Automating your IMSplex with System Automation for z/OS

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Agenda

➢ SA z/OS – IMS Automation Overview

● User scenarios – Use cases
  • RECON SPARE dataset for IMS are missing
  • Needed to start spare OLDS to have the minimum in AVAILABLE status
  • IMS users are unable to LOGON to IMS
  • Automatic recovery of ‘ABENDING’ IMS transactions or programs
  • IMS commands based on scheduled timer intervals

● Start / Stop details for IMS applications

● Special IMS management

● *IMS Best practices

● Future Plans
SA z/OS Product Components

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

IBM Tivoli System Automation

- Automate and control hardware operations
- Power on/off and reset processors

- Change Switch configuration on the fly
- Management of ESCON and FICON directors

Processor (Boxes)

I/O (Switches)

System (Applications)

- Perform system IPL for z/OS, Linux, and VM
- Automate LPAR settings, e.g. weights and capping
IMS Architecture overview

- An IMS system has multiple system address spaces
- Transaction programs (MPPs) are managed by the IMS control region
- Batch programs (called “BMPs”) can also be run concurrently
- CICS, DB2, WebSphere... access IMS and add complexity
SA z/OS - IMS Automation main topics

- Recover IMS components
- Recover transactions and/or programs
- Monitor critical resources
  - Monitors number of available OLDS and excessive switching
  - Monitors number of available RECON datasets
  - Monitors VTAM Application ID availability and the enablement of logons
  - TCO (Time Controlled Operation)
- Start/stop fast and reliably
  - Dependencies fulfilled: IMS and all connectivity actually works
- Resolve alert messages or escalation to TEP and OMNIBUS
- Proactive automation through OMEGAMON integration
- Special IMS start types. Three standard shutdown types
- Internal IMS messages can be automated
- Sysplex-wide automation
- … and a lot more…
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• Start / Stop details for IMS applications
• Special IMS management
• *IMS Best practices
• Future Plans
Scenario A: Monitoring of Recovery Control Data Sets (RECON)

Problem: IMS RECON SPARE datasets are missing

Solution: SA z/OS allows the monitoring of recovery control data sets of IMS control regions → add definitions in the SA z/OS Policy database

- Monitoring routine **INGRMIRE** is used to monitor the RECON datasets
  - a MTR resource must be defined to monitor number of available RECON data sets
- Relationships have to be defined between MTR resource and IMS control region

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Health Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BROKEN</td>
<td>Severe error occurred</td>
</tr>
<tr>
<td>2</td>
<td>FAILED</td>
<td>RMLIST command timeout / no response</td>
</tr>
<tr>
<td>3</td>
<td>NORMAL</td>
<td>Everything is just fine (3 RECON DSN found in status COPY1, COPY2 and SPARE)</td>
</tr>
<tr>
<td>4</td>
<td>WARNING</td>
<td>RECON COPY2 missing</td>
</tr>
<tr>
<td>5</td>
<td>MINOR</td>
<td>RECON SPARE missing</td>
</tr>
<tr>
<td>6</td>
<td>CRITICAL</td>
<td>RECON COPY2 and SPARE missing</td>
</tr>
<tr>
<td>7</td>
<td>FATAL</td>
<td>RECON COPY1, COPY2 and SPARE missing</td>
</tr>
</tbody>
</table>

**Meaning of Return Codes of INGRMIRE**

**IMS cmd:**

```
RMLIST DBRC='RECON STATUS'
```
Customization Dialogs Definitions

Monitor command = “INGRMIRE”

MTR resource with “Monitored Object” = RECON

Relationships:
MTR → IMS control APG
Rely on all required functions
**RECON monitoring**

<table>
<thead>
<tr>
<th>CMD</th>
<th>Name</th>
<th>Type</th>
<th>System</th>
<th>Compound</th>
<th>Desired</th>
</tr>
</thead>
<tbody>
<tr>
<td>___</td>
<td>IMSCTL</td>
<td>APL</td>
<td>KEY4</td>
<td><strong>DEGRADED</strong></td>
<td>AVAILABLE</td>
</tr>
<tr>
<td>___</td>
<td>IMSCTL</td>
<td>APL</td>
<td>IDLE</td>
<td>YES</td>
<td>MINOR</td>
</tr>
</tbody>
</table>

**Health status MINOR results in compound=DEGRADED on IMS Control region**

**Look also at MTR resources on SDF, NMC and TEP**

**Check for details on DISPMTR details panel**

**Monitor Status**: ACTIVE at 2008-01-30 13:57:13

**Health Status**: MINOR

**No SPARE found for RECON**
**Scenario B:**

**Monitoring of Online Log Data Sets (OLDS)**

- **Problem:** Need SPARE OLDS
- **Solution:** Add definitions to SA z/OS

- Monitoring routine INGRMIOL is used
  - Two MTR resources must be defined to monitor
    - number of available OLDS
    - Monitored Object = OLDS
  - excessive OLDS switching
    - Monitored Object = OLDS_SWITCH

- Relationships between MTR resources and IMS control region

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Health Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BROKEN</td>
<td>Monitor encountered a severe error</td>
</tr>
<tr>
<td>2</td>
<td>FAILED</td>
<td>DISPLAY OLDS failed</td>
</tr>
<tr>
<td>3</td>
<td>NORMAL</td>
<td>No problem found by OLDS monitoring</td>
</tr>
<tr>
<td>4</td>
<td>WARNING</td>
<td>One of the following occurred: Needed to start spare OLDS to have the minimum in AVAILABLE status AUTOMATIC ARCHIVE is off</td>
</tr>
<tr>
<td>5</td>
<td>MINOR</td>
<td>Could not start enough spare OLDS to have the minimum in AVAILABLE status</td>
</tr>
<tr>
<td>6</td>
<td>CRITICAL</td>
<td>Number of OLDS in BACKOUT status exceeds maximum limit</td>
</tr>
</tbody>
</table>
Define ‘OLDS’ MTR resource

→ monitoring of the online log data sets of IMS control regions and execution of recovery actions if needed

MTR resource with “Monitored Object” = OLDS

Monitor command = “INGRMIOL”

Status “Check” → Health State must be re-evaluated via INGRMIOL

Status messages for passive monitoring to trigger health status updates and recovery actions

Msg DFS3258A indicates problem → select health status = CRITICAL
Define OLDS monitoring

Minimum number of available OLDS

Spares to be activated in case of too less available OLDS

number of acceptable OLDS data sets with an OTHER-STS of BACKOUT.

Special message id: OLDS

OLDS MONITORING

Define OLDS monitoring

Minimum number of available OLDS

Spares to be activated in case of too less available OLDS

number of acceptable OLDS data sets with an OTHER-STS of BACKOUT.

Special message id: OLDS
Define ‘IMS OLDS Switch Frequency’
- MTR resource

<table>
<thead>
<tr>
<th>Command ==&gt;</th>
<th>CMD Processing</th>
<th>Row 1 to 7 of 24</th>
<th>SCROLL===&gt;</th>
<th>CSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Name  : IMS1CTL</td>
<td>Message ID : DFS3257I</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Enter commands to be executed when resource issues the selected message or define this message as status message.

Status . . . . . . . . . . . . (‘?’ for selection list)
Pass/Selection Automated Function/*'

Command Text

```
INF
INGMON OLDS_SWITCH, JOBNAME=&SUBSJOB, STATUS=WARNING, INFO=(MSG, INFREQUENT THRESHOLD REACHED FOR OLDS SWITCHING)

FREQ
INGMON OLDS_SWITCH, JOBNAME=&SUBSJOB, STATUS=MINOR, INFO=(MSG, FREQUENT OLDS SWITCHING DETECTED)

CRIT
INGMON OLDS_SWITCH, JOBNAME=&SUBSJOB, STATUS=CRTICAL, INFO=(MSG, CRITICAL OLDS SWITCHING FREQUENCY REACHED)

ALWAYS
INGMON OLDS_SWITCH, JOBNAME=&SUBSJOB, STATUS=NORMAL, INFO=(MSG, OLDS SWITCHING FREQUENCY IS NORMAL)
```

**NOTICE:**
Don’t forget to define thresholds levels for minor resource DFS3257I for IMS control region.

MTR resource with “Monitored Object” = OLDS_SWITCH

**Command Definitions for the Health Status Update**
(INGMON → status change) related to the Switch Frequency
Spare OLDS required

<table>
<thead>
<tr>
<th>Compound status</th>
<th>DEGRADED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results from health status</td>
<td>WARNING</td>
</tr>
</tbody>
</table>

Invoke DISPMTR for further details
Spare OLDS required (contd.)

<table>
<thead>
<tr>
<th>Command</th>
<th>Monitor</th>
<th>System</th>
<th>Status</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>INGKYMO0</td>
<td>IMS1OLDS1/MTR/KEYA</td>
<td>KEYA</td>
<td>ACTIVE</td>
<td>NORMAL</td>
</tr>
<tr>
<td></td>
<td>IMS1OLDS1</td>
<td>KEYA</td>
<td>ACTIVE</td>
<td>WARNING</td>
</tr>
<tr>
<td></td>
<td>IMS1OLDS2</td>
<td>KEYA</td>
<td>ACTIVE</td>
<td>NORMAL</td>
</tr>
</tbody>
</table>

Look under DISPMTR → details for more information

Detailed infos for Health state WARNING

Needed to start spare OLDS to have the minimum in AVAILABLE status
Scenario C:

Monitoring of VTAM ACB

**Problem:** IMS users are unable to LOGON to IMS (VTAM ACB has been closed)

**Solution:** Add definitions in the SA z/OS Policy database

- Monitor routine **INGRMIDC** is used
  - Define **MTR** resource to monitor
    - the status of the VTAM ACB
    - status message (**DFS2111I**) for passive DC monitoring
  - Define relationships between MTR resources and IMS Control region

---

**Meaning of Return Codes for INGRMIDC**

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Health Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BROKEN</td>
<td>Monitor encountered a severe error</td>
</tr>
<tr>
<td>2</td>
<td>FAILED</td>
<td>DISPLAY ACTIVE DC failed</td>
</tr>
<tr>
<td>3</td>
<td>NORMAL</td>
<td>VTAM ACB is OPEN and LOGONS enabled</td>
</tr>
<tr>
<td>4</td>
<td>WARNING</td>
<td>LOGONs are not enabled</td>
</tr>
</tbody>
</table>
Define MTR resource

a) **ACTIVE** monitoring in a defined time interval

```
Command ==> Monitor Resource
Entry Type : Monitor Resource  PolicyDB Name : 
Entry Name : IMS2DC  Enterprise Name : 
Monitored Object : DC
Monitored Jobname : IMS9B1C4
Activate command : INGRMIDC
Deactivate command : 

Monitor command : INGRMIDC
Monitoring Interval : 00:30
```

MTR resource with “Monitored Object” = DC

Monitor command = “INGRMIDC” (DISPLAY ACTIVE DC)

Jobname of IMS control region

b) **PASSIVE** monitoring via message “DFS2111I VTAM ACB CLOSED.”

```
Entry Type : Monitor Resource  PolicyDB Name : 
Entry Name : IMS2DC  Enterprise Name : 

Define message IDs and their automation actions.
CMD = Command  REP = Reply  CODE = CODE  USER = User
AUTO = AT Actions  OVR = AT Override

Action  Message ID
auto   DFS2111I
      VTAM ACB Closed
```

Select appropriated Status message for passive monitoring.
VTAM ACB closed...

IMS control region has Status DEGRADED ...

... results from Health status WARNING from MTR resource
Logon enabled again...

VTAM ACB is OPEN again – interval important to reflect actual status
Scenario D:

Recovery of IMS transactions and programs

**Problem:** Automatic recovery of ‘ABENDING’ IMS transactions or programs

**Solution:** Add definitions in the SA z/OS Policy database

What has to be considered....

a) Which transactions should be recovered?
b) At which error threshold level should recovery be stopped?
c) Which ABEND codes needs special handling?
d) Which recovery procedure (command, routine, notifications to operators) should be done?

Example:
Application program or transaction abends → IMS issues message DFS554A to the master terminal

- Issue recovery to restart the program or the transaction
Scenario D:

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- **Example:** Application program or transaction abends → IMS issues message DFS554A to the master terminal
  - Issue recovery to restart the program or the transaction
Customization Dialog Definitions

IMS subsystem ID must be defined under IMS control region specifications.
Customization Dialog Definitions (contd.)

a) Which transactions should be recovered?

Specify Transactions and/or Programs to be recovered → Recovery Automation flag

b) At which error threshold level should recovery be stopped?

Reminder:
If NO thresholds defined → RECOVERY forever!!
c) Which ABEND codes needs special handling?

Special Messages “ABCODEPROG” and “AbcODETRAN”

Filter criteria for ABEND codes:
- Recovery done for all ABEND codes except U0452 and U0456
Customization Dialog Definitions (contd.)

d) Which recovery procedure (command, routine, notifications to operators)?

<table>
<thead>
<tr>
<th>Entry Type</th>
<th>Application</th>
<th>PolicyDB Name</th>
<th>HUT_OMEGAMON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Name</td>
<td>IMSCTL</td>
<td>Enterprise Name</td>
<td>OMEGAMON_SA</td>
</tr>
</tbody>
</table>

Line Commands: S (Cmd), C (Cmd), R (Rep), K (Cod), U (Usr), A (Asyn), I, D (insert or delete lines)
Message ID field length. . 14 (1 - 32)

<table>
<thead>
<tr>
<th>Cmd Message id</th>
<th>Description</th>
<th>Cmd</th>
<th>Specifications for DFS554A</th>
</tr>
</thead>
<tbody>
<tr>
<td>cmd DFS554A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Entry Name: IMSCTL
Message ID: DFS554A

Enter commands to be executed when resource issues the selected message or define this message as status message.

Status . . . ________ ( For commands defined above)

Pass/Selection Automated Function/"*": Command Text

PROG
MVS &SUBSSUBIDSTA PGM &EHKVAR2

TRAN
MVS &SUBSSUBIDSTA TRAN &EHKVAR1


Commands to be issued for Program recovery

...send msgs to operator

Complete your sessions evaluation online at SHARE.org/AnaheimEval
DFS554A msg -> SA z/OS actions

IMS subsystem ID followed by IMS master terminal command

Program name

Transaction id

...now SA z/OS compares contents of DFS554A msg with recovery definitions in PDB

...Transaction restarted due to PDB definitions
Scenario E:

Time Controlled Operations (TCO)

**Problem:** Several IMS commands should be issued based on scheduled timer intervals

**Solution:** Add definitions in the SA z/OS Policy database

- Commands issued under logical terminal DFSTCF
- Several different members could be defined and loaded

/OPN NODE USR1941
/OPN NODE USR2941
/STA LINE 3
*TIME DFSTXIT0 S

...
Customization Dialog Definitions

Reserved message ids “TCO” and “TCOMEMBERS”

Specify that the logical terminal DFSTCF is used

Under “USR” the dataset containing the TCO members is defined

Message Processing

Command ==> Scroll ==> GS

Entry Type : Application  PolicyDB Name : HUT_OMEGAMON_V320
Entry Name : IMSCTL  Enterprise Name : OMEGAMON_SA_V320

Line Commands: S (Cmd), C (Cmd), R (Rep), K (Cod), U (Usr), A (Aut), O (Ovr)
I, D (insert or delete lines)

Message ID field length: . 14  (1 - 32)

Reserved message ids “TCO” and “TCOMEMBERS”

Enter replies to be issued when this resource issue or define this message as status message.

Status . . . _______________ ('?' for selection list

Pass/ Selection  Retry  Reply Text
Count
SPEC  DFSTCF LOAD &EHKVAR1  .

To change keyword-data pair, specify the following:

Keyword
Data
DSN
SYS1.IMS.M941.TCFLIB
Customization Dialog Definitions (contd.)

Definitions of the member names under message “TCOMEMBERS”

Entry Type: Application
PolicyDB Name: HUT_OMEGAMON_V320
Entry Name: IMSCTL
Enterprise Name: OMEGAMON_SA_V320

Line Commands: S (Cmd), C (Cmd), R (Rep), K (Cod), U (Usr), A (Aut), O (Ovr)
I, D (insert or delete lines)
Message ID field length. 14 (1 - 32)

Cmd Message id Description
usr TCOMEMBERS IMS ICO members in TCFLIB

5

To change keyword-data pair, specify the following:

Keyword
Data
NAME

(BITEST1,'D MESSAGE QUEUE *QBUF* / USER AL')

NAME

(BITEST2,'DISPLAY MESSAGE QUEUE *QBUF*')

NAME

(BITEST3,'D MESSAGE QUEUE *QBUF* PLUS ACTI')

NAME

(DFSTCF,'DEFAULT MEMBER *DFSTCF* IN TCFLIB')

NAME

(DISPROG,'DISPLAY PROG ALL AND LTERM DFS*')

NAME

(SYDFSTCF,'GLD DFSTCF WITH STA DC & STA REG')
TCO handling with IMS command interface

```
EVIK00000 SA z/OS - Command Dialogs
Domain ID = IPZFA ---------- IMS ---------- Date = 12/06/11
Operator ID = HUT System = SAT1 Time = 15:01:46

Resource => ______________________________ Format: name/type/system
Target => ________ System name, domain ID or sysplex name

Action => [9]
1. Inquire Display an IMS control reg.
2. Start Start an IMS subsystem
3. Shutdown Shutdown an IMS subsystem
4. Triggers Display trigger conditions
5. Service Periods Perform scheduling functions
6. Master Terminal Perform Master Terminal Commands
7. SDF Display IMS automation SDF panel
8. Broadcast Send message to users
9. TCO Management Load/Start/Stop TCO
10. Dependent Regions Manage Dependent Regions
99. Local functions Provide access to user defined local functions
```
TCO handling with IMS command interface

Load TCO member

Start / Stop the logical terminal

Status changed to STOP

SAMPLE contents of TCO member containing IMS commands
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➢ Start / Stop details for IMS applications
- Special IMS management
- *IMS Best practices
- Future Plans
InitStart flag (I): Checked after IPL only, when application has a true DOWN status.

Restart flag (RS): Tested in all other DOWN states.

Start flag (S): Checked for automation after STARTUP command issued and for POSTSTART commands.

Terminate flag (T): Controls all shutdown commands and automation during shutdown.

Recovery flag (R): Controls automation when application is UP or DOWN.

Automation flag (A): Global automation flag for the resource. If NO, all flags are NO.
Start IMS address spaces

- **Start types**
  - COLD \(\rightarrow\) restart command in response to DFS810A
  - AUTO \(\rightarrow\) use restart dataset to determine startup type
  - NORM \(\rightarrow\) DEFAULT start type
  - WARMSDBL \(\rightarrow\) restart command in response to DFS810A (load Main Storage Data Base MSDB)
  - BUILDQ \(\rightarrow\) restart command in response to DFS810A (queues are build new)
  - MANUAL \(\rightarrow\) reply to DFS810A with values from INGREQ panel

- Can reply to outstanding WTOR's
- Policy based start up
Starting of IMS control region

Variable &SUBSSUBID contains subsystem ID of IMS control region

Defined REPLYs in PDB for message DFS810A
Stop IMS Address spaces

• Supported stop types
  • NORM
    → Issue checkpoint, **orderly shutdown**. Cancellation of message regions and control region after predetermined time delay.
  • IMMED
    → Issue checkpoint. **Immediate cancellation of message regions.** Cancellation control region after predetermined time delay.
  • FORCE
    → **Immediate flushing of all regions**
Stopping of IMS control region

Several retries, because IMS not always accept cmd at the first try!
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• Start / Stop details for IMS applications

➢ Special IMS management

• *IMS Best practices

• Future Plans
INGIMS Operator Command

- Allows operators or automation tasks to issue IMS console commands
  - Any console-enabled IMS type-1 command
  - Any IMS type-2 command if an IMSPlex name is provided
  - Send commands to one / more / all members of an IMSPlex
  - Auditing of IMS commands
- Multiple commands can be issued with a single invocation
- To broadcast messages to all or selected IMS users
- To issue a list of pre-defined transactions and view the output
- Usage: As fullscreen operator dialog or programmable API
INGIMS Operator command

- **Implementation**
  - Specification of IMSPlEx name in policy
  - Uses Common Service Layer (CSL) of IMSPlEx
  - Provides new request types for plex-wide requests
    - Uses Operations Manager (OM) API to issue commands if IMSPlEx name is given, else uses the console interface
    - Consolidates responses of multiple IMSPlEx members
    - Generates tabular output in the same format for type-1 and type-2 commands, no matter whether the OM API was used or not
    - Displays responses in scrollable window when invoked in fullscreen mode

- **Benefits**
  - No SYSLOG flooding
  - Slight performance improvements compared to previous SA z/OS releases
IMS Dependent regions (contd.)

EVIK0000  SA z/OS - Command Dialogs
Domain ID = IPSFP  -------- IMS  ---------  Date = 01/25/08
Operator ID = HUT  System = KEY4  Time = 15:13:36

Resource => IMS1CTL/APL/KEY4  Format: name/type/system
System => __________  System name, domain ID or sysplex name

Action => 10. Inquire  Display an IMS control reg.
1. Start  Start an IMS subsystem
2. Shutdown  Shutdown an IMS subsystem
3. Triggers  Display trigger conditions
4. Service Periods  Perform scheduling functions
5. Master Terminal  Perform Master Terminal Commands
6. Critical messages  Display critical messages
7. Broadcast  Send message to users
8. TCO Management  Load/Start/Stop TCO
9. Dependent Regions  Manage Dependent Regions
99. Local functions  Provide access to user defined local functions

EVIKYDP0  SA z/OS - Command Dialogs
Domain ID = IPSFP  ---- Dependent Regions  Date = 01/25/08
Operator ID = HUT  Time = 15:16:27
Control Reg. = IMS1CTL/APL/KEY4

CMD: A Update  B Start  C Stop  D INGRELS  E INGVOTE  F INGINFO
    H DISPTRG  I INGSCHED  N /ASSIGN  P /PSTOP  / scroll

CMD  Name  Type  System  Reg.Id  Type  Trans/Step  Program  IMS Status
-----  -------  -----  ------  ------  ------  --------  --------  -------
  IMS1DBC  APL  KEY4  DBRC
  IMS1DLS  APL  KEY4  DL3
  IMS1FP  APL  KEY4  1  FPME  NO  MSG.  DFSIVP4
  IMS1MP  APL  KEY4  2  TP  WAITING

Additional function added by SYSPROG during installation
### IMS Dependent regions (contd.)

<table>
<thead>
<tr>
<th>CMD Name</th>
<th>Type</th>
<th>System</th>
<th>Reg.Id</th>
<th>Type</th>
<th>Trans/Step</th>
<th>Program</th>
<th>IMS Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS1DBRC</td>
<td>APL</td>
<td>KEY4</td>
<td></td>
<td></td>
<td>DBRC</td>
<td>NO MSG.</td>
<td>DFSIVP4</td>
</tr>
<tr>
<td>IMS1DLS</td>
<td>APL</td>
<td>KEY4</td>
<td>1</td>
<td>DLS</td>
<td>FPME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMS1FP</td>
<td>APL</td>
<td>KEY4</td>
<td>2</td>
<td>TP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**IMS dependent region number**

**IMS region id number of the region**

**Type of IMS resource**

**Transaction or step running on the appropriate region type**

**Name of the program running in the region**

**IMS status of the region e.g. SCHEDULED, AVAILABLE, TERMINATING, WAIT_SPOOLSPACE, .....**
IMS Dependent regions (contd.)

- **“/ASSIGN”**
  - assign additional classes to the region

```
EVIKYCMD
Domain ID = IPSFP    INGIMS
Operator ID = HUT

Resource => IMS1CTL/APL/KEY4
System => System name, domain
Request => CMD
IMS Command => ASSIGN CLASS 1 REGION 2
IMS Route =>
IMS Message =>
```

- **“/PSTOP”**
  - Stop a transaction

```
EVIKYCMD
Domain ID = IPXFG    INGIMS
Operator ID = HUT

Resource => IMS1CTL/APL/KEYA
System => System name, domain
Request => CMD
IMS Command => PSTOP REGION 2 TRANSACTION TRANS32
IMS Route =>
IMS Message =>
```
IMSINFO: Display Information

→ Define your **own commands which should be executed under DISPINFO**

<table>
<thead>
<tr>
<th>Entry Type</th>
<th>Application</th>
<th>PolicyDB Name</th>
<th>HUT_OMEGAMON_V320</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Name</td>
<td>C_IMS_CONTROL</td>
<td>Enterprise Name</td>
<td>OMEGAMON_SA_V320</td>
</tr>
<tr>
<td>Line Commands</td>
<td>S (Cmd), C (Cmd), R (Rep), K (Cod), U (Usr), A (Aut), O (Ovr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message ID field length</td>
<td>14 (1 - 32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cmd</strong></td>
<td>Message ID</td>
<td>Description</td>
<td>PF10</td>
</tr>
<tr>
<td>u</td>
<td>IMSINFO</td>
<td>Get IMS Information for DISPINFO cmd</td>
<td>1</td>
</tr>
</tbody>
</table>

**User Defined Data**

Command ==> 

**Entry Name:** C_IMS_CONTROL  **Message ID:** IMSINFO

To change keyword-data pair, specify the following:

**Keyword**

**Data**

**IMSCMD**

('ACTIVE STATE DC','DIS A DC')

**AOFKINFO**

**Domain ID** = IPSFP  **Operator ID** = HUT

**Subsystem ==> IMSCTL**  **System ==> KEY4**

**IMSINFO : IMSCMD=('ACTIVE STATE DC','DIS A DC')**

**Command ==>**

PF1=Help PF2=End PF3=Return PF4=INFORMATION

PF5=Back PF6=Forward PF9=Refresh PF10=IMS Info

**Available under DISPINFO**

→ PF10
Agenda

- SA z/OS – IMS Automation Overview
- User scenarios – Use cases
  - RECON SPARE dataset for IMS are missing
  - Needed to start spare OLDS to have the minimum in AVAILABLE status
  - IMS users are unable to LOGON to IMS
  - Automatic recovery of ‘ABENDING’ IMS transactions or programs
  - IMS commands based on scheduled timer intervals
- Start / Stop details for IMS applications
- Special IMS management
  - *IMS Best practices
- Future Plans


**IMS Best Practice Policy**

- Support FDR (Fast Database Recovery)
- Monitor capabilities
  - DC
  - OLDS
  - OLDS switch
  - RECON
- Diagrams in PDF format available → /usr/lpp/ing/doc/policies

---

Complete your sessions evaluation online at SHARE.org/AnaheimEval
References

• Related SA z/OS V3.4 Documentation
  ✔ Defining Automation Policy (SC34-2572)
  ✔ Product Automation Programmer's Reference and Operator Guide (SC34-2569)
  ✔ Customizing and Programming (SC34-2570)
  ✔ User’s Guide (SC34-2573)
  ✔ Programmer’s Reference (SC34-2576)
Agenda

• SA z/OS – IMS Automation Overview

• User scenarios – Use cases
  • RECON SPARE dataset for IMS are missing
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• Start / Stop details for IMS applications

• Special IMS management

• *IMS Best practices

➢ Future Plans
Future Plans

- Support IMS Connect
- Support IMS Master repository server (IMSRS)
- Remove the need to define all dependent regions for DFS554A automation & recovery actions
- Anything else needed?
End of Presentation

Questions

Thank you very much for your attention

Visit our home pages at

IBM Tivoli System Automation for z/OS:
http://www-03.ibm.com/servers/eserver/zseries/software/sa/

IBM Tivoli System Automation for Multiplatforms:

IBM Tivoli System Automation Application Manager:

our Community at
IBM Service Management Connect

or our User forums at
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.
Tivoli System z Session at SHARE

Monday
• 11:00  11207: Automating your IMSplex with System Automation for z/OS  Platinum 7
• 1:30  11832: What’s New with Tivoli System Automation for z/OS  Elite 1
• 3:00  11886: Improve Service Levels with Enhanced Data Analysis  Elite 1

Tuesday
• 9:30  11792: What’s New with System z Monitoring with OMEGAMON  Elite 1
• 11:00  11791: Tuning Tips To Lower Costs with OMEGAMON Monitoring  Platinum 8
• 1:30  11900: Understanding Impact of Network on z/OS Performance  Grand Salon A

Wednesday
• 9:30  11835: Automated Shutdowns using either SA for z/OS or GDPS  Elite 1
• 1:30  11479: Predictive Analytics and IT Service Management  Grand Salon E/F
• 1:30  11899: Top 10 Tips for Network Perf. Monitoring w/ OMEGAMON  Platinum 9
• 4:30  11836: Save z/OS Software License Costs with TADz  Elite 1

Thursday
• 9:30  11905: Using NetView for z/OS for Enterprise-Wide Mgmt and Auto  Grand Salon A
• 11:00  11909: Get up and running with NetView IP Management  Grand Salon A
• 11:00  11887: Learn How To Implement Cloud on System z  Grand Salon E/F

Friday
• 9:30  11630: Getting Started with URM APIs for Monitoring & Discovery  Elite 1

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- Russian: Спасибо
- Spanish: Gracias
- Arabic: شكراً
- Italian: Grazie
- Brazilian Portuguese: Obrigado
- German: Danke
- French: Merci
- Tamil: தமிழ்
- Japanese: ありがとうございます
- Korean: 감사합니다

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