

Operational Decision Manager User Experience

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Session 17147

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Agenda

- Problem statement
- Mainframe application landscape
- Adding ODM to mainframe applications
- Skills
- Lifecycle issues
- Decision Center
- Putting all the pieces together
- Issues
- Where are we today?
- Other sessions this week on ODM

Problem statement

- Business rules are currently embedded in COBOL source
 - Literally pages and pages of IF, THEN, ELSE
- It's time consuming to change application source code where business rules must change
 - Design, Programming, Testing
 - Multi-months from start to deployment
- With ODM, business rules can be externalized from the application

Goal: Allow applications to respond faster to the needs of the business

Mainframe application landscape

- Highly redundant z/OS Parallel Sysplex
- CICSplex environment across multiple LPARs
 - Applications available 24 x 7
 - Rolling IPLs used to maintain 100% availability through infrastructure changes
- Hundreds of CICS regions
- More than 300 million CICS transactions per day

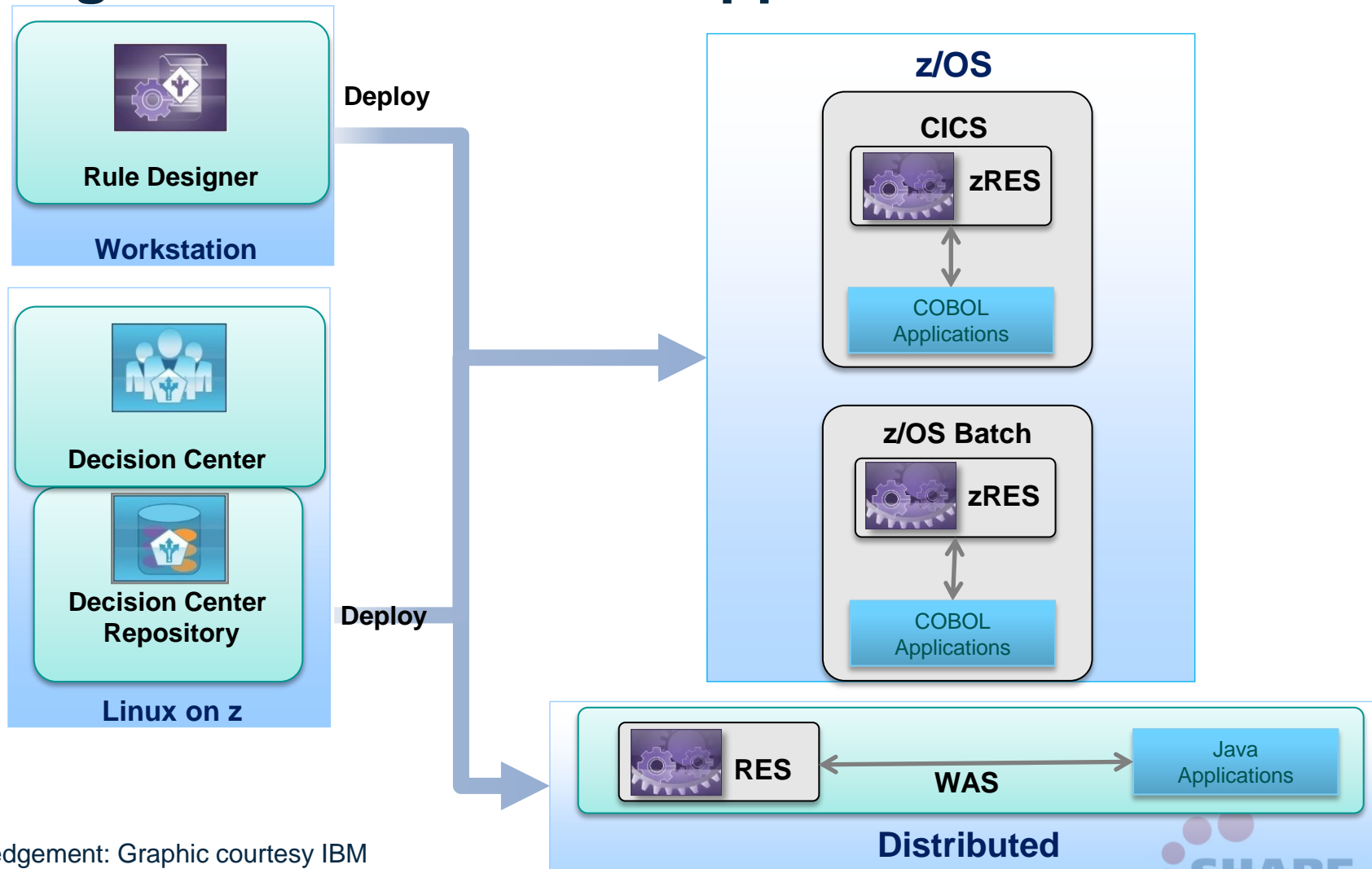
Adding ODM to mainframe applications

- Existing application lifecycle SCM product supports
 - Unit test
 - Integration
 - Q/A
 - Acceptance
 - Production
- We wanted to add ODM to this existing COBOL application lifecycle

Adding ODM to mainframe applications

- ODM Components
 - Rule Designer
 - Developer tool, Eclipse based
 - Decision Center
 - Developer and business analyst tools, web based
 - “Enterprise Console” and “Business Console”
 - Decision Server
 - Runtime, provides the execution environment
 - For z/OS, three flavors
 - CICS JVM, Started Task (for batch), WAS
 - For distributed, ODM runs in WAS

Adding ODM to mainframe applications



Acknowledgement: Graphic courtesy IBM

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Skills

- Infrastructure team
 - Changed the SCM landscape to add ODM
- Center of Excellence
 - Recommendation from IBM, a “virtual” team thus far, crossing infrastructure and app teams
- Application team
 - Use training to develop skills crossing COBOL and ODM
 - “Quick Win Pilot” active participants
- Business team
 - Use training to develop skills with ODM tools and techniques
 - “Quick Win Pilot” active participants

Lifecycle issues - Authoring

- Application team develops their rules using Rule Designer (Eclipse-based developer workstation tool)
- Deploy to Decision Server, a z/OS component that includes Rule Execution Servers we run in CICS/Java
- Rule Designer's own release level must not be higher than Decision Server release level
- Mainframe team needs to manage the unmanageable, developer workstations
- I'll discuss Decision Center a little later

Lifecycle issues - App/XOM coordination

- Execution Object Model (XOM) defines the interface between a COBOL copybook and a rule within Decision Server
 - An artifact created by Rule Designer
- Need to capture XOM in SCM repository, along with the rest of the rules' artifacts
 - All applications require traceability for regulatory compliance
- How to deploy rules in production?
- Traditional COBOL deployment automated for decades
- Rules deployment is currently a manual process

Lifecycle issues - Java

- ODM Rule Execution Servers (RES) operate in JVMs
- For CICS applications, we run the RES in a CICS JVM
- A particular CICS release level currently requires a particular Java level
 - Future CICS releases may help reduce 1:1 Java/CICS dependencies
- How to manage release changes across interdependent ODM, CICS and Java version changes is a concern

Lifecycle issues – Rolling Upgrade

- We upgrade CICS using “rolling IPL” technique
- We discovered that Decision Server RESes across a CICSplex expected a single release level across the CICSplex
- These requirements are in conflict
- ODM needs to support N-1 release compatibility so that it is possible to migrate to the next release in a phased approach without taking a CICSplex-wide outage

Multi-tenancy

- ODM started out life as a distributed product
- One application per server is a common landscape
- This approach can be thought of as single-tenancy, with multi-tenancy commonly achieved through server virtualization
- Our approach to our mainframe environment is fairly typical, multiple applications sharing a common, clustered infrastructure
- I think of this approach as platform (or subsystem) multi-tenancy
- The distinction between these two approaches is a theme of some challenges we've seen

Decision Server Multi-tenancy

- Our Decision Server Rule Execution Server (RES) landscape aligns with our existing CICSplex landscape, a multi-tenant environment
- Today, application ABC is responsible for their CICS transactions and programs, and when rules for ABC are added, they are responsible for those as well
- In that same CICSplex, application DEF also exists, and uses ODM rules.
- Anyone who has deployment privilege to a Decision Server RES can deploy anything. App ABC could (inadvertently) deploy a DEF rule set.

Decision Center Multi-tenancy

- We host Decision Center on Linux for z (WAS application)
- Decision Center security is not multi-tenant “friendly”
 - Has “security” in that there are literally hundreds of knobs we can tweak to control access
 - Significant effort to define “guard rails” to keep separate app teams from stepping on each other
- We decided to host multiple Decision Center applications within the Linux guest’s WAS instance (one application team per Decision Center app instance)
 - The best multi-tenant solution with the current implementation that we were able to figure out so far

Lifecycle issues – Multiple “sources of truth”

- Rules start out in Rule Designer
- Rules can be modified in Decision Center
 - Much easier tool for business analysts to use
- Decision Center does not support the XOM from a rule lifecycle perspective

- Now there are two “sources of truth” for a rules application
 - An additional complexity and introduces the possibility of human error

- We are explicitly highlighting this with each team that wants to use Decision Center in their rules lifecycle

Where are we today?

- Two applications in production, with simple rules
- Several applications kicking the tires, with complex rules
- Working with each app team to help them maintain awareness of the lifecycle issues previously highlighted
 - Authoring
 - XOM coordination
 - Java coordination
 - Rolling upgrades

Issues for IBM to solve

- XOM
- Rolling upgrade support
 - N-1 coexistence / compatibility
- Decision Center Multi-tenancy
- Decision Server Multi-tenancy

Questions?



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Other sessions this week on ODM

- Tuesday at 12:30 in Metropolitan A:
 - 17181: Lunch and Learn: Decisions Rule CICS Applications by Ian Mitchell, Chris Backhouse and Richard Szulewski, IBM
- Wednesday at 10:00 in Virginia:
 - 16721: Decision Management: Making the Right Change, at the Right Time by Richard Szulewski, IBM
- Thursday at 1:45 in Willow A:
 - 16569: Dynamic Business Rules and Other Things You Didn't Think CICS could do by Chris Backhouse, IBM