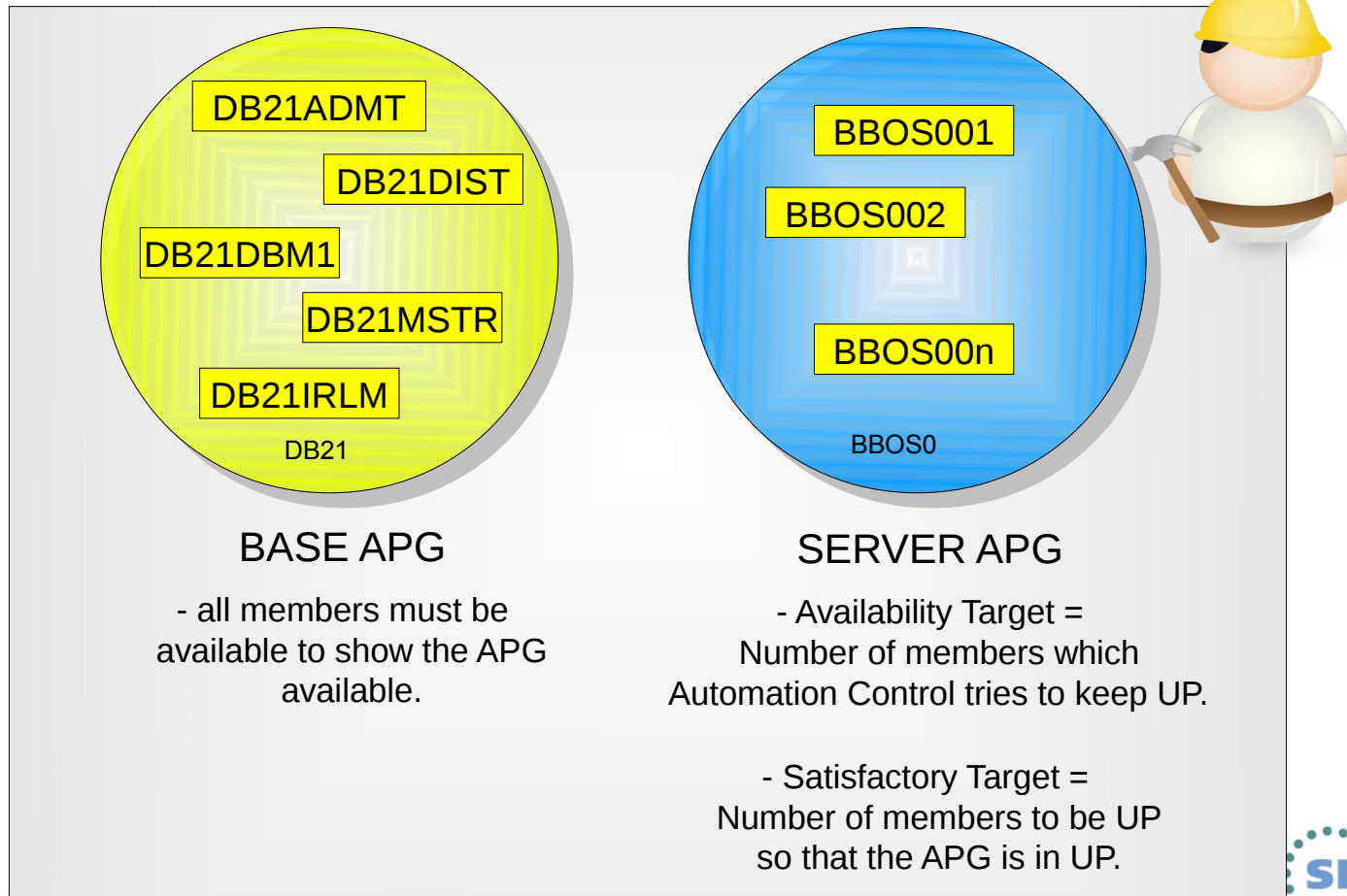
Action # Type Supporting Resource Auto
HASPARENT DB21MSTR/APL/=
StartsMeAndStopsMe
```





# Policy-based Automation – Grouping to Reduce Complexity

- An Application Group (APG) with all its members can be managed as a single resource.
- Requests are propagated to its members.
- The APG shows an aggregated state derived from the states of its members.





# Policy-based Automation – Easy to Administrate

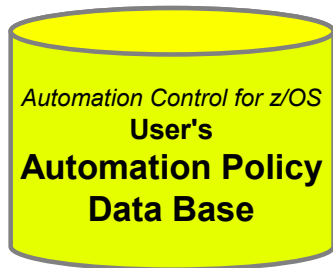
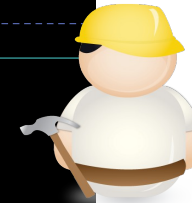
```

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

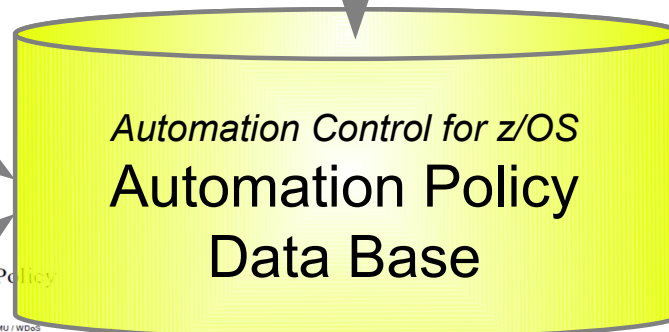
0 Settings                User parameters
BR Browse                 Browse the Policy Database
1 Edit                    Edit the Policy Database
2 Build                   Build functions for Policy Database
3 Report                  Generate reports from Policy Database
4 Policies                Maintain 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 name in
the following field, or specify a ? to get a selection list.
Current Policy Database . . . ACLAB1

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```



Import



Bulk  
Update



Report (flat / html)

C\_CICS

Applications

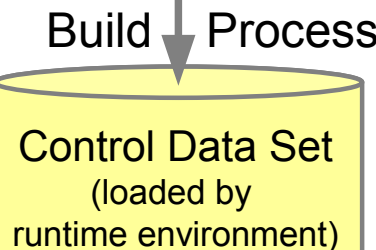
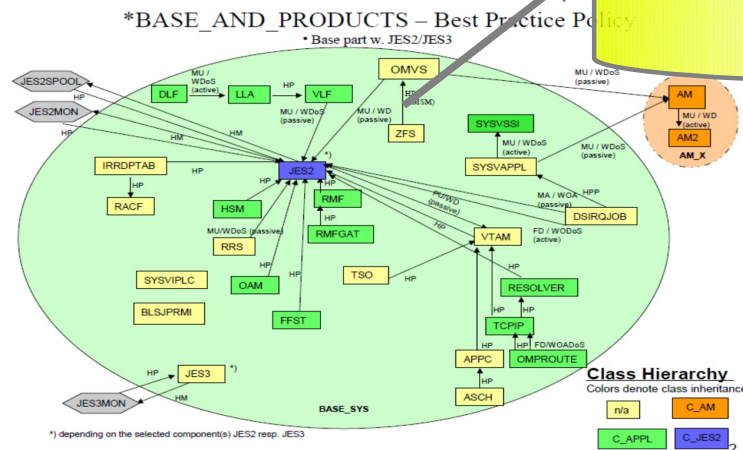
Short Description		Class for CICS
Subsystem Name		C_CICS
Object Type		CLASS
Application Type		CICS
Last changed by		THIE

Minor resource name specification

Minor Resource Name	
TRAN	

Messages and User Data

Message id	Description			
ABCODETRAN	Transaction Abend Recovery			
	Code 1	Code 2	Code 3	Value Returned
	*	*	*	EXCLUDE
CAPMSG	Severity definition for captured msgs			
	Code 1	Code 2	Code 3	Value Returned
	DFHIR3785	*	*	CRITICAL
	DFHLG0507	*	*	CRITICAL
	DFHLG0730	*	*	CRITICAL



Build Process

# Policy-based Automation – Best Practices



- Best Practice Policy is delivered with Automation Control

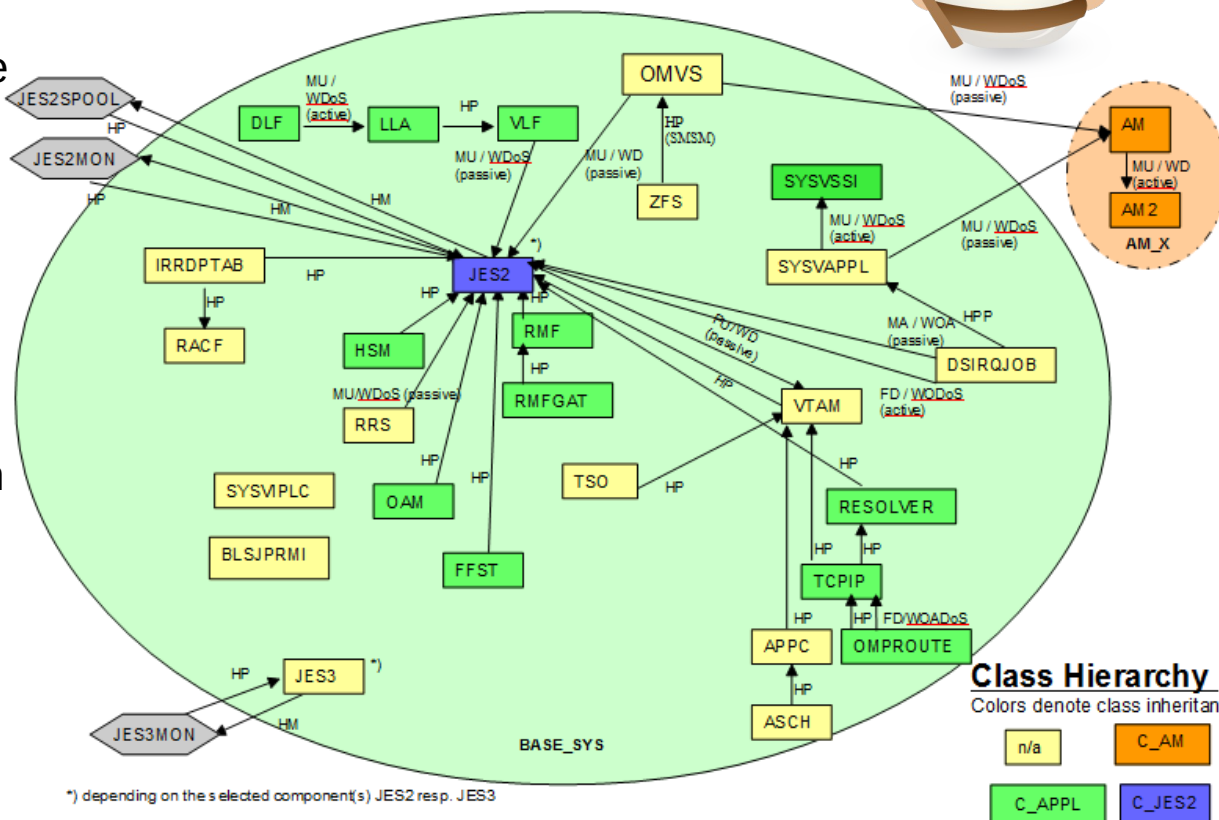
- Shorter 'Time To Value'
  - Import Function available

- Used as Reference Policy

- Developed – Tested – Serviced

- Very Helpful when discussing Automation with Subsystem Owners

- Documented also as .pdf in /usr/lpp/ing/doc/policies



# What Does All That Mean?



# Easy to Operate: Goal-driven Automation

## Customization (ISPF): The 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

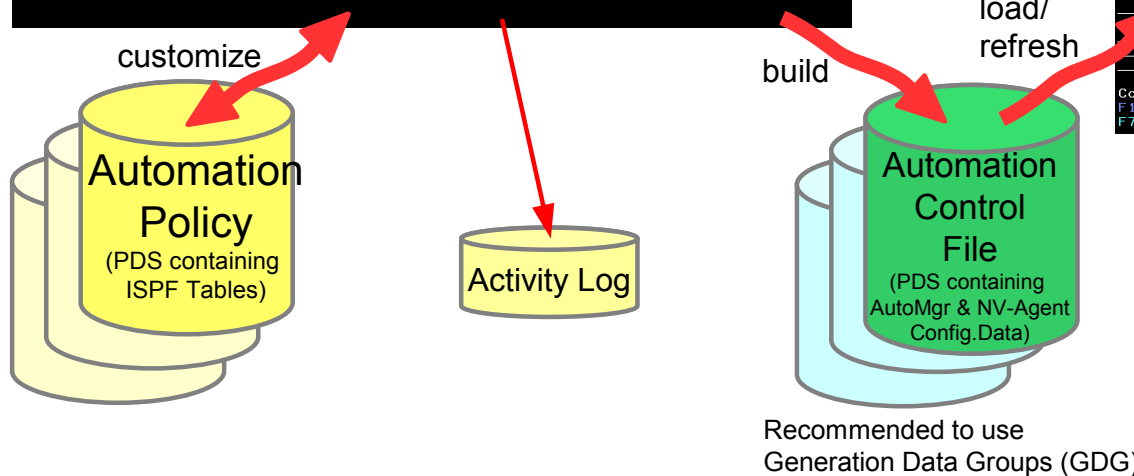
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in the following field, or specify a ? to get a selection list.
Current Policy Database . . . ACLAB1

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```



## Operation (AutoMgr & NetView Agent): The Operations FrontEnd

INGKYST0 SA z/OS - Command Dialogs Line 63 of 203									
Domain Id	: IPSFP	INGLIST							Date : 06/01/13
Operator Id	: OPER1	Sysplex = KEY4PLEX							Time : 19:57:23
A Update	B Start	C Stop	D INGRELS	E INGVOTE	F INGINFO	G Members			
H DISPTRG	I INGSCHED	J INNGROUP	K INGCICS	L INGLINS	M DISPMTR	T INGTWS			
U User	X INGLKUP	/ scroll							
CMD Name	Type	System	Compound	Desired	Observed	Nature			
IMSC_SUPPRT	APG	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN	BASIC			
IMSCGQS	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSCIRLM	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSCOM	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSCOS	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSCRM	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSCSCI	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSC1_APPLS	APG	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSC1_CTRL	APG	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSC1_FDBR	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSC1CTL	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSC1DBRC	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSC1DLS	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSC1FPI	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSC1MP1	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSI1RLM	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSOH	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSRM	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMSSCI	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1_APPLS	APG	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1_CTRL	APG	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1_DB	APG	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1_DB_APL	APG	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1_DB_CTL	APG	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1_DB_CTL	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1_DB_MP1	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1_DB_MP2	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1BMP	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1CTL	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1DB_DBRC	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				
IMS1DB_DLS	APL	KEY4	SATISFACTORY	UNAVAILABLE	SOFTDOWN				



# Goal-driven Automation: Persistent Requests

- It is duty of Automation Control to manage the resources according to the automation policy.
- The operator may overrule the policy driven automation by sending a Request to Automation Control to change the Desired State of a resource.
- Automation Control for z/OS aims to enter & keep that Desired State.
- Requests are persistent.

It is good practice to remove injected requests to return to policy driven automation.



Desired State: ( = Goal )	available	unavailable	available
Observed State:	available	softdown	harddown
Compound State:	satisfactory	satisfactory	Problem

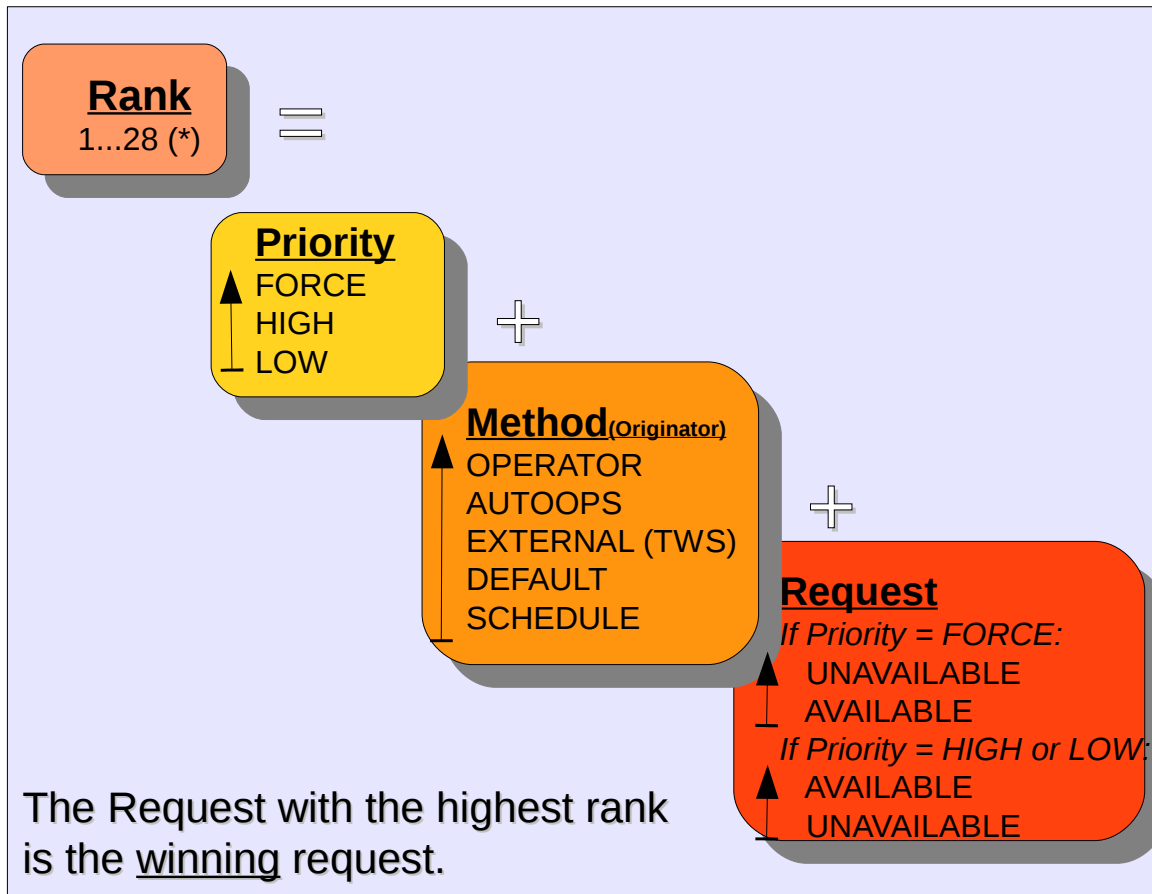
**Important:**

Requests are persistent and will survive an IPL.

The Desired State can only be changed through Automation Control means.

# Goal-driven Automation: Request Ranking

Requests can be injected by different Originators.  
→ 'Ranking' instead of 'The last one wins'



**SCHEDULE:**  
Request:  
**Make Available**  
Priority:  
low



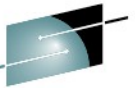
**OPERATOR:**  
Request:  
**Make Unavailable**  
Priority:  
low



The OPERATOR request is winning.  
Both requests are injected persistently.  
What if the OPERATOR request is canceled?

(\*) Force Priority is missing for Schedule

# Goal-driven Automation: INGVOTE - Any Requests injected?



SHARE  
Technology · Connections · Results



```
INGKYRQ2          SA z/OS  - Command Dialogs          Line  1    of 8
Domain ID   = IPUFM          ----- INGVOTE -----   Date = 06/02/13
Operator ID = OPER1          Sysplex = AOC7PLEX         Time = 19:16:41

Cmd:  C Cancel request      K Kill request      S Show details      V Show votes
Cmd Name      Type System      Request Data
-----
  APPC          APL  AOC7          Req : MakeUnAvailable
                                     At  : 2013-06-02  19:16:36
                                     Org : OPERATOR(OPER1)
                                     Cmt : Down due to service. Will be up again at
                                           7:00 a.m. In urgent cases call ext. 2608 -
                                           Dave
                                     Pri : 01720000  Should Be Down - Operator
                                     Stat: Winning/Satisfied

Command ==>
PF1=Help      PF2=End      PF3=Return      PF6=Roll
               PF9=Refresh      PF12=Retrieve
```





# Goal-driven Automation: INGVOTE - Any Requests injected?

SHARE  
Technology · Connections · Results



```
INGKYRQ2          SA z/OS - Command Dialogs          Line 1 of 12
Domain ID   = IPUFM          ----- INGVOTE ----- Date = 06/02/13
Operator ID = OPER2          Sysplex = AOC7PLEX       Time = 19:34:44

Cmd:  C Cancel request      K Kill request      S Show details      V Show votes
Cmd Name      Type System      Request Data
-----
  APPC          APL  AOC7      Req : MakeUnAvailable
                                     At : 2013-06-02 19:33:53
                                     Org : OPERATOR(OPER2)
                                     Cmt : Service from 8:00 to 8:30 - Dave
                                     Pri : 01720000 Should Be Down - Operator
                                     Stat: Pending
  ASCH          APL  AOC7      Req : MakeAvailable_Only
                                     At : 2013-06-02 19:32:29
                                     Org : OPERATOR(OPER1)
                                     Cmt : Must run today !!!
                                     Pri : 02740000 Must Be Up - Operator
                                     Stat: Winning/Satisfied

Command ==>
PF1=Help      PF2=End      PF3=Return      PF6=Roll
PF9=Refresh      PF12=Retrieve
```

OPER2 wants to stop APPC, but failed. Why?

Because OPER1 injected a high priority START against ASCH. ASCH depends on APPC.



# Operator Interface 'INGLIST'

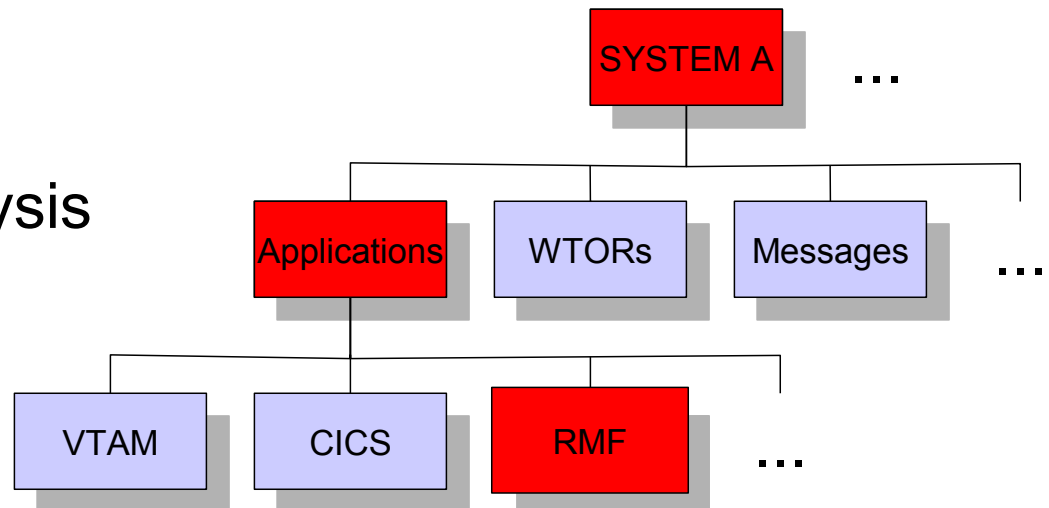
INGKYST0				SA z/OS - Command Dialogs			Line 1 of 55
Domain ID = IPUFM				----- INGLIST -----			Date = 06/02/13
Operator ID = OPER1				Susplex = AOC7PLEX			Time = 16:30:36
A Update	B Start	C Stop	D INGRELS	E INGVOTE	F INGINFO	G Members	
H DISPTRG	I INGSCHED	J INGGROUP	K INGCICS	L INGIMS	M DISPMTR	T INGTWS	
U User	X INGIKUP	/ scroll					
CMD	Name	Type	System	Compound	Desired	Observed	Nature
---	AM	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	AM_X	APG		DEGRADED	AVAILABLE	DEGRADED	SERVER
---	AM2	APL	AOC7	PROBLEM	UNAVAILABLE	HARDDOWN	
---	AOC7	SYG	AOC7	PROBLEM	AVAILABLE	PROBLEM	BASIC
---	AOC7	SYS	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	APPC	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	ASCH	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	BASE_SYS	APG	AOC7	PROBLEM	AVAILABLE	PROBLEM	BASIC
---	BLSJPRMI	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	CMDRCVR	APL	AOC7	PROBLEM	AVAILABLE	HARDDOWN	
---	DLF	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	DSIRQJOB	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	FFST	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	FTP_DAEMON	APG	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	BASIC
---	FTP_PORT	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	FTPS	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	HSM	APL	AOC7	PROBLEM	AVAILABLE	HARDDOWN	
---	HZSPROC	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	INETD	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	IRRDPTAB	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	JES2	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	JES2MON	MTR	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	JES2SP00L	MTR	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	LLA	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	OAM	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	OMVS	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	RACF	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	RDSARCH	APL	AOC7	PROBLEM	AVAILABLE	HARDDOWN	
---	RESOLVER	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	RMF	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
---	RMFGAT	APL	AOC7	SATISFACTORY	AVAILABLE	AVAILABLE	
Command ==>							
PF1=Help		PF2=End		PF3=Return		PF4=DISPSTAT	
		PF8=Forward		PF9=Refresh		PF10=Previous	
				PF5=Filters		PF6=Roll	
				PF11=Next		PF12=Retrieve	



Fastpath to  
other runtime  
commands

# Operator Interface 'SDF'

- Status Display Facility
- Set of hierarchical panels
- Show color-coded status conditions
- Dynamically updated
- realtime Overview
- Problem cause analysis



# Operator Interface 'SDF'

Session B - [24 x 80]

File Edit View Communication Actions Window Help

Host: mvsnet Port: 23 LU name: IPVSTCA3 Disconnect

**Enterprise view**

SA Z/OS TEST-SYSTEMS

KEYAPLEX	KEY1PLEX	SATPLEX	TSAPLEX	A0CPLEX
>KEYA IPXFG	>KEY1 IPSFM	>SAT1 IPZFA	>TSA1 IPZFL	>A0CA IPUFA
>KEYB IPXFH	>KEY2 IPSFN	>SAT2 IPZFB	>TSA2 IPZFM	>A0CB IPUFB
>KEYC IPXFI	>KEY3 IPSFO	>SAT3 IPZFC	>TSA3 IPZFN	>A0CC IPUFC
	>KEY4 IPSFP	>SAT4 IPZFD	>TSA4 IPZFO	>A0CD IPUFD

**STANDALONE SYSTEMS**

>A0C1 IPUFG	>A0C4 IPUFJ	>A0C7 IPUFM
>A0C2 IPUFH	>A0C5 IPUFK	>A0C8 IPUF8
>A0C3 IPUFI	>A0C6 IPUFL	>A0C9 IPUF9

**HARDWARE**

>PROCESSORS >ENSEMBLES

07/18/13 18:47

===>

1=HELP 2=DETAIL 3=RETURN 6=ROL 8=ZOOM/NEXT 12=SHOW SAM/XDR SYSTEMS

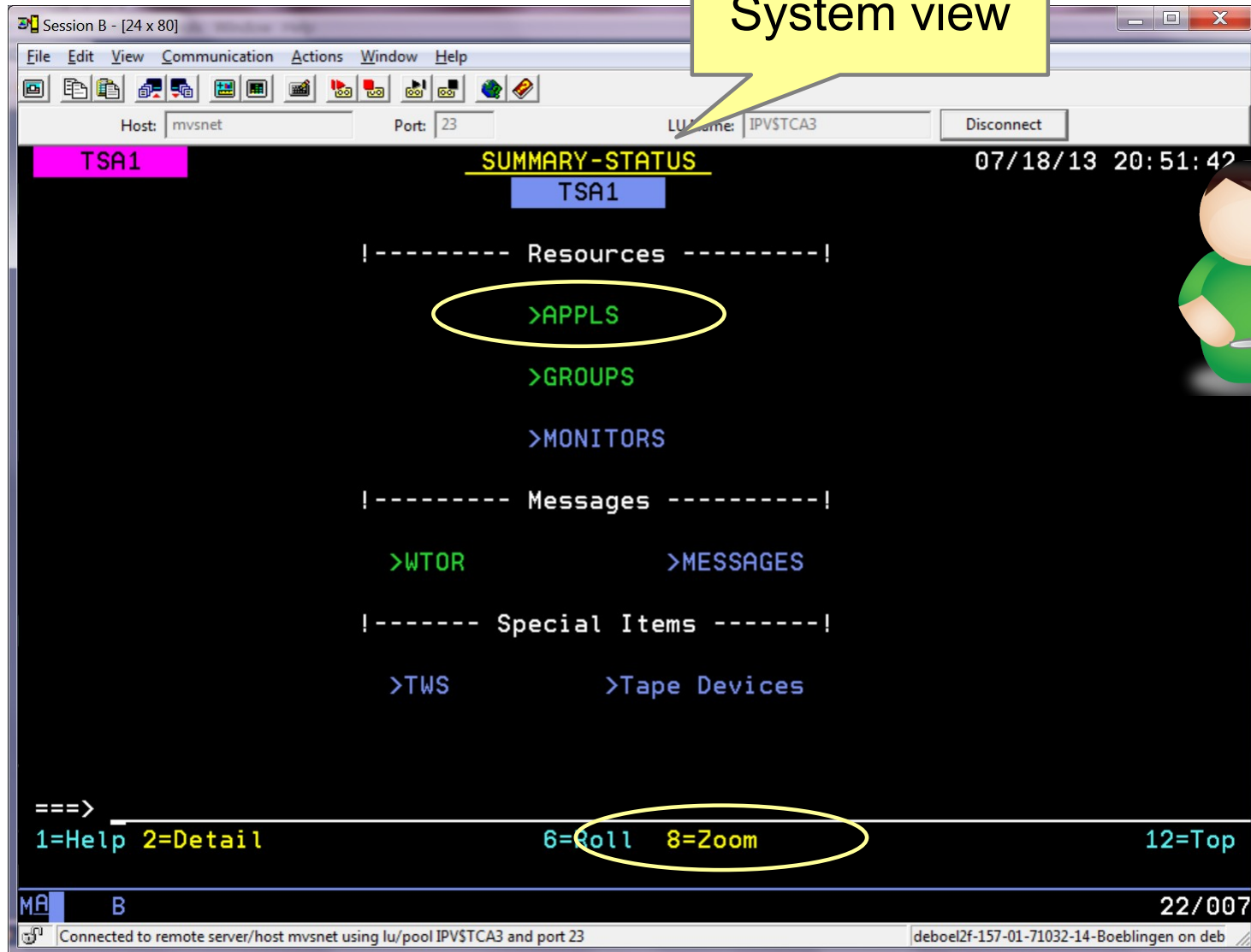
MA B 23/006

Connected to remote server/host mvsnet using lu/pool IPVSTCA3 and port 23

deboel2f-157-01-71032-14-Boeblingen on deb



# Operator Interface 'SDF'




# Operator Interface 'SDF'





# Operator Interface 'SDF'



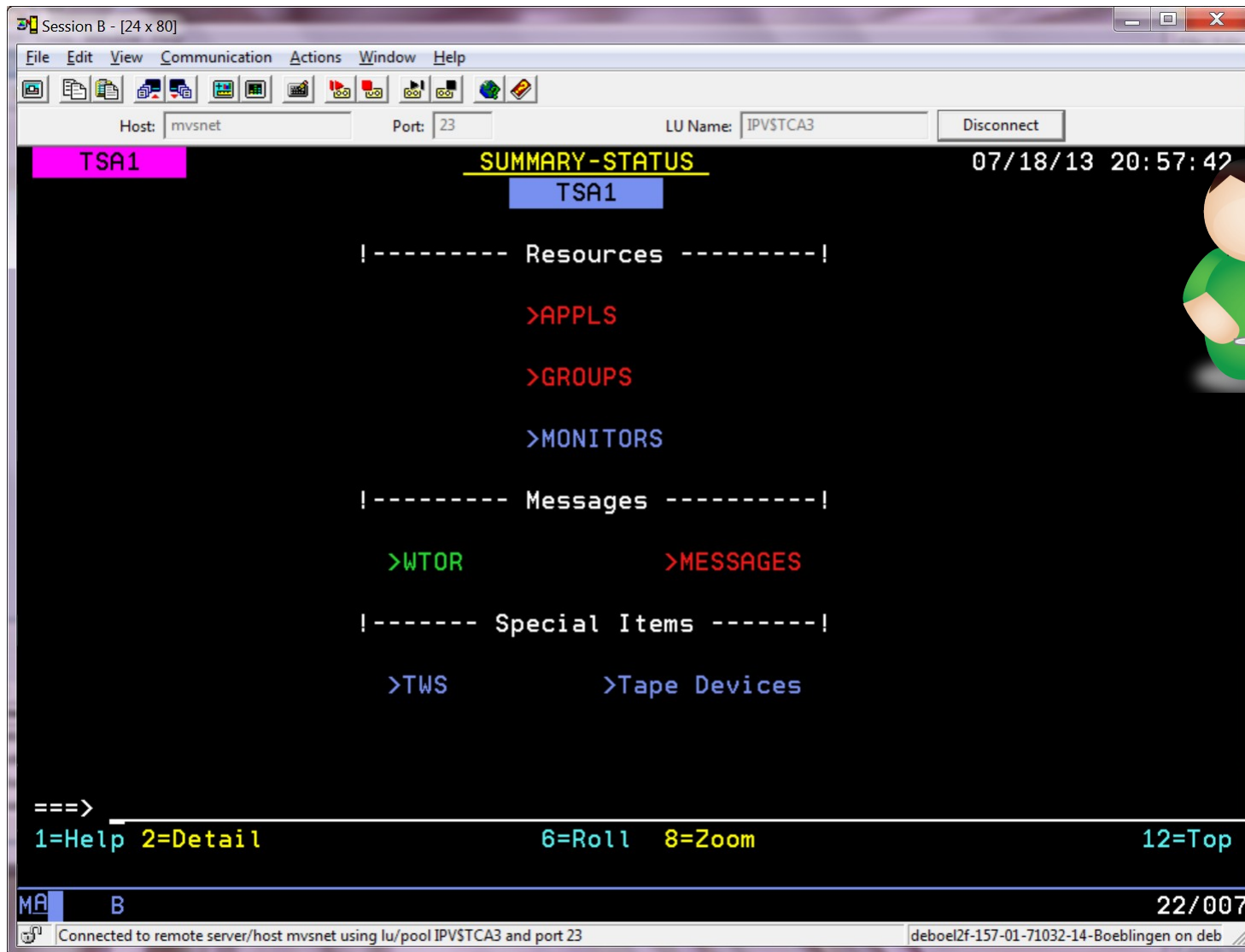
```
Session B - [24 x 80]
File Edit View Communication Actions Window Help
Host: mvsnet Port: 23 LU Name: IPVSTCA3 Disconnect
TSA1 TSA1: SUBSYSTEM-STATUS 07/18/13 20:58:19
1/30 (3

RMFGAT OAM
RMF TCPIP
VTAM HSM
TSO TEST
SYSVSSI RESOLVER
FFST JES2
SYSVAPPL AM
ZFS IRRDPTAB
RRS SYSVIPLC
APPC BLSJPRMI
RACF USSPORT
OMVS AM2
VLF USSFILE
DLF USSAPL
ASCH
LLA

===>
1=Help 2=Detail 6=Roll 9=Bottom 10=Previous 11=Next 12=Top
13=EXPLAIN 17=SETSTATE 18=INGVOTE 19=INGREQ 23=INGLIST 24=INGINFO
MA B 22/007
Connected to remote server/host mvsnet using lu/pool IPVSTCA3 and port 23
deboel2f-157-01-71032-14-Boeblingen on deb
```



# Operator Interface 'SDF'



# Operator Interface 'SDF'

Session B - [24 x 80]

File Edit View Communication Actions Window Help

Host: mvsnet Port: 23 LU Name: IPVSTCA3 Disconnect

SA Z/OS TEST-SYSTEMS

KEYAPLEX	KEY1PLEX	SATPLEX	TSAPLEX	AOCPLEX
>KEYA IPXFG	>KEY1 IPSFM	>SAT1 IPZFA	>TSA1 IPZFL	>AOCA IPUFA
>KEYB IPXFH	>KEY2 IPSFN	>SAT2 IPZFB	>TSA2 IPZFM	>AOCB IPUFB
>KEYC IPXFI	>KEY3 IPSFO	>SAT3 IPZFC	>TSA3 IPZFN	>AOCC IPUFC
	>KEY4 IPSFP	>SAT4 IPZFD	>TSA4 IPZFO	>A OCD IPUFD

STANDALONE SYSTEMS

>AOC1 IPUFG	>AOC4 IPUFJ	>AOC7 IPUFM
>AOC2 IPUFH	>AOC5 IPUFK	>AOC8 IPUF8
>AOC3 IPUFI	>AOC6 IPUFL	>AOC9 IPUF9

HARDWARE

>PROCESSORS >ENSEMBLES

07/18/13 20:56

===>


1=HELP 2=DETAIL 3=RETURN 6=ROLL 8=ZOOM/NEXT 12=SHOW SAM/XDR SYSTEMS

MA B 23/006

Connected to remote server/host mvsnet using lu/pool IPVSTCA3 and port 23 deboel2f-157-01-71032-14-Boeblingen on deb



# Operator Interface 'SDF'



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
2 of 52      ---- Detail Status Display ----      07/19/13 10:36:54

Component . . . : RMF                      System . . . : TSA1
Color . . . . . : RED                      Priority . . . : 50
Date . . . . . : 07/18/13                  Time . . . . . : 20:56:44
Reporter . . . : AUTWRK09                  Node . . . . . : IPZFL
Jobname . . . . : RMF
Reference value : CBADE0FA7FF081C4

A0F577E 20:56:44 : RECOVERY FOR SUBSYSTEM RMF (JOB RMF) HALTED - CRITICAL
THRESHOLD EXCEEDED

==>
1=Help  3=Return 4=Delete  6=Roll 7=Up 8=Down 11=Bottom
MA      A
Connected to remote server/host mvsnet using lu/pool IPV$TC37 and port 23  deboel2f-15
```

Detail Status Display  
Panel can be invoked  
from all panels

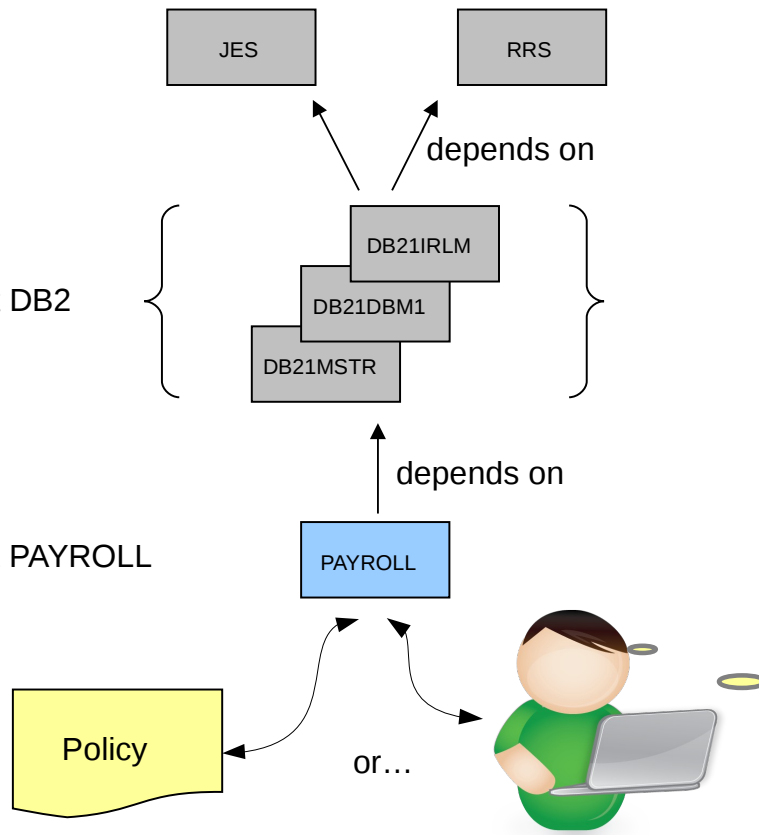
# Starting an Application

Automation Control will start in order  
(if not already active) ...

1 Start JES and RRS

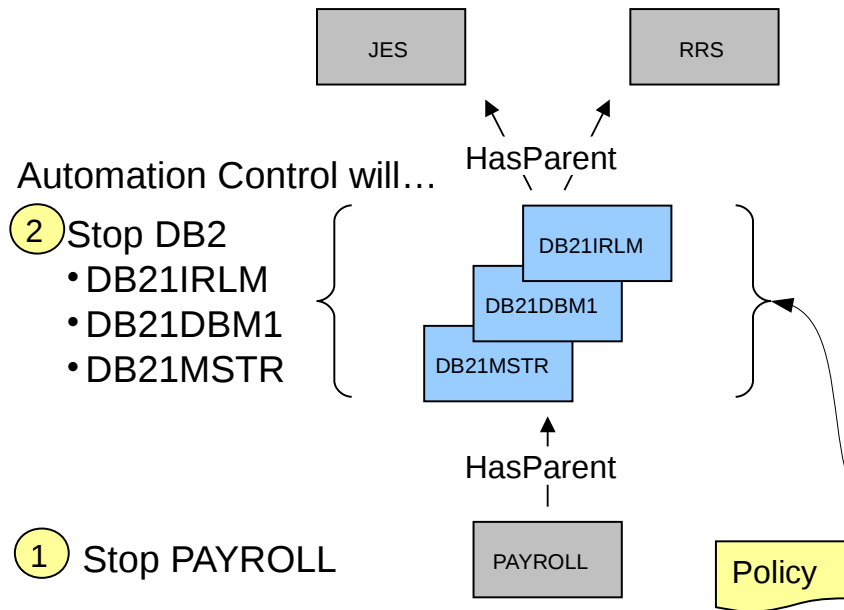
2 Start DB2

3 Start PAYROLL

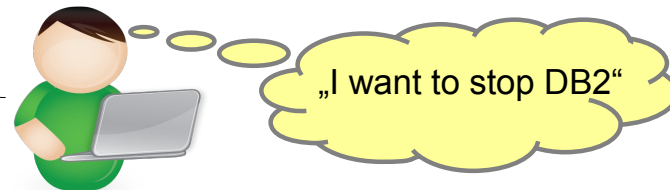


- Application PAYROLL uses a DB2-database to access employee data
- DB2 itself consists of multiple address spaces. Required are:
  - MSTR, master address space
  - DBM1, services
  - IRLM, lock manager
- For transaction processing the Resource Recovery Services (RRS) address space is needed
- Most address spaces depend on the JES subsystem
- To ensure proper function of PAYROLL, these dependencies must be considered when PAYROLL is started

# Stopping an Application



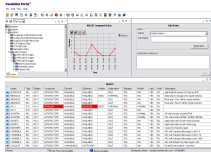
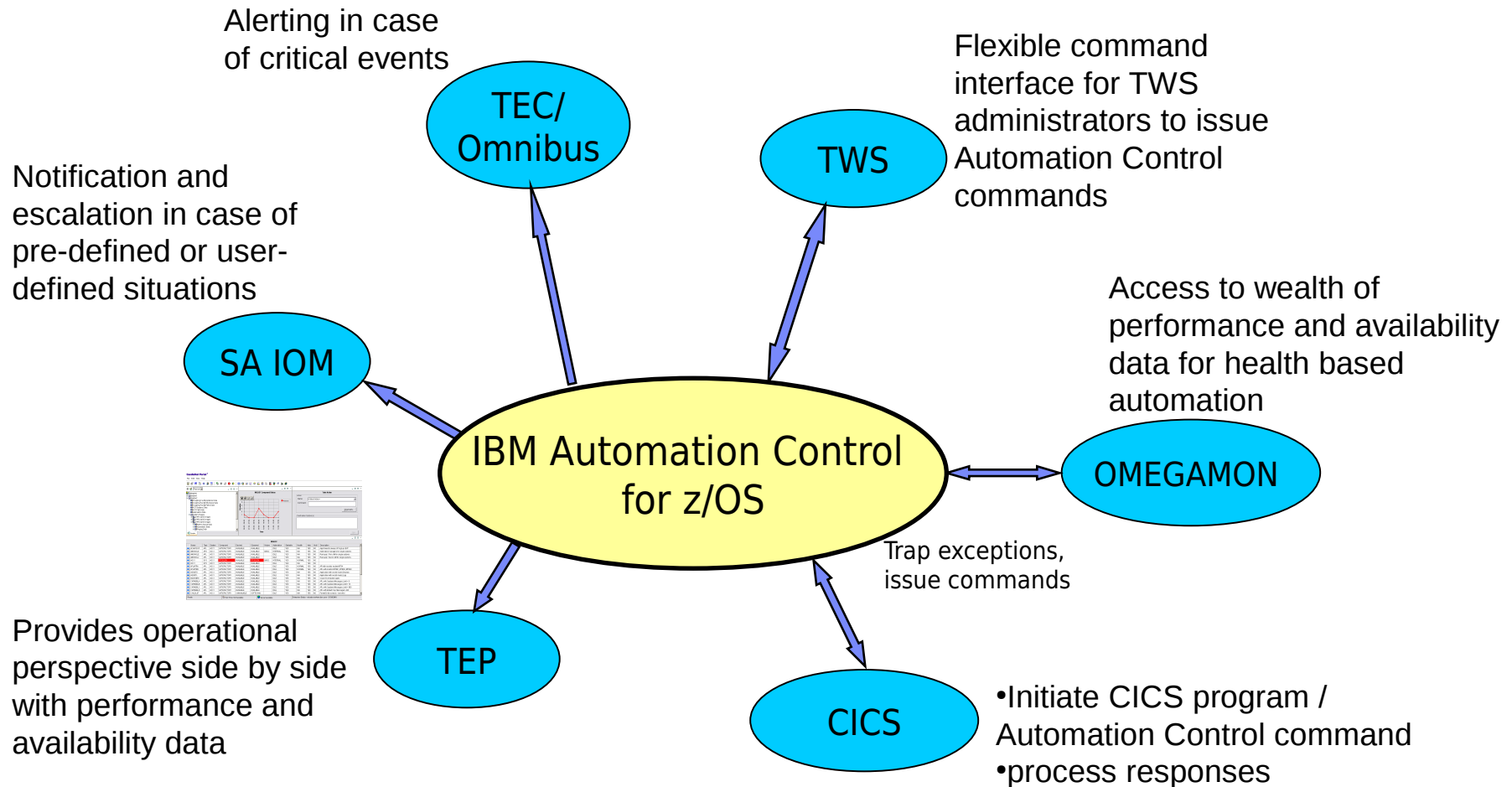
- DB2 must be stopped (shut down) for maintenance reasons
- Both, JES and RRS are supporting resources and therefore are not affected
- PAYROLL is a dependent resources that must be shut down before the DB2 group can be stopped
- The IRLM and DBM1 address spaces must be shut down before the MSTR address space is stopped
  - In fact, they are started and stopped by the master address space itself – no operator intervention is required



# What Does All That Mean?

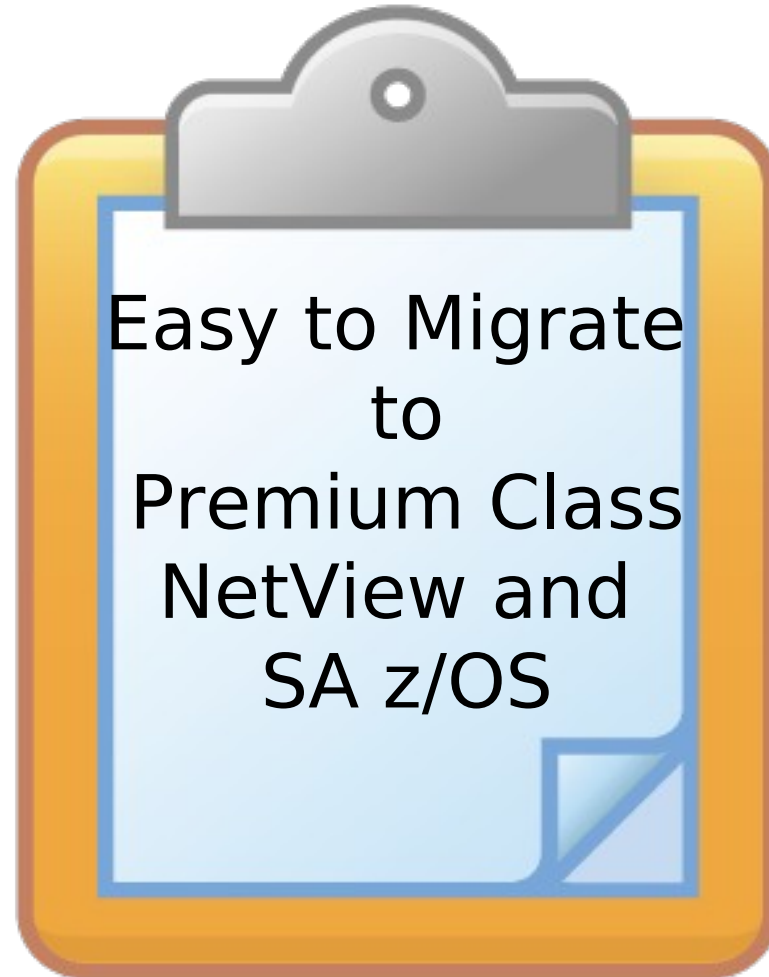


# Integrating with Automation Control for z/OS





# What Does All That Mean?



# Easy to Migrate to NetView&SA for z/OS

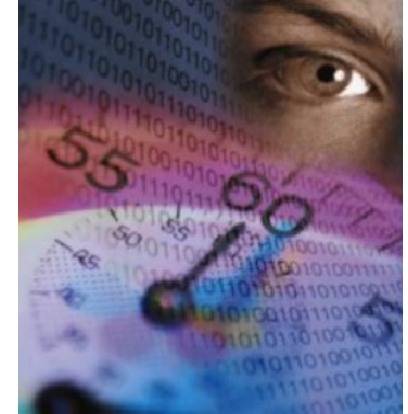
- Same Administration & Operation
- Same Concepts
- Policies are upward compatible

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



## Key capabilities

- Monitor, control, and automate z/OS Monoplex environments as well as local System z hardware resources
- Policy based and Goal driven Automation to start, stop, monitor, and recover z/OS applications/resources
- Central view and management of critical business processes
- Easy Setup via Configuration Assistant



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



Thank  
You

## Visit our home pages at

Automation Control for z/OS:

<http://www-03.ibm.com/software/products/us/en/ibm-automation-control-for-zos>

System Automation for z/OS:

<http://www-01.ibm.com/software/tivoli/products/system-automation-zos/index.html>

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IBM Service Management Connect

<https://www.ibm.com/developerworks/servicemanagement/z/index.html>

## or our User forums at

Automation Control for z/OS: IBM Service Management Connect

<https://www.ibm.com/developerworks/community/forums/html/forum?id=29e48eab-e754-4aec-ad15-a3d01d4035bd>

*The purpose of this group is to discuss technical issues related to **IBM Automation Control for z/OS** with your peers.*

System Automation for z/OS: Yahoo

<http://groups.yahoo.com/group/SAUSERS/>

*The purpose of this group is to discuss technical issues related to **IBM Tivoli System Automation for z/OS** with your peers.*

# Learn about all recent Tivoli announcement and how to exploit them in sessions this week.

## Monday

- 14073 – What's New in OMEGAMON (11:00)
- 14121 – OMEGAMON for Storage (4:30)

## Tuesday

- 13903 – OMEGAMON Lab (9:30)
- 14074 – Automation Control (11:00)
- 14163 – OMEGAMON for Storage (4:30)

## Wednesday

- 13295 – OMEGAMON for MfN (8:00)
- 13771 – Advanced Catalog Mgmt (9:30)
- 14076 – System Automation (11:00)
- 14089 – Storage Management (11:00)
- 14080 – Workload Automation (3:00)

System z Facebook page:

<https://www.facebook.com/IBMsystemz>

Twitter hashtag: #systemzsw



## Thursday

- 13546 – NetView Canzlog (12:15)
- 14345 – Lunch and Learn – Mike Baskey
- 14077 – OMEGAMON zAware support (1:30)
- 13545 – NetView Management (3:00)

## Friday

- 14056 - OMEGAMON power user (8:00)
- 13824 - OMEGAMON for DB2 (9:30)
- 14082 – Capacity Management with TDSz

# IBM System z Service Management critical for moving to Mobile, Big Data and Cloud

IBM continues to improve z/OS environment to support new technologies

- OMEGAMON family enhancements
  - OMEGAMON XE for z/OS V5.1.1
  - OMEGAMON XE for Mainframe Networks V5.1.1
  - OMEGAMON XE for Storage V5.2
  - OMEGAMON for z/VM and Linux V4.3
- IBM Automation Control for z/OS
- Workload Scheduler for z/OS v9.1
- Storage Management for z/OS portfolio enhancements



Learn More: <http://www-01.ibm.com/software/os/systemz/itsm/>

Follow us on Service Management Connect:

<http://www.ibm.com/developerworks/servicemanagement/z/index.html>

And, Mainframe Insights:

[https://www-304.ibm.com/connections/blogs/systemz/?lang=en\\_us](https://www-304.ibm.com/connections/blogs/systemz/?lang=en_us)