

There's a new Sheriff in Town CICS Policy Based Management

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Agenda

**CLCS policy-based
management**

Resources

Actions

Policy scope

Summary

**POWER TO
THE SYSPROG!**

**“The Cart browse
operation shouldn’t
use more than 1
millisecond of CPU”**

**“I want to see a message
if version 1.1 of the Order
Update application
allocates more than 1MB
of storage”**

**“Abend any application
running on the Retail
Banking platform that
tries to request any 24-bit
storage”**

Policies:

Control behaviour of apps and platforms

Define threshold conditions to manage user tasks

Automatically take action when a threshold is exceeded

Detect looping or runaway tasks



Phone plans

A policy is:

Defined in a ClCS bundle

A condition and action pair: a rule

Multiple rules per policy

Multiple policies per bundle

Available actions

Issue a message:

DFHMP3001

Emit an Event

Abort the task: Abend code

AMPB or user specified

Emit an event

- Name an EP adapter or EP adapter set
- Same behaviour as CICS system events
- Policy event can be sent to an async. non-transactional EP adapter

Abend the task

Transaction dump is taken by default

Suppress/request a sys. dump with

CEMT SET TRDUMPCODE|

SYDUMPCODE

EXEC CICS SET TRANDUMPCODE|

SYDUMPCODE

Handle the abend with EXEC CICS

HANDLE ABEND

Rule types

Requests:

Database 5.1

File (delete, read, write...) 5.1

Program (LINK) 5.1

START 5.2

Storage (24/31/64-bit, task/shared) 5.1

Syncpoint 5.2

TD Queue (READQ, WRITEQ) 5.2

TS Queue bytes (main, AUX) 5.2

Time:

CPU 5.1

Elapsed 5.2

Database

Define a threshold for no.
of SQL requests

Includes requests issued
in exits

Create Policy Definition

Add a rule

Add a policy rule to define what action is taken when a task exceeds a s

Policy Information

Name:* (i

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type: Database request
File request
Program request
Start request
Storage

Item: SQL comman

Operator: Greater Than Value:*

What action should be taken when the rule's condition is exceeded?

☒ Issue message DFHMP3001

☐ Emit event to

☒ EP Adapter ☐ EP Adapter Set

☐ Abend task with abend code AMPB

☒ Open Editor

File

Define a threshold for no.
of FILE requests

Applies to a specific file
command (e.g., READ)


Not cumulative

Counted regardless of
success

Counted for user task in
AOR if local or remote

Create Policy Definition

Add a rule

 Rule Name: contains invalid characters. Valid characters are a-z, A-Z, must start with a-z, A-Z.

Policy Information

Name:*

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type:

Item:

Operator: Value:*

What action should be taken when the rule's condition is exceeded?


☒ Issue message DFHMP3001

☐ Emit event to

☐ EP Adapter ☐ EP Adapter Set

☐ Abend task with abend code AMPB

☒ Open Editor



Program

Define a threshold for no.
of LINK requests
Includes INVOKE
APPLICATION

Create Policy Definition

Add a rule

✖ Rule Name: contains invalid characters. Valid characters are a-z, A-Z, 0-9, _ must start with a-z, A-Z.

Policy Information

Name:*

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type:
File request
Program request
Start request
Storage

Item:

Operator: Value:*

What action should be taken when the rule's condition is exceeded?

☒ Issue message DFHMP3001
☐ Emit event to
 ☒ EP Adapter ☐ EP Adapter Set
☐ Abend task with abend code AMPB

☒ Open Editor

Start

Define a threshold for no.
of START requests

Counted despite

success:

XICREQ→IGNORE

XICERES→NOT AVAIL

Create Policy Definition

Add a rule

❌ Rule Name: contains invalid characters. Valid characters are a-z, A-Z must start with a-z, A-Z.

Policy Information

Name:*

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type:
File request
Program request
Start request
Storage

Item:

Operator: Value:*

What action should be taken when the rule's condition is exceeded?

☒ Issue message DFHMP3001
☐ Emit event to
☐ EP Adapter ☐ EP Adapter Se
☐ Abend task with abend code AMPB

☒ Open Editor

Storage


Define a threshold for no.
of STORAGE allocated

Includes all GETMAIN
requests

Decrement with
FREEMAIN
(not for SHARED)

Create Policy Definition

Add a rule

 Rule Name: contains invalid characters. Valid characters are a-z, A-Z, must start with a-z, A-Z.

Policy Information

Name:*

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type:

Item:

Operator: Value:*

What action should be taken when the rule's condition is exceeded?


☒ Issue message DFHMP3001

☐ Emit event to

☐ EP Adapter ☐ EP Adapter Set

☐ Abend task with abend code AMPB

☒ Open Editor



Syncpoint

Define a threshold for no.
of SYNCPOINT requests

Rollback is included

Create Policy Definition

Add a rule

❌ Rule Name: contains invalid characters. Valid characters are a-z, A-Z, must start with a-z, A-Z.

Policy Information

Name:*

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type:
Storage request
Syncpoint request
TD Queue request
Time

Item:

Operator: Value:*

What action should be taken when the rule's condition is exceeded?

☒ Issue message DFHMP3001

☐ Emit event to

☒ EP Adapter ☐ EP Adapter Se

☐ Abend task with abend code AMPB

☒ Open Editor

Time

Define a threshold for no.
of TIME consumed

CPU time

Check made when a
task gives up control

Elapsed time

Check made when
issuing EXEC CICS or
invokes a TRUE

Create Policy Definition

Add a rule

❌ Rule Name: contains invalid characters. Valid characters are a-z, A-Z, must start with a-z, A-Z.

Policy Information

Name:*

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type:
Syncpoint request
TD Queue request
Time
TS Queue bytes

Item:
Elapsed time

Operator: Value:*

What action should be taken when the rule's condition is exceeded?

☒ Issue message DFHMP3001
☐ Emit event to
☐ EP Adapter ☐ EP Adapter Set
☐ Abend task with abend code AMPB

☒ Open Editor

Transient data

Define a threshold for no.
of TRANSIENT DATA
requests

Other products write to
TD:

KE for diagnostic info.

TCP/IP socket interface
for CICS

Create Policy Definition

Add a rule

❌ Rule Name: contains invalid characters. Valid characters are a-z, A-Z, must start with a-z, A-Z.

Policy Information

Name:*

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type:
Storage request
Syncpoint request
TD Queue request
Time

Item:
WRITEQ TD

Operator: Value:*

What action should be taken when the rule's condition is exceeded?

☒ Issue message DFHMP3001

☐ Emit event to

☐ EP Adapter ☐ EP Adapter Se

☐ Abend task with abend code AMPB

☒ Open Editor

Temp. storage bytes

Define a threshold for
amount of data written
to TEMP.STORAGE

Both READ and
REWRITE

REWRITE is total data
size, not delta

Create Policy Definition

Add a rule

❌ Rule Name: contains invalid characters. Valid characters are a-z, A-Z, 0-9, _ must start with a-z, A-Z.

Policy Information

Name:*

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type: Syncpoint request
TD Queue request
Time
TS Queue bytes
TS Queue request

Item: WRITEQ T
WRITEQ T
WRITEQ T

Operator: Greater Than Value:*

What action should be taken when the rule's condition is exceeded?

☒ Issue message DFHMP3001
☐ Emit event to
☐ EP Adapter
☐ EP Adapter Se
☐ Abend task with abend code AMPB

☒ Open Editor

? < Back Next > F

Temporary storage

Define a threshold for no. of TEMP.STORAGE requests

REWRITE TS is counted as a WRITEQ

Synchronous events to TS are counted

Create Policy Definition

Add a rule

❌ Rule Name: contains invalid characters. Valid characters are a-z, A-Z, must start with a-z, A-Z.

Policy Information

Name:*

Description:

Rule Information

Name:*

Description:

What is the condition that triggers the rule?

Type:
Time
TS Queue bytes
TS Queue request

Item:
WRITEQ T
WRITEQ T
WRITEQ T

Operator: Value:*

What action should be taken when the rule's condition is exceeded?

☒ Issue message DFHMP3001
☐ Emit event to
☐ EP Adapter ☐ EP Adapter Se
☐ Abend task with abend code AMPB

☒ Open Editor

A problem has been detected and windows has been shut down to prevent damage to your computer.

The problem seems to be caused by the following file: int15.sys

PAGE_FAULT_IN_NONPAGED_AREA

If this is the first time you've seen this Stop error screen, restart your computer. If this screen appears again, follow these steps:

Check to make sure any new hardware or software is properly installed. If this is a new installation, ask your hardware or software manufacturer for any windows updates you might need.

If problems continue, disable or remove any newly installed hardware or software. Disable BIOS memory options such as caching or shadowing. If you need to use Safe Mode to remove or disable components, restart your computer, press F8 to select Advanced Startup options, and then select Safe Mode.

Policy Exceptions

Policies do not apply to:

CI/CS system tasks

Includes CPLT at systems initialization

All terminal initiated CI/CS supplied transactions

Except CECI

All user tasks started by event processing

All non-terminal CI/CS supplied transactions

Except:

All web interface tasks

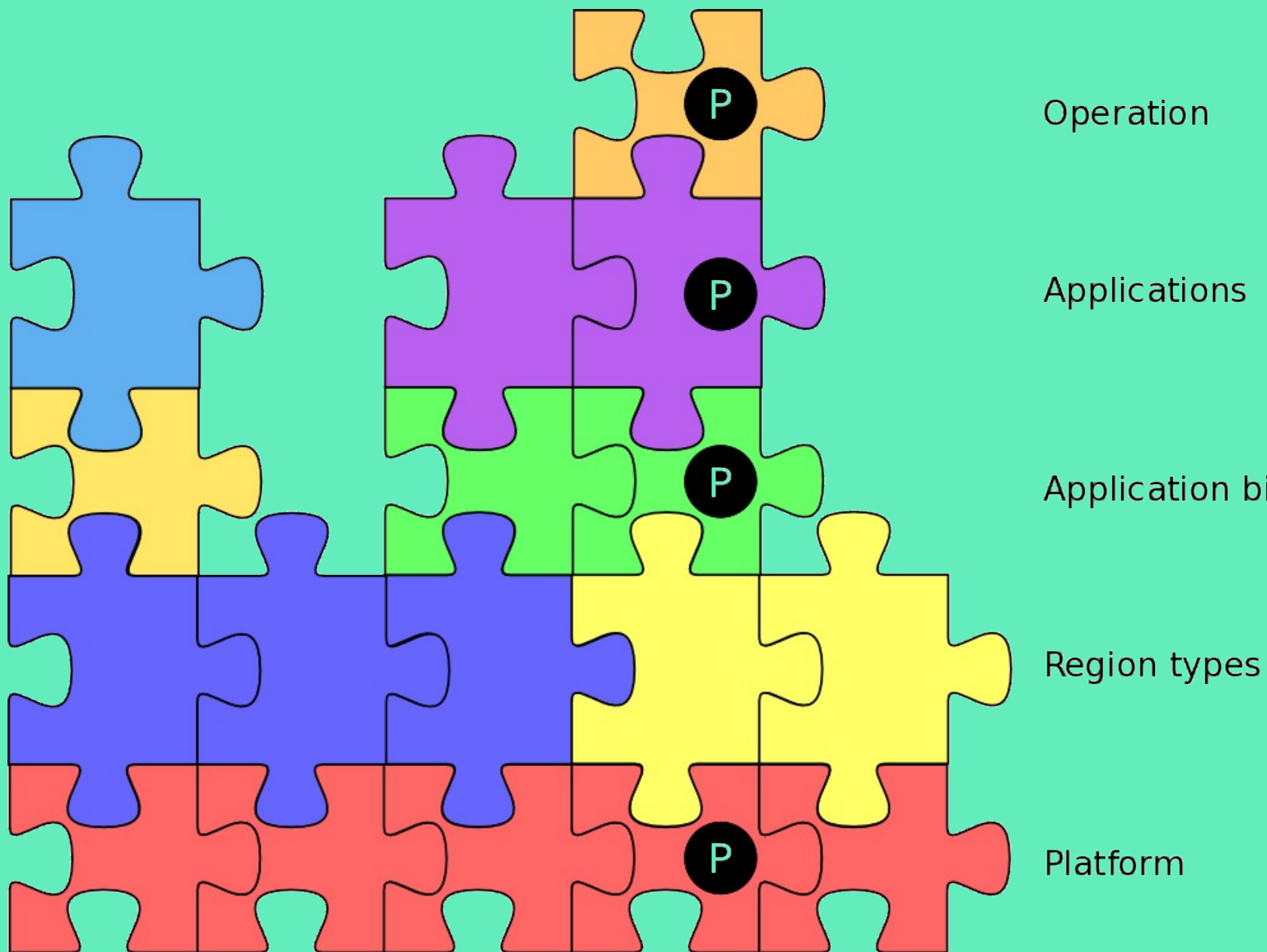
All CI/CS MQ bridge tasks

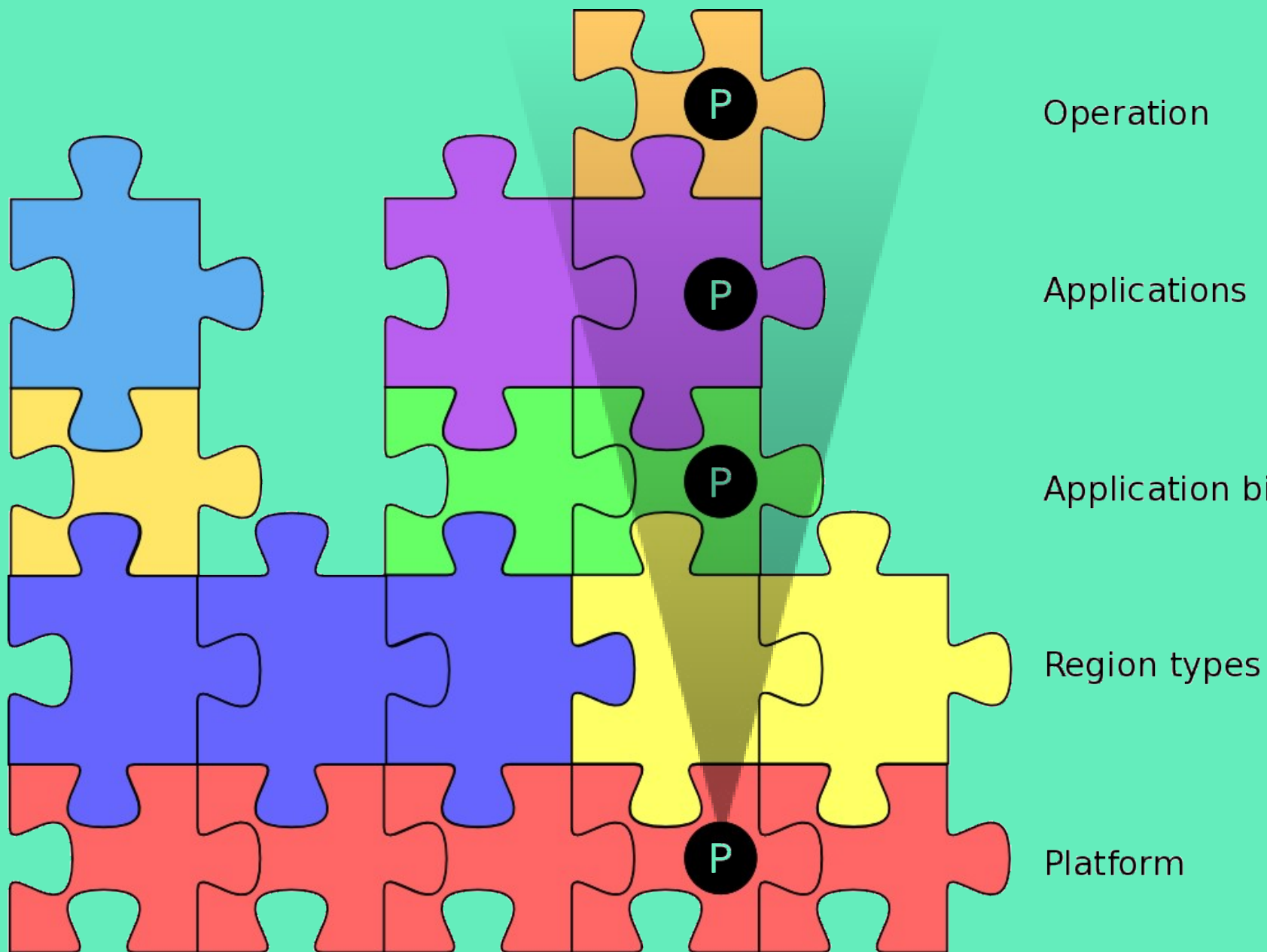
All CI/CS mirror transactions

All Liberty initiated transactions

All CI/CS pipeline tasks

Policy scope





Policy scope: Operation

PROGRAM 5.2
URIMAP 5.2
TRANSACTION
5.3 Open Beta

Policy Scopes


Policy Scope
Specify the scope of a Policy.

Operation

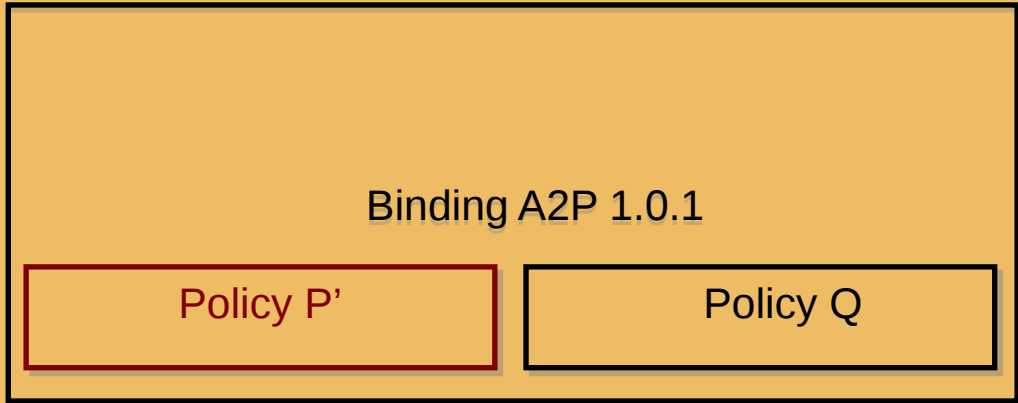
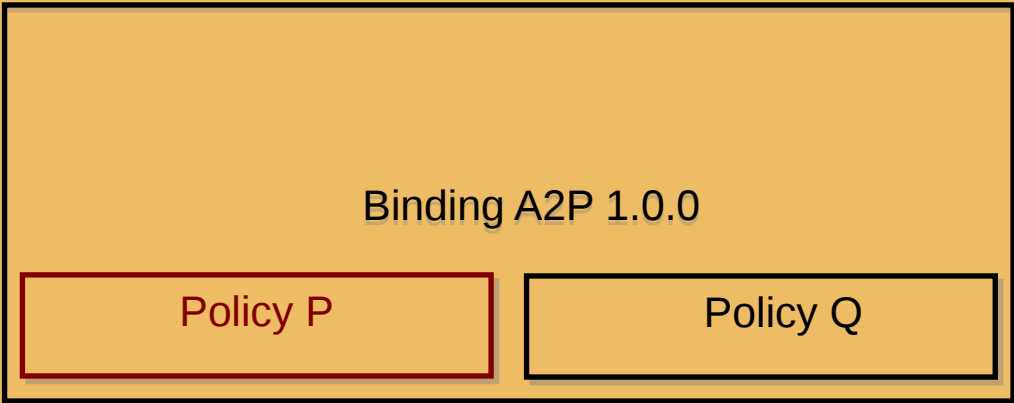
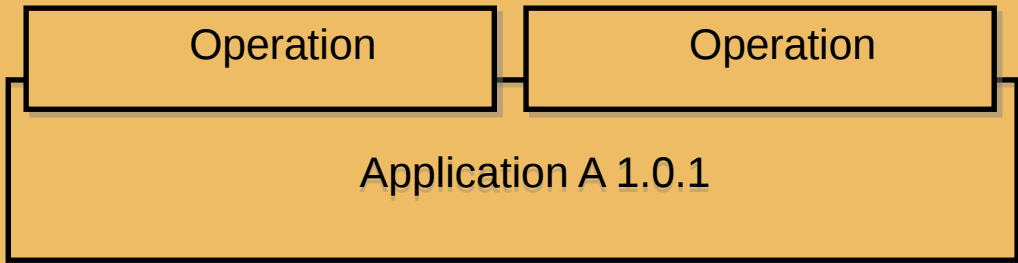
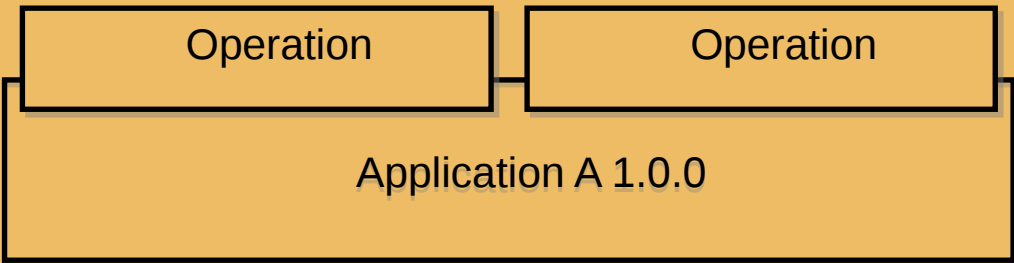
Create Policy scope
Choose the properties of a Policy scope.

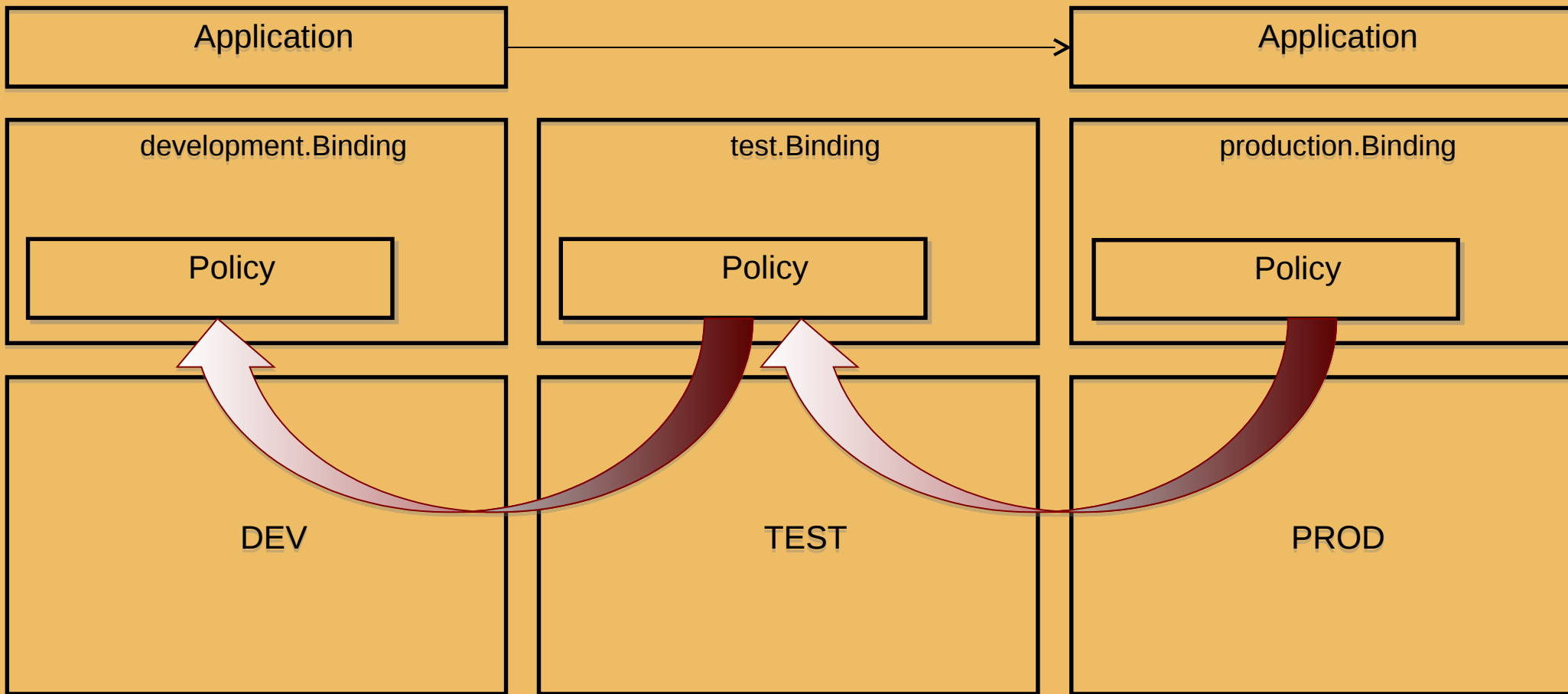
Operation:*

Policy Name:*



Overview | Entry Points | Policy Scopes





abendLinksBundle APROUTER **APPLIB**

Attributes

type here to filter on Name and CICS Name

Name	CICS Name	Value
Basic		
Critical	CRITICAL	
Data Set Name 01	DSNAME01	CHPOOLE.DEMO.POLICY.ROUTER.V110
Data Set Name 02	DSNAME02	
Data Set Name 03	DSNAME03	
Data Set Name 04	DSNAME04	
Data Set Name 05	DSNAME05	
Data Set Name 06	DSNAME06	
Data Set Name 07	DSNAME07	
Data Set Name 08	DSNAME08	

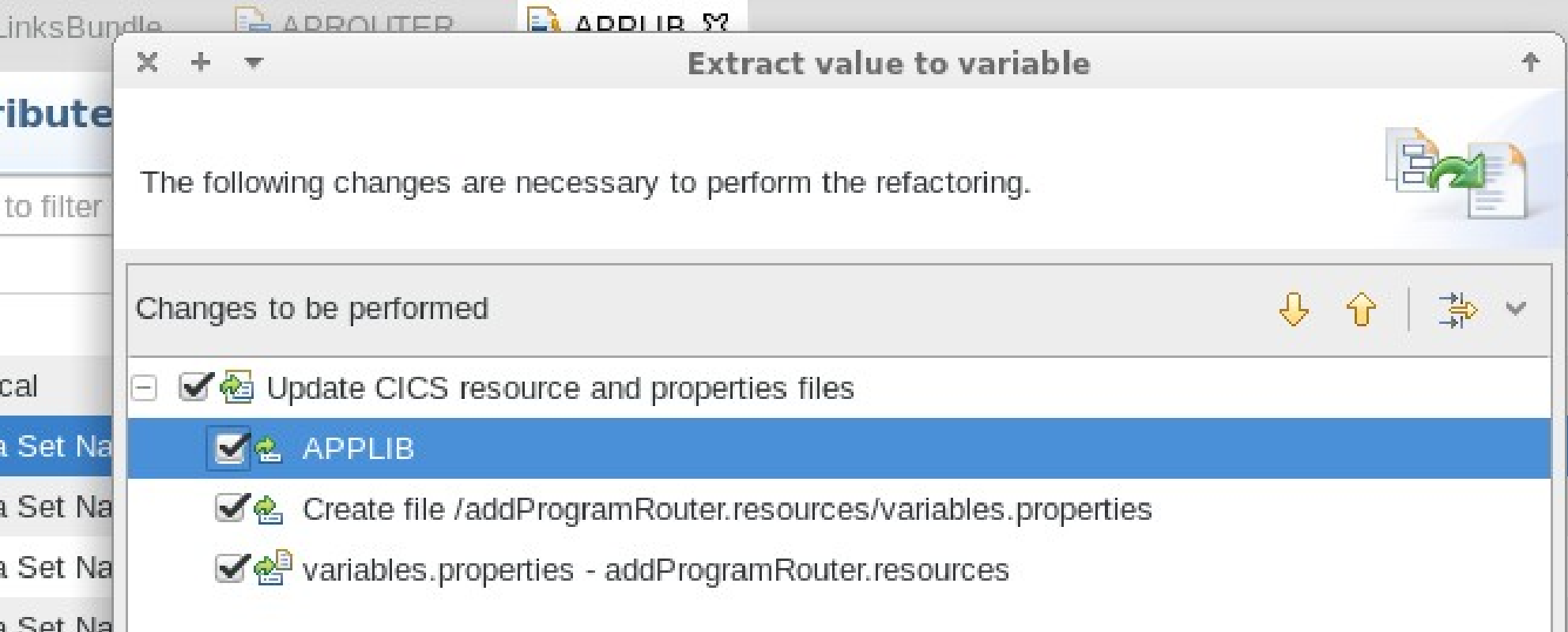
Extract value to variable

Insert variable

Copy all







Copy Ctrl+C

$\{Variable\}$ Substitution



Resolve with a properties file

Find Policy Rules for Operation "Invoke_App1" - 3 results - 2:36:16 PM

- ▲  T71_Region
 - ▲  Task Storage Requested
 - ▲  31 bit
 - ➔ > 1 Message APP1POL1 Rule_1
 - ▲  File Access Requests
 - ▲  READ
 - ➔ > 100 Abend code: AMPB PLATPOL1 Rule1p
 - ▲  Database Requests
 - ➔ > 500 Message REGPOL1 Rule_SQL

ClCS TS v5.3 Open Beta

New Policy Rules

Name Counter Server

GET COUNTER|DCOUNTER

Temporary Storage

Support for Shared TS

WebSphere MQ

Number of MQ requests

IMS

Number of DBCTL calls

CIICS Policy Based Management

Allow you to set thresholds on the resources that your applications are allowed to consume

Allow you the ability to notify, to react, or to ABEND rogue tasks

Allow you to define the scope of your policy rules

Give you capabilities to protect and control your CIICS systems

Questions?



Credits

Phone: <https://www.flickr.com/photos/highwaysengland/17185230756/>

Exceptions: <https://www.flickr.com/photos/billjacobus1/2482521750/>



#SHAREorg

SHARE is an independent volunteer-run information technology association that provides **education, professional networking and industry influence.**

