

A decorative graphic in the top left corner consists of several overlapping circles of various sizes. Each circle is divided into multiple segments of different colors, including shades of orange, yellow, pink, purple, and blue, creating a vibrant, abstract pattern.

CICS V5.1 *Applications agility*

Speaker Name and Title



Session Agenda

- **What is an Application?**

- **Application Packaging**
 - Bundles
 - Application Projects

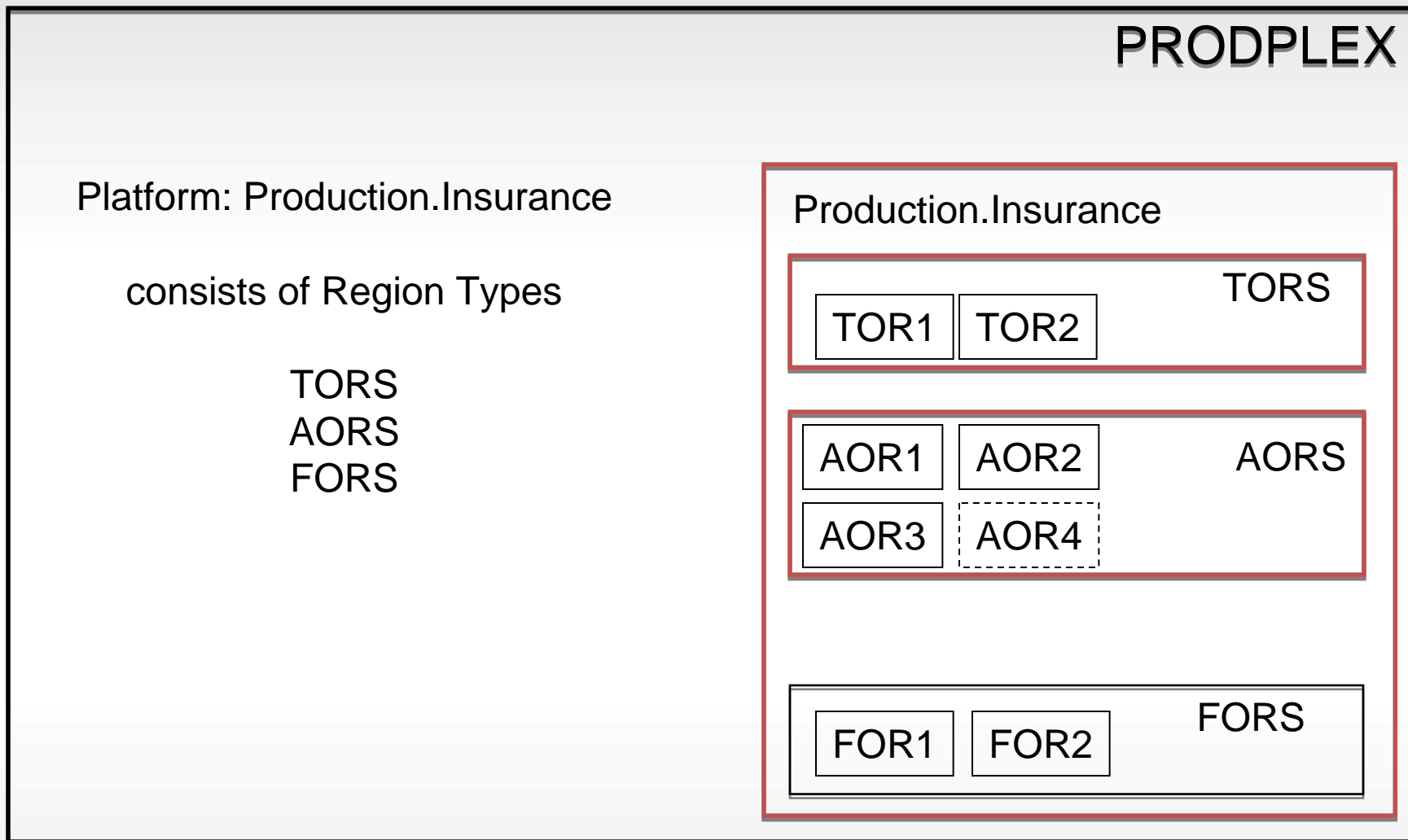
- **Application Deployment**
 - Bindings
 - Appdef

- **Modernization and the Liberty web container**



CICS Platform as a Service Review

- A review of a CICSplex and a Platform





Application Deployment

- **What is a CICS application?**

- *a collection of related programs and other resources that together perform a business operation*

- **How is a CICS application invoked?**

- *Transaction ID for 3270*
- *EXEC CICS START*
- *URIMAP for a web request*
- *...*

- **What resource (dependencies) does a CICS application need?**

- *VSAM files or DB2 tables*
- *Temporary Storage, Transient Data or MQ queues*
- *Programs*
- *JVM*
- *...*



CICS BUNDLE Resource

- **Collection of CICS resources**
 - Managed as a logical unit
 - All bundle parts are managed together
 - If any part is disabled, the whole bundle is disabled
 - Bundle artifact is migrated from test to production
 - Similar to a load module
 - Resource dependencies can be specified
 - e.g. FILE(ABC) must be present for the bundle to install



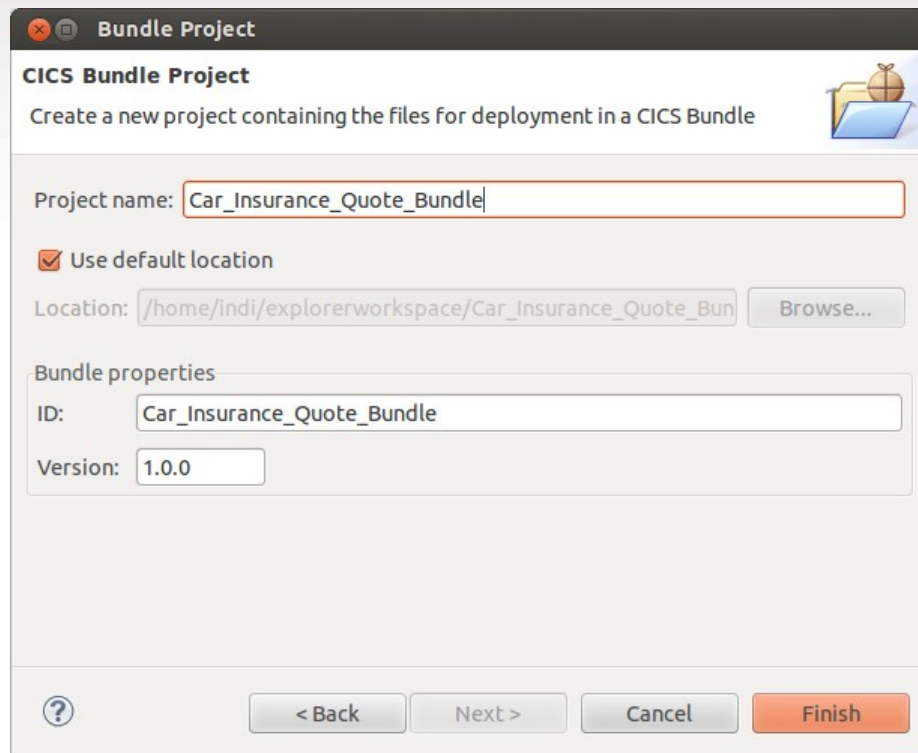
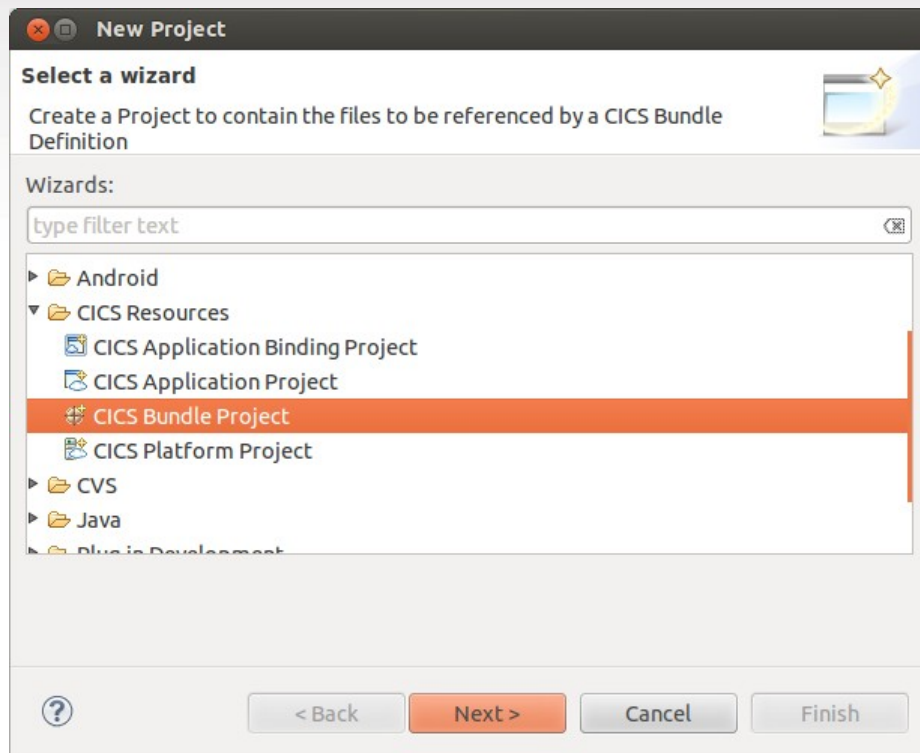
Application Deployment

▪ **Support for application packaging**

- Use the CICS Explorer to define the resources, dependencies and application code for a CICS application
 - Create a Bundle Project(s)
 - Specify resources to define
 - Specify resource dependencies
- Create an Application Project that describes the application
 - Application name, description and version
 - References to CICS bundles
- Allows you to manage the application as a single entity

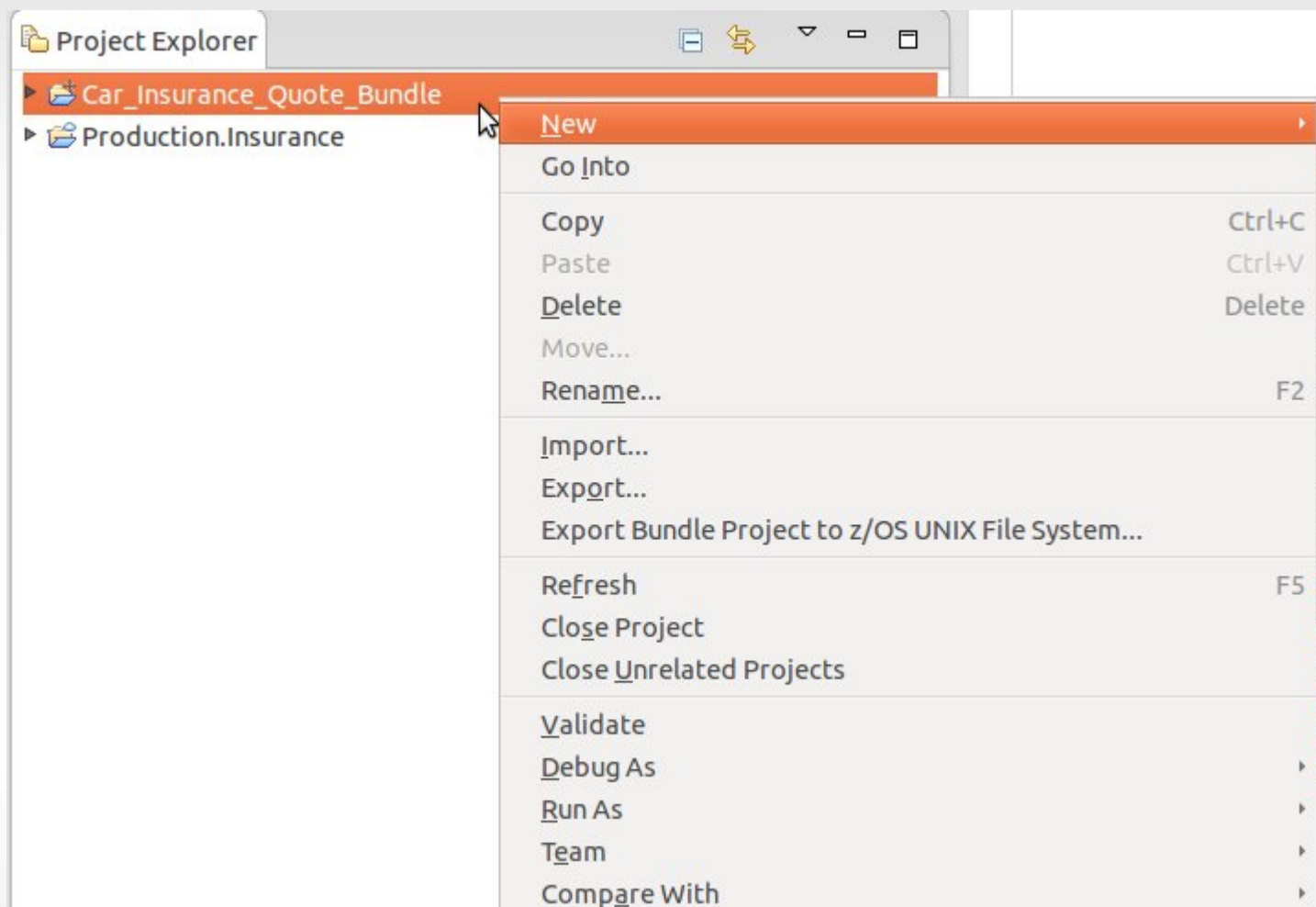
Application Deployment...

■ Creating the Bundle Project



Application Deployment...

- **Add entries to the bundle project**





Application Deployment...

- Create the resource definitions

New Program Definition

Create a program definition in a CICS bundle.

Bundle: Car_Insurance_Quote_Bundle

Name: ICRATE

Description: Car Insurance Rating

Program Type

Assembler, C/C++, COBOL, or PL/I

Java

Service Name:

JVM Server:

Create an Application entry point

Operation name:

Open editor

Cancel Finish

New Transaction Definition

Create a transaction definition in a CICS bundle.

Bundle: Car_Insurance_Quote_Bundle

Name:

Description:

Program Name:

Remote System Name:

Open editor

? Cancel Finish



Application Deployment...

- **Specify the resource dependencies for this bundle**

Car_Insurance_Quote_Bundle

Bundle Overview

General Information
This section describes general information about this bundle.

ID:

Version:

Defined Resources
Specify the CICS resources that are installed and managed by this bundle.

Actions
You can perform the following actions on this bundle:

1.
2.
3.
4.

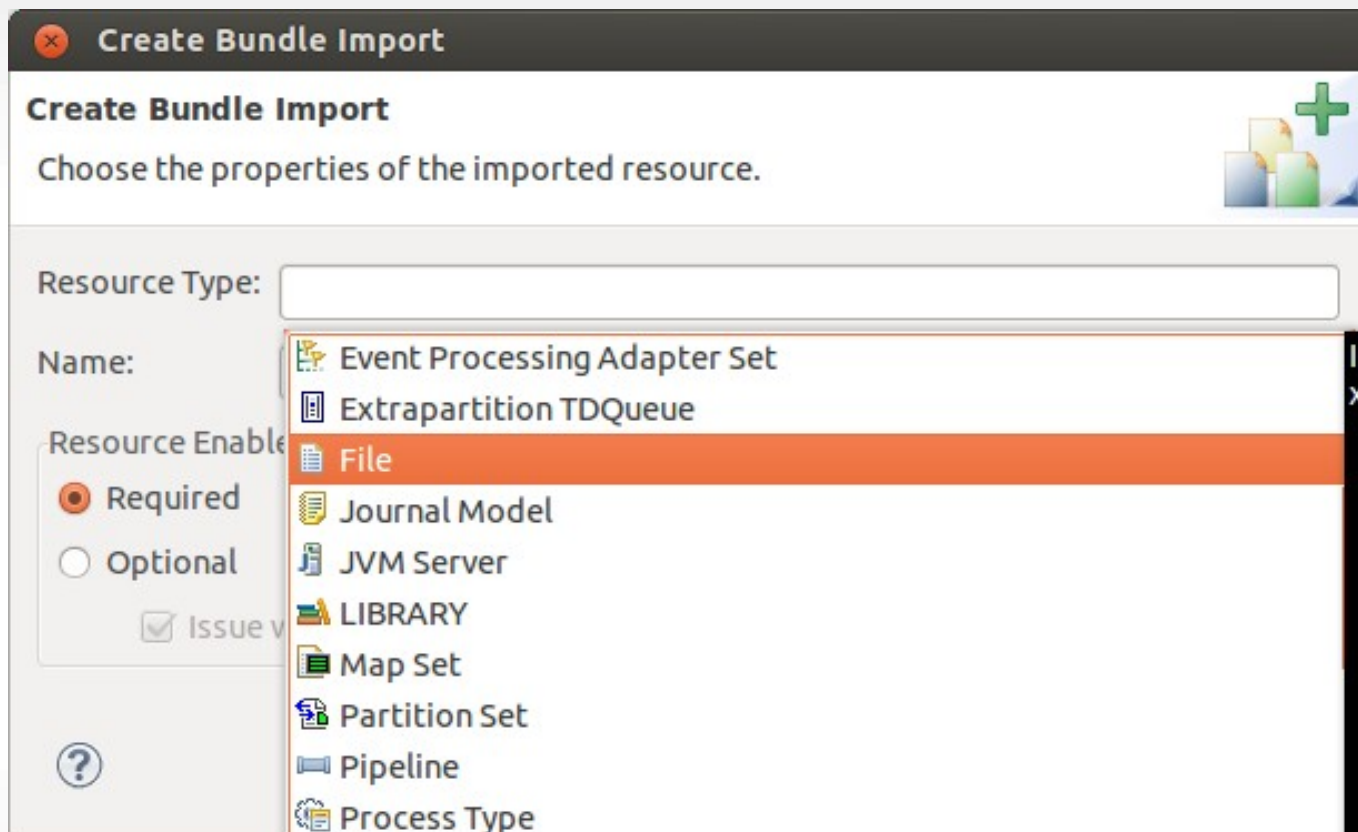
Imported Resources
Specify CICS resources on which this bundle depends. The bundle will only become ENABLED when all required dependencies are met.

Overview | Entry Points | Policy Scopes



Application Deployment...

- Specify the resource dependencies for this bundle





Application Deployment...

■ Application Entry Points

- Associate CICS tasks with an application
 - Define application entry point on a BUNDLE program definition
 - Define application entry point with SET PROGRAM OPERATION
 - Only sets the OPERATION attribute
- Application can comprise one or more tasks in different regions
 - Application context will flow between regions
 - MRO and IPIC connected regions
- Application context data will be included in monitoring data
 - Application name, Platform, Version, Operation



Application Deployment...

- **View or add and application entry points**

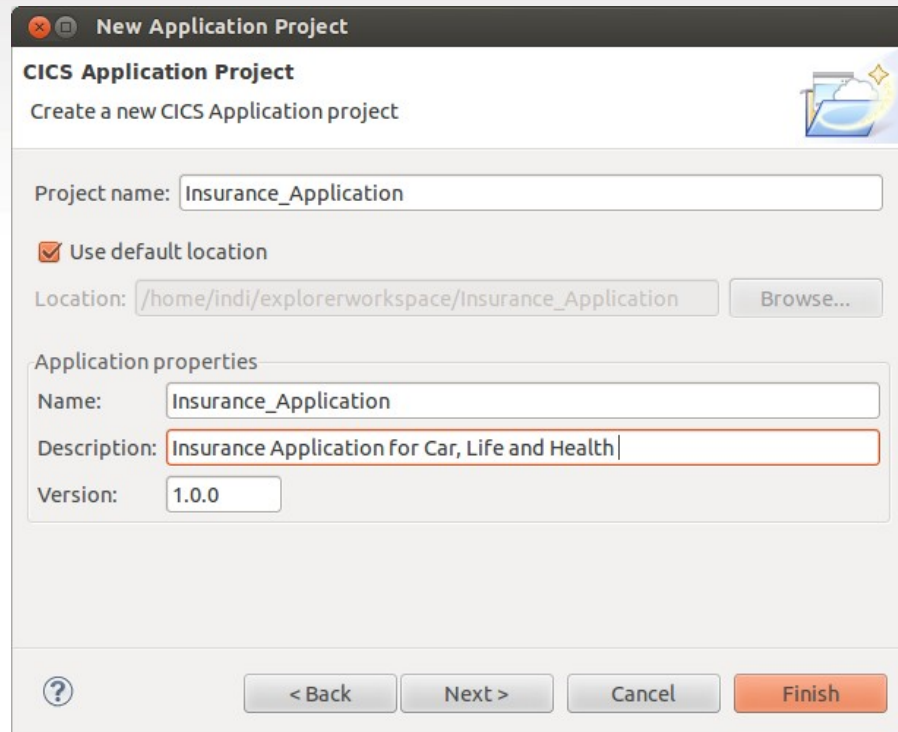
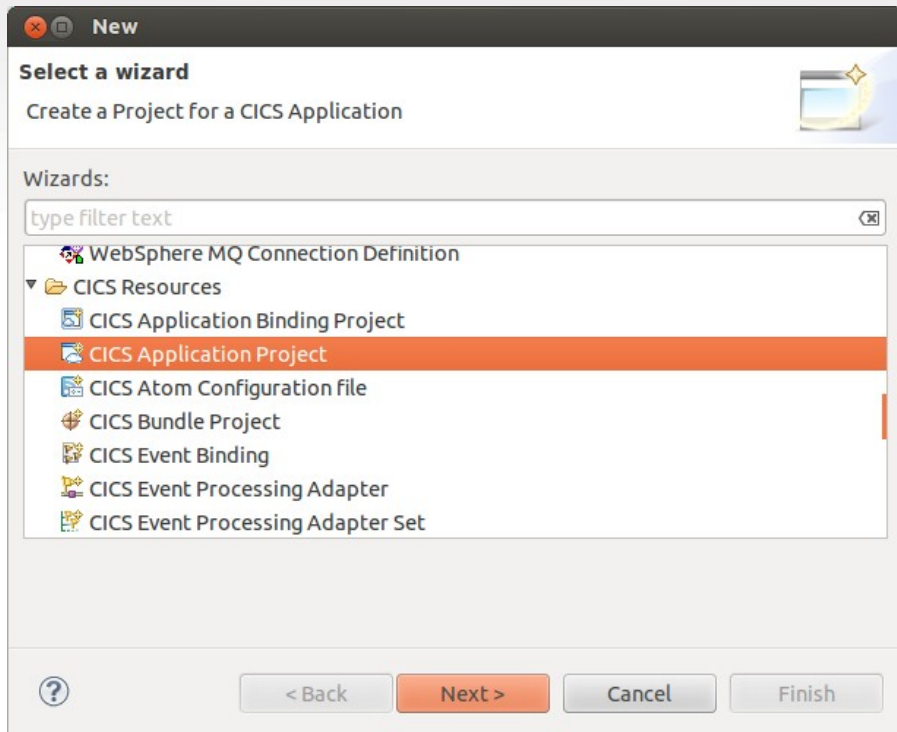
The screenshot shows a web-based configuration interface for CICS V5 Applications. The window title is "Car_Insurance_Quote_Bundle". The main heading is "Application Entry Points". Below this, there is a section titled "Entry Points" with the instruction "Specify CICS resources to declare as an entry point." A table with three columns is visible: "Operation", "Resource Name", and "Resource Type". The table is currently empty. To the right of the table are three buttons: "Add...", "Remove", and "Properties...". At the bottom of the window, there is a navigation bar with three tabs: "Overview", "Entry Points" (which is selected), and "Policy Scopes".

Operation	Resource Name	Resource Type
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Application Deployment...

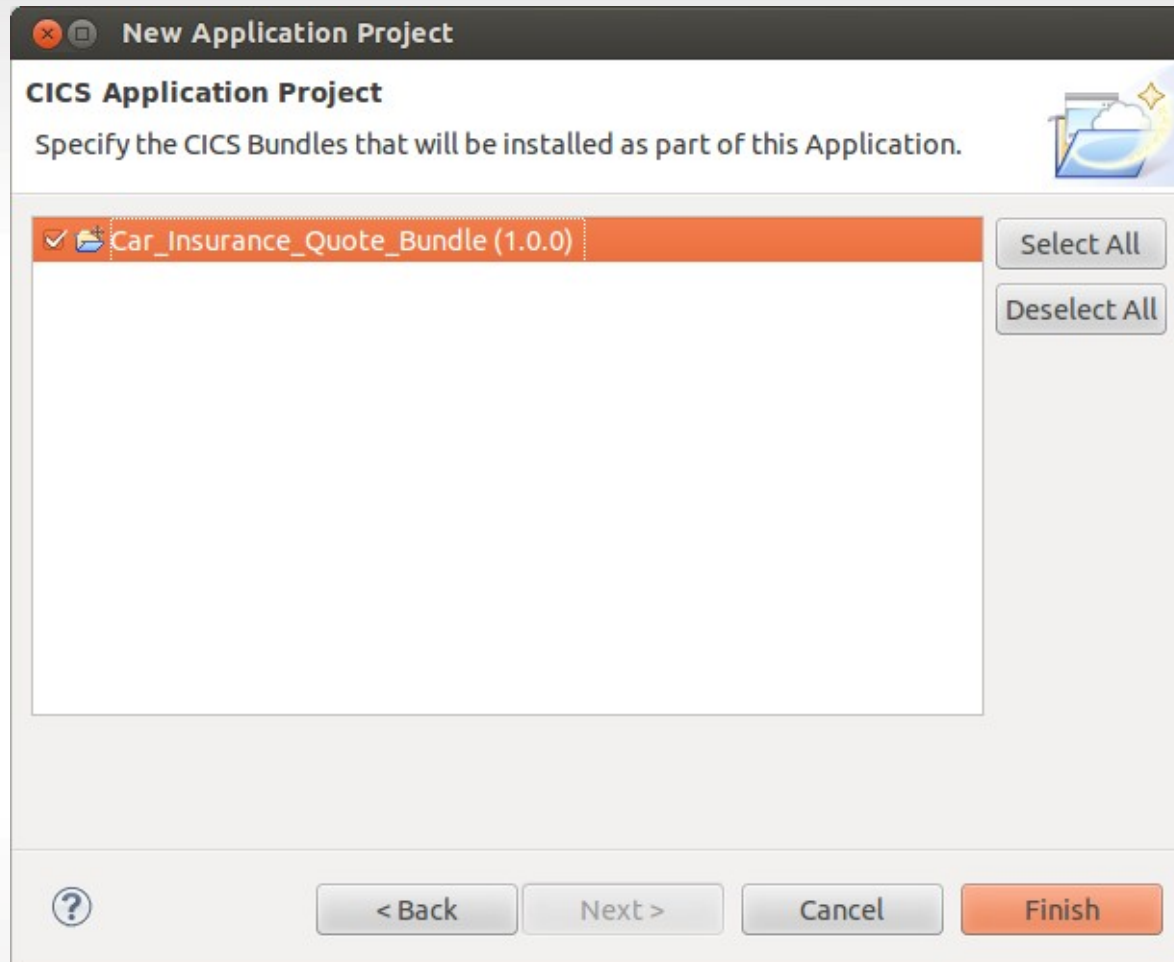
■ Creating the Application Project





Application Deployment...

- **Select the bundles which comprise this application**





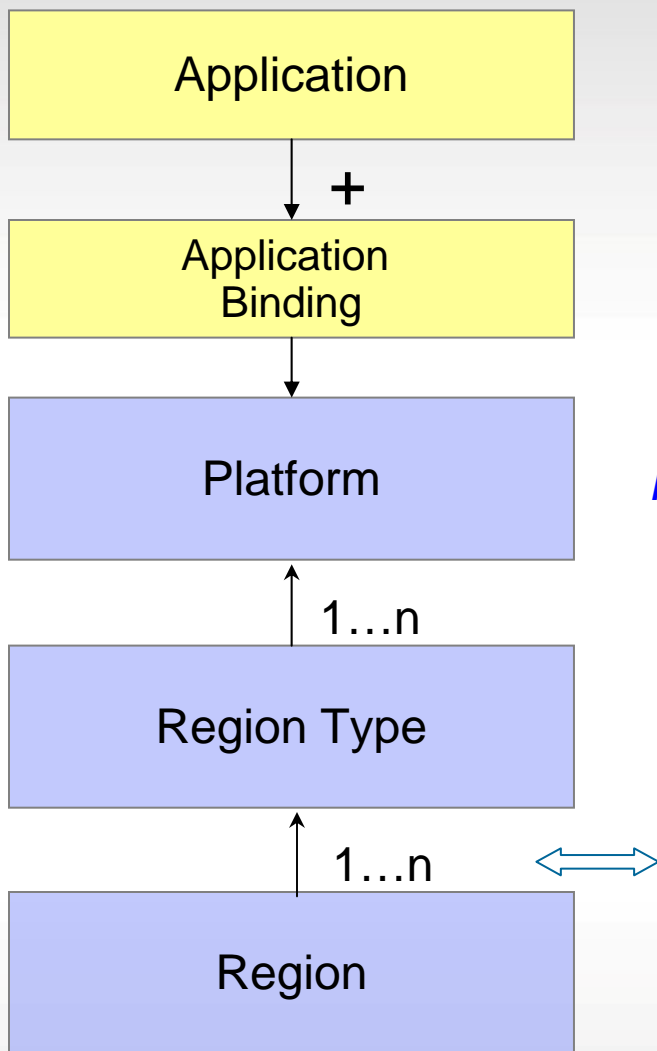
Application Deployment...

■ **Application Binding Project**

- Decouple applications from underlying region topology
- Ties the Application to the Platform
 - Associates bundles with region types
 - Allows the Application project to be mapped to different platforms
 - e.g. Development, Quality Assurance, Production
- Allows additional bundles to be deployed based on the platform



Application Deployment...



Package application resources and dependencies

Bind the application to the platform. Map bundles within the application to region types. (map developers' world to the operations world)

Platform: where applications are deployed and run

Characterize regions in the region type
e.g. TOR, AOR, ROR, FOR

Elastically scale regions in the region type (within specified bounds)



Application Deployment...

■ Creating the Application Binding

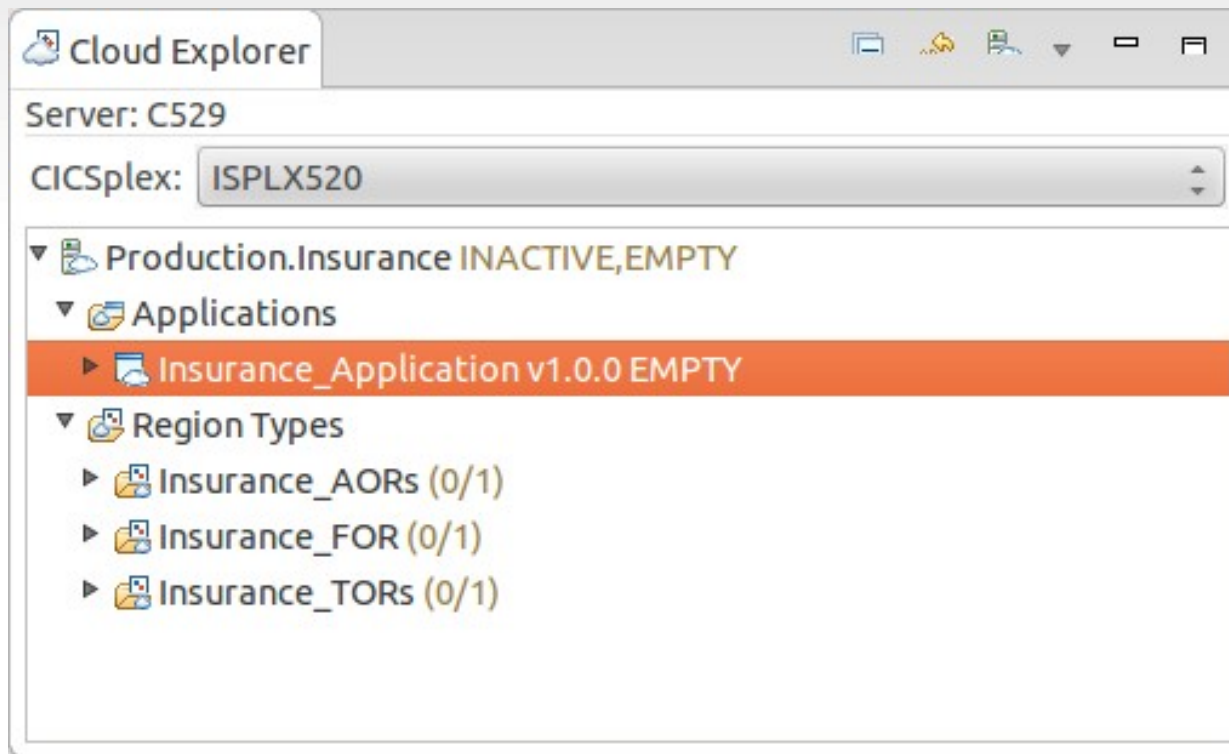
The image displays four overlapping screenshots from an IDE, illustrating the process of creating an application binding project:

- Top-left screenshot:** A 'New' wizard dialog titled 'Select a wizard' with the instruction 'Create a Project for a CICS Application Binding'. The 'Wizards' list on the left includes 'CICS Application Binding', which is selected.
- Middle-left screenshot:** The 'New Application Binding Project' dialog. The 'Project name' is 'Insurance.Binding'. The 'Use default location' checkbox is checked. The 'Location' is '/home/indi/explorer/workspace/insurance.Binding'. The 'Application Binding properties' section shows: Name: Insurance.Binding, Description: Binding, Version: 1.0.0, Application: Insurance_App, and Platform: Production.Ins.
- Middle-right screenshot:** The 'New Application Binding Project' dialog, 'Region Types' step. It shows 'CICS bundles' with 'Car_Insurance_Quote_Bundle (1.0.0)'. Under 'Region Types', 'Insurance_AORs' is checked, while 'Insurance_FOR' and 'Insurance_TORs' are unchecked.
- Bottom-right screenshot:** The 'Export Application to the home directory of a Platform' dialog. It shows the selected CICS SM Connection 'winmvs2c:27298' and a tree view of application binding projects. The path is 'ISPLX520' > 'Production.Insurance (/var/cicsts/ISPLX520/Production.Insurance/)' > 'Insurance.Binding (1.0.0)'. A note indicates '(filtered to only show platforms that match the selected application binding)'. The checkbox 'Create Application Definition after export finishes' is unchecked.



Application Deployment...

- **View the Application and Platform**





CICS Interdependency Analyzer for z/OS

What is CICS IA?

- A discovery tool that identifies resource interdependencies and affinities in your CICS systems

Captures CICS application relationships:

- Resources used by a transaction - Programs, Files, TSQs, TDQs plus DB2, MQ, IMS, Web services, and Natural
- Identifies AG Natural and Adabas relationships
- Identifies non-threadsafe programs
- Transactions with affinities and their type / lifetime
- API changes between CICS versions / releases
- Unused resources
- Sequencing of transactions within an application

What's its value?

- Real time documentation of CICS application systems
- Automate Threadsafe Analysis
- Identify and analyze affinities
- Assist in application modernization activities
- Quickly identify application scope
- Verify the application code via call path tracing
- Automatically maintains CPSM rules

Why is this tool important to CICS customers?

- Reduce both time/resource required in understanding active CICS application inventory for efficient maintenance and reuse. A manual and error prone process today.

DISCOVERY



Why use CICS IA?

Projects

- **Workload balancing**
 - Affinity Analysis
 - Resource utilization
- **Application Modernization**
 - Web services
 - Atom services
 - Events deployment
- **CICS TS Upgrade**
 - Understand the use of TRUEs and GLUEs
 - Understand the use of modified or deleted SPIs and APIs
 - Assist with test coverage
- **Threadsafe Analysis**
 - Identify “safe” code
 - Identify “inhibitors”
 - Reduce time for analysis

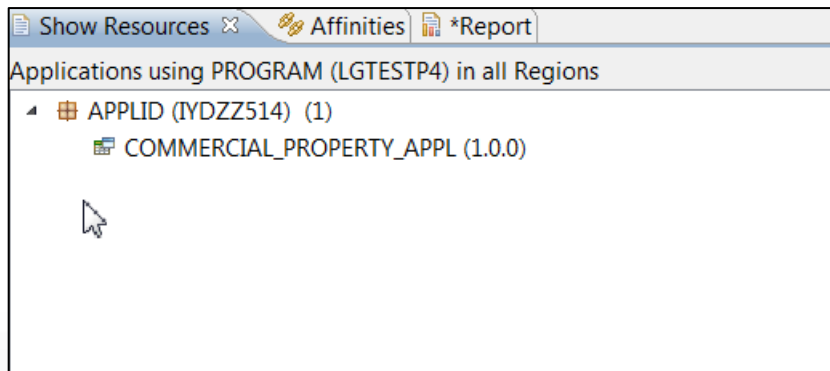
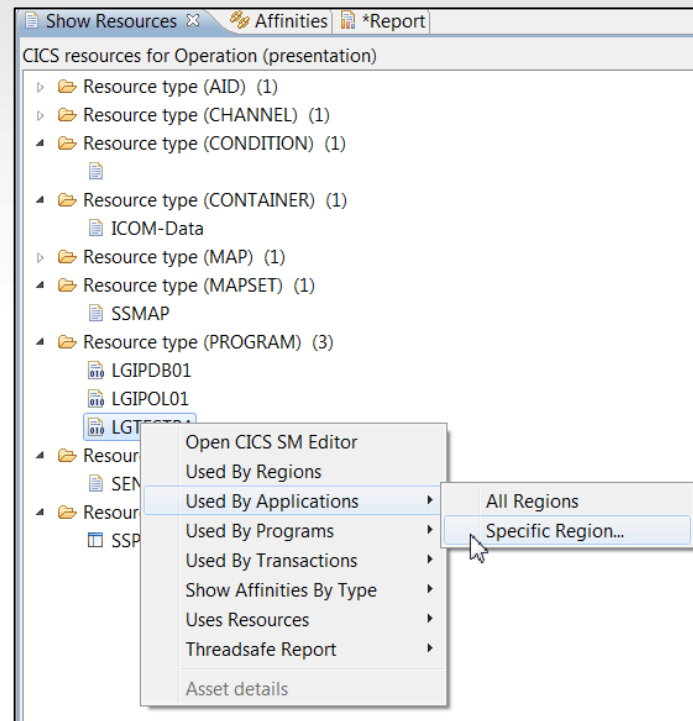
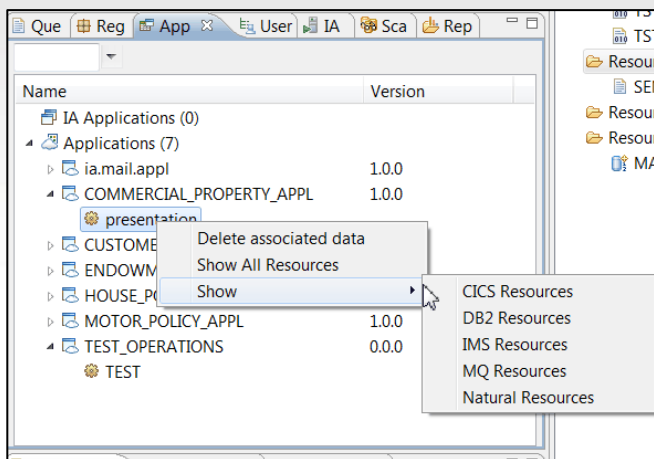
Day to Day usage

- **Application changes**
 - Which programs uses a given resource
- **Application deployment**
 - Governance – check for Affinities , Threadsafe commands , site rules
- **Problem determination**
 - What new commands have been added to a given program using the First_used timestamp column
 - Use Command flow to dive into a problem transaction
- **VSAM or resource recovery**
 - Disable all programs that use this file



CICS Interdependency Analyzer V5.1 Highlights...

Application support – collect and display data for a deployed application



New menu option – “Used by Applications”
Can be used against any resource.

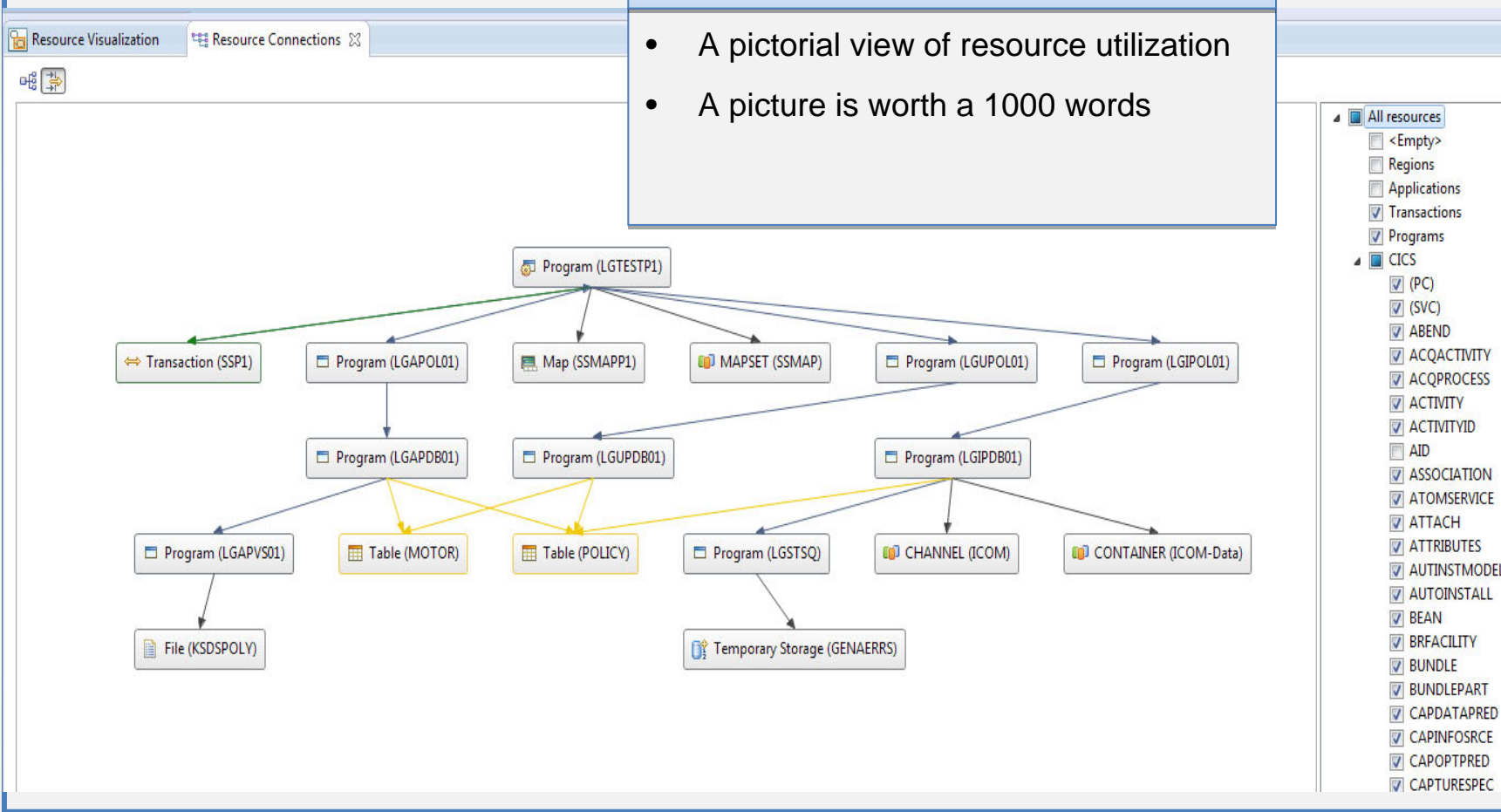


CICS Interdependency Analyzer V5.1

Visualization

Benefits

- A pictorial view of resource utilization
- A picture is worth a 1000 words





CICS Configuration Manager for z/OS

What is it?

- CICS Configuration Manager simplifies CICS resource-definition administration and maintenance, while at the same time offering comprehensive reporting and optional change-management control facilities.

What's its value?

- Single point of control for managing CICS application resource definitions. Aids systems administration, lowers costs, reduces risk of downtime due to user errors and speeds version to version migration

How does it enhance CICS management?

- Create, Update, Delete, Copy, Replicate CICS resource definitions
- Provides change management through the life-cycle stages, e.g. development, test, production
- Create customized reports to identify redundant definitions, show resource relationships and change management history
- Audit, back-out and change authorization capabilities

Why is this tool important?

- Accurate CICS resource definitions are essential to maintain the high availability expected of CICS. With tens, or even hundreds, of CICS regions across the enterprise, each containing hundreds or thousands of artifacts, maintaining potentially millions of definitions can be challenging.
- Reduce both time/resource in gaining tighter control over CICS CSD administration
- Enhance compliance with change management policies.
- Generate audit reports to simplify effort and costs associated with compliance

RESOURCE MANAGEMENT



Single point of control over Resource Definitions Access multiple CSDs, Data Repositories, Lists, and Groups from single interface

The screenshot displays the IBM CICS Explorer interface with several panes:

- Configurations:** A list of CSDs and their contexts, including CICSOR1 through LIVECMR.
- Search Results:** A tree view of resources for CSDAOR6 Groups, including DB2 Connection, DB2 Entry, Enqueue Model, File, Program, and Transaction Definitions.
- Group List Definitions:** A list of groups (GENA, GENASAD, GENASAF, GENASAP, GENASAT, GENASA2) under the CSDAOR6 configuration.
- Transaction Definition (TEST):** A detailed view of the TEST transaction, showing its name, description, CSD Group (GENASA2), creation date, and various settings like Initial Program (GENA001) and Profile (DFHCICST).
- History:** A table showing resource history for the TEST transaction.

Revision Time	Resource Name/After	Resource Type/Before	Group	User Name	Configurat
2012/09/25 21:10:38	TEST	TRANDEF	GENASA2	DNET409	CSDAOR6
shutdown	ENABLED	DISABLED			
2012/09/25 21:10:27	TEST	TRANDEF	GENASA2	DNET409	CSDAOR6
shutdown	DISABLED	ENABLED			

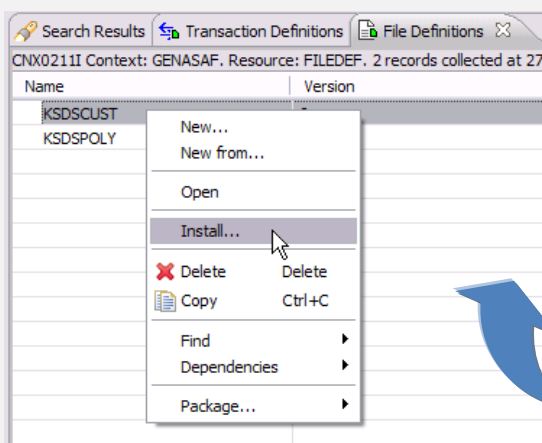
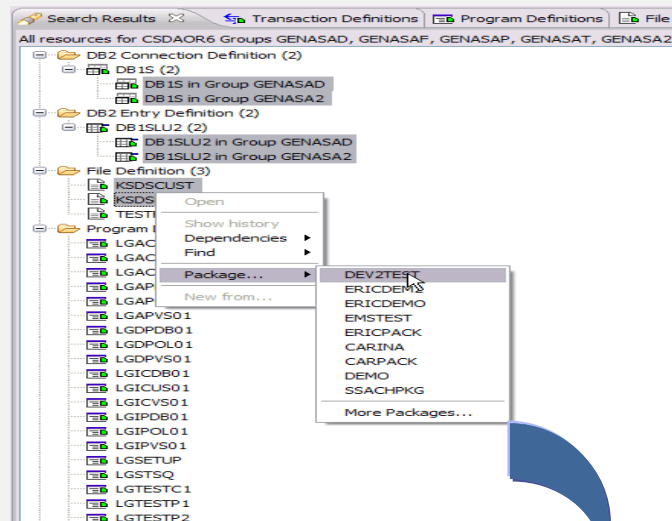


CICS CM – CICS resource definition lifecycle management

Benefits

- Eliminate manual and error prone processes
- Full audit trail and backout capability
- Integrate with source code change management processes

Change package created for resources in Development repository



Install definitions in CICS regions on test environment

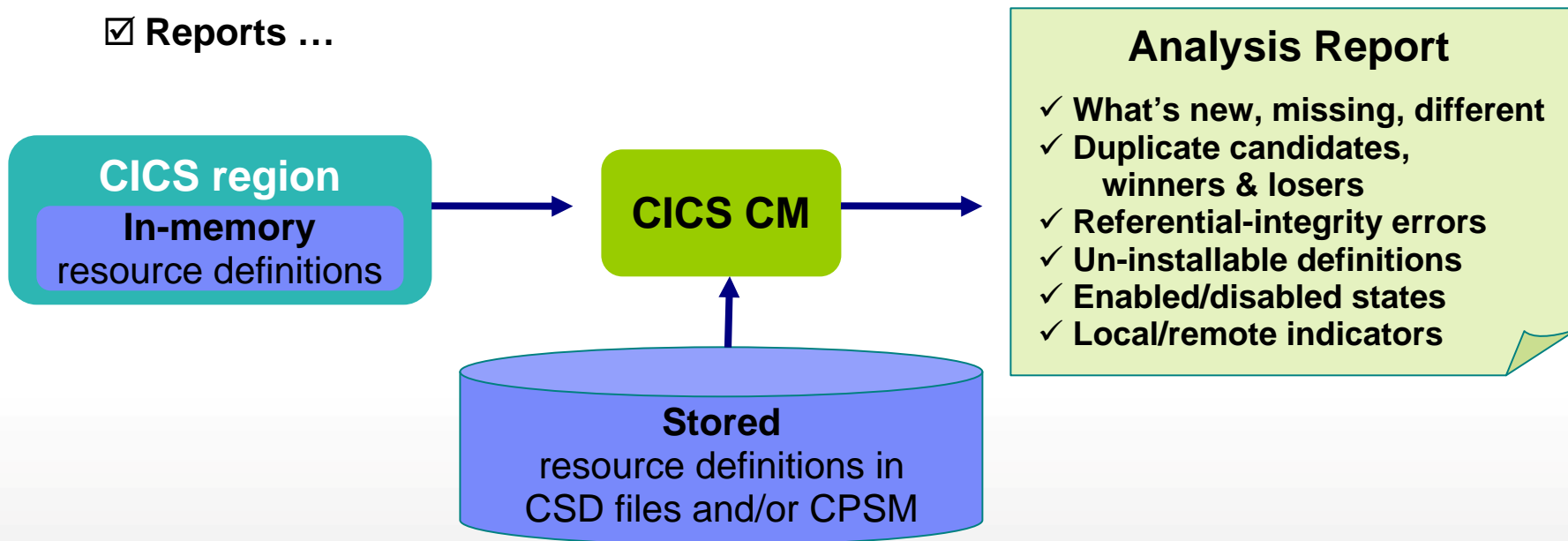
Packages	Description	Last Action	Changetime
CP1		CREATE	2012/05/21 06:49:
DEMO	Demo PKG	CREATE	2012/07/19 08:28:
DEMO	Development to Test	READY	2012/09/27 05:44:
DEMO	of change packaging via explorer	UNREADY	2012/09/25 21:26:
DEMO	for Humana	MIGRATE	2012/09/26 13:51:
DEMO	package for Eric	MIGRATE	2012/09/18 10:22:
DEMO	ation of GENAPP resource	READY	2012/04/29 12:40:
SFCPKG1	Package for SFC app	MIGRATE	2012/05/02 17:52:
SSACHPKG	Change package for WMQ definitions	MIGRATE	2012/07/11 03:44:
00000001	Migrate resources from CICS TS 3.2 to 4.1	READY	2012/04/18 05:31:
00000002	Migrate from AOR6 to AOR7	MIGRATE	2012/02/13 08:24:
00000003	Migrate from CSD to CPSM BAS	BACKOUT	2012/05/30 03:55:

Change package migrated to test environment



CICS CM: Deployment analysis

- ✓ Immediate analysis – no need to stop/start CICS regions
- ✓ Supports CSD, CPSM, or CSD/CPSM hybrid models
- ✓ Understands ‘order-sequence’ processing and RASGNDEF overrides
- ✓ Provides filtering for auto-install, dynamic resources, known conditions
- ✓ Reports ...

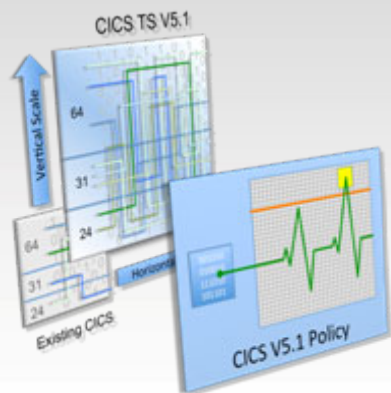




How can I modernize my CICS Applications With today's technologies?



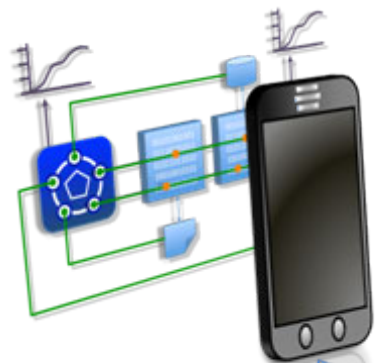
The new CICS Transaction Server V5.1 delivers...



100+ requirements satisfied!

Operational Efficiency

- *Greater capacity - achieve cost savings through consolidation*
- *Managed operations - reduce cost and risk through automation*
- *Increased availability - reduce the need for planned downtime*
- *Deeper insight - improve decision making and audit readiness*
- *Modern batch – manage your batch window*
- *Security integration – reducing the cost and complexity of security*



Service Agility

Free Feature Packs

- *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*
- *Mobile extensions – simplified integration with mobile devices*
- *Dynamic Scripting – enterprise class composite web applications*

Over 150 ISV applications supporting CICS V5.1



... with Cloud Enablement

consistent with the IBM Cloud Computing strategy positions customers for the next transformational era in technology moves towards a cloud oriented service delivery platform



Mobile extensions – simplified integration with mobile devices

CICS Transaction Server Feature Pack for Mobile Extensions

Scalable platform

CICS TS V5.1's advanced scalability makes it the ideal platform for managing mobile workloads

Service enablement

COBOL, C/C++, PL/I and Java programs can be RESTful service providers

Agile integration

JSON data and RESTful interface makes integration with mobile devices simple and efficient

**Available on CICS
TS V4.2 & V5.1**

Via Worklight Server

Worklight® Server



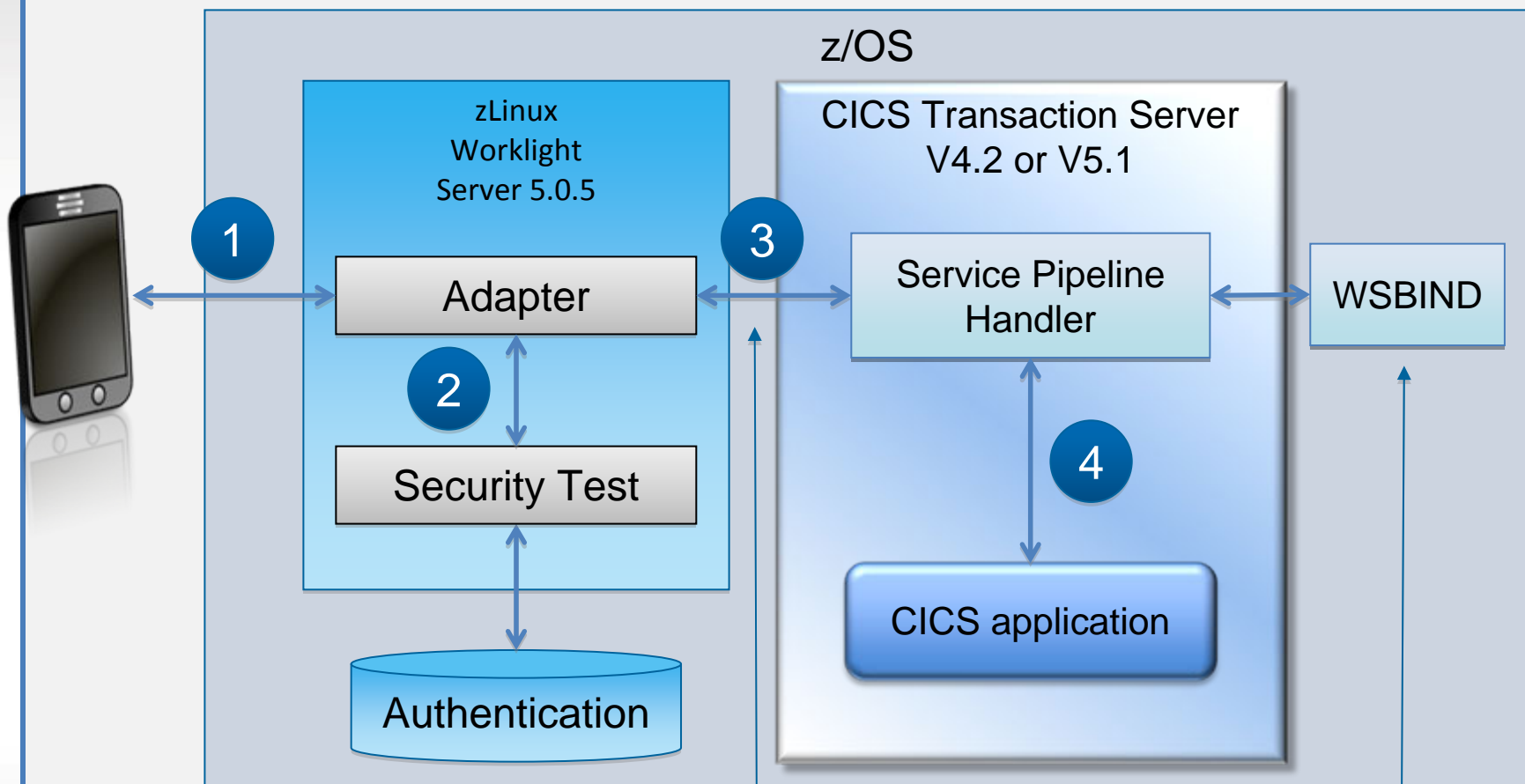
COBOL, PL/I, C/C++,
and Java Services

Direct to CICS





Mobile extensions – simplified integration with mobile devices



Hypersocket connections. All connections are SSL.

Stored on zFS

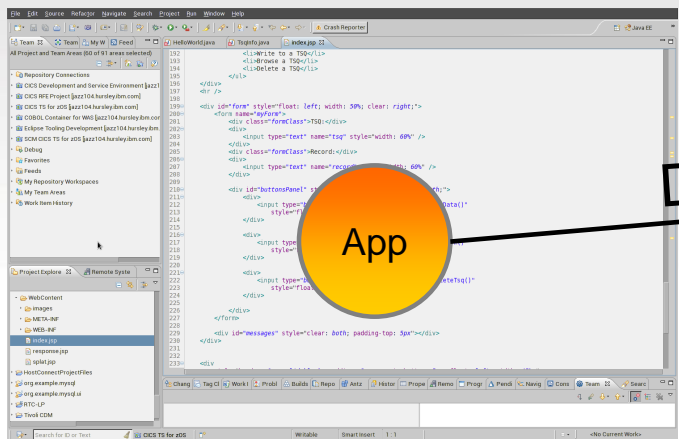


Liberty Profile Web Container

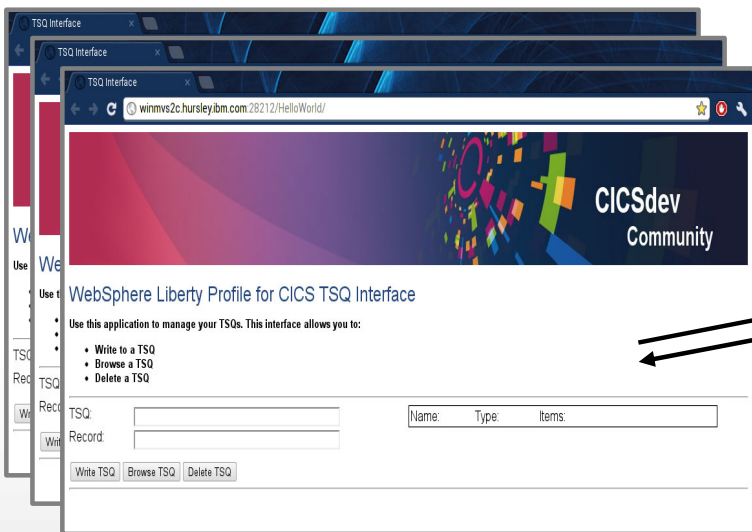
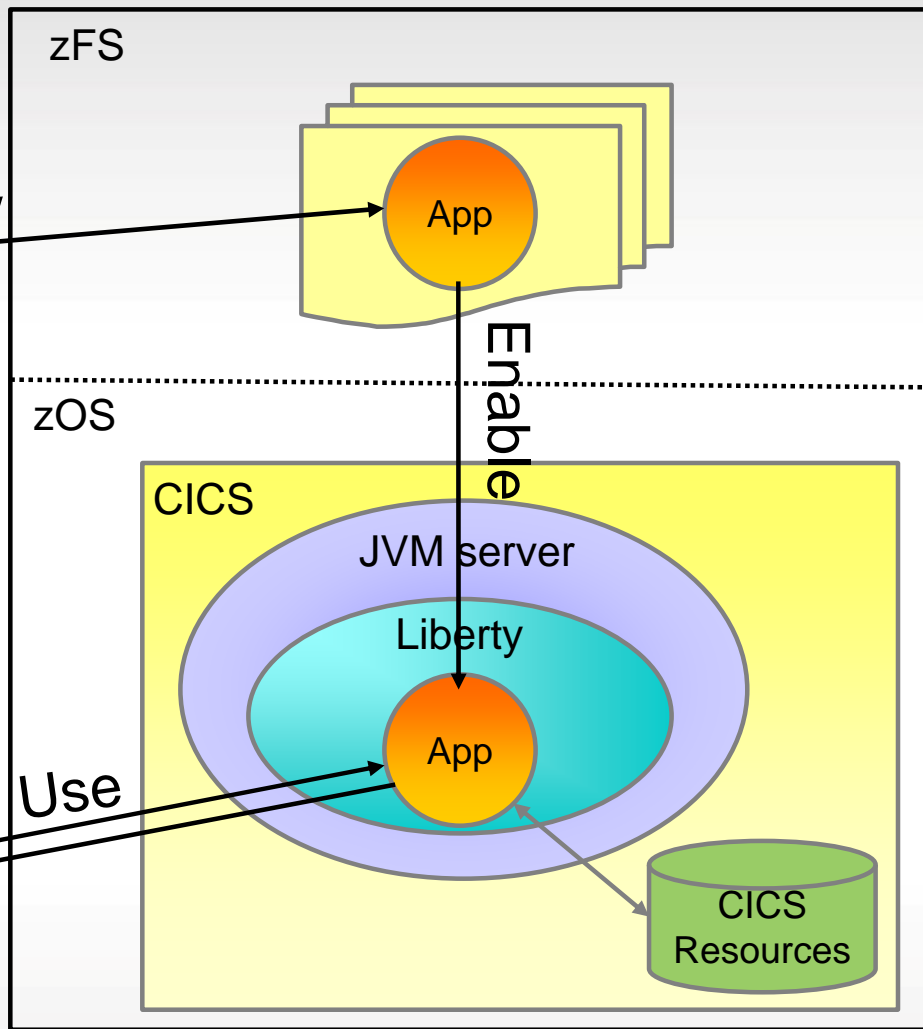
- **New Java web container is built on WebSphere Application Server Liberty profile technology:**
 - Liberty is a lightweight, composable, ‘profile’ of WebSphere Application Server
 - Provides a fast and lightweight Java web container
 - Provides “off the shelf” Web-server capabilities (JSPs and Servlets)
 - Provides potential to re-use even more WebSphere technology in CICS.
 - JSP and Web servlets have direct, local, access to CICS data and resources.
 - Servlets can take advantage of existing CICS OSGi applications to provide a Dynamic Web front end.

Liberty Profile Web Container - Putting it all together

Eclipse with CICS Explorer SDK & Liberty Tools



Deploy



Use



Dynamic Scripting – Run PHP applications inside CICS

CICS Transaction Server Feature Pack for Dynamic Scripting

Mobile interfaces

Create rich web or mobile interface to existing CICS applications and services

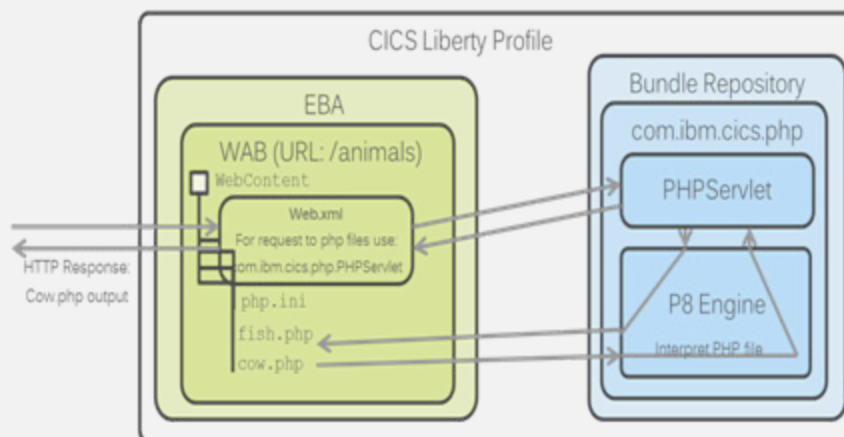
PHP Support

PHP support introduced in CICS TS V4 is now available in CICS TS V5

Co-location

Remove network latency and overheads by co-locating presentation logic with business data

Available on CICS TS V5.1

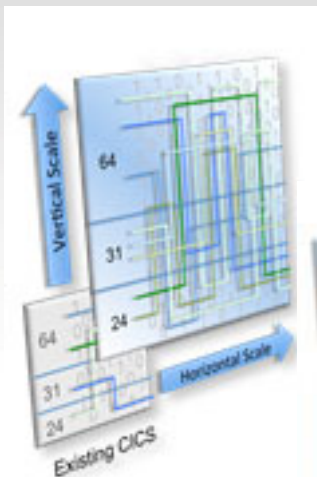




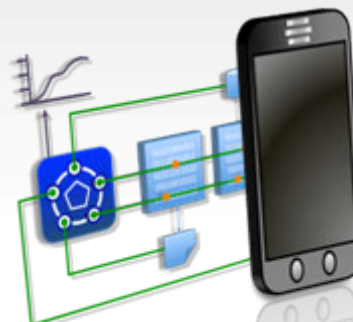
Summary

- **What is an Application?**
- **How do we package an application?**
 - Bundles
 - Definitions
 - Dependencies
 - Context
 - Application Project
- **How do we deploy an application to different platforms?**
 - Bindings
 - Application definitions
 - Cloud Explorer
- **How do we modernize our applications?**
 - Liberty Web Container

Try it now



**CICS Transaction Server V5.2
Open Beta**



Delivers more dynamic, flexible CICS application deployment.
Faster and more reliable CICS platform deployment.
Policy-based management of CICS applications and platforms.
Better vertical and horizontal scaling

64-bit addressing, thread safe, and higher maximum CICS tasks.

More exploitation of industry standards,
XML, Java, and TCP/IP.

Includes more core transaction processing capability

email notifications, identity propagation, API, and enhanced events.

Provides more comprehensive monitoring and statistics to improve operational metrics.

**CICS TS V5.2
Open Beta
Available now!**



CICS Resources

Find out more

Register for Impact 2014 today

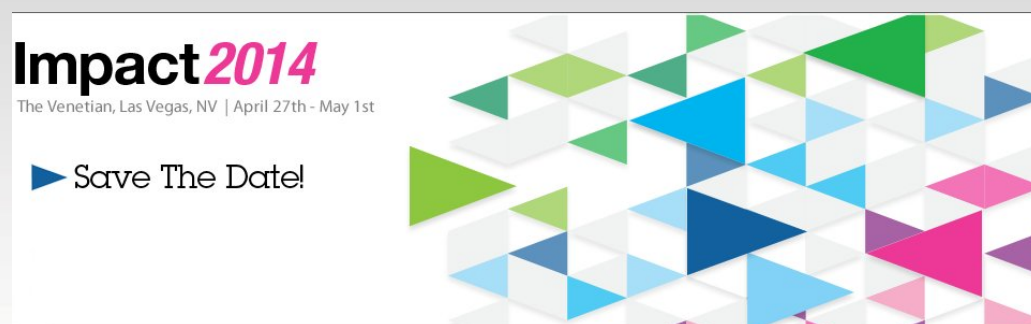
-30 CICS related sessions

- 2 Labs

-Meet CICS Technical specialists

-Hear about the latest CICS V5.1 Portfolio release

-<http://www-01.ibm.com/software/websphere/events/impact/registration.html>



CICS Smart Seminars

Arrange a customized CICS agenda at your location and hear about the CICS topics you want to hear about. Contact your local IBM representative or send an Email to cicssem@uk.ibm.com

CICS Developer Trial

CICS Developer Trial V5.1

Operational Efficiency and Service Agility with Cloud Enablement



- V5.2 Available in 2014
- No charge trial, fixed expiry date
- Does not start SVC period
- For non-production environments
- Available through IBM ShopzSeries
- PID 5655-Y30

Based on CICS TS V5.1

- (with restrictions)

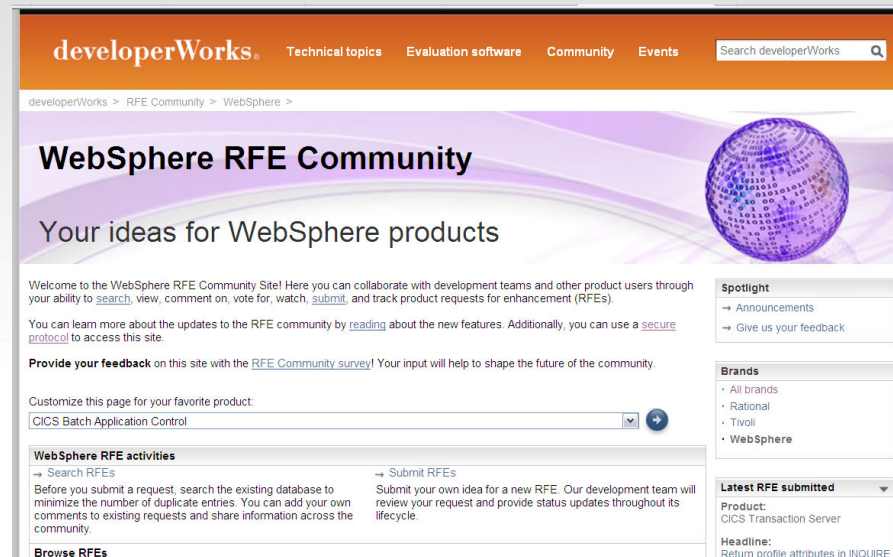
- Performance
- Capacity
- License

<http://www-03.ibm.com/software/products/en/cics-ts-devtrial>

Raising new requirements with RFE

- You can now raise and track requirements using the new IBM RFE system for

- CICS Transaction Server
- CICS Explorer
- TXSeries
- WXTR
- IBM CICS Tools
- CICS Transaction Gateway
- PD Tools




- All previous FITS requirements have been processed, and either be transferred to RFE or closed and returned
- All brands <https://www.ibm.com/developerworks/rfe/> - select Brand: WebSphere
- WebSphere only https://www.ibm.com/developerworks/rfe/?BRAND_ID=181
- Select Product Family: Transaction Processing - for CICS Transaction Server, TXSeries, and WXTR
- Select Product Family: Enterprise Tooling - for the CICS Tools, CICS Transaction Gateway, and PD Tools
- Raise CICS Explorer base requirements against the Explorer component of CICS TS.
- Raise plug-in requirements against the Explorer component of related product.



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 CICS Explorer Forum
ibm.com/developerworks/forums/forum.jspa?forumID=1475&start=0

 CICS-L list Forum
listserv.uga.edu/archives/cics-l.html

Key documents

▪ Analyst papers

- Lustratus Research - New project platform section for CICS Users
ftp://public.dhe.ibm.com/software/htp/cics/pdf/Lustratus_Research_Paper_New_project_p_latform_selection_for_CICS_users.pdf
- Branham Group: IBM CICS Tools: Unrealized Productivity Gains and True Cost Savings
ftp://public.dhe.ibm.com/software/htp/cics/tools/IBM_CICS_Tools_Whitepaper_2009.pdf
- Software Strategies: IBM z/OS Problem Determination Tool Suite Leads Again
https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?lang=en_US&source=sw_g-rszswg

▪ IBM Redbooks

- [CICS Transaction Server from Start to Finish](#), SG24-7952-00
- [Implementing IBM CICS JSON Web Services for Mobile Applications](#), SG24-8161-00
- [Smarter Banking with CICS Transaction Server](#), SG24-7815-00
- [Implementing Event Processing with CICS](#), SG24-7792
- [CICS and SOA: Architecture and Integration](#), SG24-5466-06
- [Implementation of Popular Business Solutions with CICS Tools](#), REDP-4824-00
- [Threadsafe considerations for CICS](#), SG24-6351-04
- [Architects guide to CICS on System z](#), SG24-8067-00
- [IBM CICS and the JVM server: Developing and Deploying Java Applications](#), SG24-8038



Next Session

CICS V5 Scalability and availability for a mobile world

- **Scalability**
- **Performance**
- **Policies**
- **Scalability Tooling**
- **Connectivity**
- **Summary**