

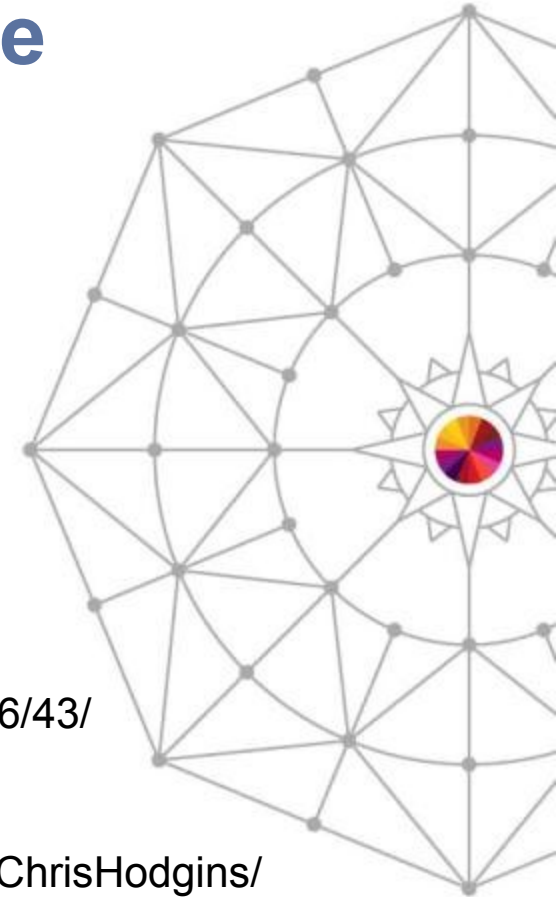
CICS as a Platform Service Provider

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11 March 2014
Session 14829

Linkedin: <http://uk.linkedin.com/pub/chris-hodgins/1/866/43/>

CICSplex and the cloud blog:
<https://www.ibm.com/developerworks/mydeveloperworks/blogs/ChrisHodgins/>




Further sessions on Bundles and Cloud

- 15395 – Managing CICS Resources in a Unix File System
 - Monday 1:30pm Salon 2
- 14902 – Reinventing the CICS Application Lifecycle
 - Tuesday 9:30am Salon 3
- **14829 – CICS as a Platform Service Provider**
 - Tuesday 11:00am Salon 3
- 14912 – Managing CICS Resources and Bundles (Application multi-versioning)
 - Wednesday 1:30pm Salon 4

Announcing the new CICS TS V5.1 release

Operational Efficiency

- *Greater capacity* - achieve cost savings through consolidation
- *Managed operations* - control critical resource thresholds with policies
- *Increased availability* - reduce the need for planned downtime
- *Deeper insight* - extend performance and compliance information



100+
requirements
satisfied!

Service Agility

- *First-class applications* - create agile services from existing assets
- *First-class platforms* - create agile service delivery platforms
- *Modern interfaces* - build rich web experiences for critical applications
- *Foundational enhancements* - extend core capabilities

... with Cloud Enablement

Consistent with the IBM Cloud Computing strategy
Positioning customers for the next transformational era in technology
Moving towards a cloud oriented service delivery platform

Announcing the new CICS TS V5.2 Open Beta!



<http://www.ibm.com/software/htp/cics/openbeta/>

OPEN BETA

CICS TS V5.2 open beta shows how new workloads, such as those driven by mobile devices, can be quickly and efficiently incorporated into existing CICS systems. Participants in the open beta program may also get direct access to CICS development resources, with the opportunity to provide early feedback and are well-positioned to gain first-mover advantage.



It shouldn't be complicated to deploy and manage your Application!



- Create a single entity to contain and manage your Applications
- Move Applications between development, test and production with confidence
- Provision and detect changes in shared services Applications depend on
- Monitor Applications by operation rather than at the transaction level
- Deploy multiple versions of the same Application at the same time on the same region ***OPEN BETA***



Problems addressed

- Inconsistent application resource definitions
 - Managed individually rather than as a package
 - May change while the application is installed
 - Difficult to know exactly what resources an application contains
- Moving applications between different environments can be time-consuming
 - Difficult to see where resources should be deployed
 - Regions may not have the same capabilities
 - Application dependencies may have changed

Even more problems addressed

- Application dependencies can not be easily defined
 - Not possible to declare an application dependency
 - Not possible to view the health of an application or it's supporting services
- Monitoring an application is an accumulation of the tasks it ran
 - Difficult to break down application performance by the actions it performed
 - Difficult to track application performance across multiple regions

Even even more problems addressed

- Risk involved rolling out a new version of an Application
OPEN BETA
 - Difficult, time-consuming and error prone to make sure the old version has been completely removed
 - Turning on the new version requires care
- Resource name clashes can prevent multiple Applications on the same region
OPEN BETA

What do I need to set this up?

- CICS Transaction Server V5.1
 - With CICSplex SM set up
 - With APAR PM81540 applied (www-01.ibm.com/support/docview.wss?uid=swg1PM81540)
- CICS Explorer V5.1.1
- Access to zFS

Reduced effort for development

- Versioned Application/bundle for complete control over construction
- Applications can be stored in SCM and shared with others
- Applications can be quickly re-deployed to well-defined Platforms e.g. development, test, production

Reduced effort for operations

- Review Application health in a single click
- Quickly provision an Application from test to production without fear of resource definition changes/inconsistencies
- Define dependencies between different Platforms that affect the Applications health
- Enforce expected Application behaviour with policies
- Monitor the performance of Applications rather than the resources

Enabling DevOps collaboration



First class applications

Create agile services from existing assets



First class platforms

Create agile service delivery platforms



FASTER

"Hey Simon, I need to test my new version of the payroll **application**."

"Sure Abigail, you should get the latest payroll test **platform** from the repository, I'll send you a link."

"Thanks, I'll **deploy my app** onto that platform on the development plex later today."

"That should be fine, just check with Oliver that the **policies** on the plex are going to be OK for your app's changes."



SIMPLER

User roles – System Programmer

- Platform provider
- Policy overlord
- Application and Platform health reviewer
- Collection and review of Application monitoring SMF 110 records
- Problem determination for Platforms and Applications

User roles – Application Deployer

- Defining an Applications deployment rules to target a specific Platform
- Defining Application dependencies
- Applying System Programmer defined policies to an Application

User roles – Application Developer

- Design of business logic
- Code
- Test
- Application creation

Supporting the Application lifecycle

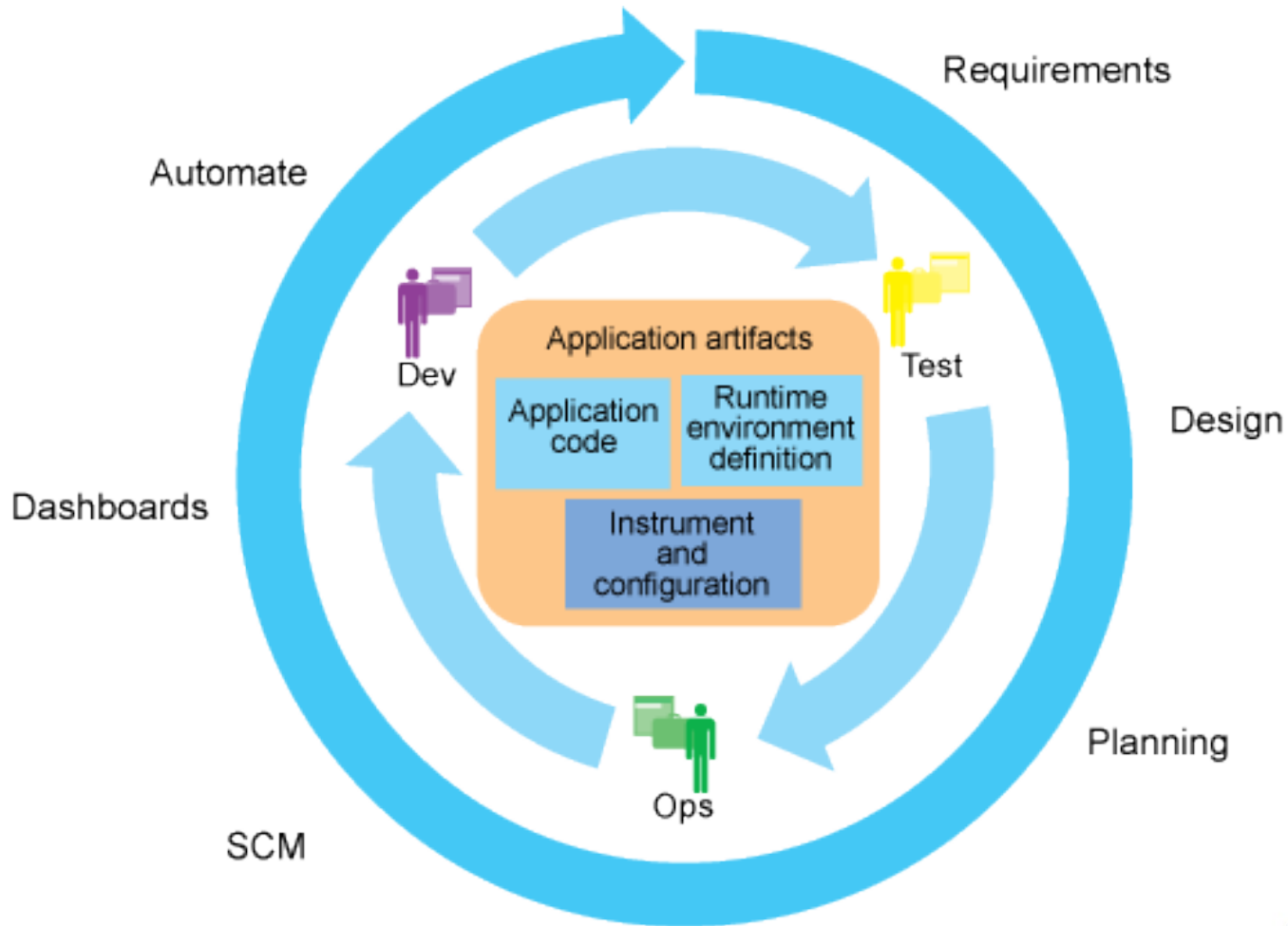


Image from: <http://www.ibm.com/developerworks/rational/library/puresystems-development-deployment-management-it-applications/>

Value proposition for operations

- Review Application health in a single click
 - Application health is an accumulation of health of all installed CICS bundles
- Quickly provision an Application from test to production without fear of resource definition changes/inconsistencies
 - Use Application Bindings to create deployments for different Platforms without changing the core Application

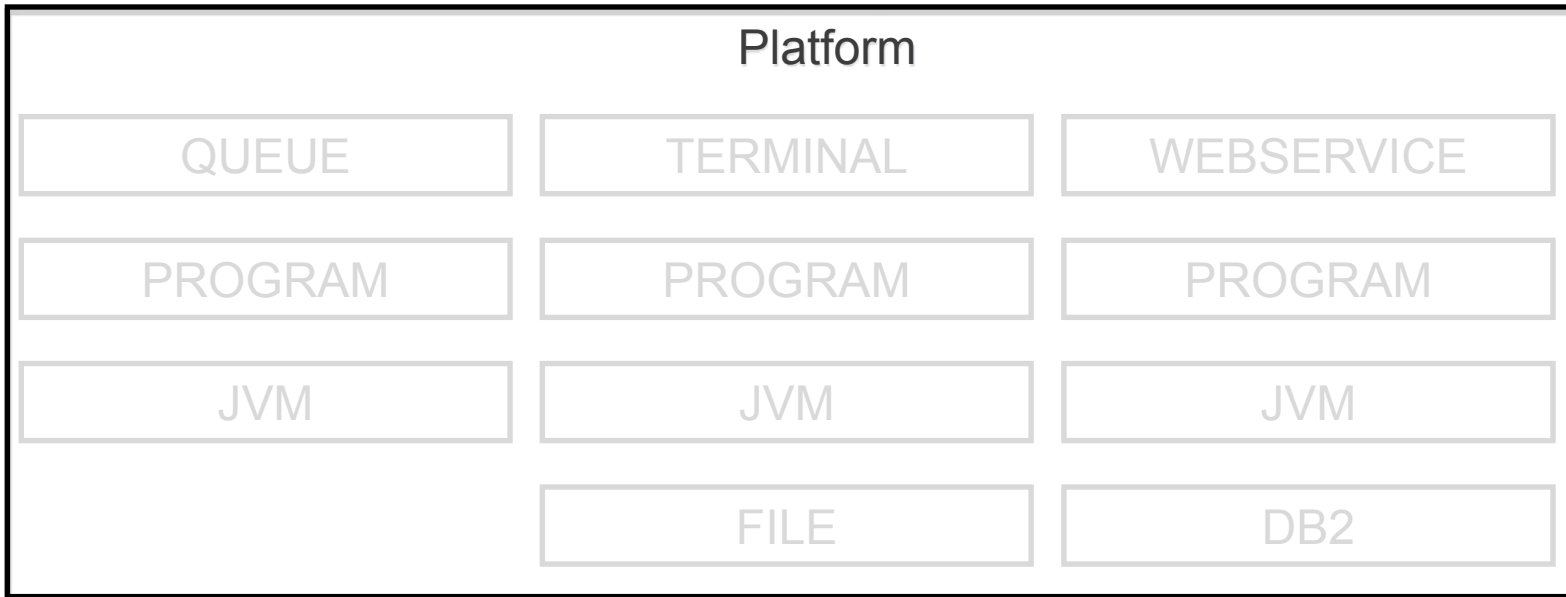
Value proposition for operations

- Define dependencies between different Platforms that affect the Applications health
 - Use bundle imports to track dependencies
 - Bundle health is affected by import health
- Enforce expected Application behaviour with policies
 - Define contracts using policies that Application tasks must abide to.. or else!

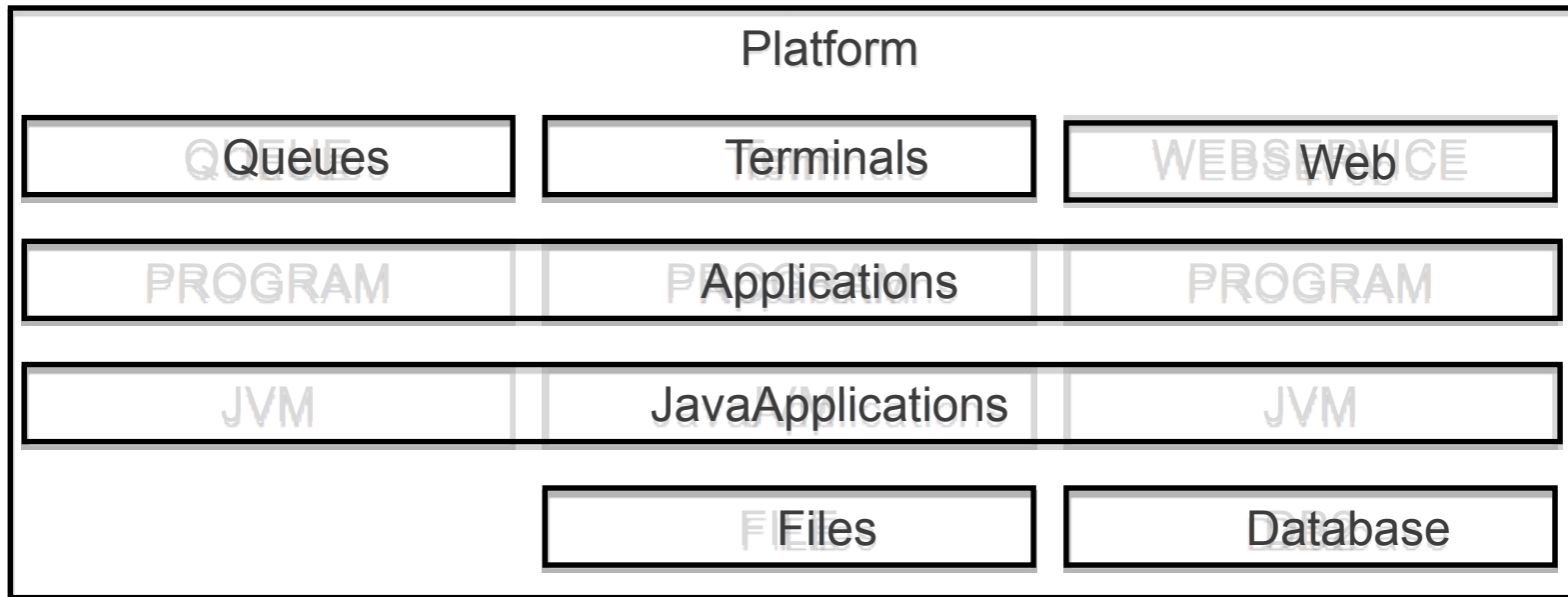
Value proposition for operations

- Monitor the performance of Applications rather than the resources
 - Use Application entry points to define operations
 - Operations are tracked across MRO/IPIC
 - And recorded in the SMF 110 records

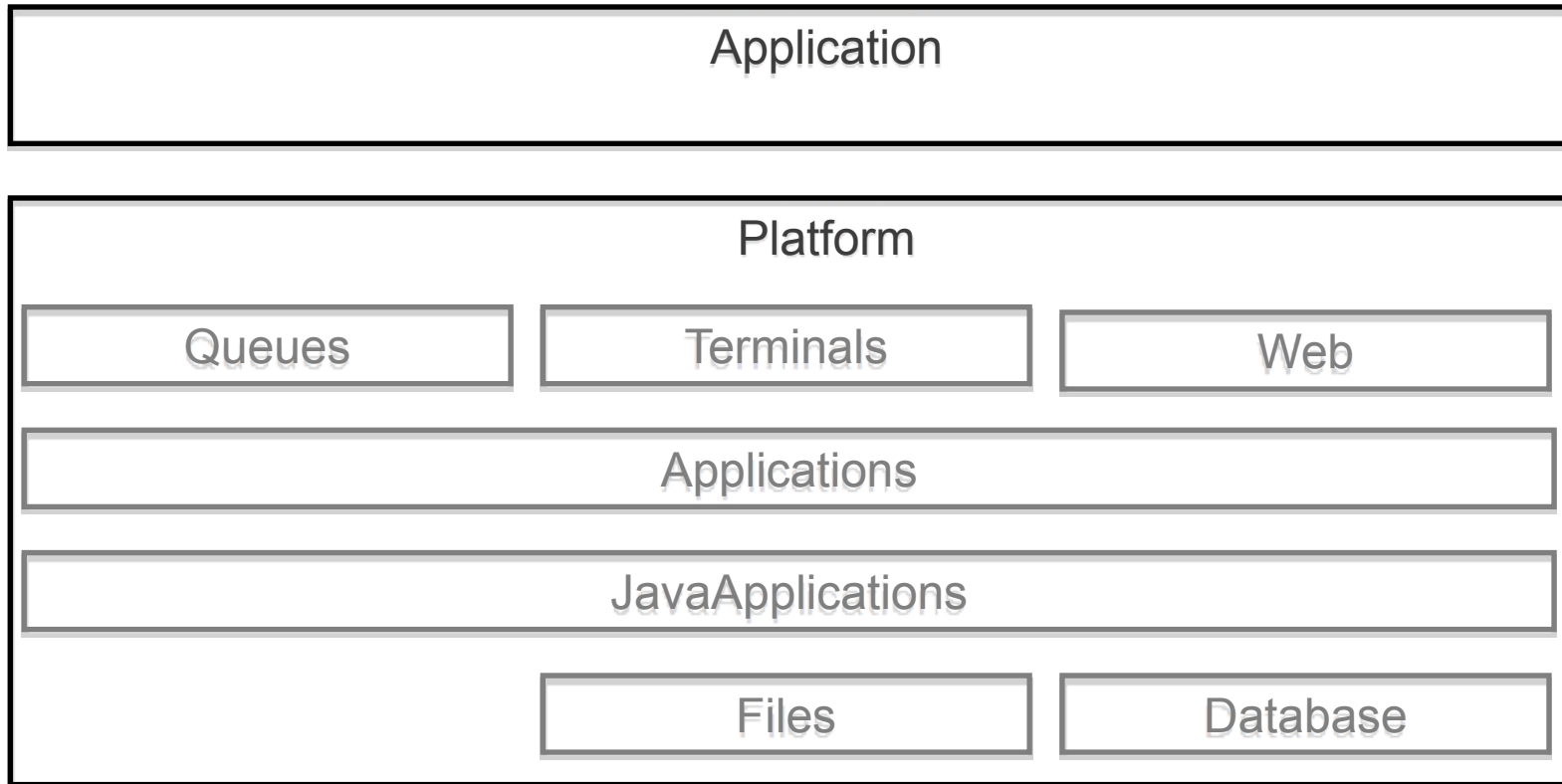
We need things to be simple again: Platform



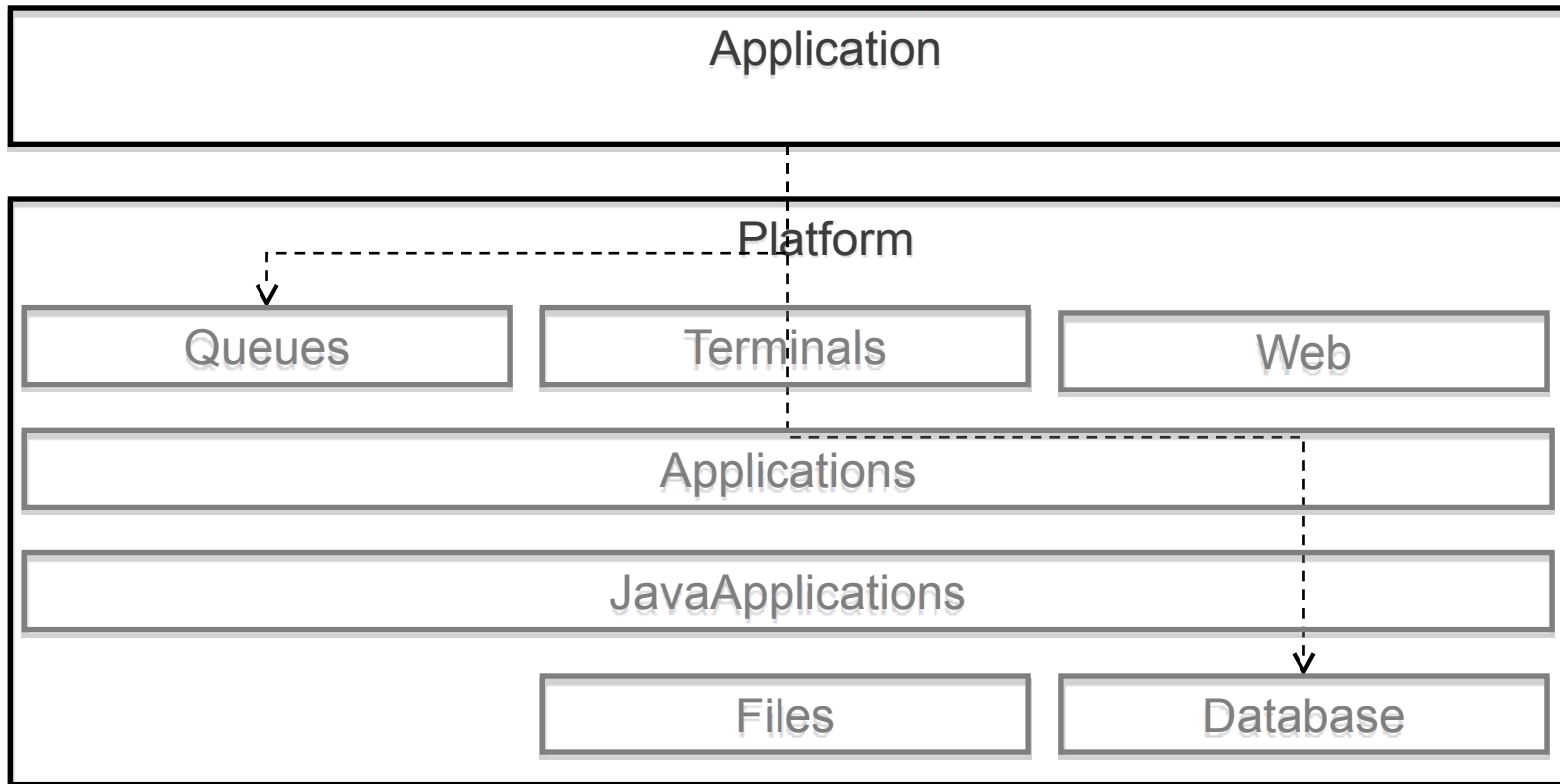
We need things to be simple again: Region Types



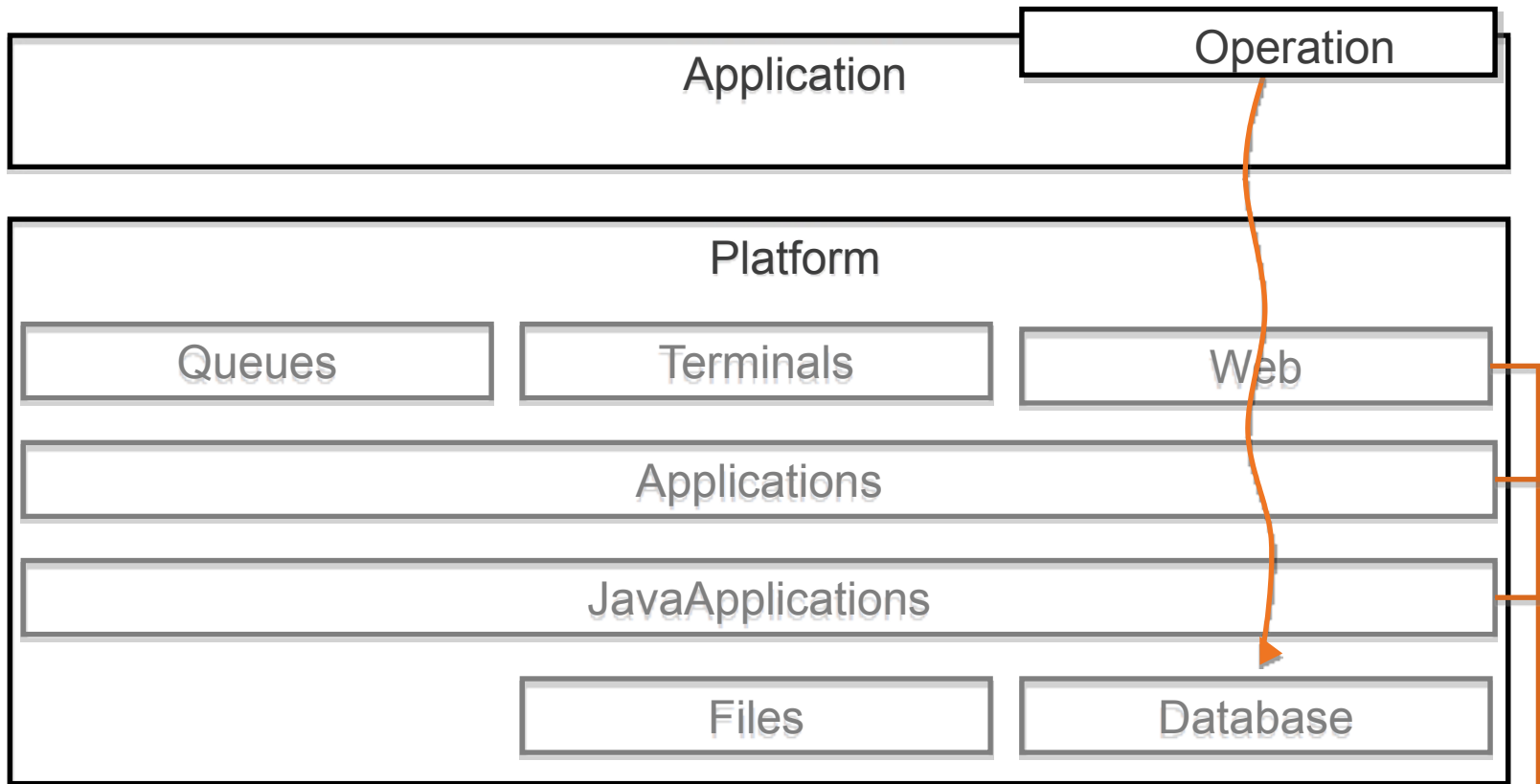
We need things to be simple again: Application



We need things to be simple again: Dependencies



We need things to be simple again: Application Context



New First Class ~~Concept~~ Resources

Application
Platform
Policy

Platform

- Maps a subset of the topology – e.g. Dev, Test, Prod.
- Set of one or more region types
- A collection of zero or more CICS bundles
- Life-cycle as a single entity
- Hides complexity of and evolution of underlying topology
- Provides services for Applications (TCP/IP service, JVM service)
- Control Applications through Policy

Platform region types

- A set of homogenous regions of the same capability i.e. cloned regions
- Application bindings reference region types by name
 - Not the underlying regions
 - Applications don't need to know about the contents of a region type

Platform Package

Name

RetailBanking

zFS home

/var/cicsts/JTPLEX1/RetailBanking

Region types

ID

name

Resources & Dependencies

define: LIBRARY, TRANSACTION, ...

import: DB2CONNECTION, JVMSERVER,
TCPIPSERVICE, ...

Policy

Platform Lifecycle

Create Platform bundle project

Package CICS bundle(s)

Export Platform to zFS

INSTALL Platform onto a CICSplex

Activate/Deactivate Platform

ENABLE/DISABLE/DISCARD Platform

Platform status (ACTIVE | PARTIAL | INACTIVE)

Platform Enable Status (ENABLED | DISABLED | ...)

Policy

Real World Example: Phone Contract

200 free minutes

Unlimited text messages

500MB of data

“You have now used 80% of your data allowance”

Policy

Controls resource consumption

Consists of one or more rules in an XML document

Threshold: CPU, storage, database access, ...

Action: message, event,abend

Scoped

Single Application operation

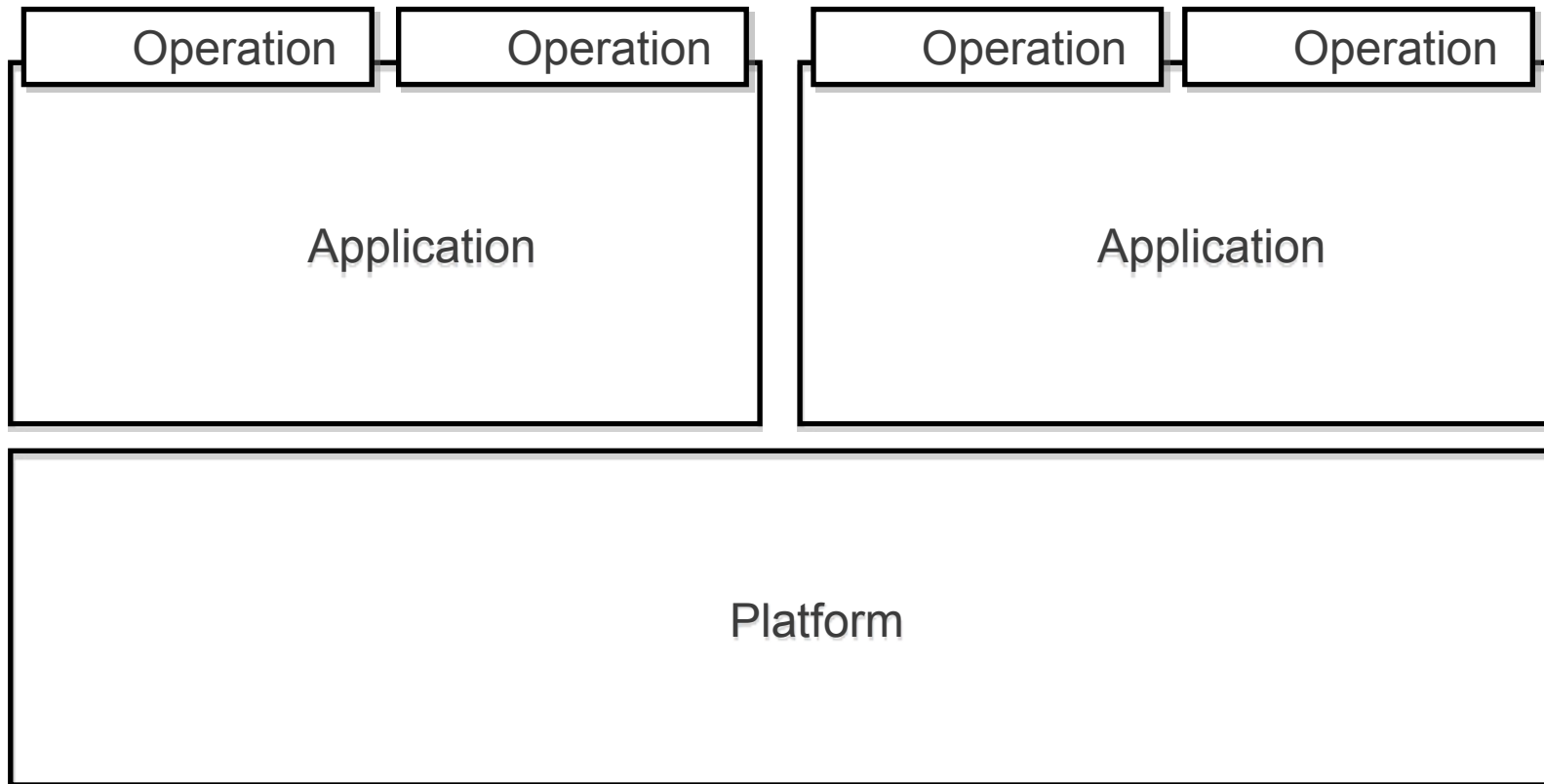
Single Application

All Applications on a Platform

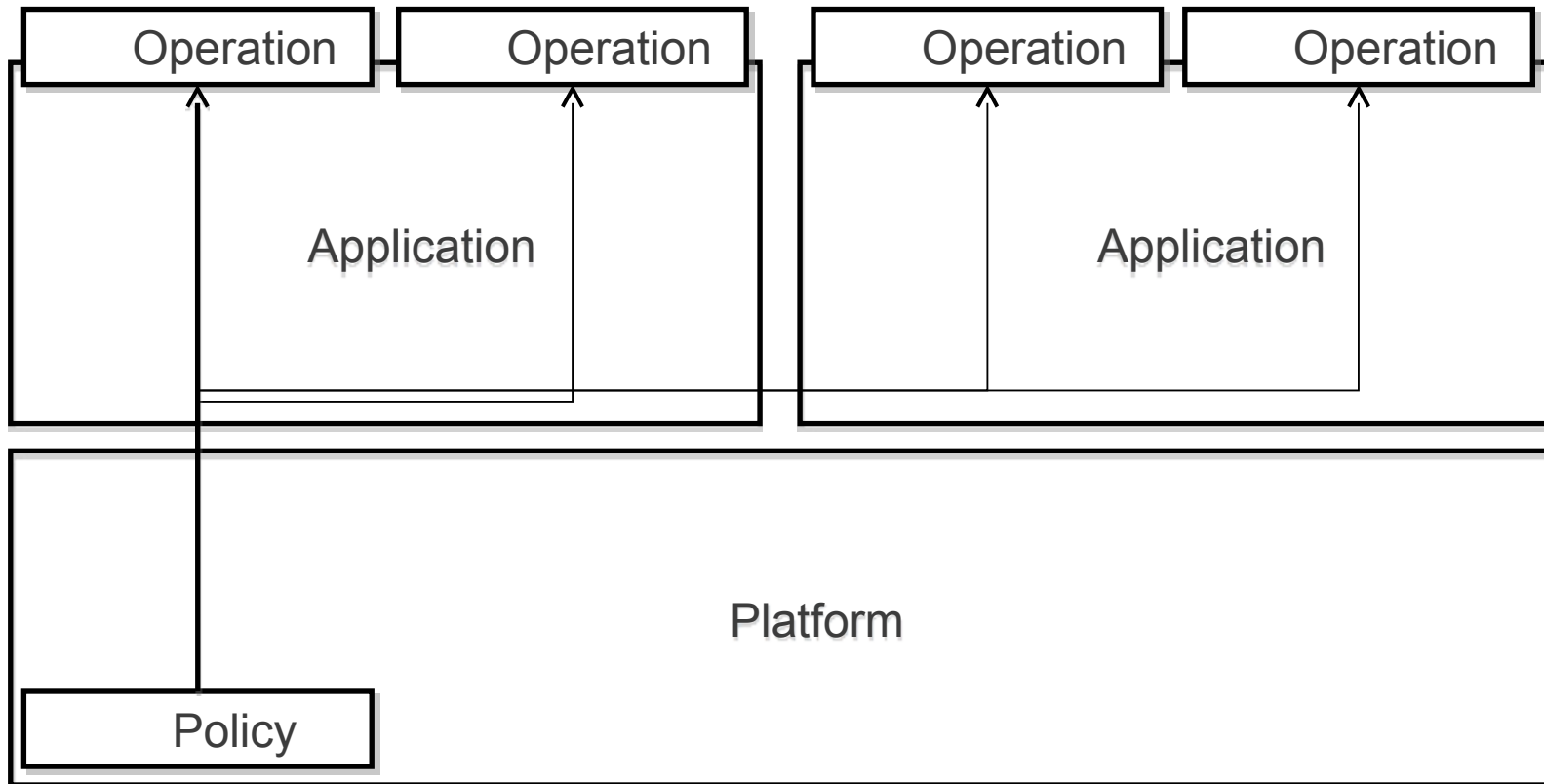
Policy

- New thresholds for the open beta:
 - The elapsed time that is taken by a task
 - The amount of data that is written by EXEC CICS WRITEQ TS requests
 - The number of
 - EXEC CICS LINK or EXEC CICS INVOKE APPLICATION requests
 - EXEC CICS SYNCPOINT requests
 - EXEC CICS START requests
 - EXEC CICS READQ or WRITEQ TS/TD requests

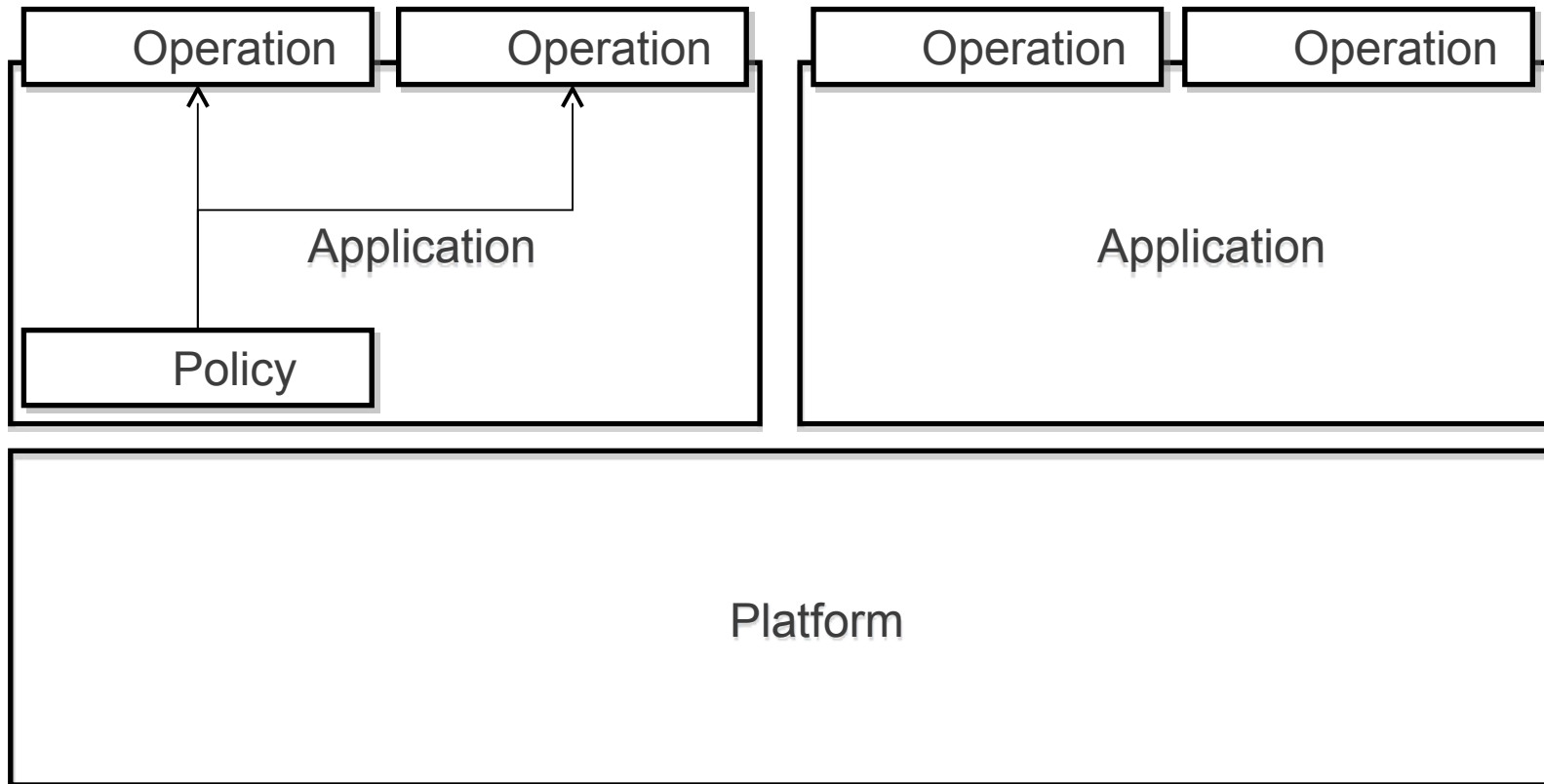
Policy Scoping



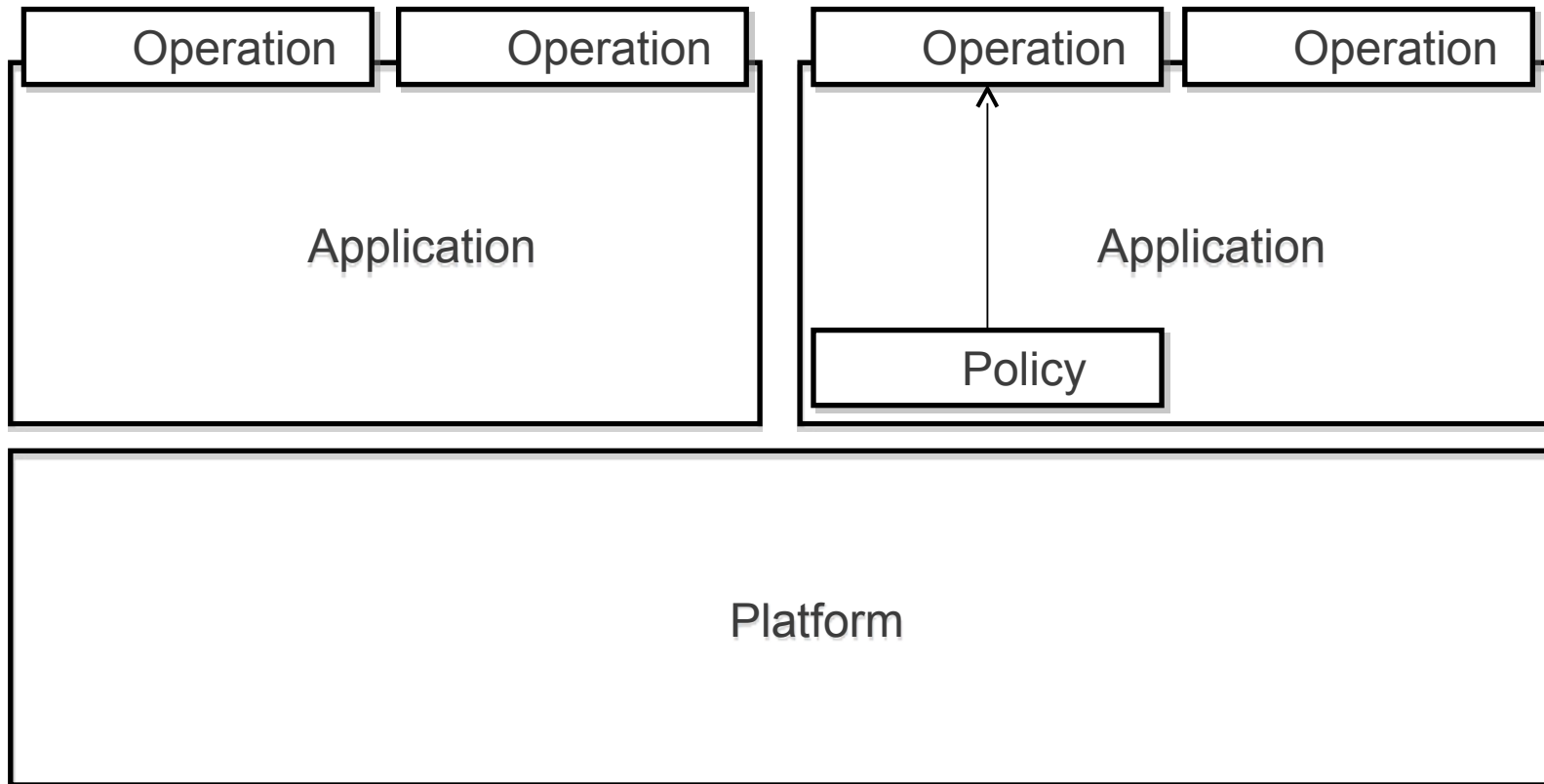
Policy Scoping: Platform



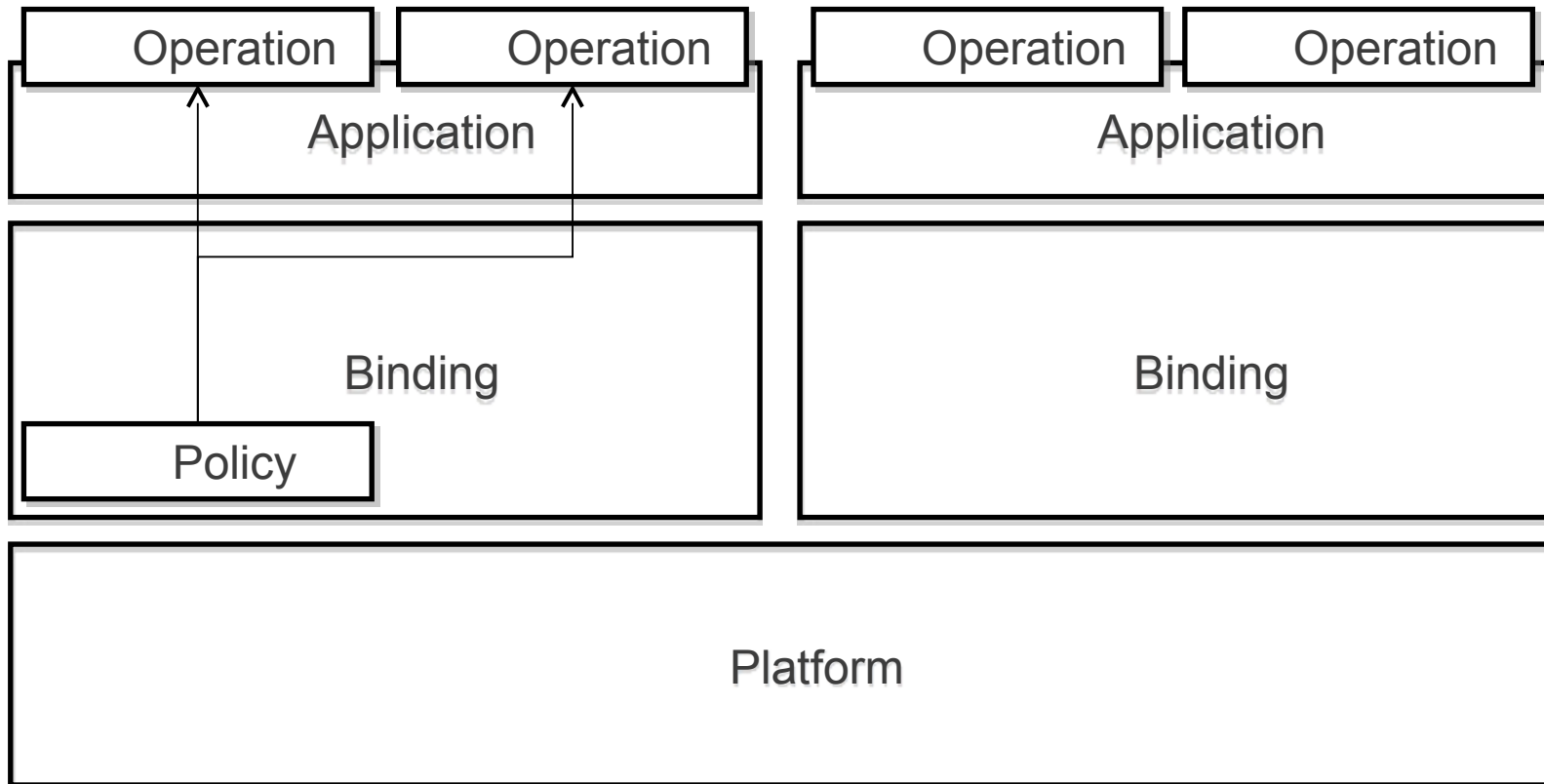
Policy Scoping: Application



Policy Scoping: Operation



Policy Scoping: Application Binding



Policy Examples

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

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

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

Determine Policy using CICS Performance Analyzer

CICS Monitoring Data now contains Application context:

Platform, Application, Version, Operation

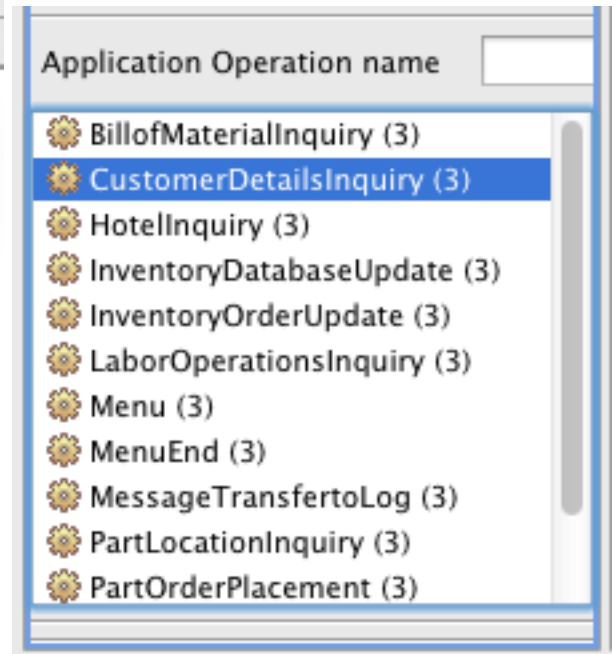
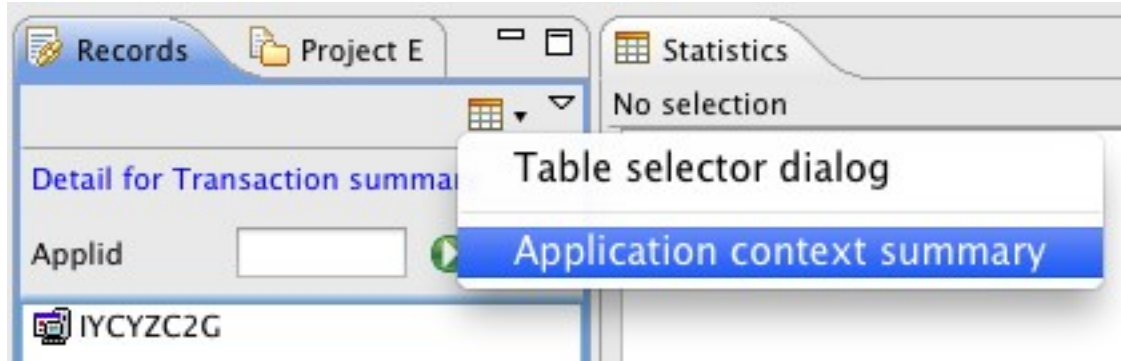
New Application-centric table in PA perspective

Integration with Cloud perspective

Detail/performance breakdown

New policy-centric reports

New Application-centric table in PA perspective



Application context summary (3/3 rows)

Application Context Platform: CToolPlatform. Application: DSWApplication. Version: 1.0.0 . Operation CustomerDetailsInquiry.

Start Date	Start time	Application Platform	Application Name	Application	Application Operation name	Response time
2012-07-30	14.35.00	CToolPlatform	DSWApplication	1.0.0	CustomerDetailsInquiry	0.029954
2012-07-30	14.40.00	CToolPlatform	DSWApplication	1.0.0	CustomerDetailsInquiry	0.030990
2012-07-30	14.45.00	CToolPlatform	DSWApplication	1.0.0	CustomerDetailsInquiry	0.030490

Summary

New Platform resource simplifies Application deployment and management

Helps maintain consistency between DEV, TEST and PROD

New Policy resource simplifies control of resource consumption

Demonstration

Check out the CICS TS V5.1 demos!

<http://www-01.ibm.com/software/http/cics/tserver/v51/library/demos.html>

Questions?



As a reminder, please fill out a session evaluation

Complete your session evaluations online at www.SHARE.org/AnaheimEval