

2012

IBM System z Technical University

Enabling the infrastructure for smarter computing

CICS TS : Application Management Update

zAI11

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CICS meets the cloud

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CICS Cloud Enablement

Monday

0830 *General Session*

Tuesday

1030 CICS TS : Introduction to Applications as first class entities

1300 CICS TS: Introduction to Platforms as deployment targets

Wednesday

0900 **CICS TS: Application Management Update**

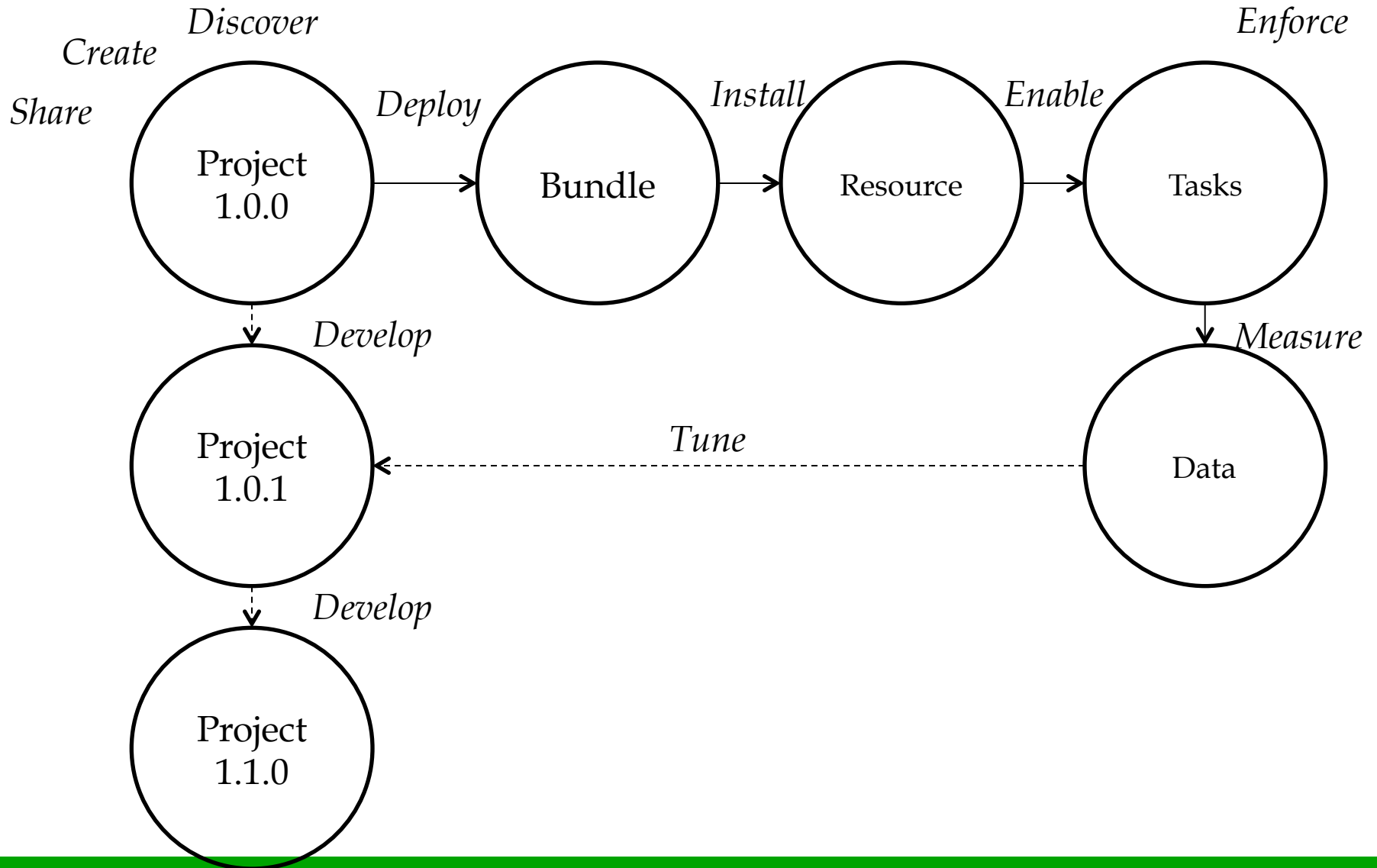
1030 CICS TS: Platform Management Update

1300 *CICS in the Cloud: Hands-On Lab*

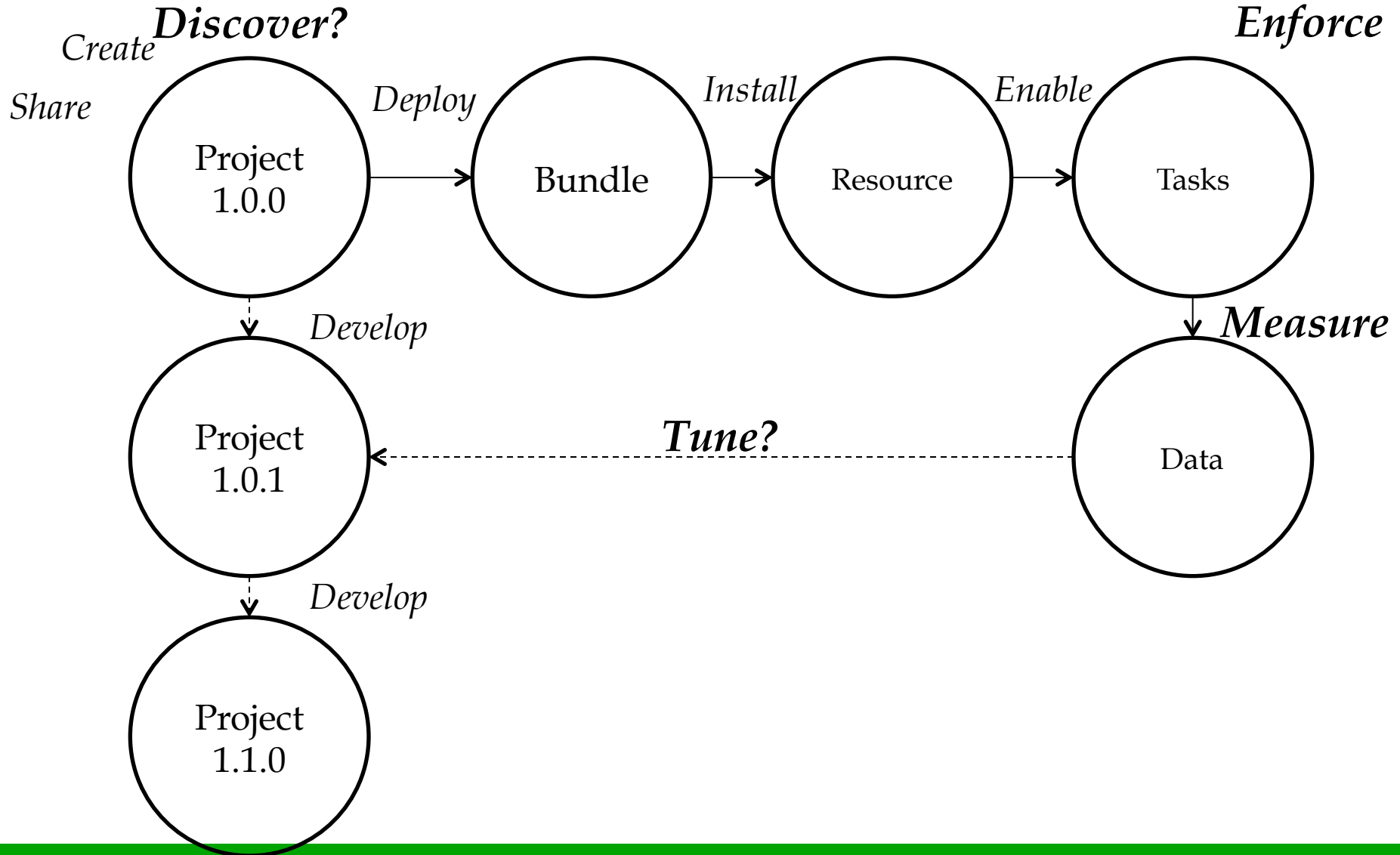
1615 *CICS Tools Family Update*

Thursday

Application Lifecycle



Application Lifecycle



Getting started with cloud-style deployment

- **Stage 1:** Create a platform
- **Stage 2: Create an application**
- **Stage 3:** Add application entry points
- **Stage 4:** Add resources for the application
- **Stage 5:** Add a policy

Application Discovery using CICS IA

Discover entry points, resource and dependencies

Collect information about Applications

Set temporary entry points

“Used by application”

“Collect by Application”

Demonstration: CICS Interdependency Analyzer

The screenshot displays the Eclipse IDE interface for the CICS Cloud Platform Definition (RETAIL) in the CICSEXP3 environment. The main window shows the Platform Definition (RETAIL) configuration, including a table of attributes and a table of resources.

Platform Definition (RETAIL) Attributes

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

Resources Table

Description	Resource	Path	Loc
0 items			

The interface also shows the Cloud Explorer on the left, listing the server (EHCM) and the CICSplex (CICSEXP3) with its components (Belvedere, Decking, PIPERA, RETAIL). The Project Explorer shows the cart.application and retail.production.platform projects. The status bar at the bottom indicates the connection to the IBM system z environment.

Pain Points

- *Deploying and un-deploying applications is a high skill complex job due to the number of separate artifacts*
- *Customers would like to see usage / charging, availability / SLA at the application level*
- *Elastic scale is a requirement, but it needs to be managed within the constraints of the customers resources and business environment*

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Policy

In support of both applications and platforms, a new, dynamic policy-based management capability is introduced.

The behavior of applications and platforms can be controlled during run time, based on predefined policies.

These policies are enacted when tasks that are running exceed certain predefined thresholds.

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

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

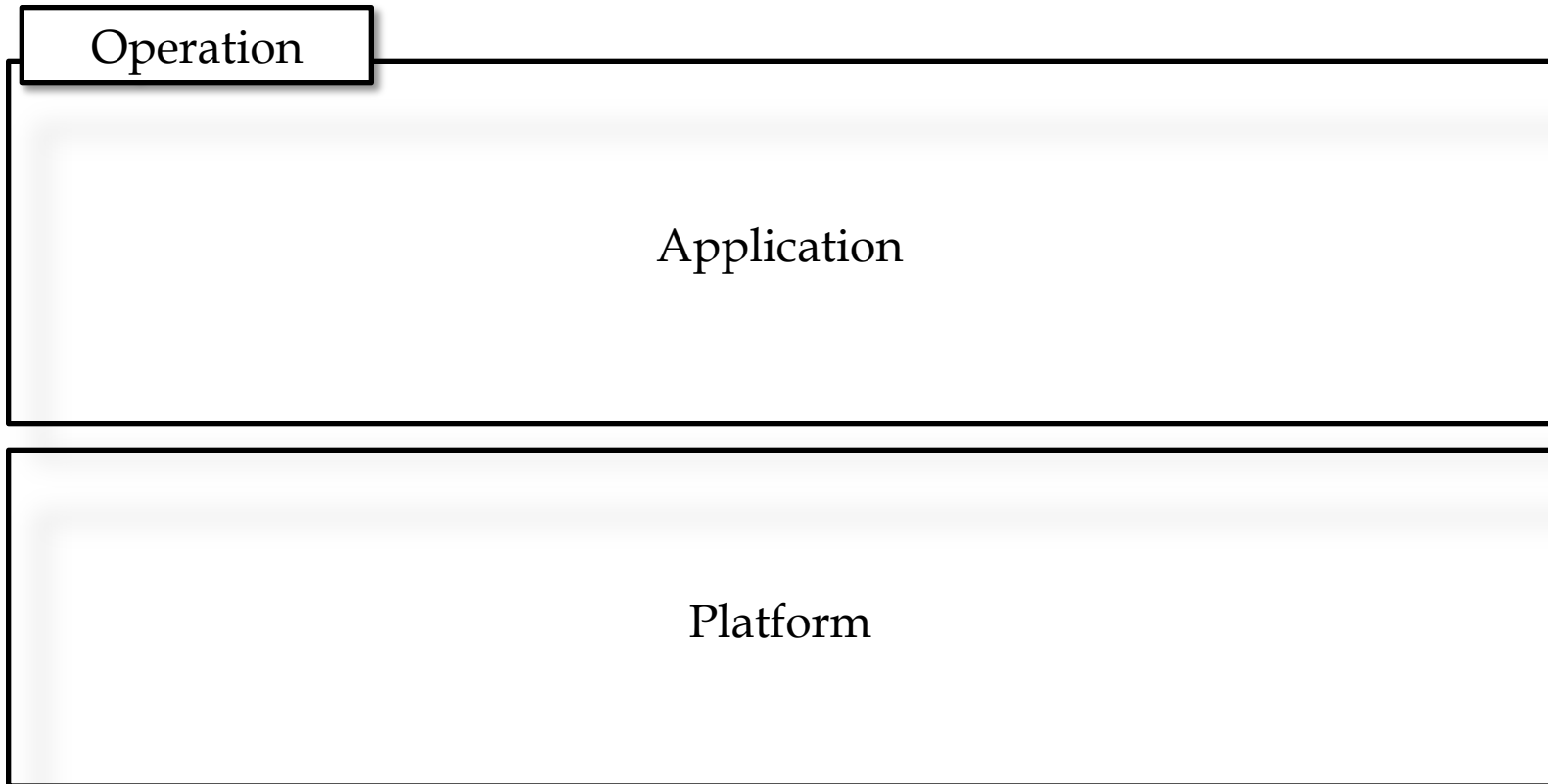
Scoped

Single Application operation

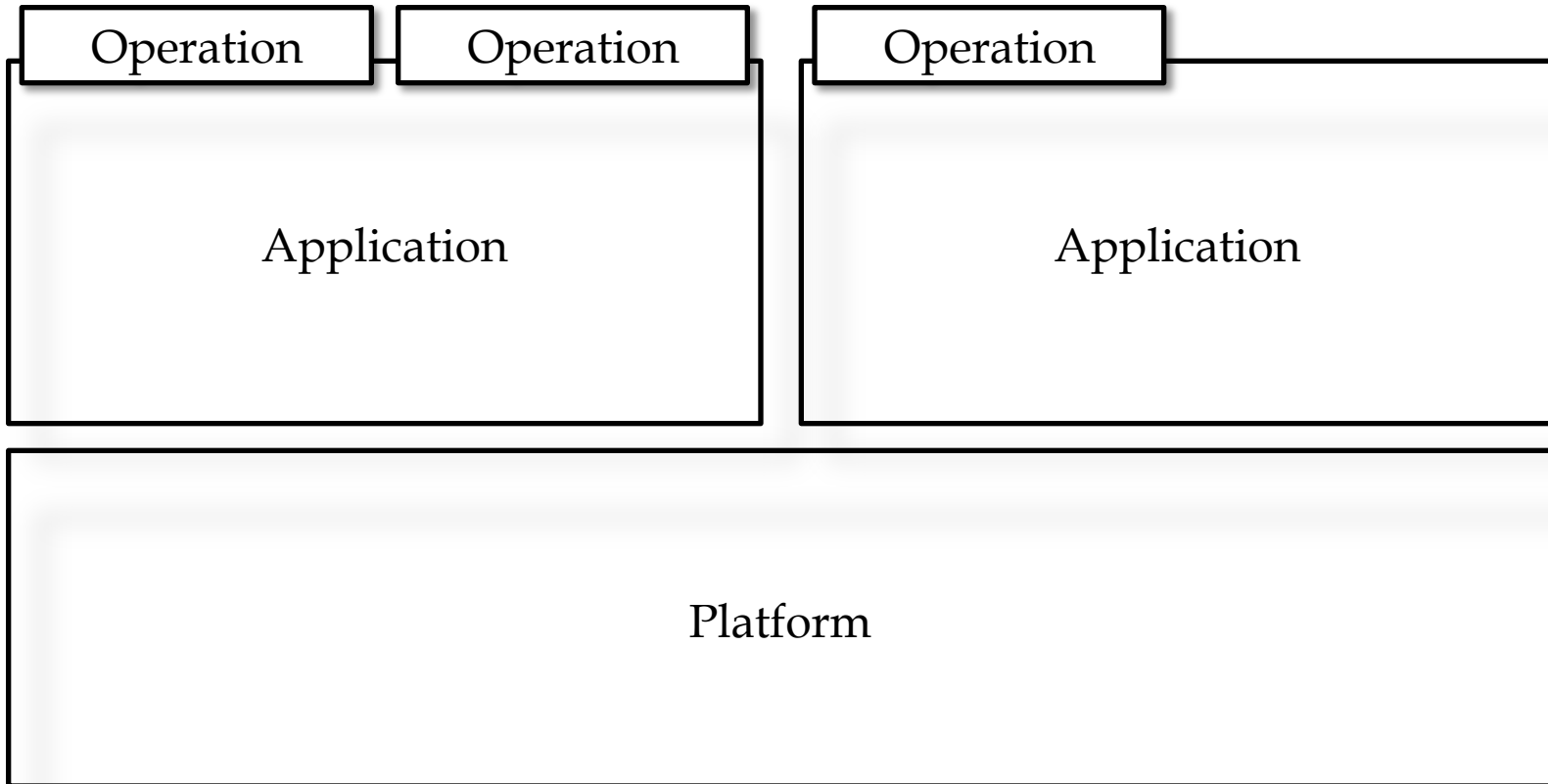
Single Application

All Applications on a Platform

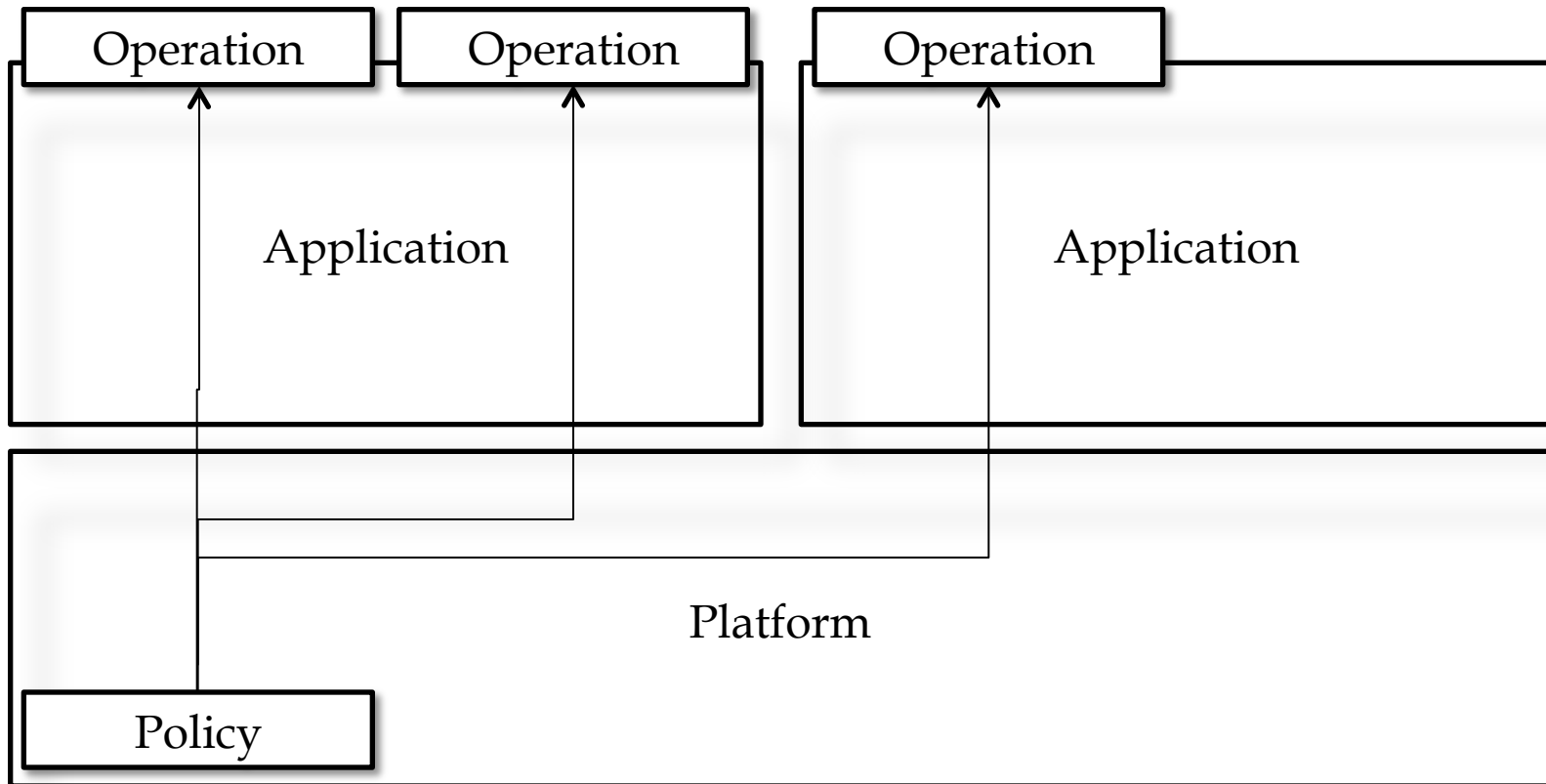
Policy Scoping: Platform, Application or Operation



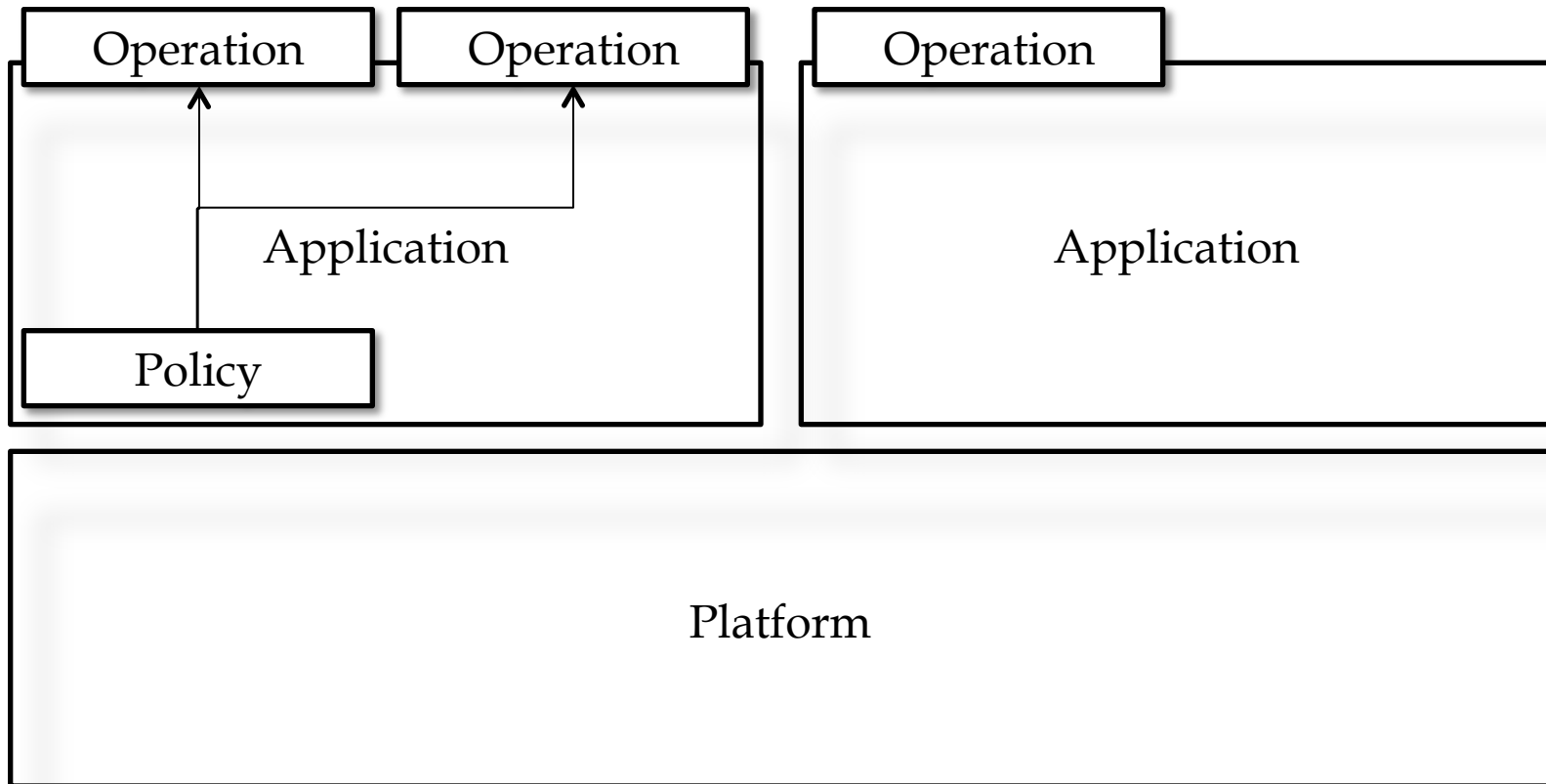
Policy Scoping: Platform, Application or Operation



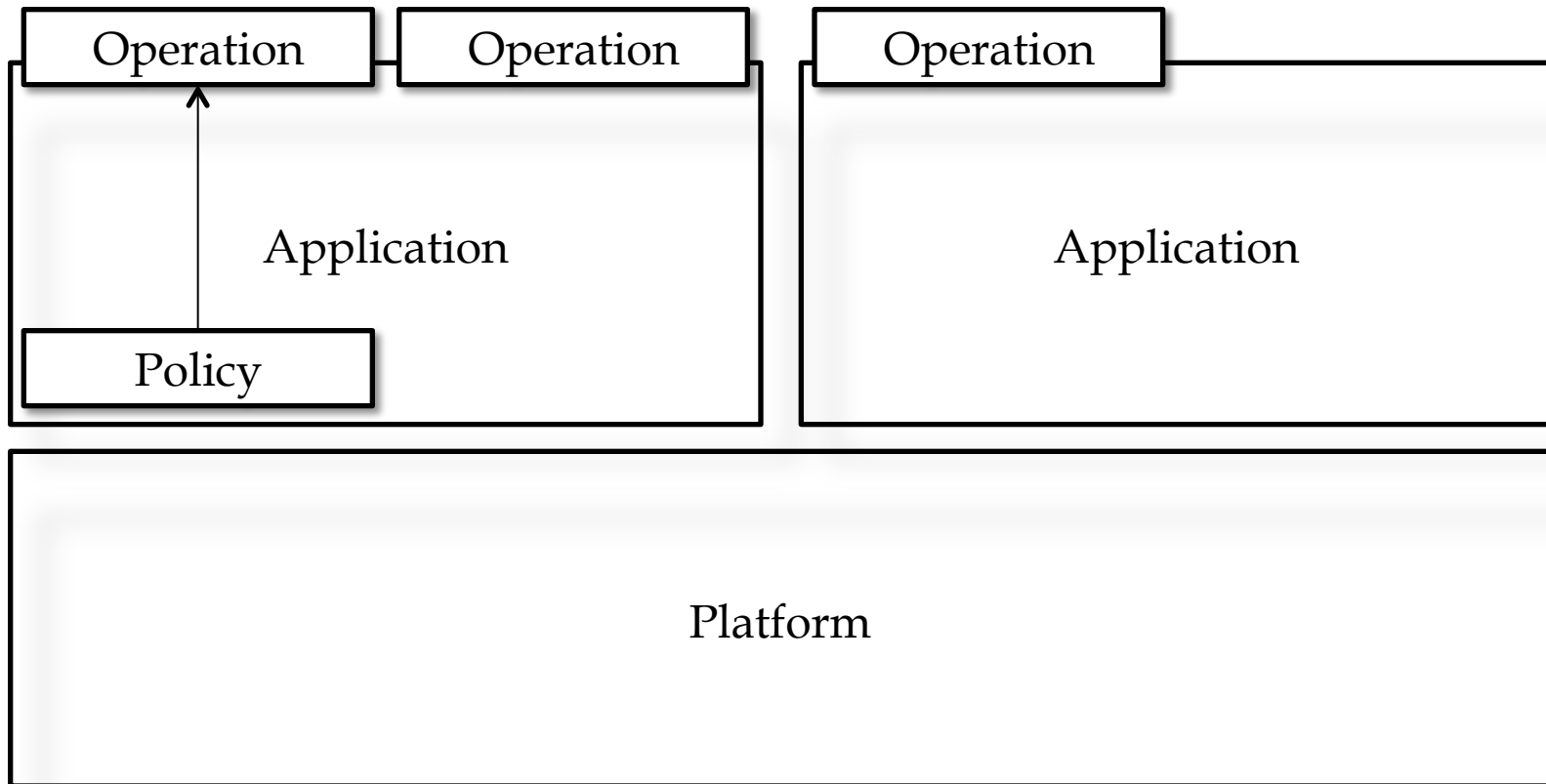
Policy Scoping: Platform



Policy Scoping: Application



Policy Scoping: Operation



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”

Demonstration: Application Entry Points & Policy

The screenshot displays the Eclipse IDE interface for configuring a CICS Cloud Platform Definition. The main window shows the 'Platform Definition (RETAIL)' configuration page, which includes a tree view of attributes and a table of properties.

Platform Definition (RETAIL) Attributes:

- CICSEXP3
 - RETAIL

Property Table:

Property	Value
▼ Basic	
Description	
Name	RETAIL
Platform Directory	/u/webster/CICSEXP3/retail.production/platform/retail.production.platform/
▼ Definition Signature	
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The interface also shows the 'Project Explorer' on the left, listing the project structure: `cart.application` and `retail.production.platform`. The status bar at the bottom indicates the system is connected to `us...ibm.com` on port 27055 and is fetching children of `CICSEXP3`.

Why CICS bundles?

The same single entity through development lifecycle:
development-test-production

The same entity use for both Application and
Platform

The same single entity through the deployment
lifecycle: Repository-Project-Bundle-Resource

Captures dependencies offline and enforces them
online

Complete lifecycle

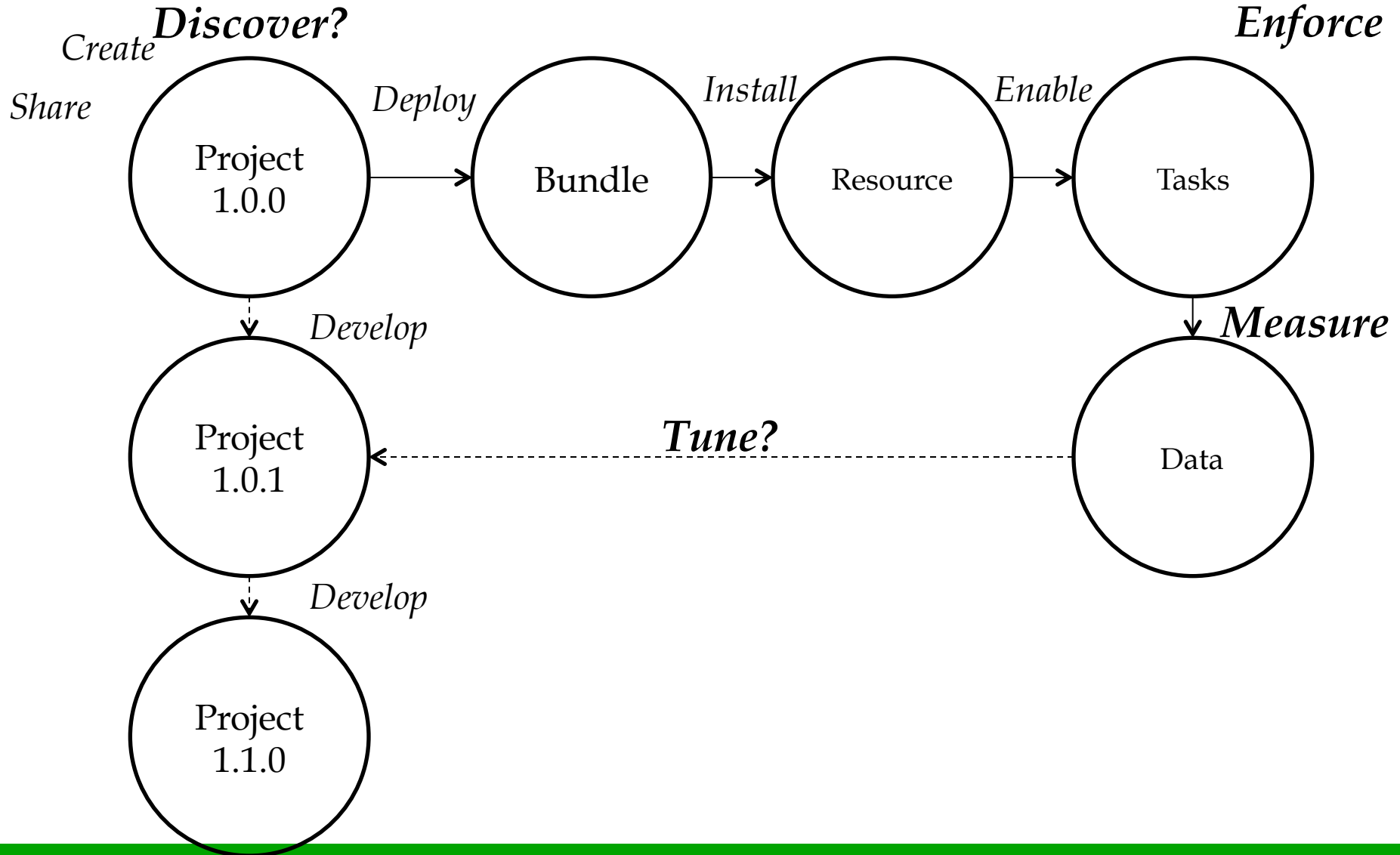
Application Autoinstall and Recovery

Application recovered over CICSplex restart and all CICS bundle re-installed

CICS bundles autoinstalled when a Region started within a region type

No local catalog

Application Lifecycle



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

Demonstration: CICS Performance Analyzer

The screenshot displays the Eclipse IDE interface for configuring a CICS Cloud Platform Definition. The main window shows the 'Platform Definition (RETAIL)' configuration page, which includes a table of properties and values.

Platform Definition (RETAIL) Properties:

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The interface also shows the 'Project Explorer' on the left, listing the project structure:

- Belvedere ACTIVE,DISABLED
- Decking ACTIVE,EMPTY
- PIPERA
- RETAIL

At the bottom, the status bar indicates: IZE0100I Connected us...ibm.com on port 27055 | Fetching children of CICSEXP3 | CICSEXP3 (CICSplex)

Getting started with cloud-style deployment

Stage 1: Create a platform

Stage 2: Create an application

Stage 3: Add application entry points

Stage 4: Add resources for the application

Stage 5: Add a policy

Stage 5: Add a policy

Control resource consumption for all Applications on a Platform, a specific Application or a specific operation

Chose a message, event orabend

Maintain Policy with the Application or Platform it concerns

Summary

New Policy resource simplifies control of resource consumption

CICS IA can help you discover what resources comprise an Application, the dependencies it has on services provided by the Platform, and the capabilities it provides to end users

CICS PA allows you to fine tune your Application performance and identify bottlenecks

Questions?

More Information

- “CICS TS”
 - <http://www.ibm.com/cics/>
- developerWorks Community
 - <https://www.ibm.com/developerworks/mydeveloperworks/blogs/cicsdev/>
- “Did you say mainframe?! ” Podcasts
 - <http://itunes.apple.com/us/podcast/did-you-say-mainframe-!/id275831334>

CICS TS Highlights

Monday

1030

CICS Portfolio update

1300

CICS TS: A Technical Overview

Tuesday

0900

CICS TS: Touching the Cloud - Introducing Enterprise Services

1030

CICS TS: Introduction to Applications as first class entities

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CICS TS: A Technical Overview

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CICS in the Cloud: Hands-On Lab

1615

CICS Tools Family Update

Thursday

1030

CICS TS: Support for WebSphere Application Server Liberty profile

1300

CICS TS: Java and the JVM Server

1430

CICS TS: Scalability Enhancements