Next Generation of On-Premise Business Applications

OpenEdge Advanced Development:

Enhancing Productivity, Agility & Visibility with
Progress Corticon BRMS and Progress OpenEdge BPM

David Atkins Ph.D.
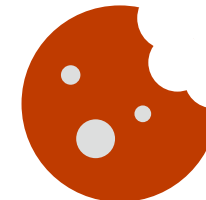Senior System Engineer
Progress Software

**PROGRESS
EXCHANGE** 2014

Agenda & Timeline

- Goals, introductions & logistics

- The What? Why? And How? of Next Gen Applications   20m

- OpenEdge BPM: overview, demo, **hands-on lab** & discussion   60m

- Corticon BRMS: overview, demo & **hands-on lab** & discussion   60m

- Agility in Action: **hands-on lab**   30m

- Closing discussion

Fresh drinks & snacks
@ 10:30 & 2:30

Today's Goals

- Understanding of Corticon & OpenEdge BPM

- Hands on familiarity & experience

- See value of Corticon BRMS and OpenEdge BPM

- Spark some ideas

PLEASE… Interact… Learn… Think of a use case… Experiment…

Introductions

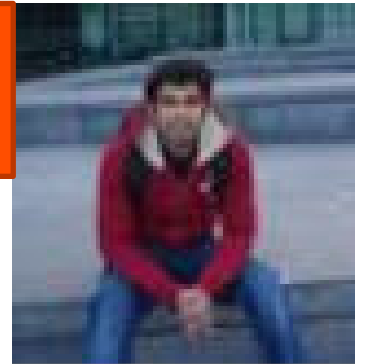**David Atkins**, **Solutions Engineer, Progress (Massachusetts)**

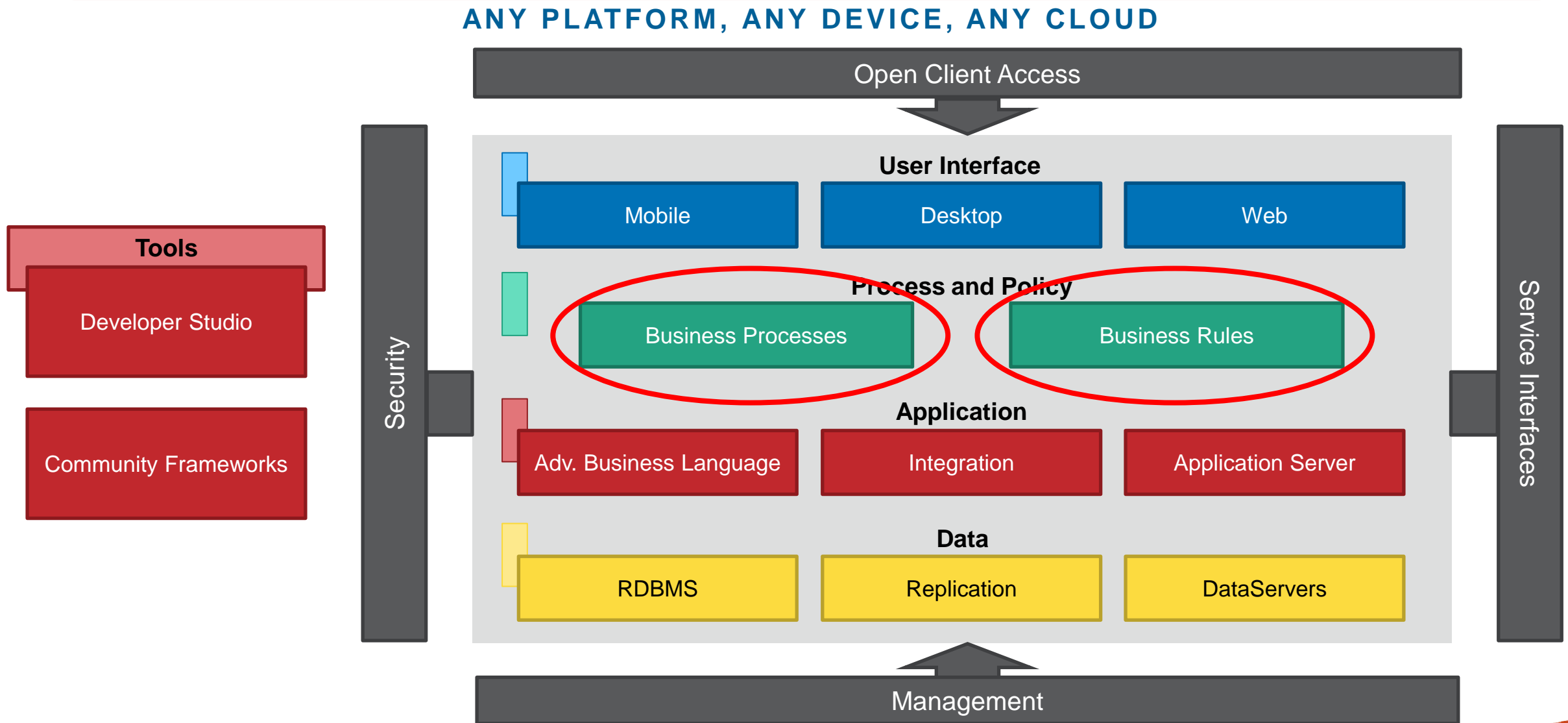**Abhinav Agarwal**, **Principal OpenEdge-BPM Engineer, Progress India**

Suresh Inavolu, **Principal OpenEdge-BPM Engineer, Progress India**

Jawahar Surapaneni, **Senior OpenEdge-BPM QA Engineer, Progress India**

BPM and BRMS in "Next-Gen" OpenEdge Reference Architecture

ANY PLATFORM, ANY DEVICE, ANY CLOUD

Open Client Access

User Interface

| Mobile | Desktop | Web |

Tools

Developer Studio

Community Frameworks

Security

Process and Policy

Business Processes

Business Rules

Service Interfaces

Application

| Adv. Business Language | Integration | Application Server |

Data

| RDBMS | Replication | DataServers |

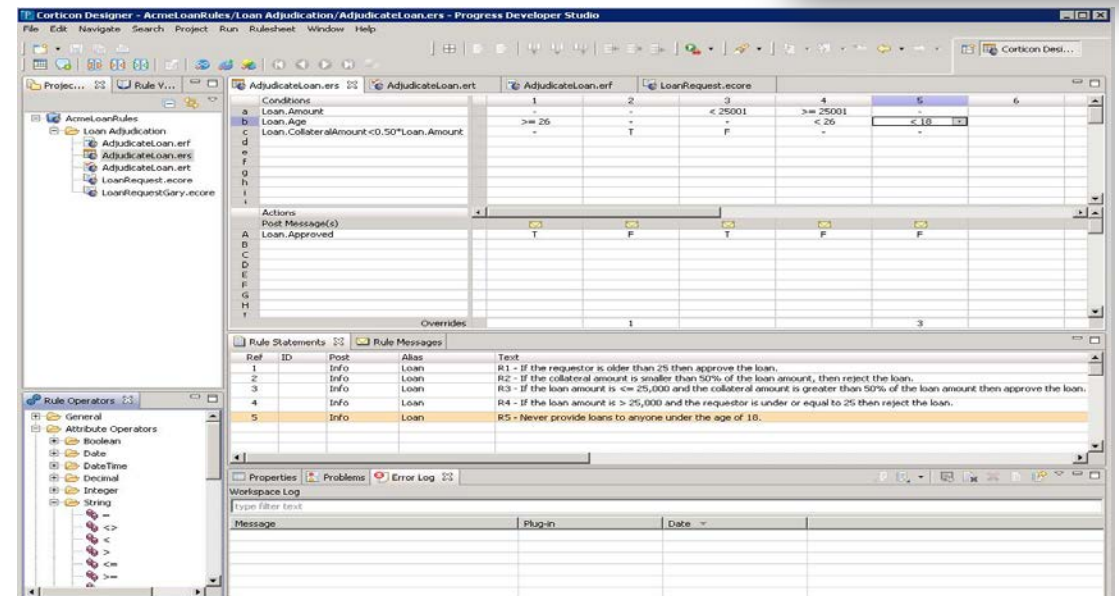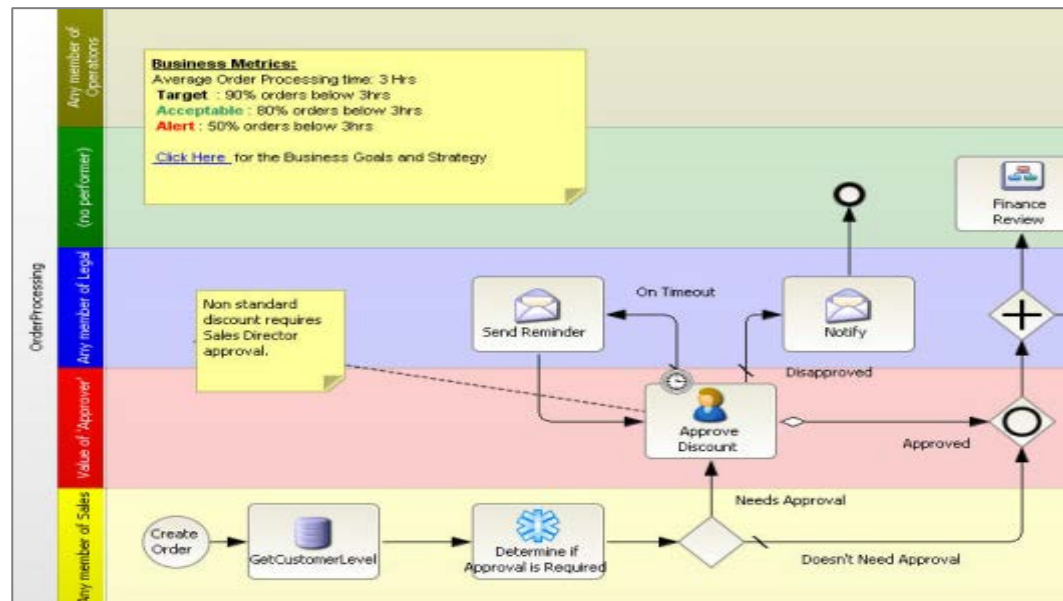Management

CEO, Owner, Sales Director Must…

Improve Decision Making

Gain greater visibility into business operations, leading to process optimization that was difficult or impossible to previously achieve

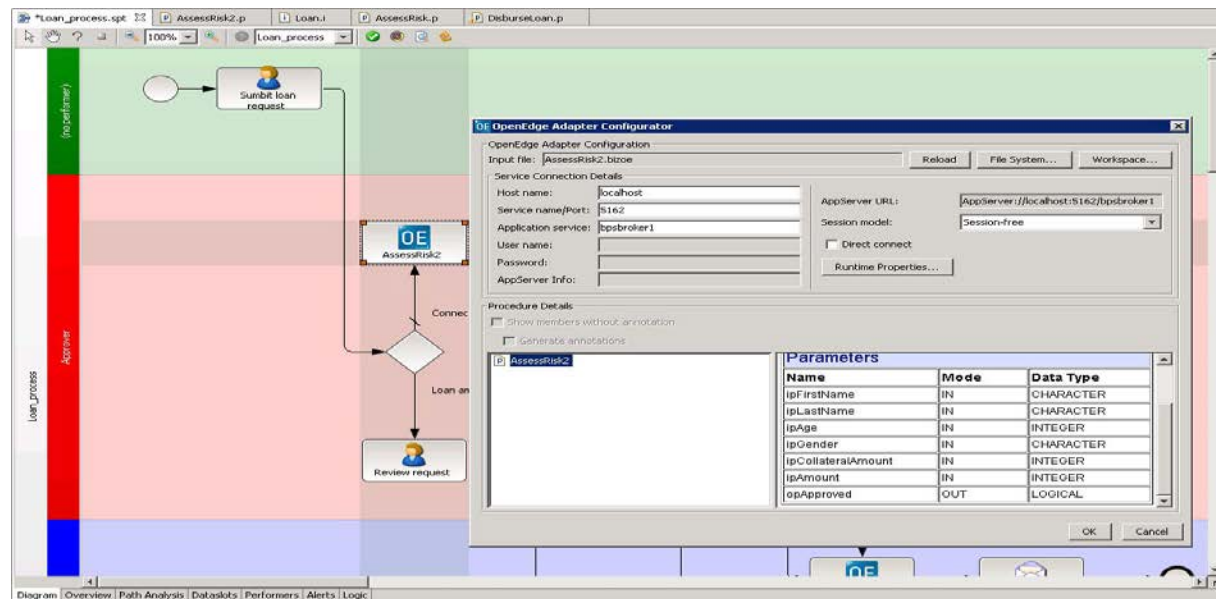# Business Analysts Must…

Quickly innovate and respond to change

Define and optimize process steps without involving Engineering

Maintain and validate business rules to meet business objectives

Developers Must…

Implement Systems Faster and Cheaper

Enrich process models, connecting process steps to business logic without complex coding, resulting in fewer mistakes/errors

Deploy and integrate business rules into OpenEdge applications

Drivers for Next Gen Apps

Volatility	▪ Adapt logic & workflow rapidly ▪ Simplify customization
Visibility	▪ Prove regulatory compliance ▪ Accessible to business users
Empower Business Users	▪ Closer to business needs ▪ Free up ABL resources
Complexity	▪ Detect and avoid ambiguity or incompleteness in logic

Scenario for Lab Exercises: Simplified Loan Application Process

Accept -> Acknowledge -> Approve -> Price -> Notify

- Going from:
  - OpenEdge GUI for .NET front end
  - ABL logic for automated loan approval & loan pricing
  - Manual acknowledgements, notifications & approval routing

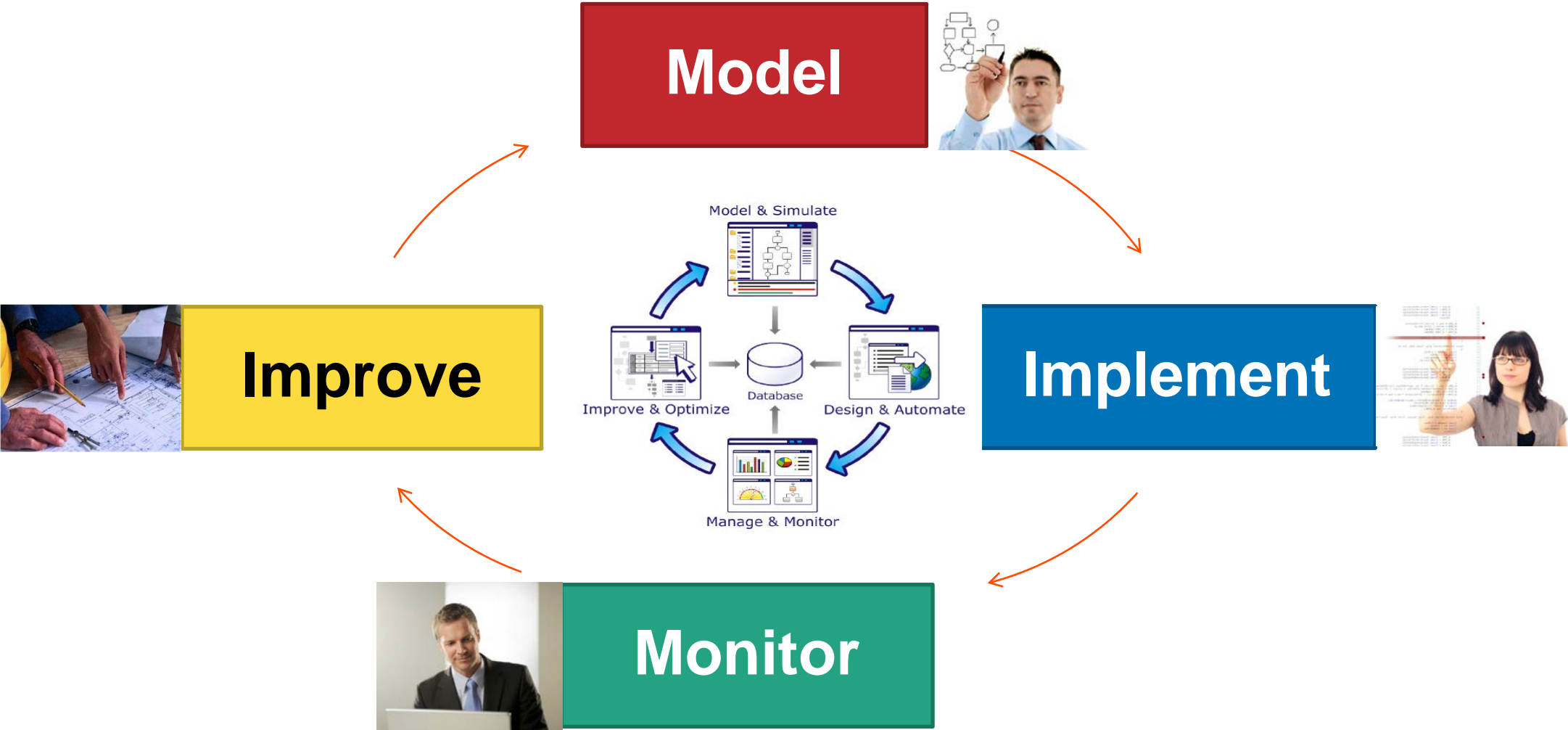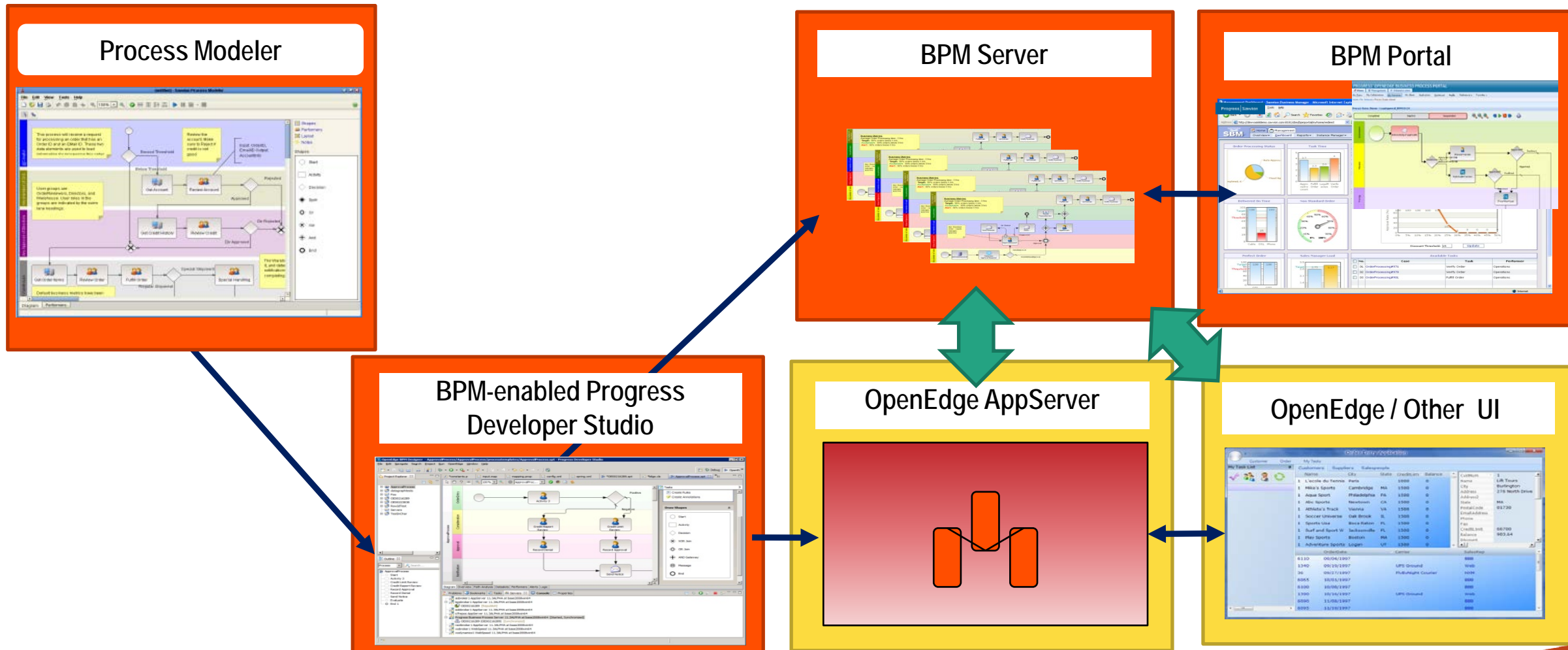| Lab 1	Lab 2	Lab 3
▪ Re-use existing ABL approval and pricing logic ▪ Adds web UI option for loan application ▪ Automates acknowledgements, notifications and approval routing	▪ Adds business rules for more complex automated loan approval & for loan pricing	▪ Steps through business rule and process change cycles

Questions and Discussion

OpenEdge BPM enables **agile** model-driven workflow design and automation, improving **consistency** and real-time end-to-end **visibility**.

Roles and Products Usage

Key Components of OpenEdge BPM

Process Modeler

BPM Server

BPM Portal

BPM-enabled Progress Developer Studio

OpenEdge AppServer

OpenEdge / Other UI

OpenEdge BPM Incremental Adoption Paths

Modeling	Formal unambiguous definition of process Insights possible through process simulation	**Continuous Process Optimization**
Monitoring	Hook apps into processes via BPM APIs Apps still control their own workflow	
Exception Automation	Incrementally add automated work steps to handle exceptional scenarios	
Full Automation	Gradually remove workflow logic from code Maximizes agility to adapt & evolve workflow	

OpenEdge BPM models and automates both application-level workflows AND the broader business process contexts within which OpenEdge applications participate

Demo –
Building a Simple Business Process

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Questions and Discussion

Hands On Workshop: Lab 1 (BPM)

Connect to Your Arcade Instance

- Check email for hostname of your Corticon Workshop Arcade image

- Connect with Remote Desktop client:
  - Username: Administrator (no domain)
  - Password: Exchange2014

- Further details in Workshop Labs document

- Once connected, PDF version of Workshop Labs doc can be found on VM desktop

Exercise 1: Create Loan Approval Business Process Application (45 Minutes)
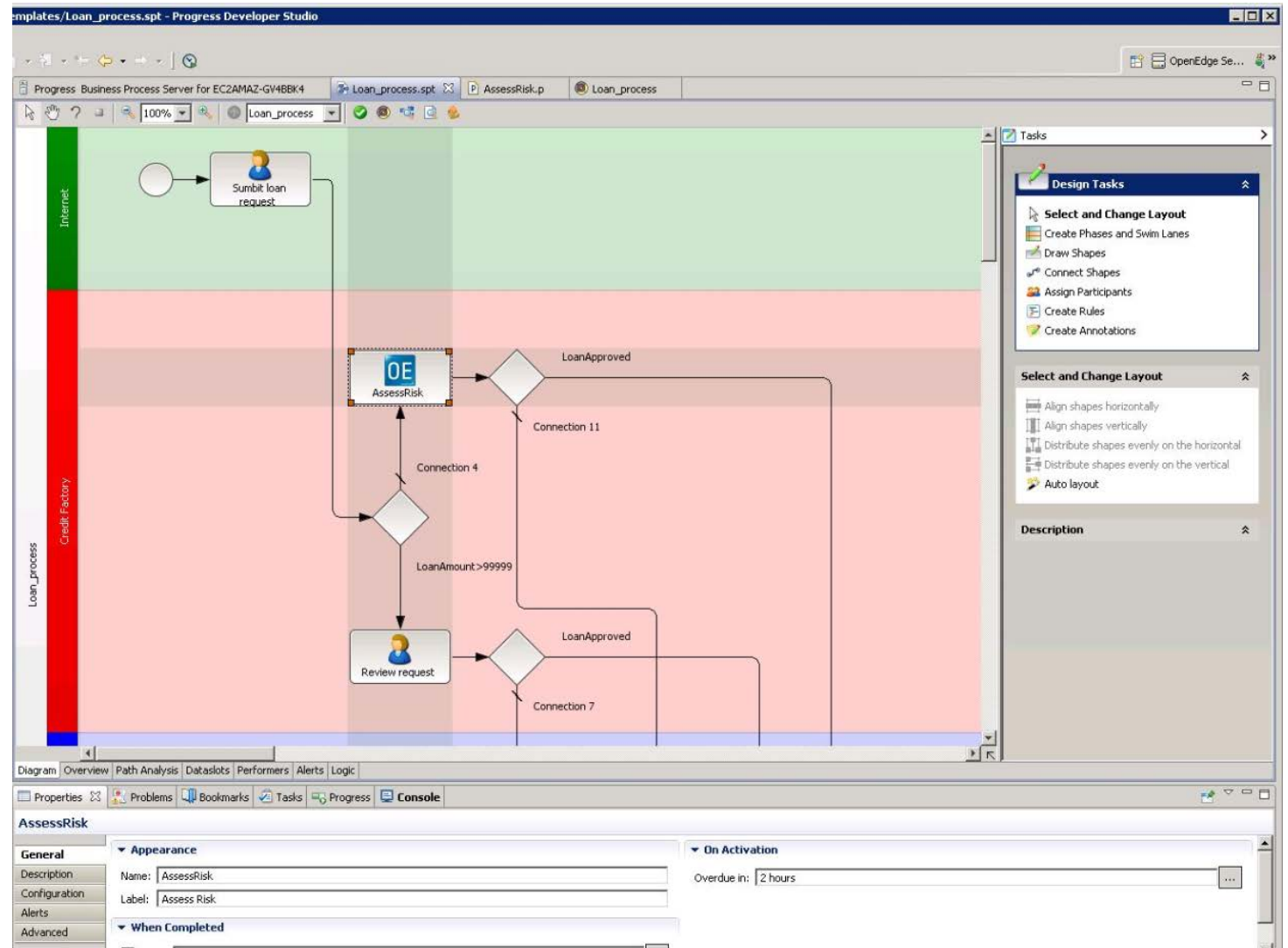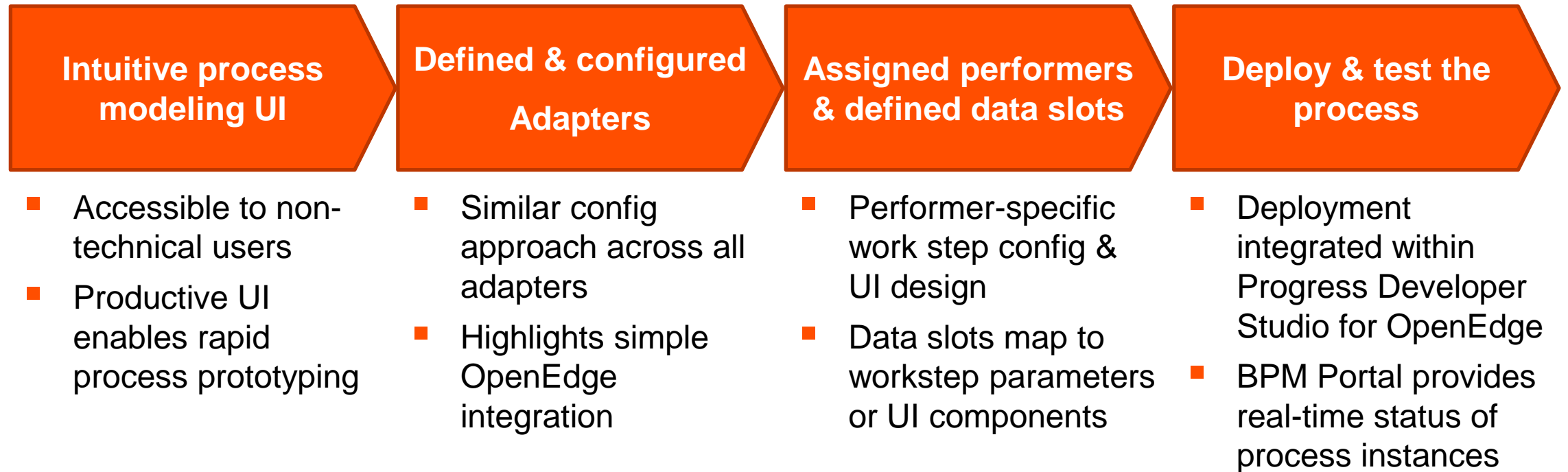
- **Layout process model**
- **Define data slots**
- **Assign performers**
- **Configure adapters**
- **Deploy process to BP Server**
- **Test the process application**

Review Exercise 1: Create Loan Approval Business Process Application

Intuitive process modeling UI	Defined & configured Adapters	Assigned performers & defined data slots	Deploy & test the process

- Accessible to non-technical users
- Productive UI enables rapid process prototyping

- Similar config approach across all adapters
- Highlights simple OpenEdge integration

- Performer-specific work step config & UI design
- Data slots map to workstep parameters or UI components

- Deployment integrated within Progress Developer Studio for OpenEdge
- BPM Portal provides real-time status of process instances

Questions and Discussion

Progress Corticon is software to help make the **Right Decision** at the **Right Time** with **Business Agility**

Automating Business Rules – The Problem

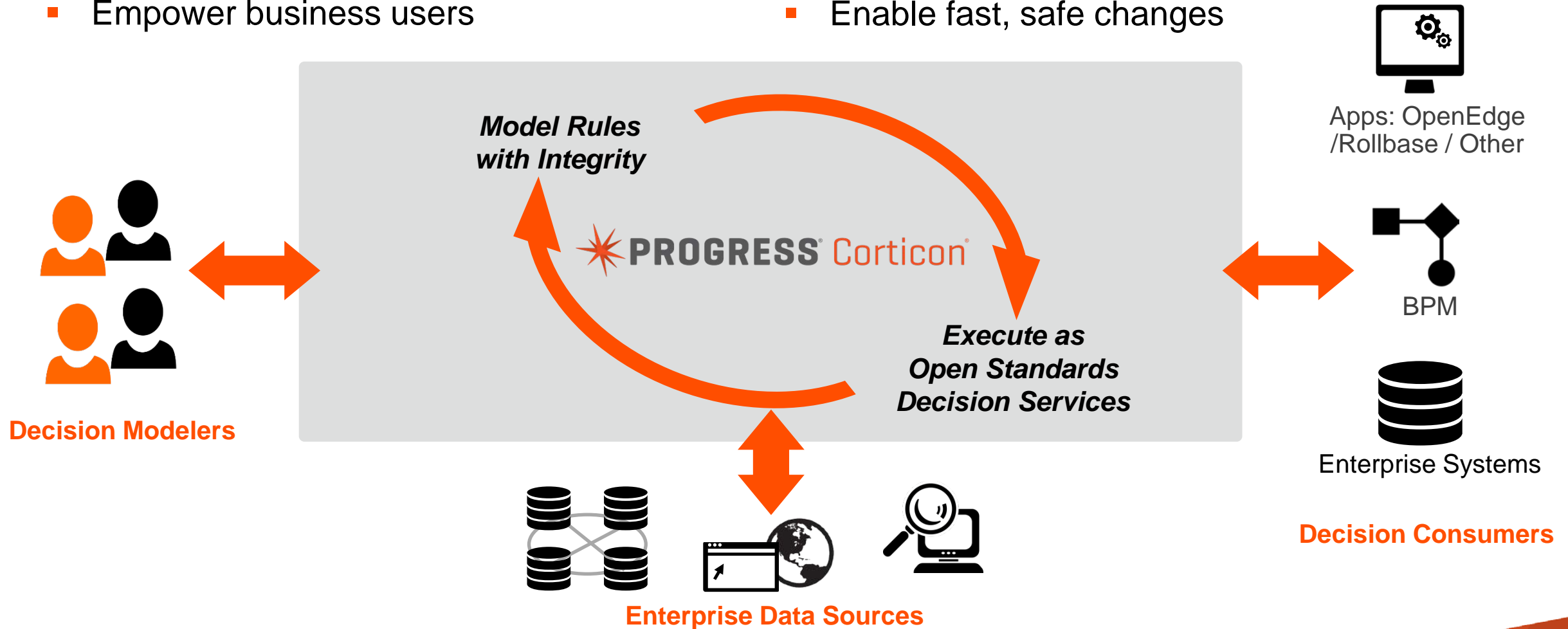**Traditional approach is programming-based**

- Simple rules difficult to automate, sophisticated ones impossible

- Single change can impact hundreds of rules/processes

Policies → | Regulations ←
Consumer Behavior → | Market Shifts ←
Competition → | Fraudsters Adapting ←

FRAGILE
HANDLE WITH CARE
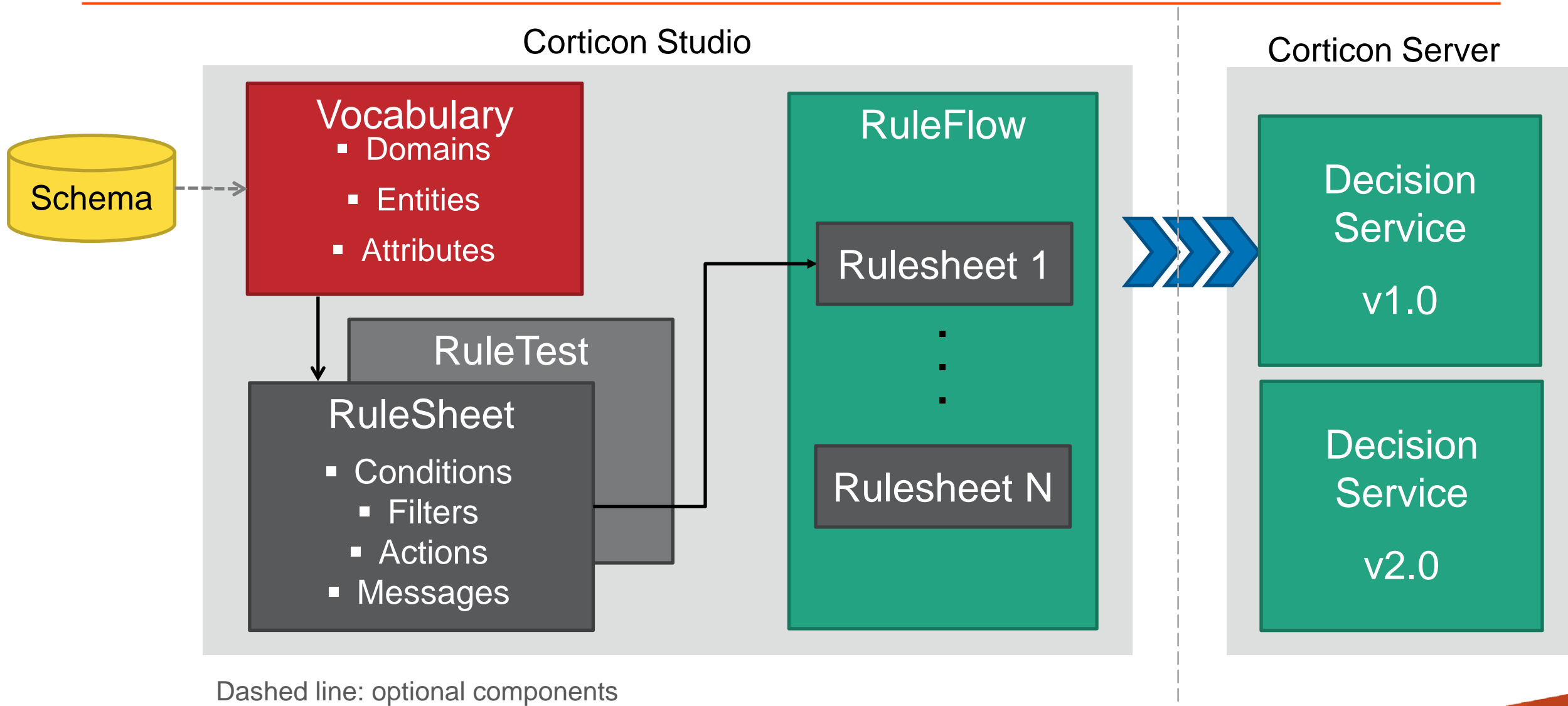
"That change requires 2 years & 5M"

Corticon enables organizations to make better, faster decisions by automating business rules

The Solution: Progress Corticon Business Rules Management System

- Separate decision logic from code
- Empower business users
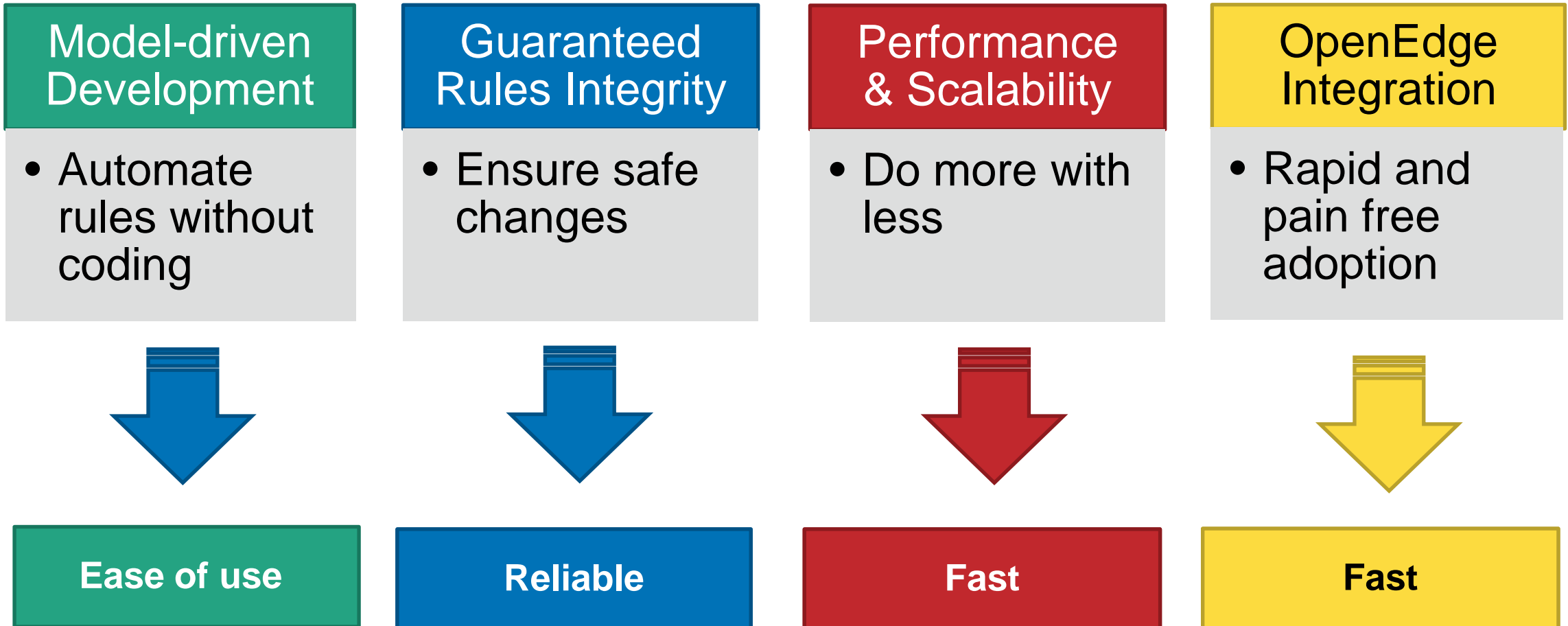- Ensure performance & scalability
- Enable fast, safe changes

Model Rules with Integrity

PROGRESS Corticon

Execute as Open Standards Decision Services

Decision Modelers

Enterprise Data Sources

Apps: OpenEdge /Rollbase / Other

BPM

Enterprise Systems

Decision Consumers

Corticon Rule Modeling

Corticon Studio

Corticon Server

Schema

Vocabulary
- **Domains**
  - **Entities**
  - **Attributes**

RuleTest

RuleSheet
- **Conditions**
  - **Filters**
  - **Actions**
- **Messages**

RuleFlow

Rulesheet 1

.
.
.

Rulesheet N

Decision Service v1.0

Decision Service v2.0

Dashed line: optional components

Demo –
Build a Simple Decision Service

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Corticon Differentiation

Model-driven Development	Guaranteed Rules Integrity	Performance & Scalability	OpenEdge Integration
• Automate rules without coding	• Ensure safe changes	• Do more with less	• Rapid and pain free adoption

Ease of use	Reliable	Fast	Fast

CHALLENGE

- Meridian Health Plan needed to expand healthcare claims processing business into new states and keep up with changing regulations as HIPPA and the Affordable Care Act ("Obamacare")

SOLUTION

- Use **Progress Corticon** BRMS to modernize existing OpenEdge architecture

BENEFIT

- Empower healthcare domain expert to manage volatile decision rules outside of the OpenEdge ABL

- Accelerate application customization covering the needs of each customer as well as state/local regulatory schemes

Guaranteed Rule Integrity Compresses Development Lifecycle

Traditional Approach

Often contains errors and performance issues

| Specify | Design* | Templates / Code* | Test* | Integrate* | Deploy* |

Reduce development and change cycles by 90%

Corticon Approach

| Model | Integrate* | Deploy* |

Higher quality, higher performance, agility

* Requires Technical Resource

NCAA Case Study: Proven Productivity Benefits of Corticon

Sample ROI Analysis – Automation of single, decision-making task*

	1st Generation	Corticon	
Initial Development			
Analyze	20 hours	20 hours	
Prepare – Design	5 hours	N/A	
Prepare – Implement	200 hours	2 hours	
Total	**225 hours**	**22 hours**	***10x Improvement***
Change Cycle			
Analyze	15 hours	0.5 hours	
Prepare – Design	7 hours	N/A	
Prepare – Implement	28 hours	1.5 hours	
Total	**50 hours**	**2 hours**	***25x Improvement***

Per NCAA customer testimonial.

Performance & Scalability

- Traditional rule engine algorithm is Rete
  - Scales well with increasing number of rules
  - Degrades exponentially with increasing complexity of data – the "Rete Wall"

- Corticon's patented DeTI (Design Time) algorithm
  - Scales linearly with number of rules and complexity of data
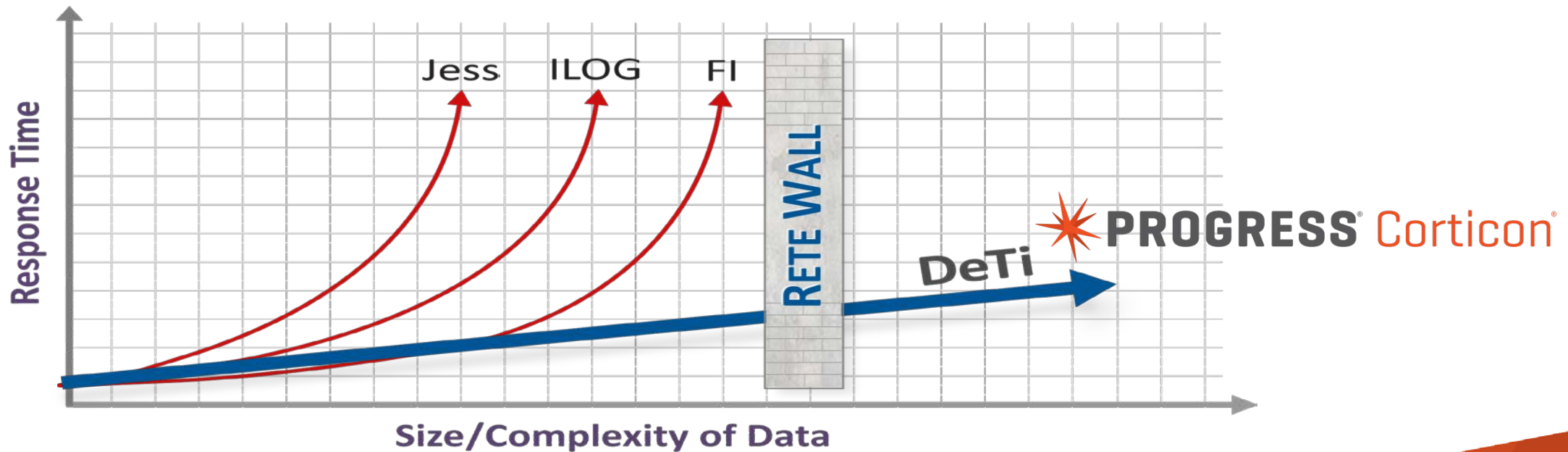
OpenEdge and Corticon

1. **Simple, fast ABL API**

   - Simple API hides most invocation complexity & abstracts transport

   - ABL apps can reuse existing metadata as i/o (ProDataSets, Temp Tables)

   - Productivity macros: **BR-CONNECT, BR-INVOKE** and **BR-GETMSG**

2. **Design-time Meta-data integration**

   - Create Corticon vocabulary from existing TempTables and ProDataSets

3. **Enterprise Data Connector: dynamic code-free OpenEdge DB integration**

   - Enrich request data with dynamic OE DB lookup

   - Add or update data in OE DB direct from Corticon decision service

4. **Corticon complements OpenEdge BPM**
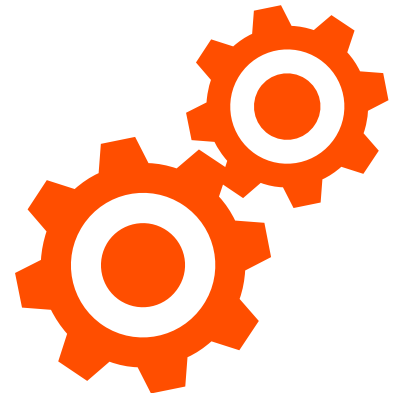
Why Use Corticon?

- Enables **business domain experts** (as well as IT) to maintain volatile decision logic

- Allows some decisions to be managed in a **separate tier** with a more agile lifecycle

- **Accelerates** development and **reduces** maintenance time

- Frees up valuable OE **resources**

- Improves ease of use through **good visual tooling**

- Integrity checks improve application **quality**

Hands On Workshop:
Lab 2 (BRMS)
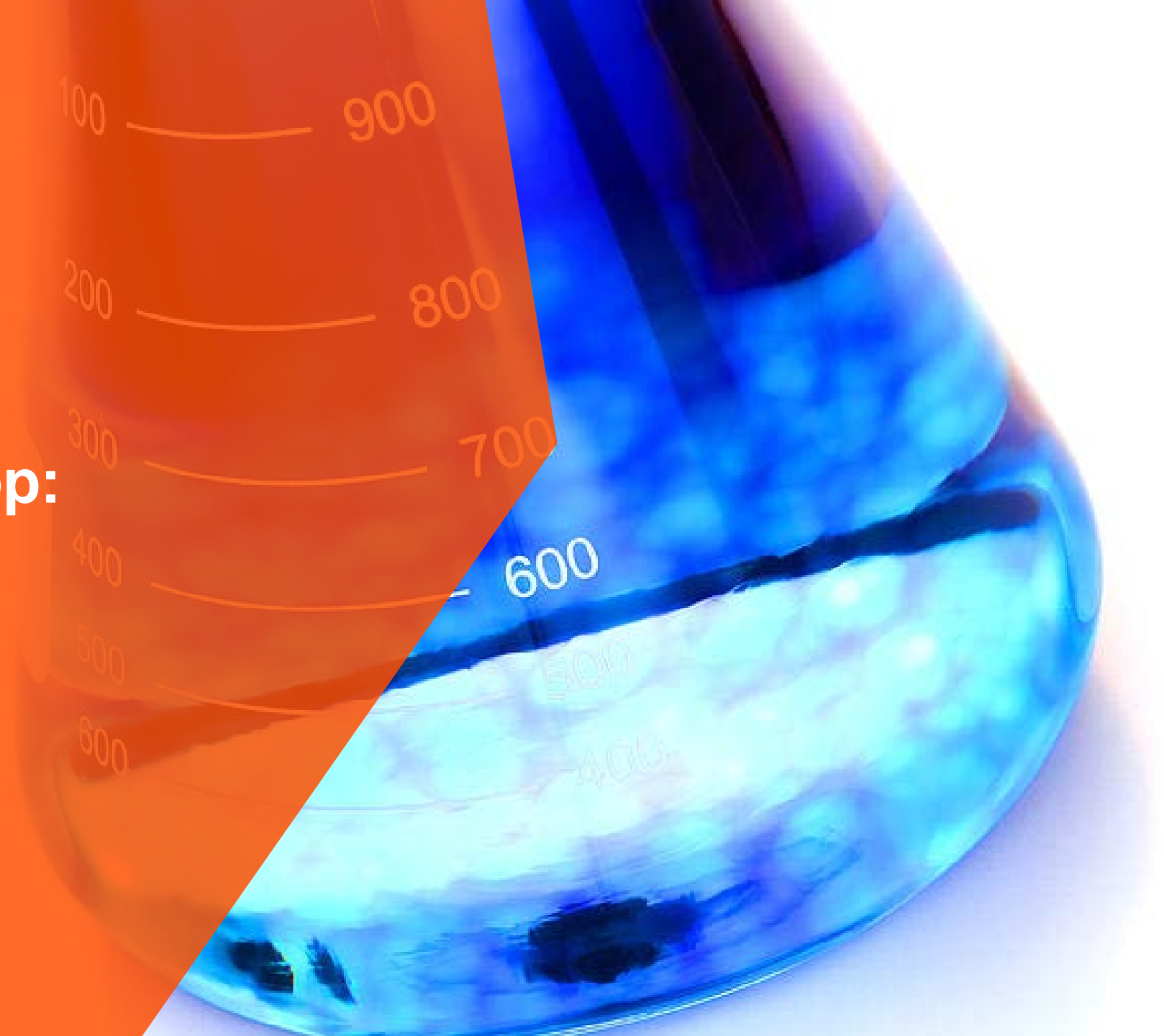
Exercise 2: Create Corticon Loan Approval Decision Service (45 minutes)

Create Vocabulary

Model Business Rules

Create & Execute Tests

Deploy Decision Service

Update ABL to invoke DS

Review Exercise 2: Model Corticon Decision Service

Create Vocabulary	Model Business Rules	Create & Execute Tests	Deploy Decision Service	Call DS from ABL & BPM
The business friendly terms that rules are written against	No coding, drag & drop, complete validation of business logic	Real data to see real decision outcomes	Quickly publish decision to one or more Corticon Servers	OE Rules ABL API abstracts complexity of underlying protocol and message format needed to invoke Decision Services

Questions and Discussion

Hands On Workshop:
Lab 3 (Change)
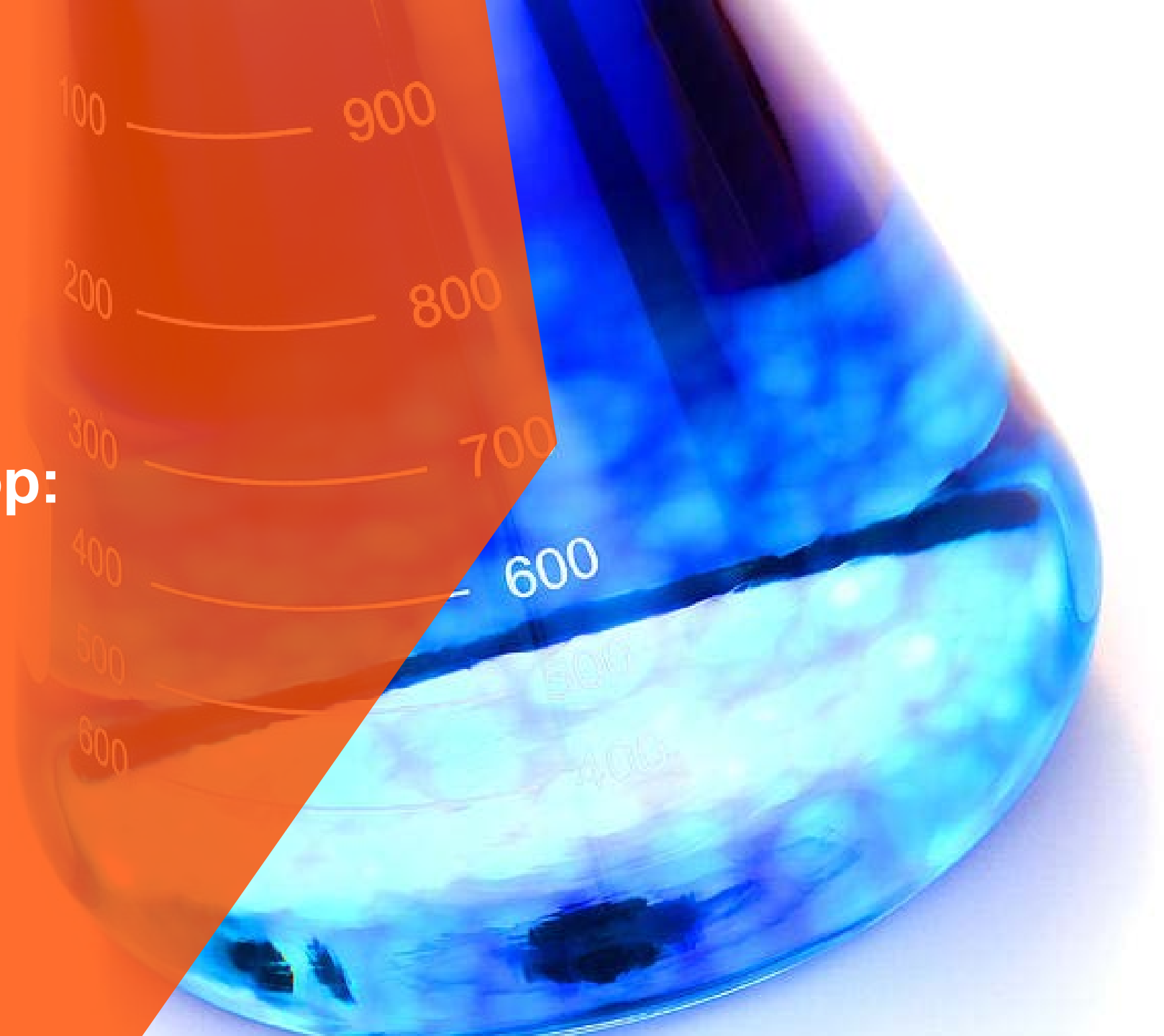
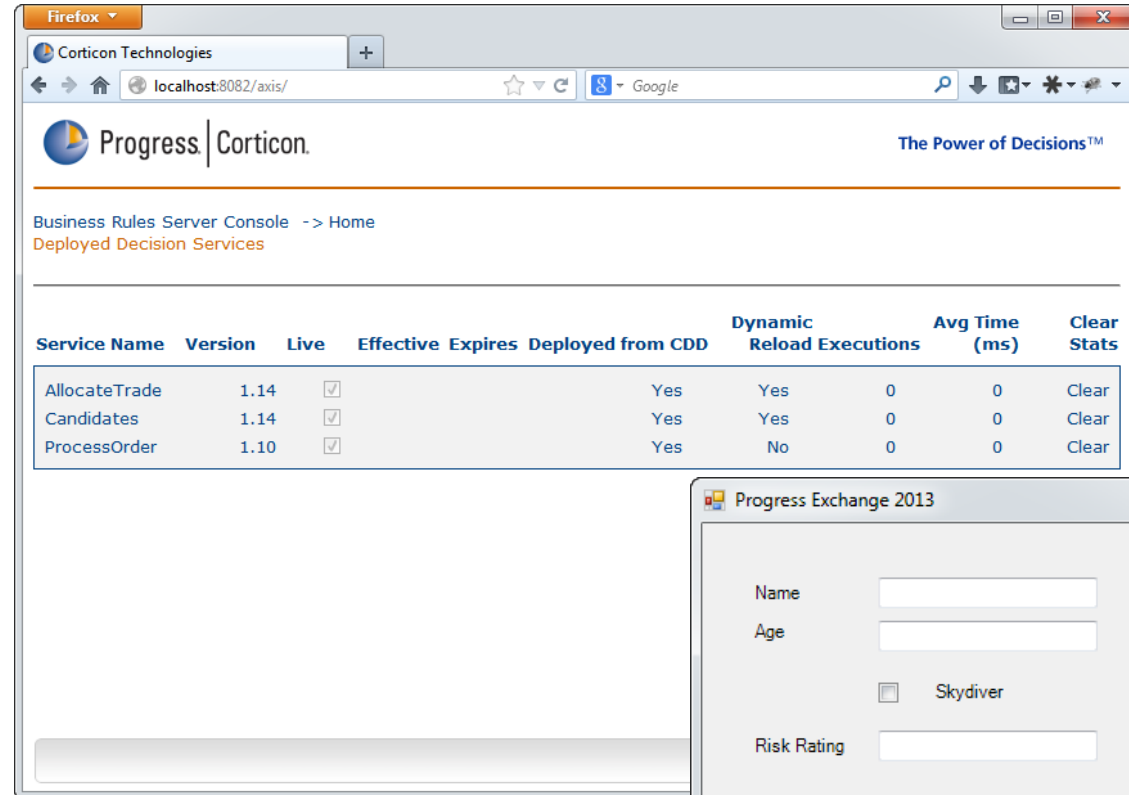# Exercise 3: Update Business Process & Decision Service (20 Minutes)

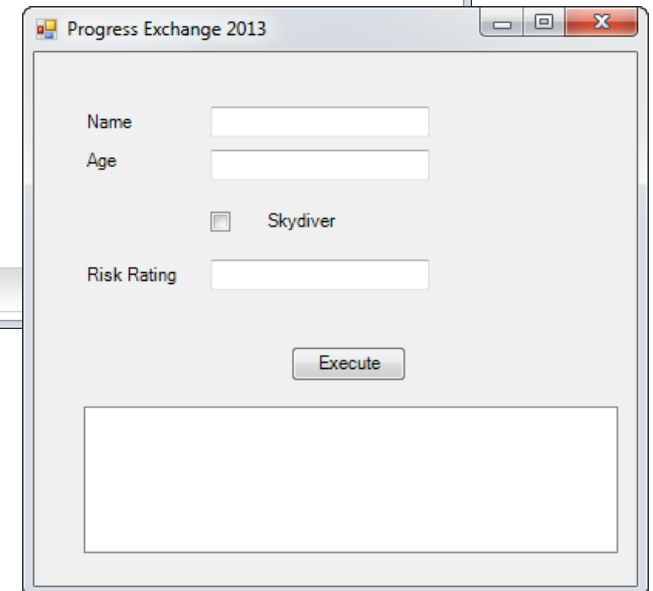**Update existing Rulesheet**

Re-deploy the Decision Service

Evolve existing Business Process

Re-deploy the Business Process

Test updated business process

Firefox

Corticon Technologies

localhost:8082/axis/

Google

Progress. | Corticon.

The Power of Decisions™

Business Rules Server Console -> Home
Deployed Decision Services

Service Name	Version	Live	Effective	Expires	Deployed from CDD	Dynamic Reload	Executions	Avg Time (ms)	Clear Stats
AllocateTrade	1.14	☑			Yes	Yes	0	0	Clear
Candidates	1.14	☑			Yes	Yes	0	0	Clear
ProcessOrder	1.10	☑			Yes	No	0	0	Clear

Progress Exchange 2013

Name

Age

☐ Skydiver

Risk Rating

Execute

Review Exercise 3: Update Decision Service

Change in place logic & workflow

- Updates to application logic are governed by rule models
- Updates to workflow are governed by process models
- No need to update ABL code to update app behavior

Hot deploy decision services & processes

- No need to cycle server

Monitor results

- Corticon Server console shows executions for all versions
- OpenEdge-BPM Portal shows changed behavior of updated process instances

Questions and Discussion

What Next?

TODAY

PLEASE… Interact… Learn… Think of a use case… Experiment…

TOMORROW

Brainstorm use cases with your team – and with your Progress team

Experience a demo of Corticon and/or OpenEdge-BPM applied in your context

Evaluate Corticon Studio and/or OpenEdge-BPM (in Progress Dev Studio for OpenEdge)

Build out a proof point use case – it doesn't take long – and we'll help!

AND…

Related Breakout Sessions

Consider attending these breakouts to find out more about Corticon & OpenEdge BPM:

Corticon BRMS

Wed@11:00: "Progress® Corticon®—Understanding Business Rules and When to Use Them" (Mark Allen, Progress)

Wed@2:45: "Customizing Your Application, NO PROBLEM!" (Carole Miller, Progress)

OpenEdge BPM

Tue@4:15: "What's New in OpenEdge BPM 11.4" (Suresh Inavolu, Progress)
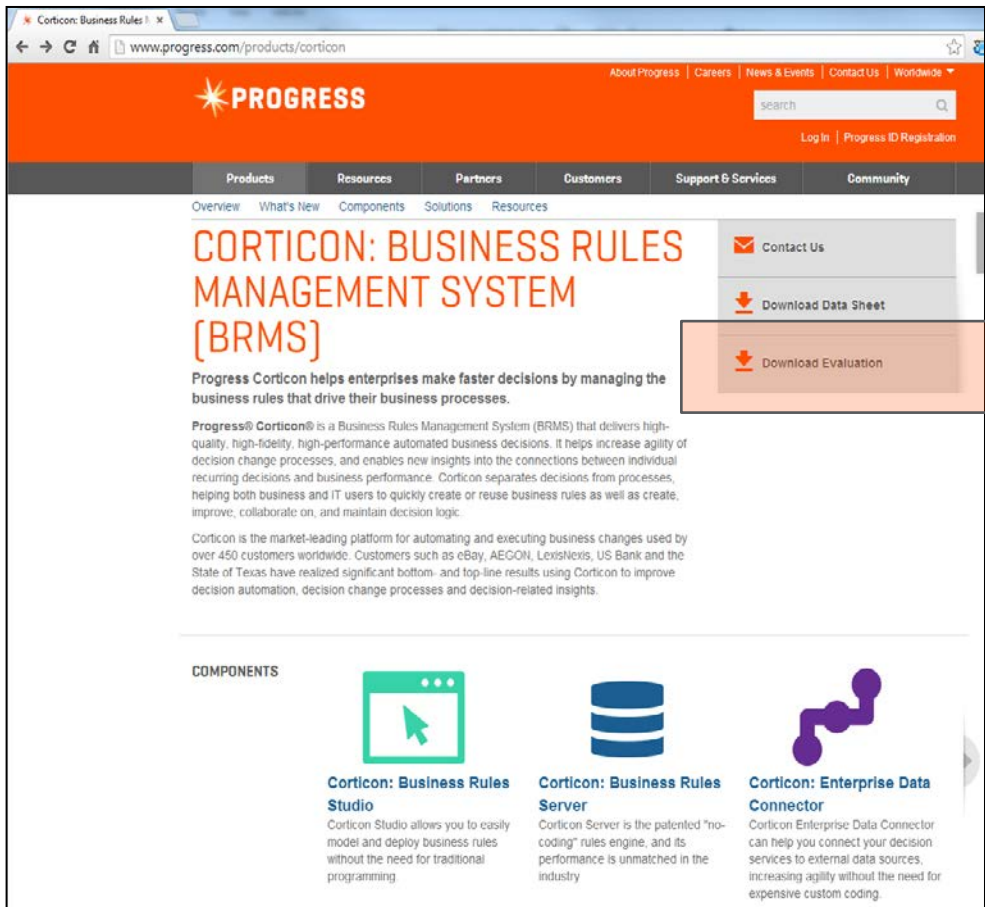
Both

Tue@11:00: "Modern Business Application Development" (Peter Judge, Progress)

Tue@2:45: "Using OpenEdge, Corticon, Rollbase and Node.js to Create a Dynamic, Rule- and Model-Driven Web-UI text" (Mike Liewehr, Akioma)

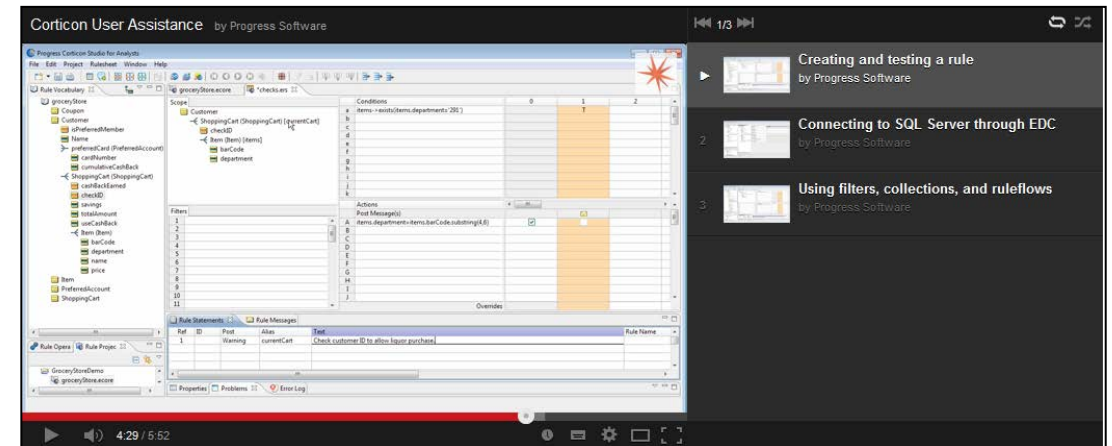**Wed@1:30**: "Corticon Integration with OpenEdge & BPM (OpenEdge-Corticon-BPM)" (Jawahar Surapaneni, Progress)

To Learn More…

Evaluate Corticon & OpenEdge BPM

Watch Corticon & OpenEdge-BPM in Action on YouTube

http://www.youtube.com/user/ProgressSW

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