

CICS as a Platform Service Provider

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Tuesday, February 5, 2013
12422



<http://www.linkedin.com/pub/matthew-webster/31/b09/b16>

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CIICS as a Platform Service Provider

To facilitate the deployment of a new application level resource, CIICS introduces the concept of a platform. Platforms are new CIICS resources that deliver a simple layer of abstraction to decouple applications from the underlying region topology. In addition we introduce the concept of a Policy. Policies enable the behaviour of applications and platforms to be managed by determining whether tasks running as part of a platform, as an application, or as types of operation within an application, exceed certain predefined thresholds. When a threshold is breeched, CIICS can issue a message, abend the task, or issue an event. Expanding on the concepts introduced in the earlier session (Reinventing the CIICS application lifecycle) this session shows how the combination of application, platform, and policy deliver far greater service agility.

CICS Cloud Enablement

Monday

1:30 PM *CICS TS V5.1 Technical Overview*

Tuesday

9:30 AM *CICS and the Cloud, Mobile and Big Data*

11:00 AM Reinventing the CICS Application Lifecycle

1:30 PM **CICS as a Platform Service Provider**

Wednesday

Thursday

12:15 PM CICS Explorer

4:30 PM *Modernizing CICS - Hands on Lab, Part 1 of 2*

6:00 PM *Modernizing CICS - Hands on Lab Part 2 of 2*

Friday

Once upon a time things were simple

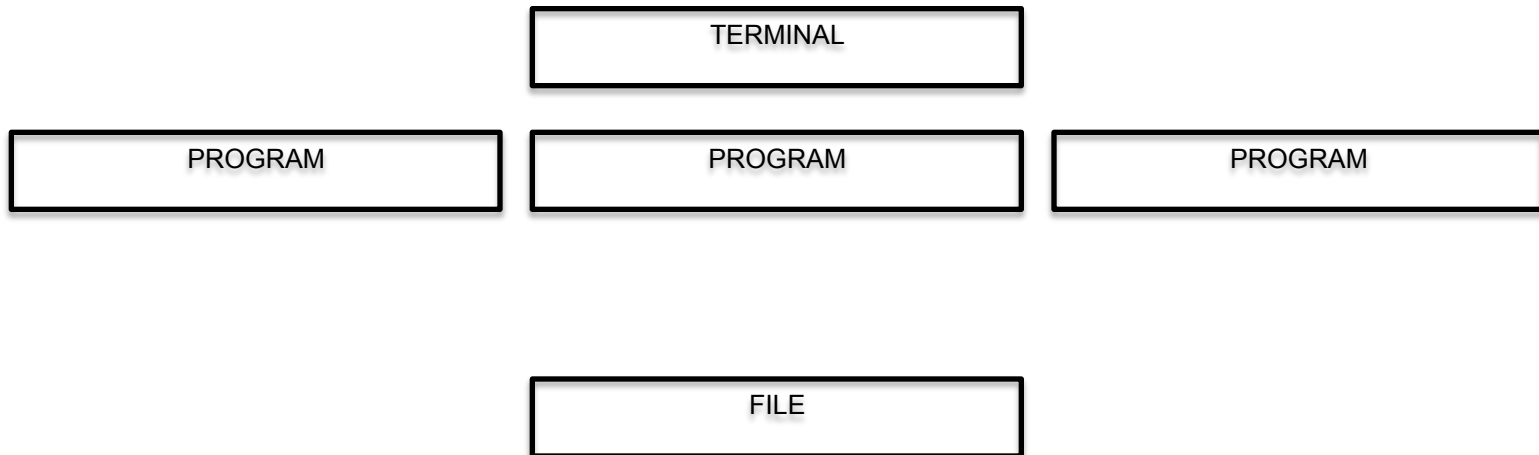
Once upon a time things were simple



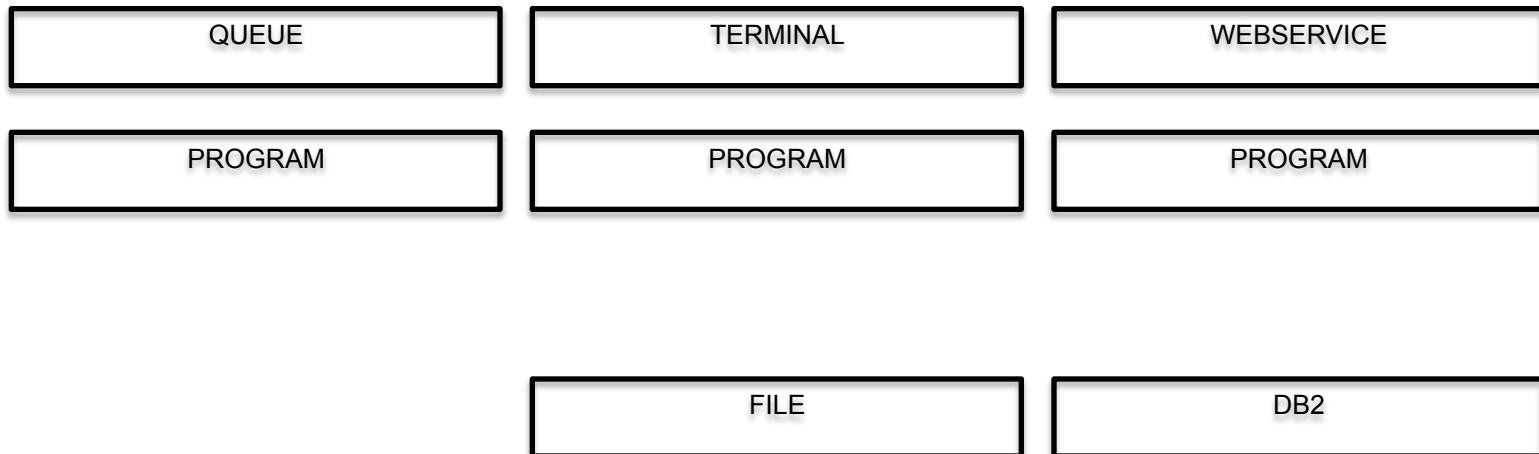
Then we had to scale



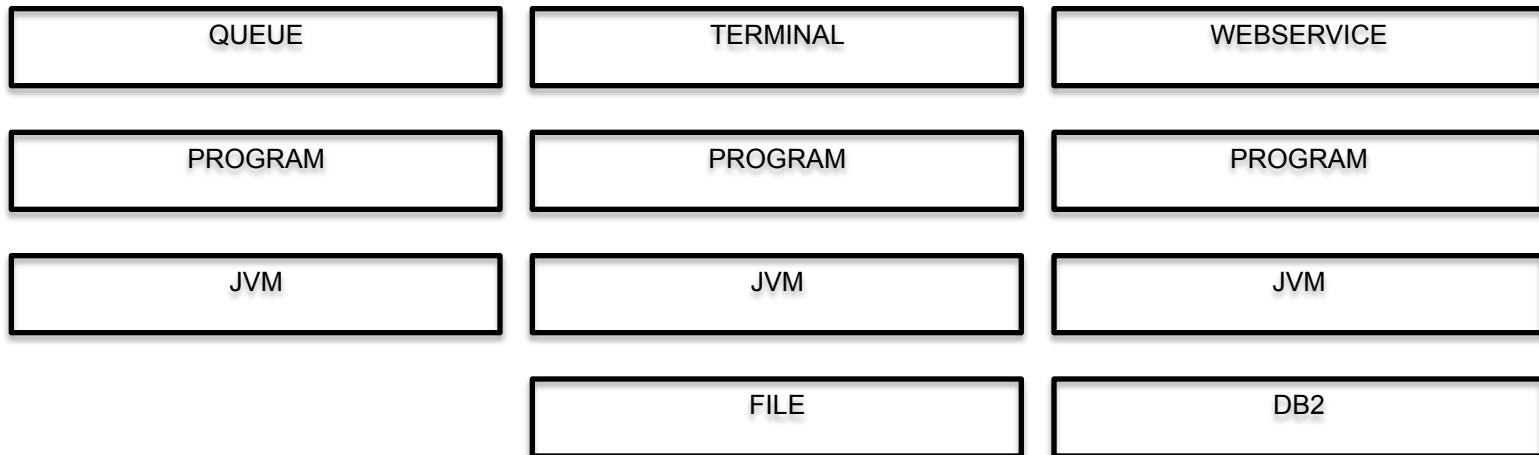
Then we needed high availability



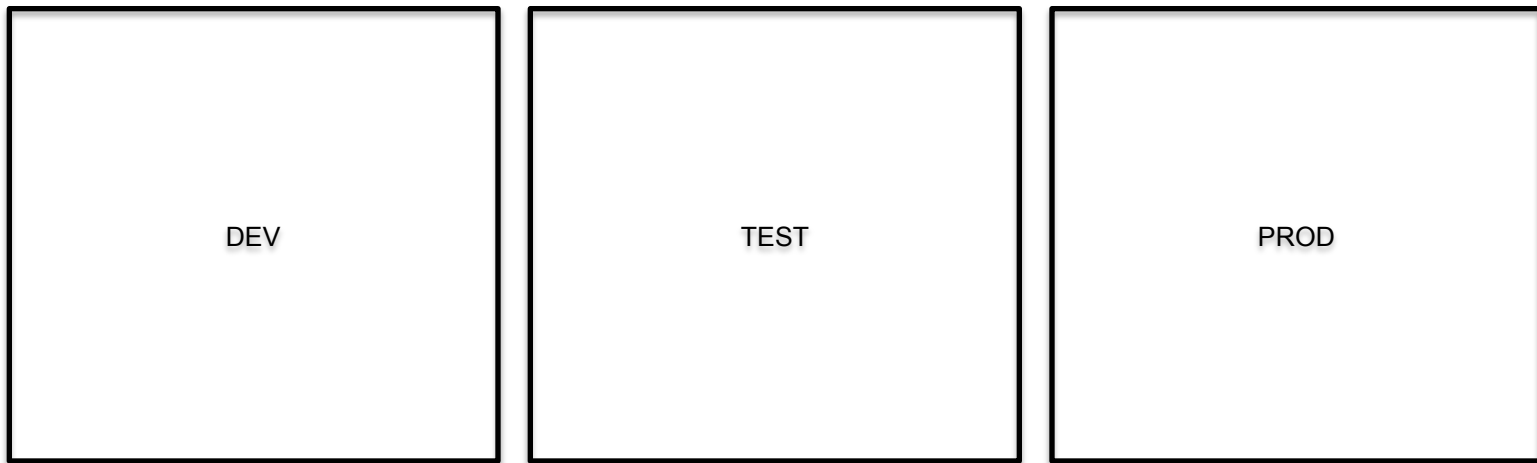
Then we started getting really clever



And then came Java



And what about those pesky* developers

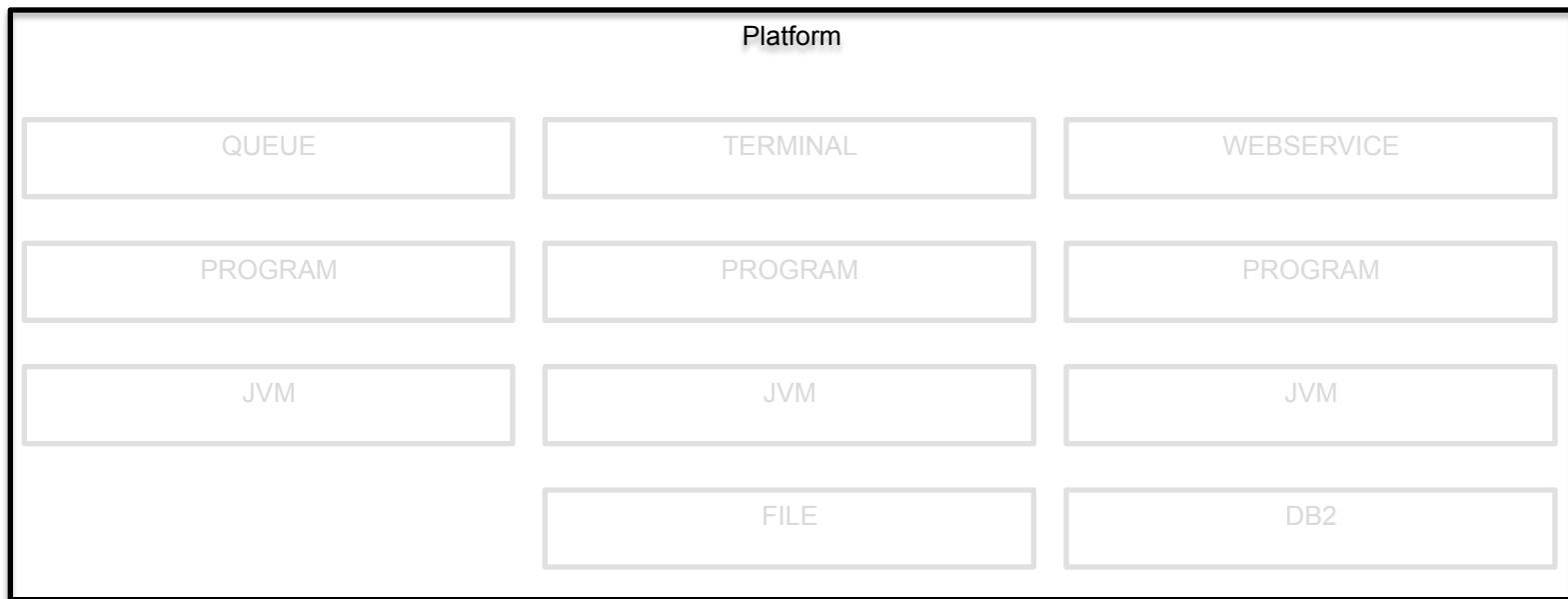


*Troublesome; annoying: a *pesky mosquito*

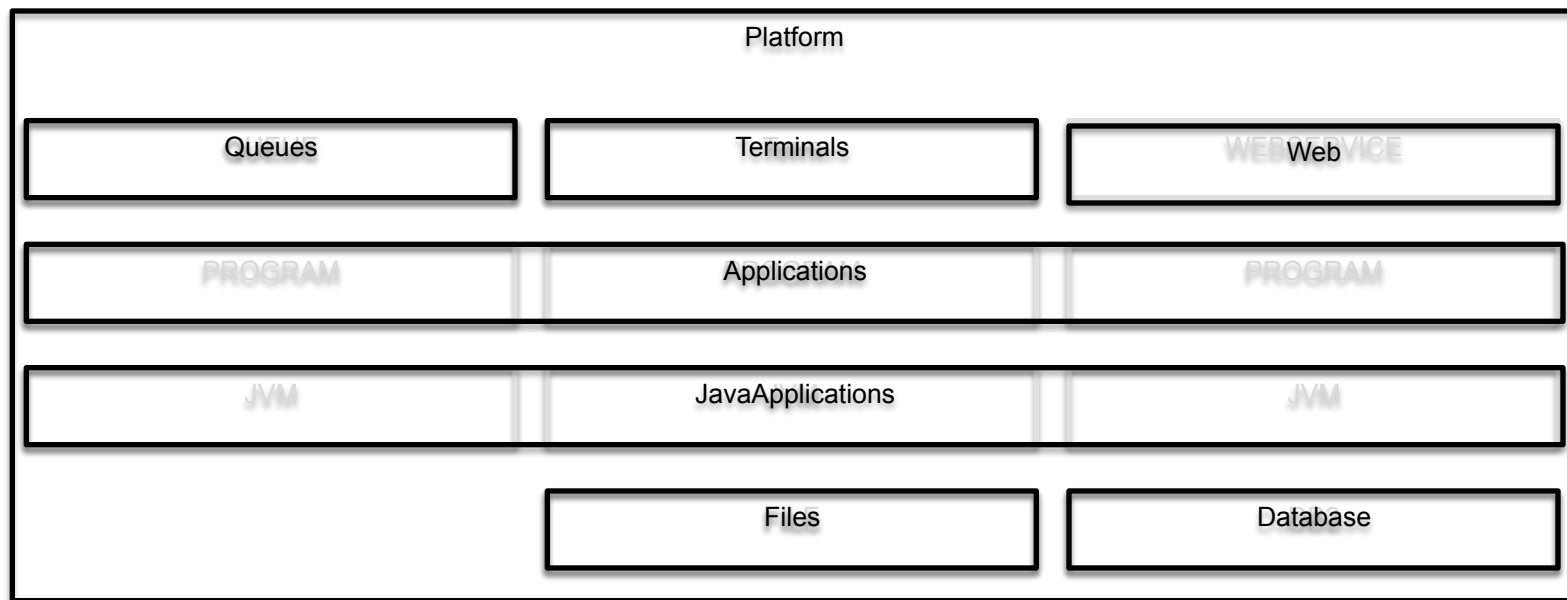
We need things to be simple again

REGION

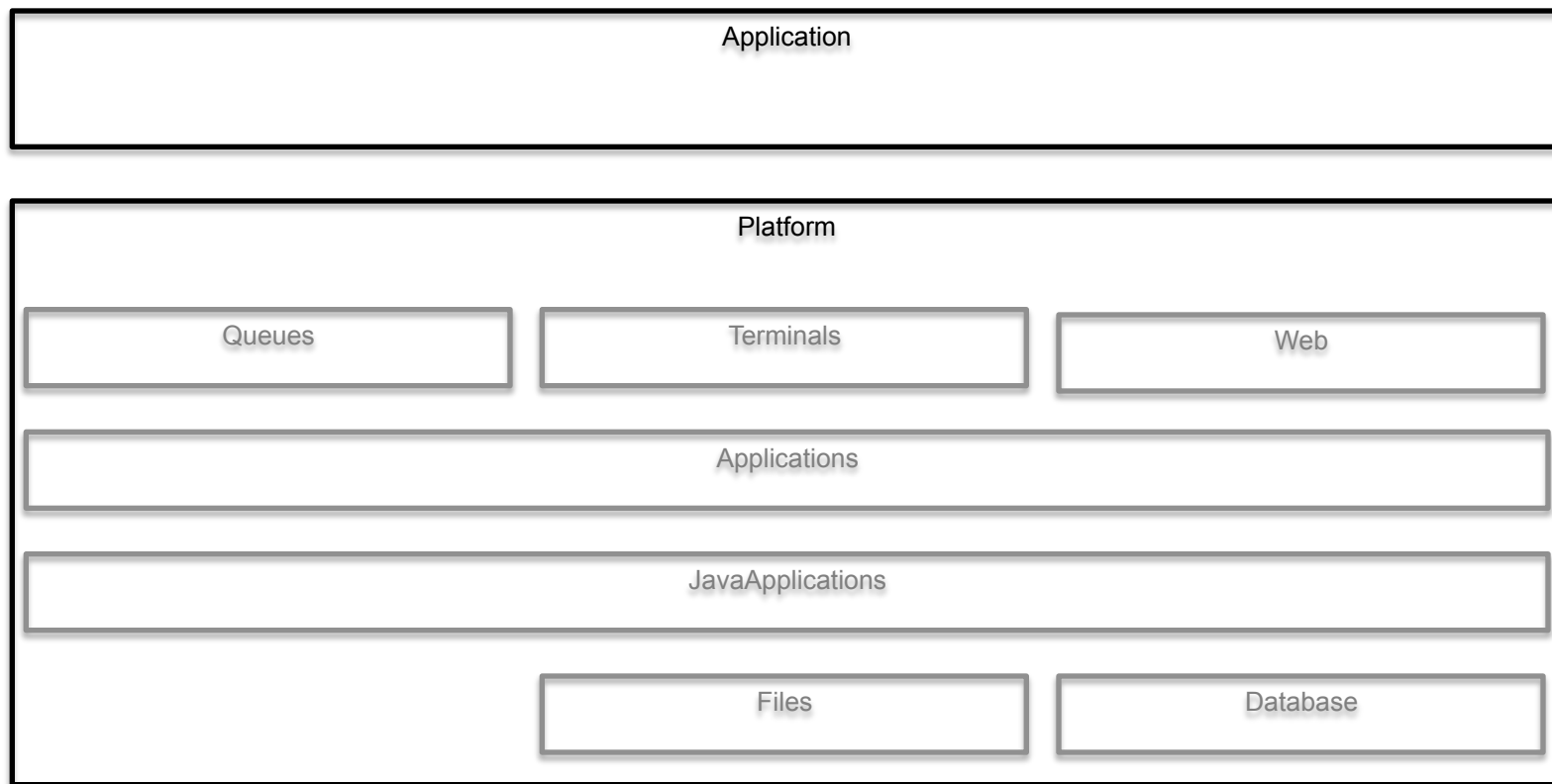
We need things to be simple again: Platform



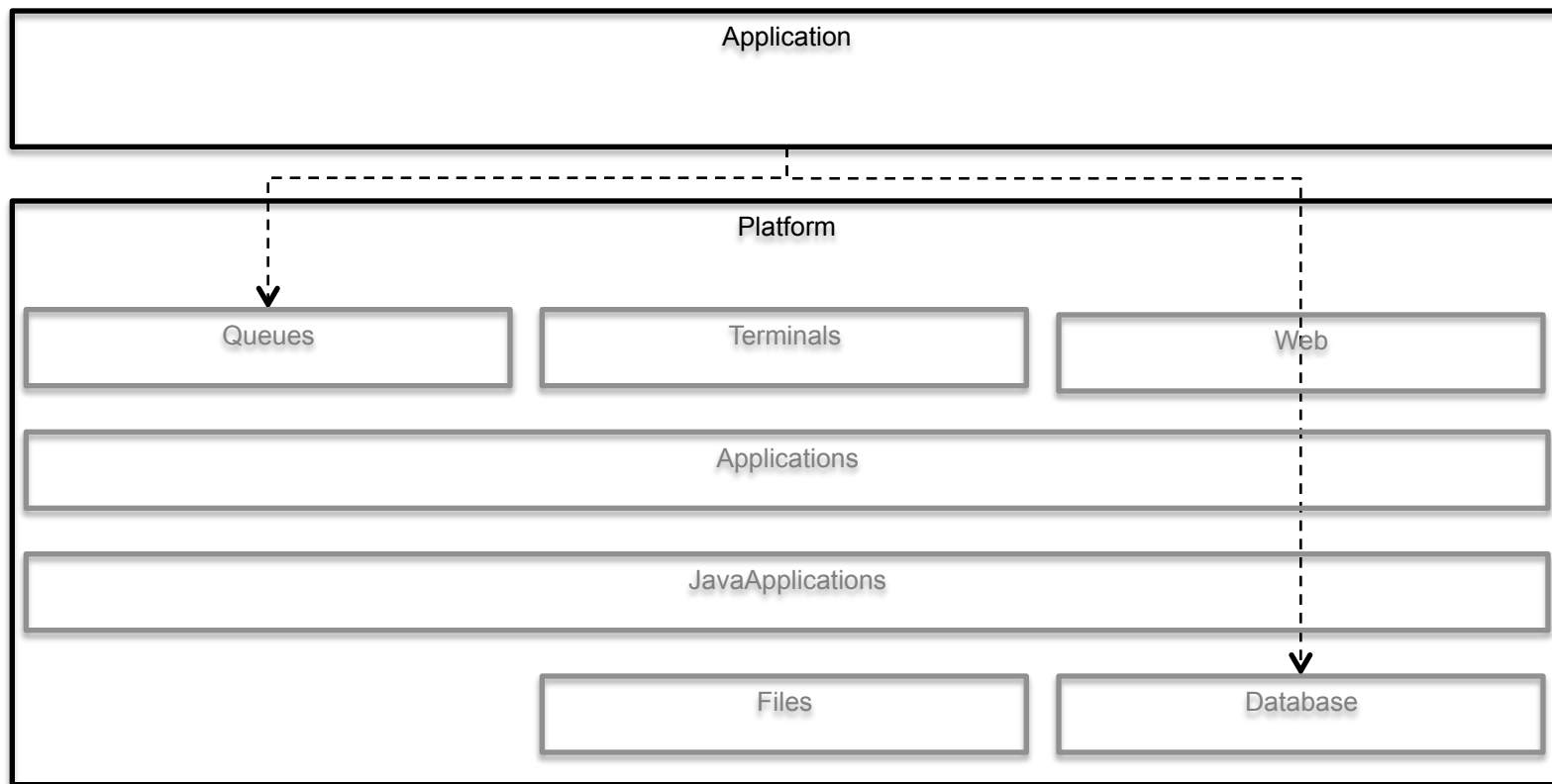
We need things to be simple again: Region Types



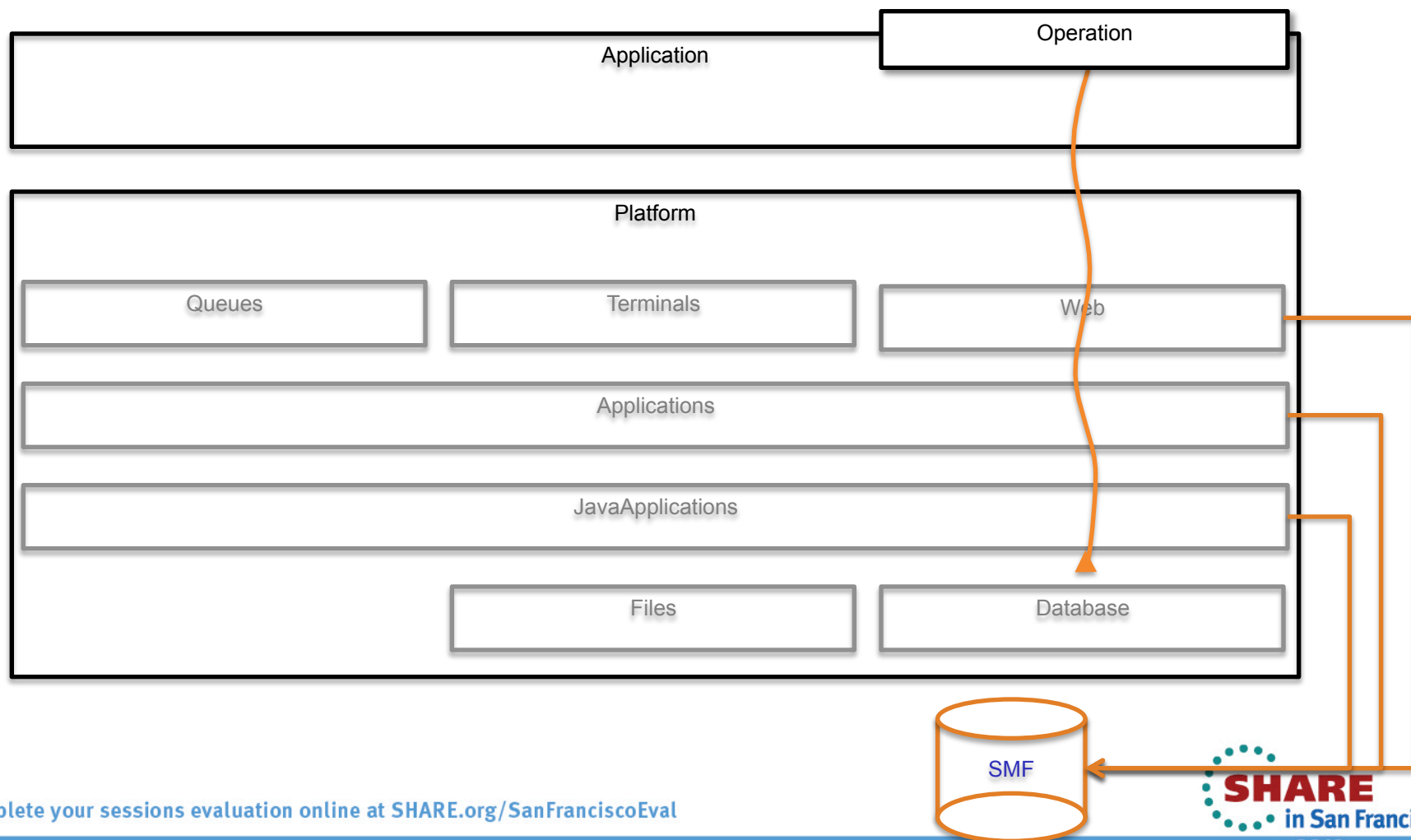
We need things to be simple again: Application



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

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

Control Applications through Policy

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

Platform Lifecycle

Create Platform bundle project

Package CICS bundle(s)

Platform Lifecycle

Create Platform bundle project

Package CICS bundle(s)

Export Platform to zFS

Platform Lifecycle

Create Platform bundle project

Package CICS bundle(s)

Export Platform to zFS

INSTALL Platform onto a CICSplex

Activate/Deactivate Platform

ENABLE/DISABLE Platform

DISCARD Platform

Platform Lifecycle

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DISCARD Platform

Platform status (ACTIVE | INACTIVE | ..., ENABLED | DISABLED | ...)

Platform vs. CICSplex

Simplified abstraction

Offline representation

Separation of DevOps* roles

Complete lifecycle

Controlled evolution

Security

Management, measurement and control

* "... communication, collaboration and integration between software developers and information technology(IT) professionals ..."

<http://en.wikipedia.org/wiki/DevOps>

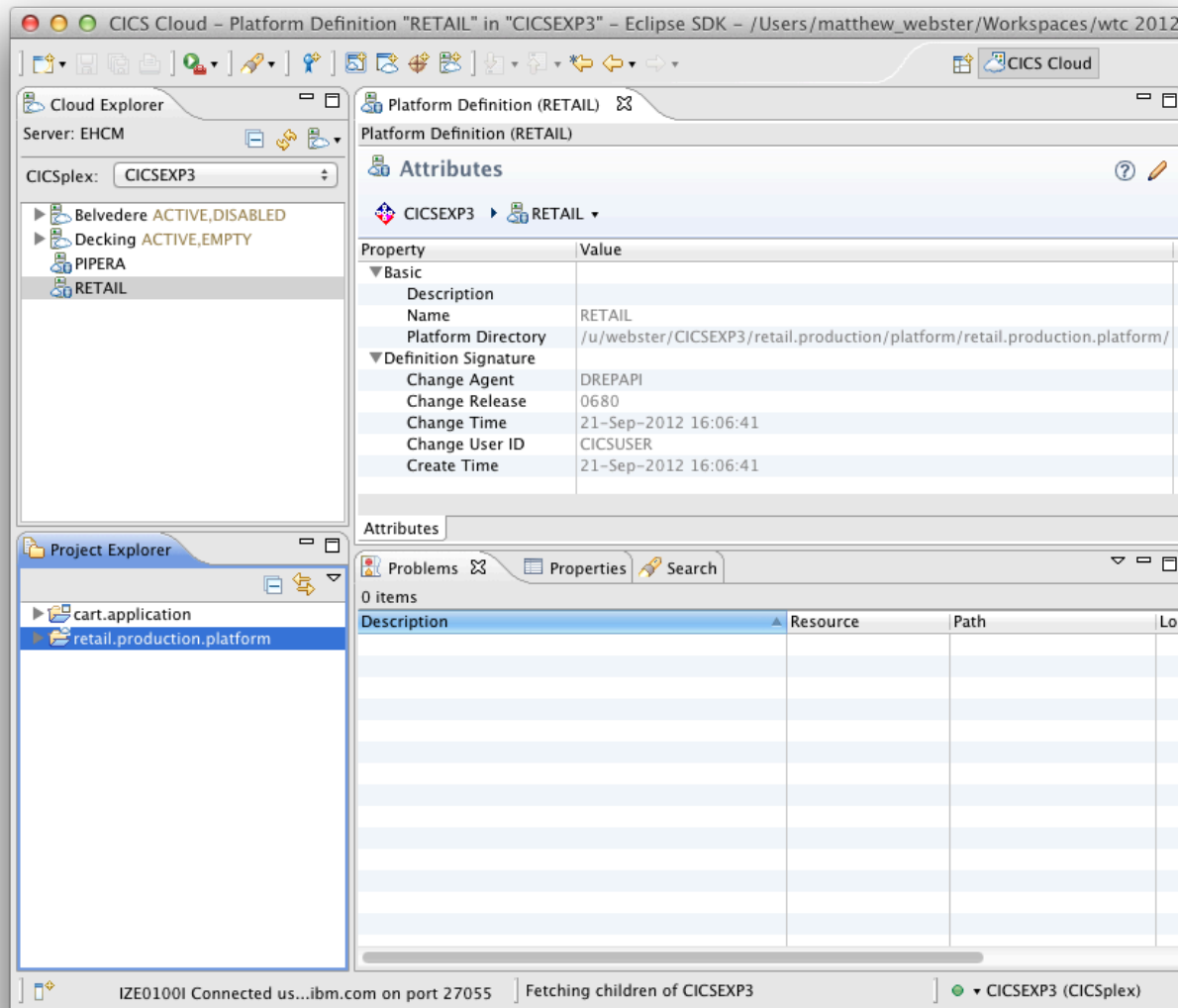
DevOps Roles

- Application Developer
- **System Programmer**
- *Application Deployer*

DevOps Roles

- Application Developer
 - Resources
 - Dependencies
 - Entry points
 - Policy
- **System Programmer**
 - **Topology**
 - **Services**
 - **Policy**
- *Application Deployer*
 - *Deployment*
 - *Resources*
 - *Policy*

Demonstration

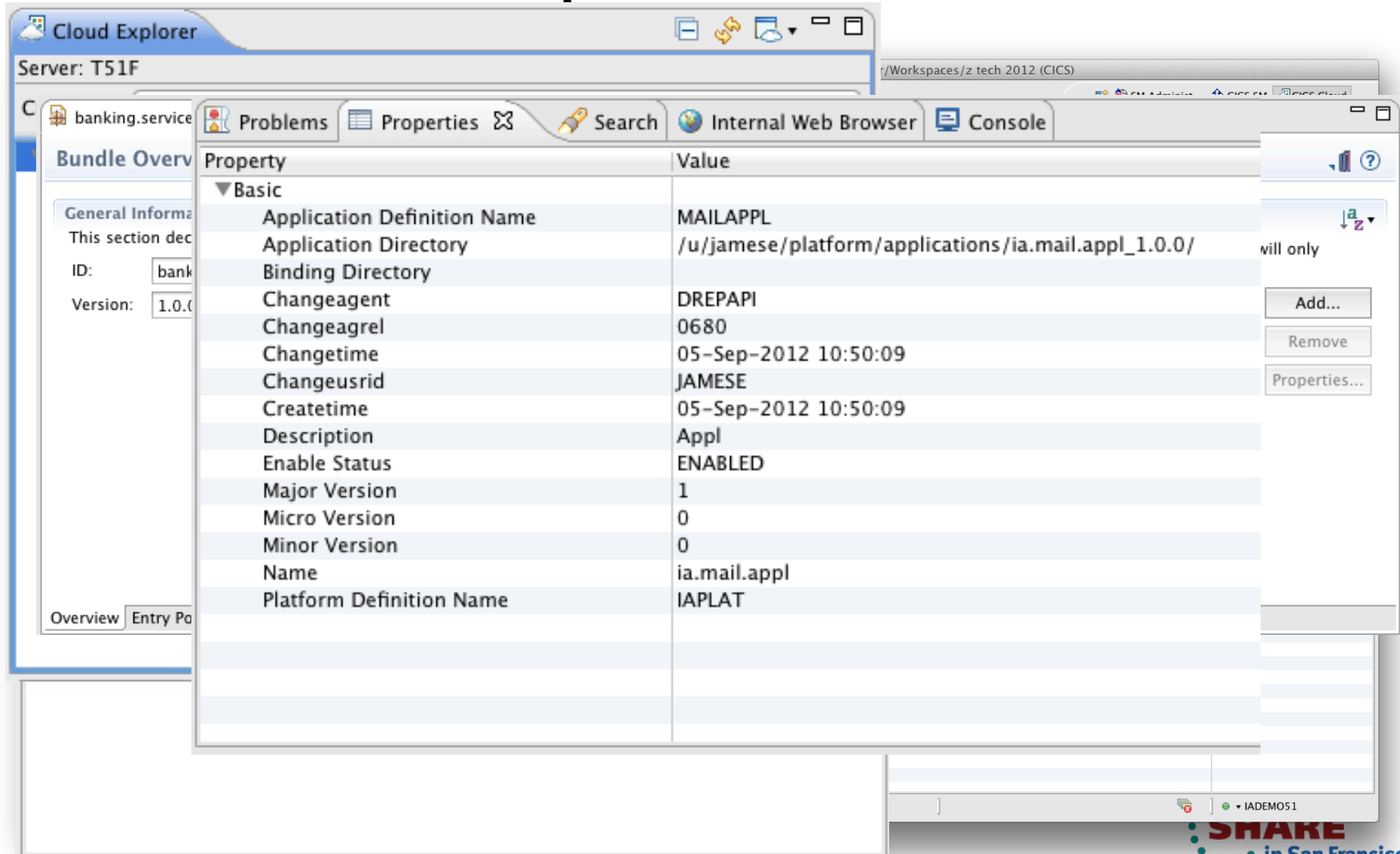


The screenshot shows the Eclipse IDE interface with the following components:

- Cloud Explorer:** Displays the CICSplex structure. The selected CICSplex is **CICSEXP3**. Under it, the **RETAIL** platform is selected. Other visible platforms include **Belvedere ACTIVE,DISABLED** and **Decking ACTIVE,EMPTY**.
- Platform Definition (RETAIL):** Shows the attributes of the selected platform.

Property	Value
Basic	
Description	
Name	RETAIL
Platform Directory	/u/webster/CICSEXP3/retail.production/platform/retail.production.platform/
Definition Signature	
Change Agent	DREPAPI
Change Release	0680
Change Time	21-Sep-2012 16:06:41
Change User ID	CICSUSER
Create Time	21-Sep-2012 16:06:41
- Project Explorer:** Shows the project structure. The selected project is **retail.production.platform**. Other visible projects include **cart.application**.
- Problems View:** Shows 0 items.
- Properties View:** Shows a table with columns: Description, Resource, Path, and Location. The table is currently empty.
- Status Bar:** Displays the connection status: **IZE0100I Connected us...ibm.com on port 27055**. It also shows the action **Fetching children of CICSEXP3** and the selected CICSplex **CICSEXP3 (CICSplex)**.

“CICS Cloud” Perspective

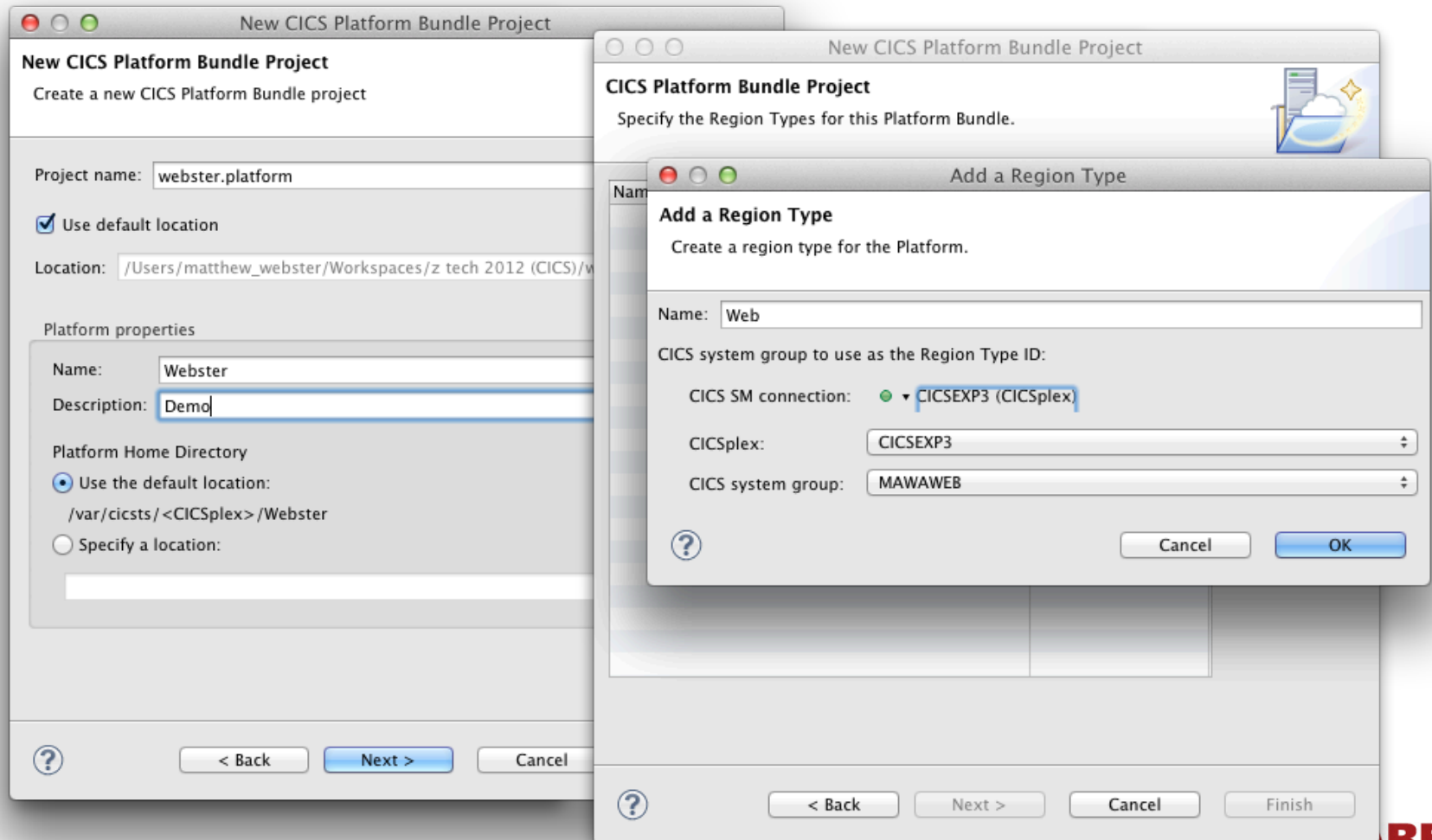


The screenshot shows the 'Cloud Explorer' window with the 'Server: T51F' selected. The 'Bundle Overview' tab is active, displaying the 'General Information' for the 'banking.service' bundle. The 'Property' table lists various attributes of the application definition.

Property	Value
▼ Basic	
Application Definition Name	MAILAPPL
Application Directory	/u/jamese/platform/applications/ia.mail.appl_1.0.0/
Binding Directory	
Changeagent	DREPAPI
Changeagrel	0680
Changetime	05-Sep-2012 10:50:09
Changeusrid	JAMESE
Createtime	05-Sep-2012 10:50:09
Description	Appl
Enable Status	ENABLED
Major Version	1
Micro Version	0
Minor Version	0
Name	ia.mail.appl
Platform Definition Name	IAPLAT

On the left, the 'General Information' section shows the bundle ID as 'bank' and the version as '1.0.0'. On the right, there are buttons for 'Add...', 'Remove', and 'Properties...'. The bottom status bar indicates the user is 'IADEMO51'.

Create CICS Platform Project



New CICS Platform Bundle Project
Create a new CICS Platform Bundle project

Project name: webster.platform

☒ Use default location

Location: /Users/matthew_webster/Workspaces/z tech 2012 (CICS)/w

Platform properties

Name: Webster

Description: Demo

Platform Home Directory

☒ Use the default location:
/var/cicsts/ <CICSplex> /Webster

☐ Specify a location:

CICS Platform Bundle Project
Specify the Region Types for this Platform Bundle.

Add a Region Type
Create a region type for the Platform.

Name: Web

CICS system group to use as the Region Type ID:

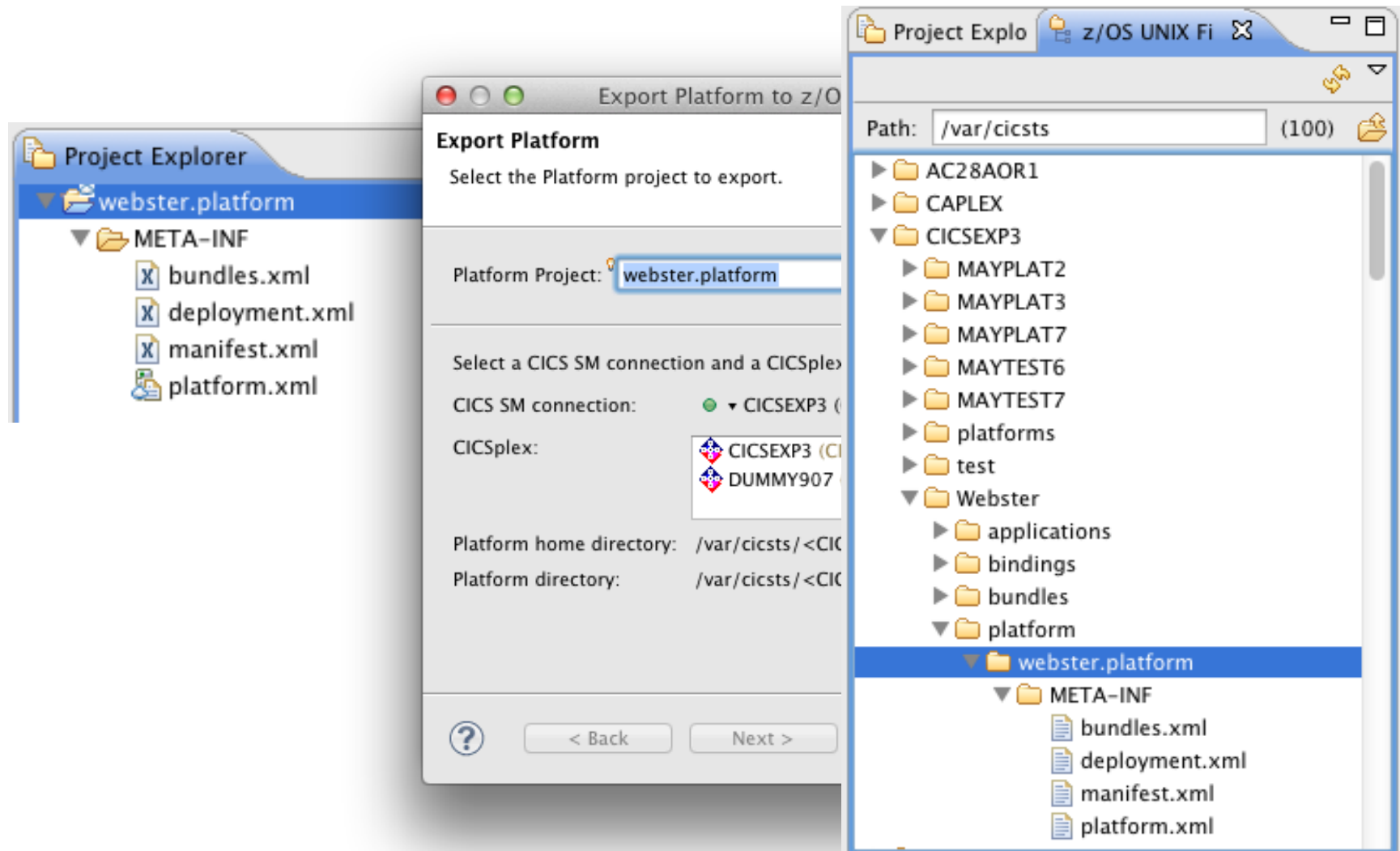
CICS SM connection: ☒ CICSEXP3 (CICSplex)

CICSplex: CICSEXP3

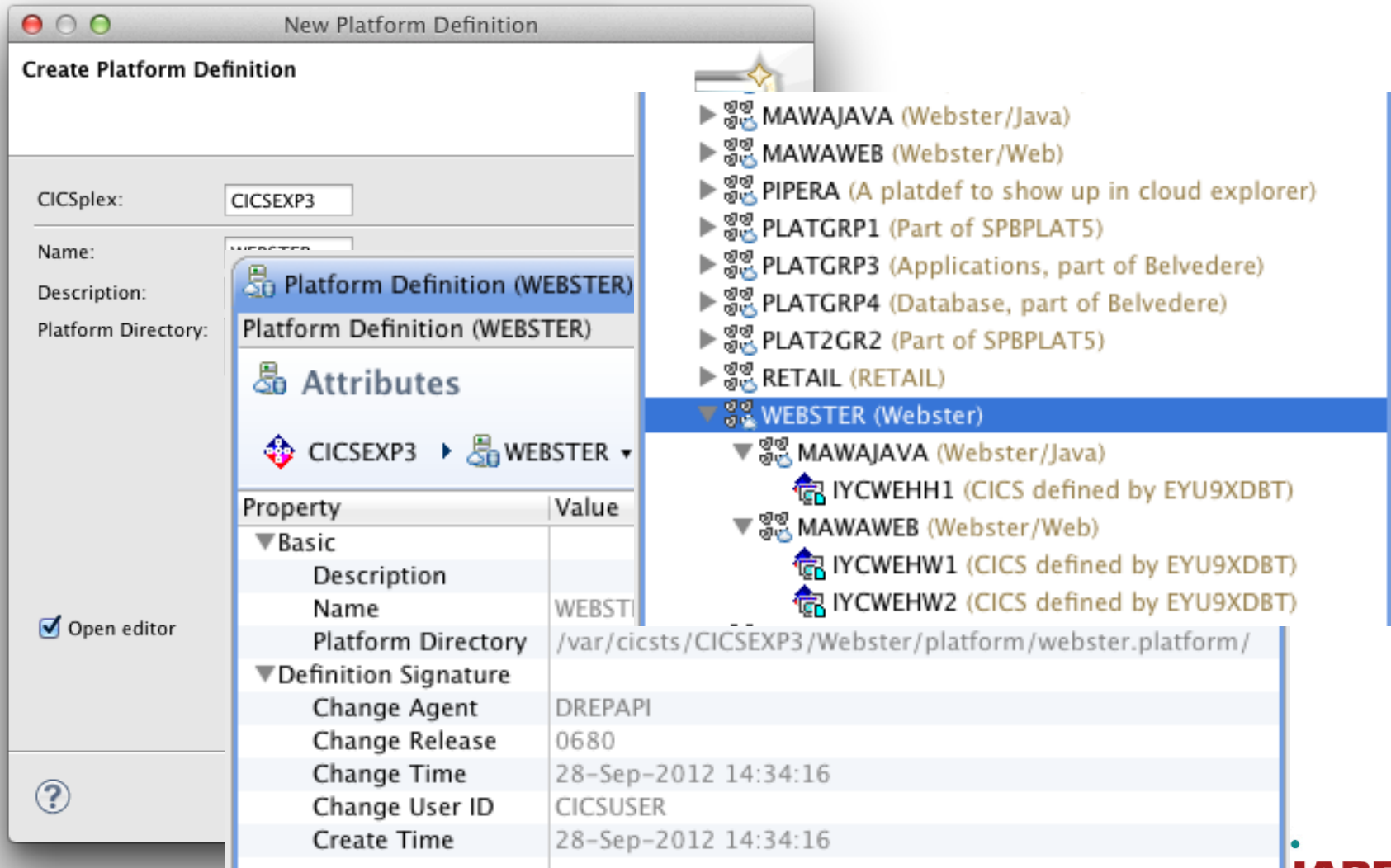
CICS system group: MAWAWEB

30 Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Export Platform Bundle



Create Platform Definition



Create Platform Definition

CICSplex:

Name:

Description:

Platform Directory:

☒ Open editor

Attributes

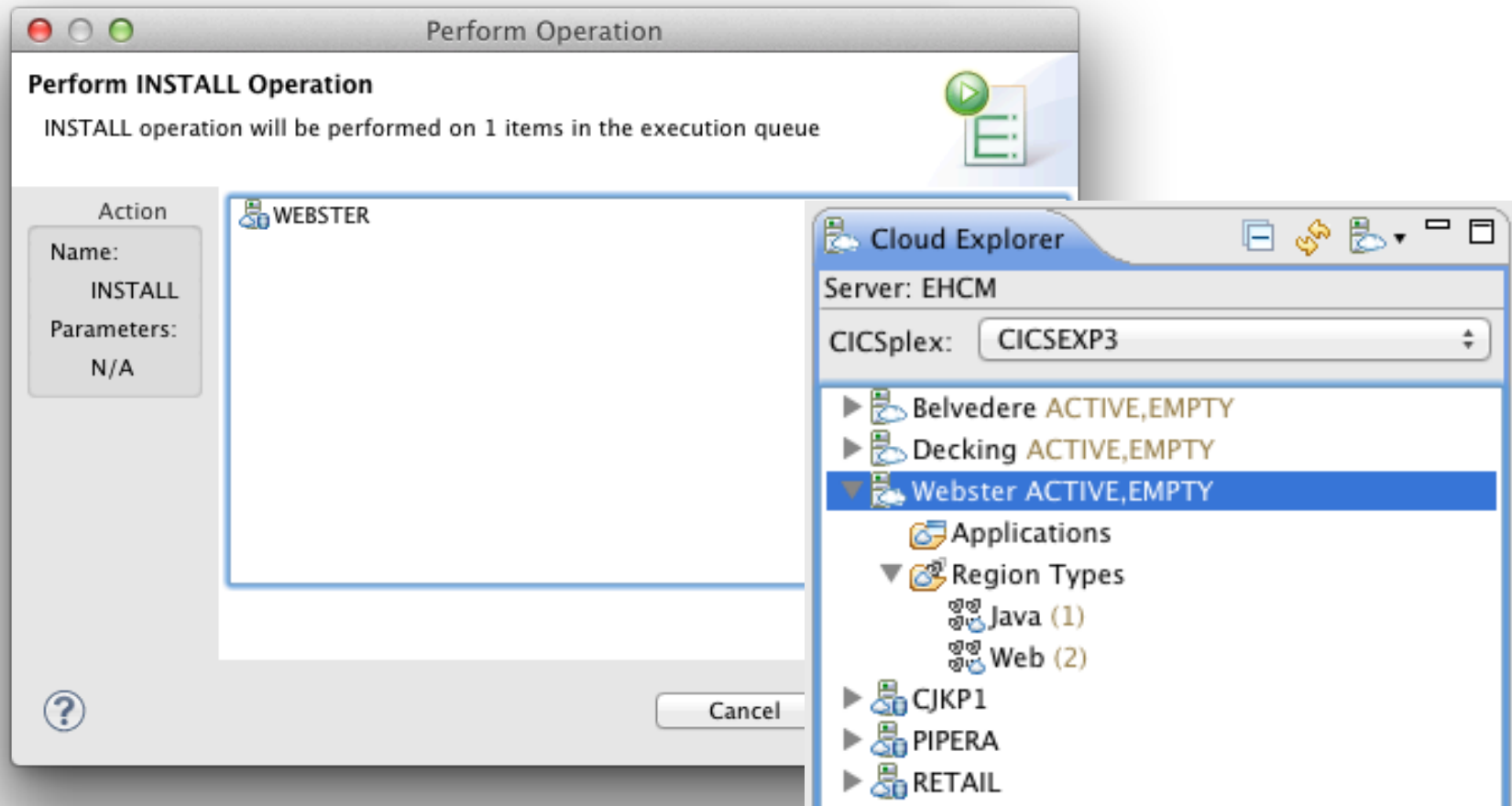
CICSEXP3 ▸ WEBSTER ▾

Property	Value
Basic	
Description	
Name	WEBSTER
Platform Directory	/var/cicsts/CICSEXP3/Webster/platform/webster.platform/
Definition Signature	
Change Agent	DREPAPI
Change Release	0680
Change Time	28-Sep-2012 14:34:16
Change User ID	CICSUSER
Create Time	28-Sep-2012 14:34:16

Platform Definition (WEBSTER)

- MAWAJAVA (Webster/Java)
- MAWAWEB (Webster/Web)
- PIPERA (A platdef to show up in cloud explorer)
- PLATGRP1 (Part of SPBPLAT5)
- PLATGRP3 (Applications, part of Belvedere)
- PLATGRP4 (Database, part of Belvedere)
- PLAT2GR2 (Part of SPBPLAT5)
- RETAIL (RETAIL)
- WEBSTER (Webster)**
 - MAWAJAVA (Webster/Java)
 - MAWAWEB (Webster/Web)
 - ICYWEHH1 (CICS defined by EYU9XDBT)
 - ICYWEHW1 (CICS defined by EYU9XDBT)
 - ICYWEHW2 (CICS defined by EYU9XDBT)

Install Platform Definition



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

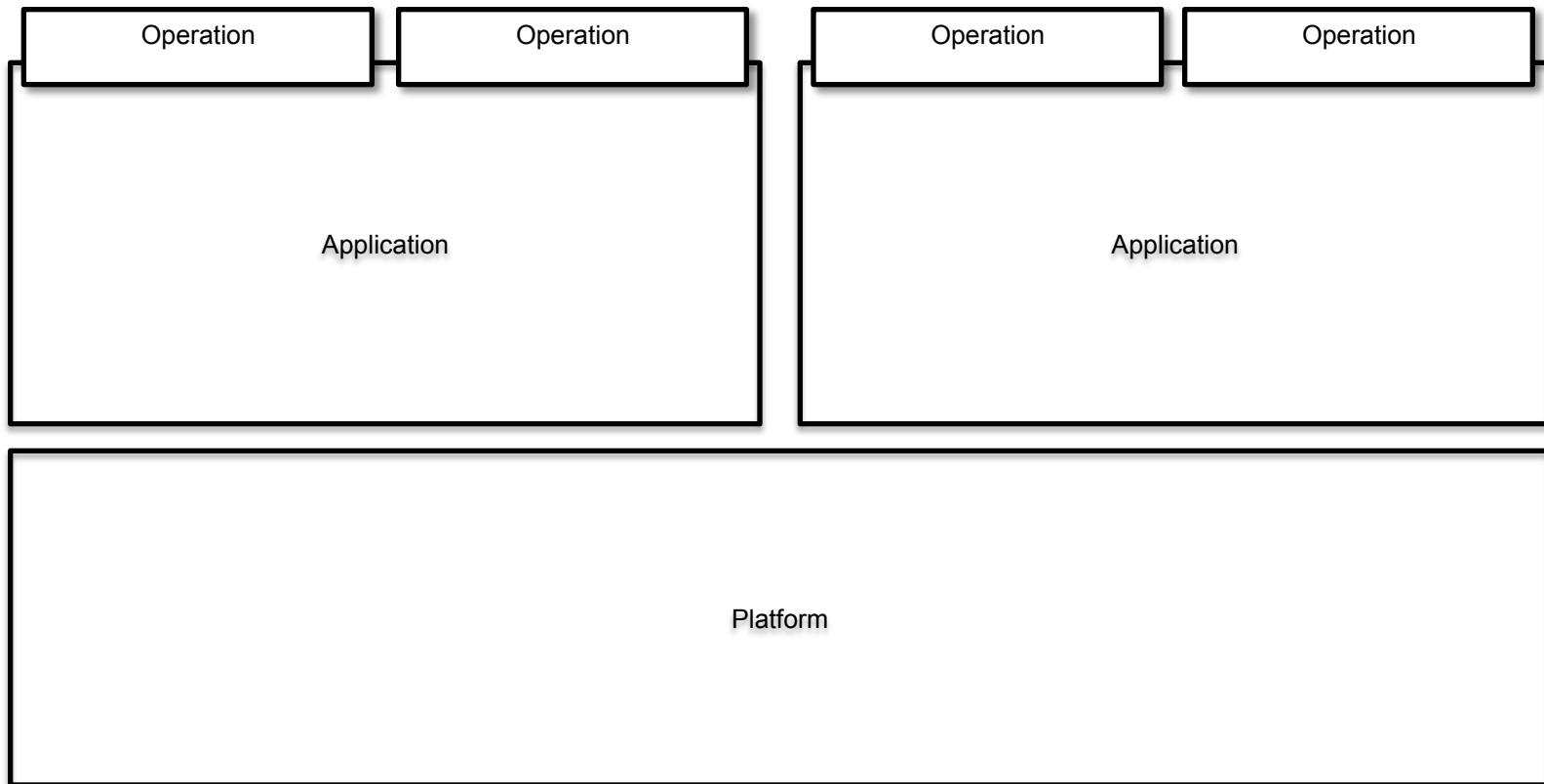
Scoped

Single Application operation

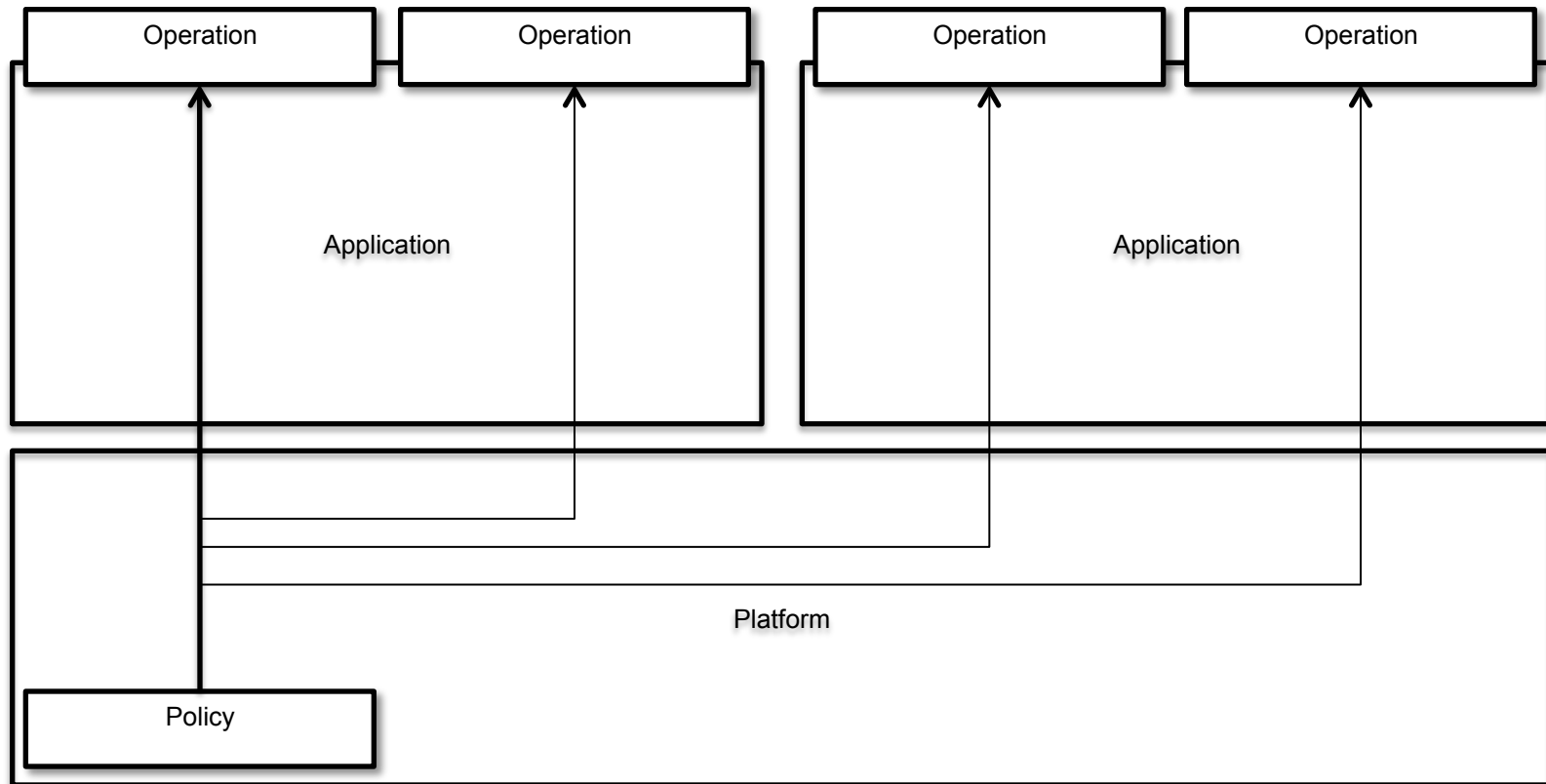
Single Application

All Applications on a Platform

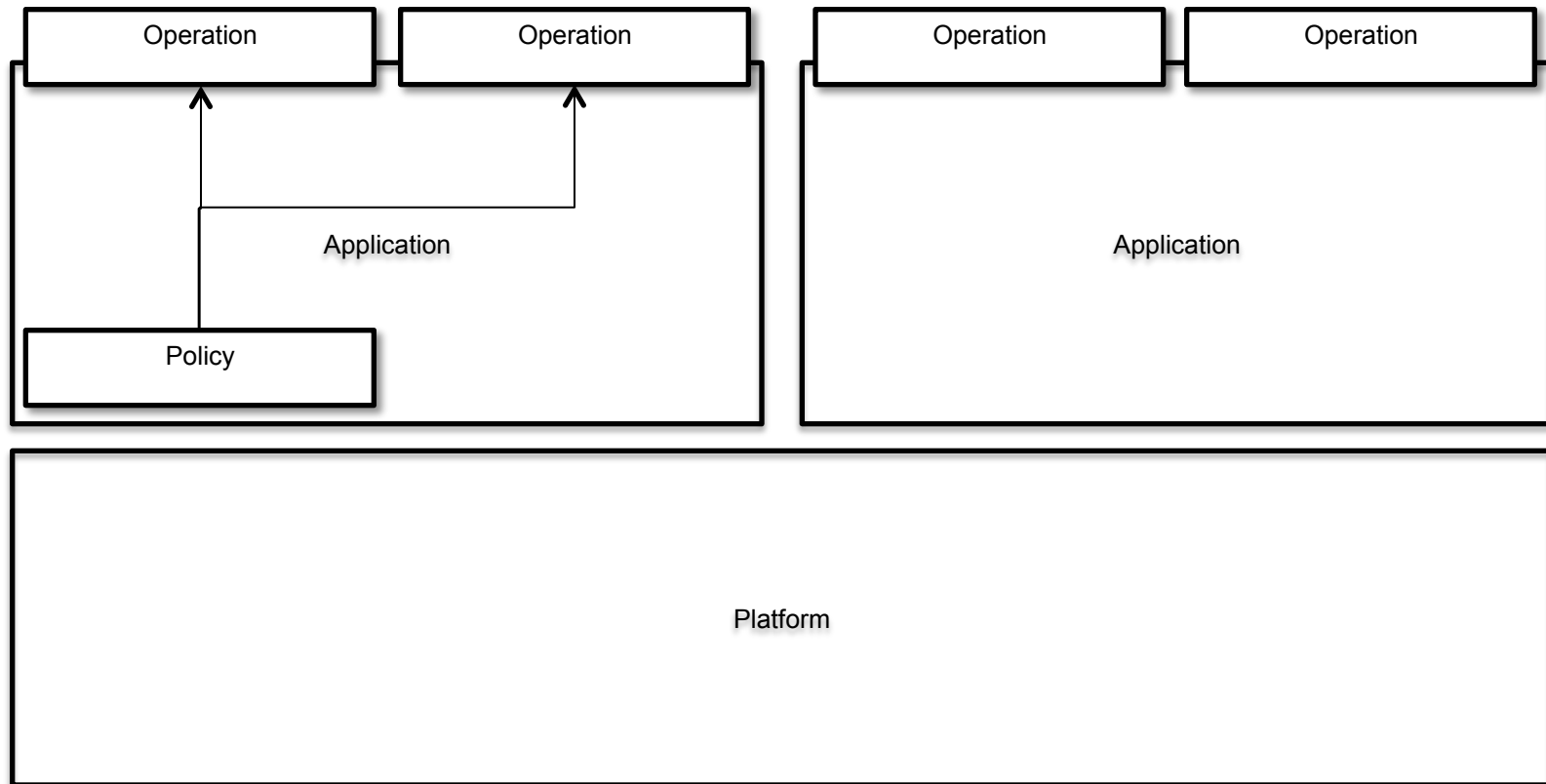
Policy Scoping



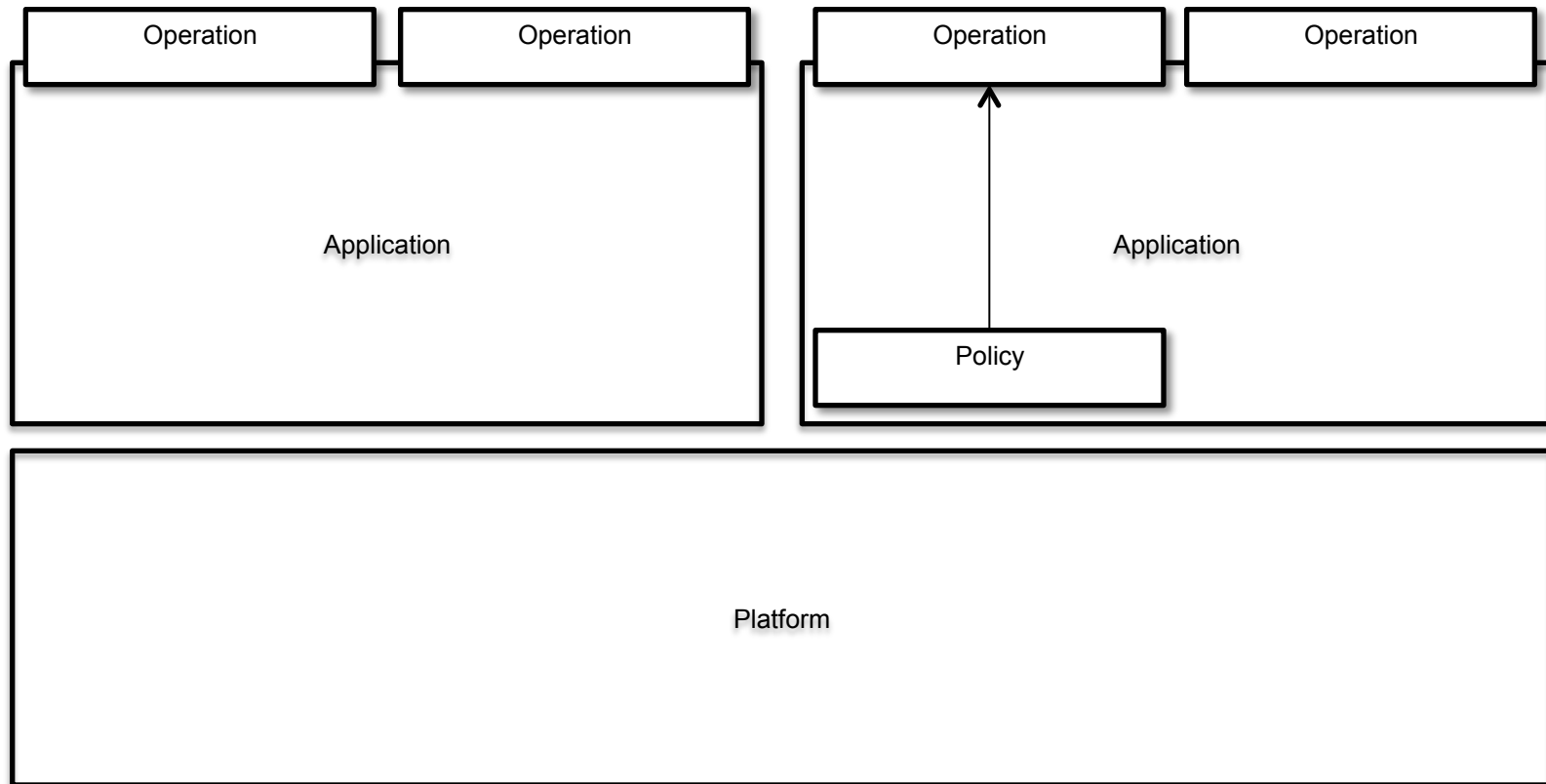
Policy Scoping: Platform



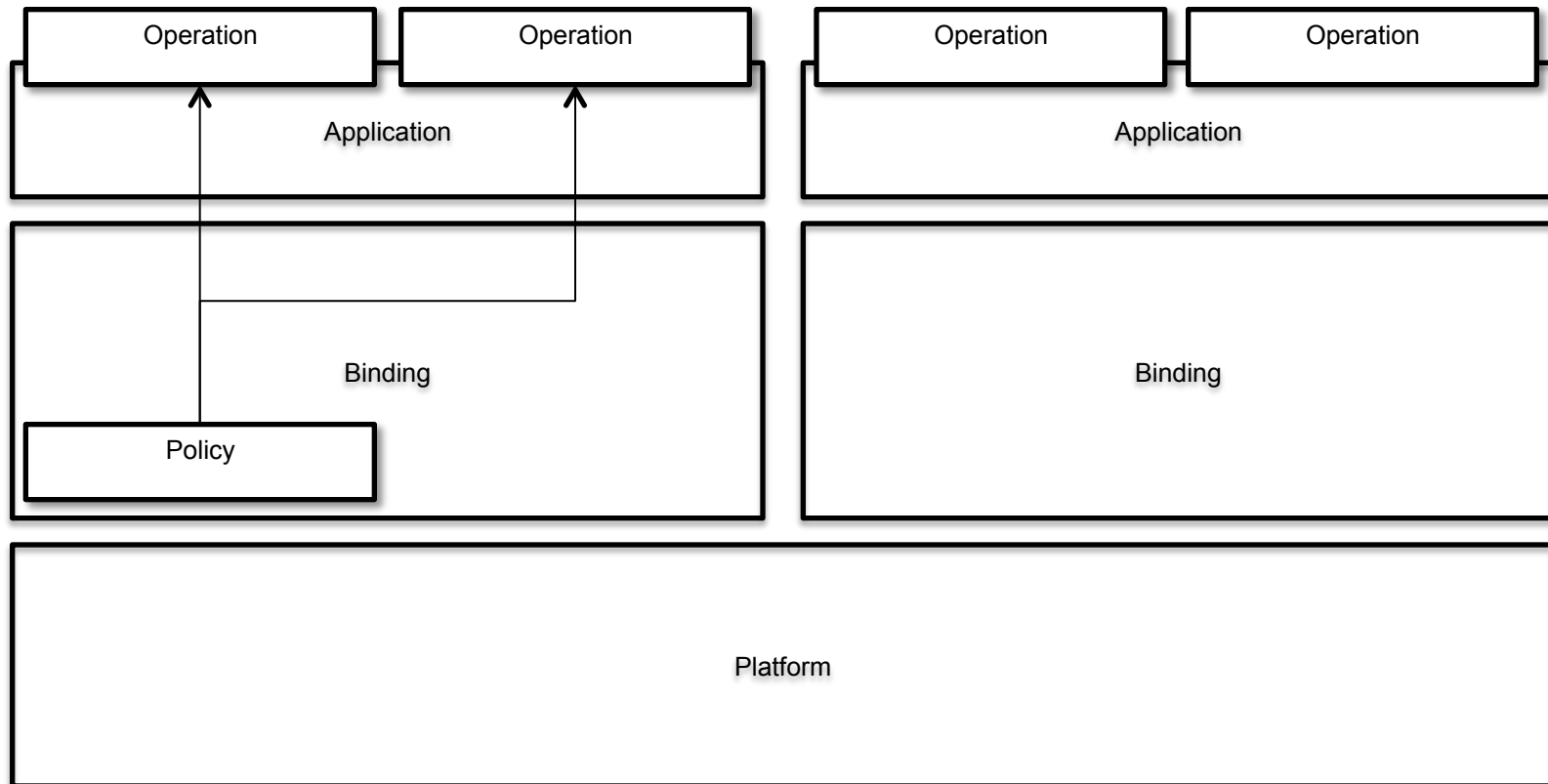
Policy Scoping: Application



Policy Scoping: Operation



Policy Scoping: Application Binding



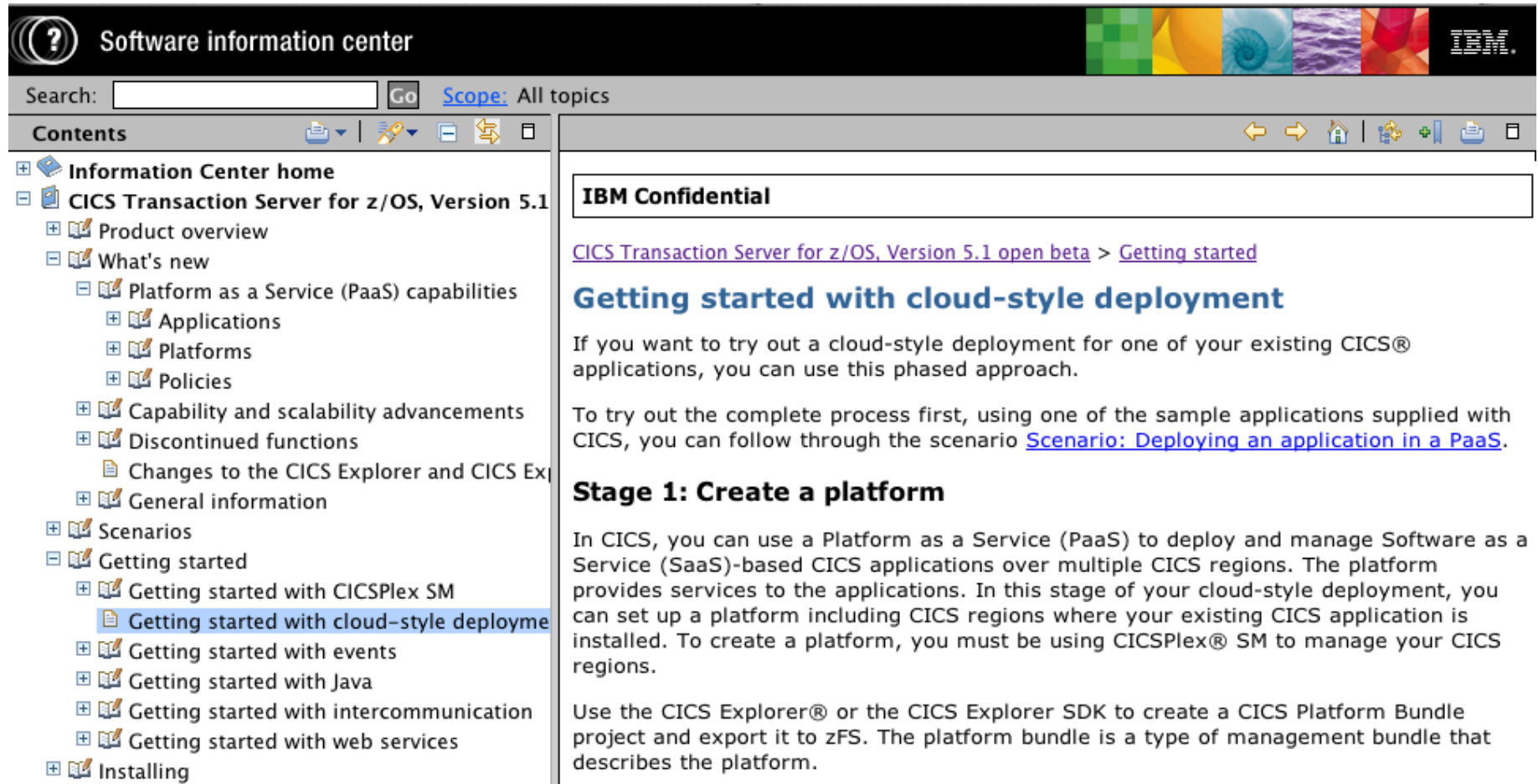
Policy Examples

“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”

Information Center



The screenshot shows the IBM Software Information Center interface. The top navigation bar includes a search box, a 'Go' button, and a 'Scope: All topics' dropdown. Below the navigation bar is a 'Contents' sidebar on the left and a main content area on the right. The sidebar lists various topics, with 'Getting started with cloud-style deployment' highlighted. The main content area displays the title 'IBM Confidential' and the article 'Getting started with cloud-style deployment'.

Software information center

Search: Go Scope: All topics

Contents

- Information Center home
- CICS Transaction Server for z/OS, Version 5.1
 - Product overview
 - What's new
 - Platform as a Service (PaaS) capabilities
 - Applications
 - Platforms
 - Policies
 - Capability and scalability advancements
 - Discontinued functions
 - Changes to the CICS Explorer and CICS Explorer
 - General information
 - Scenarios
 - Getting started
 - Getting started with CICSplex SM
 - Getting started with cloud-style deployment**
 - Getting started with events
 - Getting started with Java
 - Getting started with intercommunication
 - Getting started with web services
 - Installing

IBM Confidential

[CICS Transaction Server for z/OS, Version 5.1 open beta](#) > [Getting started](#)

Getting started with cloud-style deployment

If you want to try out a cloud-style deployment for one of your existing CICS® applications, you can use this phased approach.

To try out the complete process first, using one of the sample applications supplied with CICS, you can follow through the scenario [Scenario: Deploying an application in a PaaS](#).

Stage 1: Create a platform

In CICS, you can use a Platform as a Service (PaaS) to deploy and manage Software as a Service (SaaS)-based CICS applications over multiple CICS regions. The platform provides services to the applications. In this stage of your cloud-style deployment, you can set up a platform including CICS regions where your existing CICS application is installed. To create a platform, you must be using CICSplex® SM to manage your CICS regions.

Use the CICS Explorer® or the CICS Explorer SDK to create a CICS Platform Bundle project and export it to zFS. The platform bundle is a type of management bundle that describes the platform.

Determine Policy using CICS Performance Analyzer



CICS Monitoring Data now contains Application context:
Platform, Application, Version, Operation

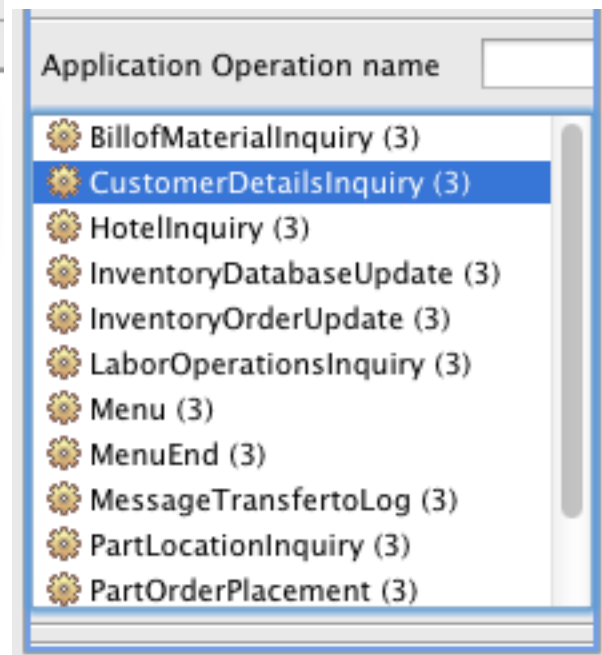
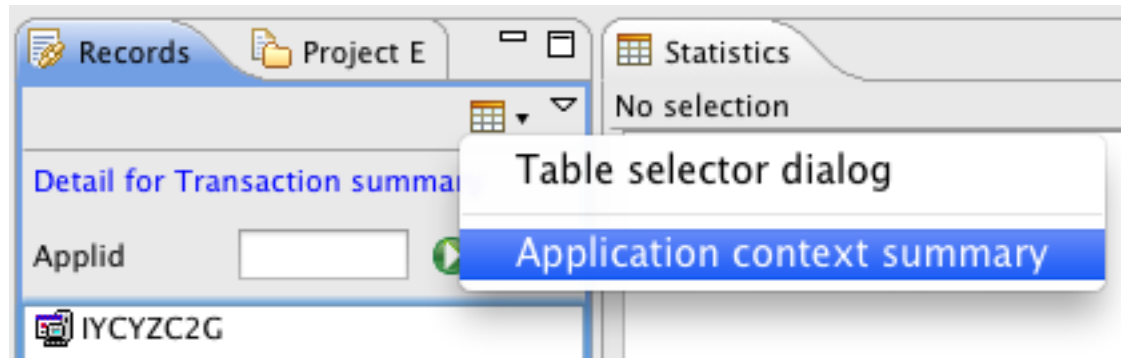
New Application-centric table in PA perspective

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

Questions?



As a reminder, please fill out a session evaluation

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

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