Agility Through Business Rules Management

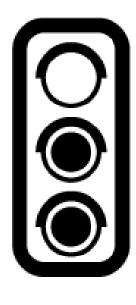
Progress Corticon

Christopher S. Hogan Marv Stone Ankur Goyal Kevin Foster Progress Software



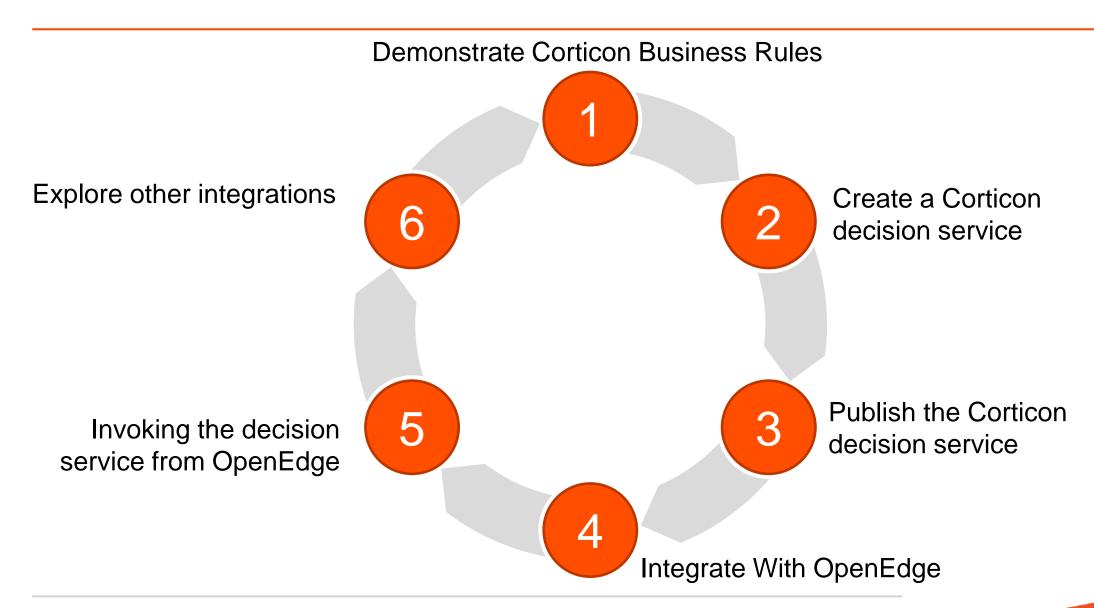
Today's Goals

- Understand Corticon Business Rules
- Build an Example Decision Service
- Integrate With an OpenEdge Application
- Discuss Corticon & OpenEdge Integration Features
- Learn About Additional Discovery Resources



Business Rules

Progress Corticon – OpenEdge Business Rules Management Workshop





Understanding Corticon Business Rules



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

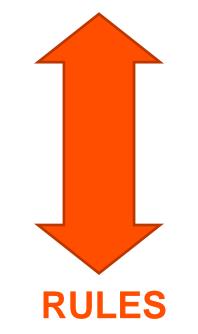
Should Credit be Extended?



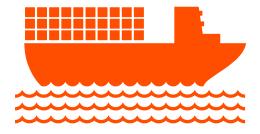
Do not provide credit to delinquent accounts

Senior officer approval required for loan amounts greater than \$100,000

DECISIONS



How to Plan a Shipment?

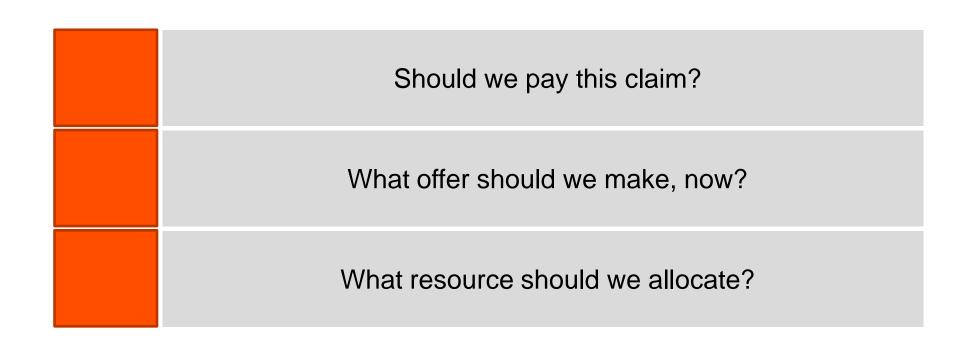


Hazardous materials must be shipped in double hull tankers

Class 7 super tankers require a minimum berthing distance of 300 ft

What Is Corticon Business Rules Management?

Software to help make the Right Decision at the Right Time with Business Agility



The Problem: Automating Business Rules

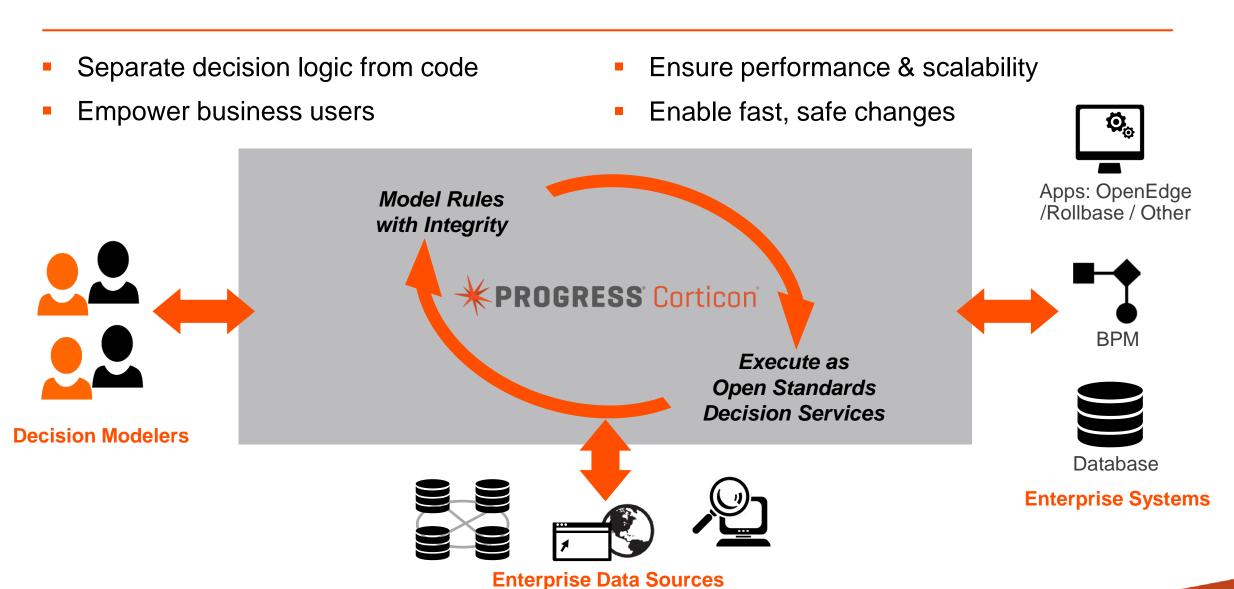
Traditional approach is programming-based

- Simple rules difficult to automate, sophisticated ones impossible
- Single change can impact hundreds of rules/processes



There is a better way...

The Solution: Progress Corticon Business Rules Management System



© 2014 Progress Software Corporation. All rights reserved.

Corticon Differentiation

Model-driven Development

Guaranteed Rules Integrity

DeTI (Design Time Inferencing) Engine

Automate rules without coding

Ensure safe changes

Market-best performance and scalability

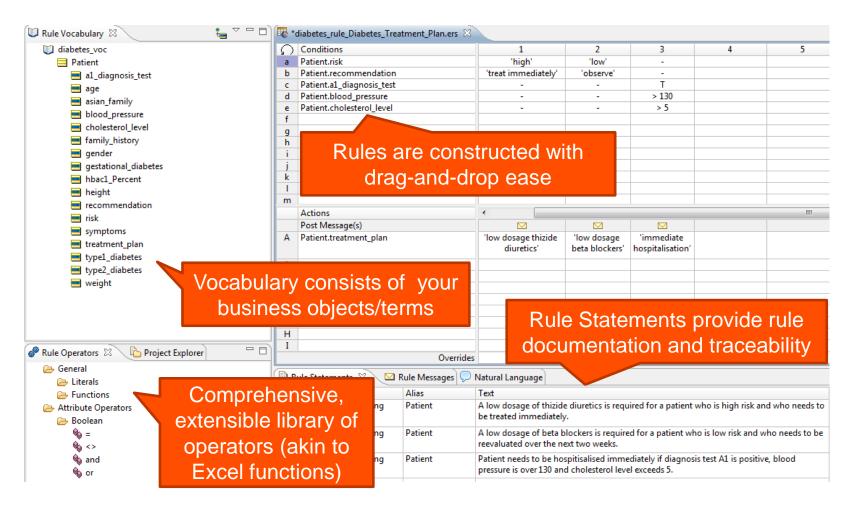
Ease of use

Reliable

No bottlenecks

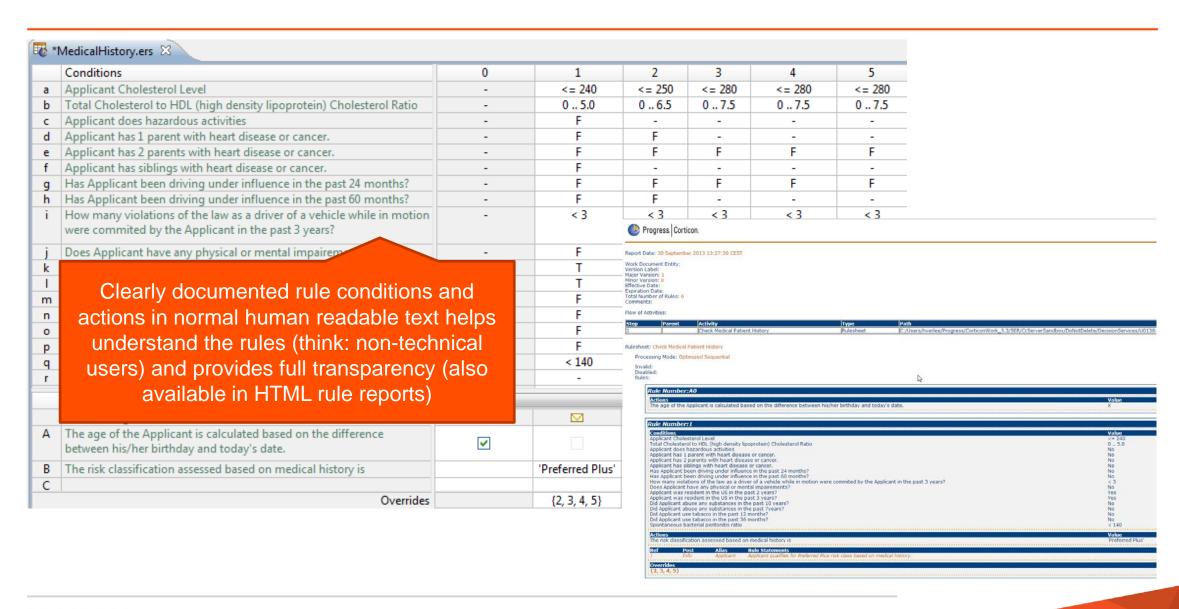
Model-Driven Rules Development

- Out-of-the-box ready for use by
 - Business Analysts
 - IT Professionals
- Patented Excel-like modeling tool
 - No programming
 - Business friendly
 - Natural text
- One-click deployment



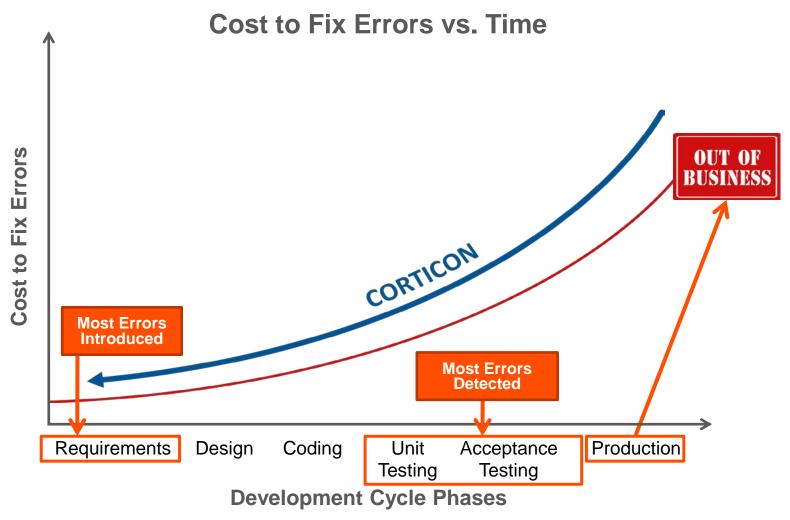
Proven with the most sophisticated business problems

Full Transparency of Rules – No Technical Language



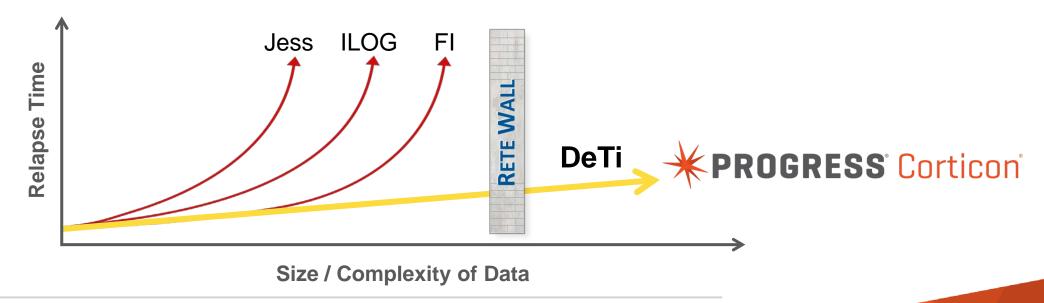
Guaranteed Rules Integrity

The right decisions at the right time – guaranteed



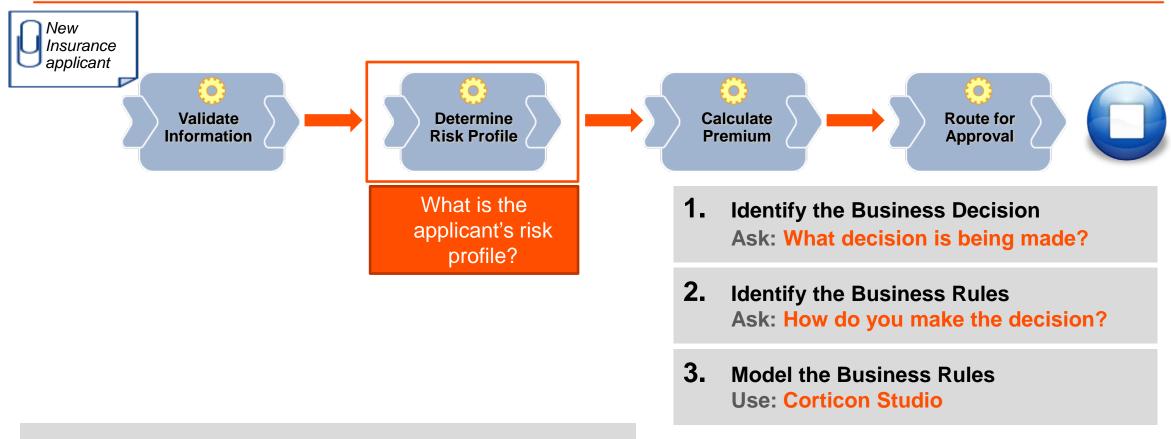
Performance & Scalability

- Traditional pattern matching 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





Demonstration



SAMPLE RULES

- Applicants who skydive have a High Risk rating
- Applicants under 35 have a Low Risk rating



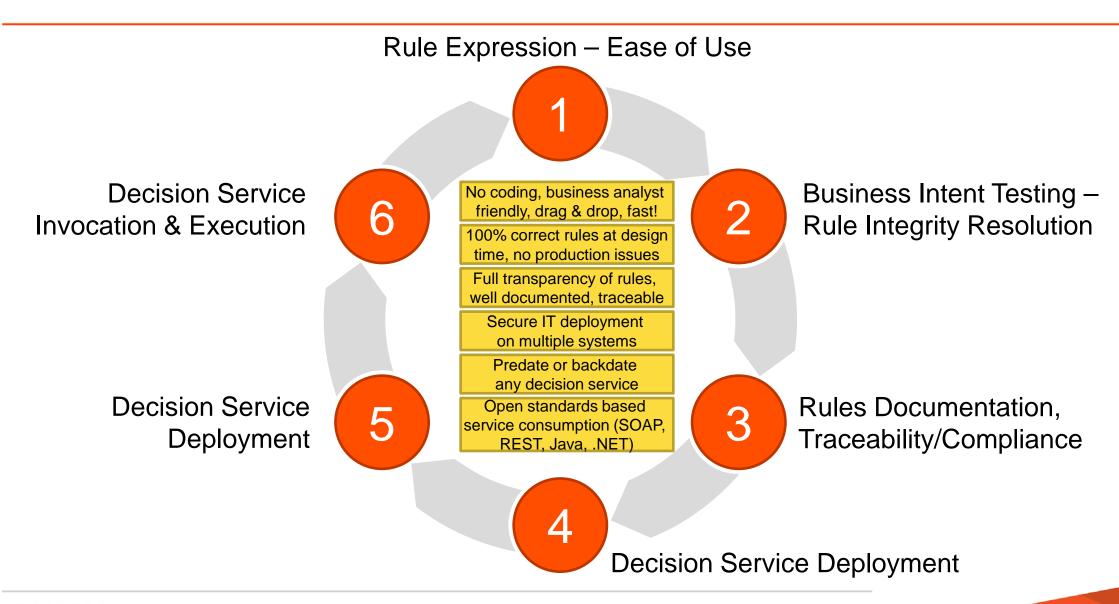
OpenEdge ABL Coding: 35 Lines of Code for 4 Business Rules!

```
DEFINE INPUT PARAMETER is SkyDiver AS LOGICAL NO-UNDO.
DEFINE INPUT PARAMETER applicantAge AS INTEGER NO-UNDO.
DEFINE INPUT PARAMETER parmCurrency AS CHARACTER NO-UNDO.
DEFINE INPUT PARAMETER parmAge AS INTEGER NO-UNDO.
DEFINE INPUT PARAMETER parmincome AS INTEGER NO-UNDO.
DEFINE OUTPUT PARAMETER ruleStatement AS CHARACTER NO-UNDO.
DEFINE VARIABLE riskRating AS CHARACTER NO-UNDO.
DEFINE VARIABLE totalPremium AS DECIMAL NO-UNDO.
IF isSkyDiver THEN
DO:
ruleStatement = "Warning" + CHR(1) + "Applicants who skydive have a high risk rating regardless age."
riskRating = "High".
totalPremium = 150.
ruleStatement = ruleStatement + CHR(3) + "Info" + CHR(1) + "Applicants who are " + riskRating + " risk pay a premium of " + parmCurrency + STRING(totalPremium) + ".".
RETURN.
END.
ELSE
DO:
IF applicantAge < parmAge THEN
 ruleStatement = "Info" + CHR(1) + "Applicants less than " + STRING(parmAge) + " years of age have a low risk rating.".
 riskRating = "Low" .
 totalPremium = 50.
 ruleStatement = ruleStatement + CHR(3) + "Info" + CHR(1) + "Applicants who are " + riskRating + " risk pay a premium of " + parmCurrency + STRING(totalPremium) + ".".
 RETURN.
END.
ELSE
 ruleStatement = "Info" + CHR(1) + "Applicants who are " + STRING(parmAge) + " year or older and don't skydive are medium risk.".
 riskRating = "Medium"
 totalPremium = 100.
 ruleStatement = ruleStatement + CHR(3) + "Info" + CHR(1) + "Applicants who are " + riskRating + " risk pay a premium of " + parmCurrency +
                            STRING(totalPremium) + "."
 RETURN.
 END.
```



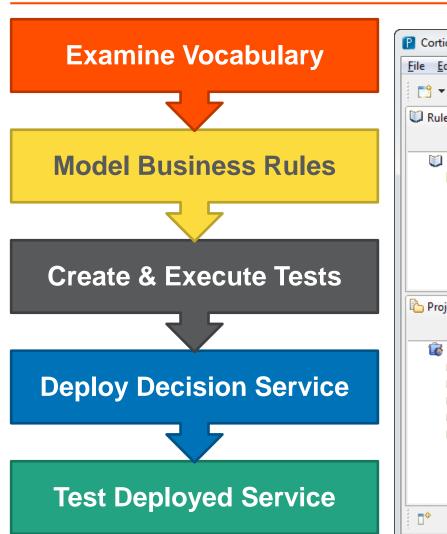
END.

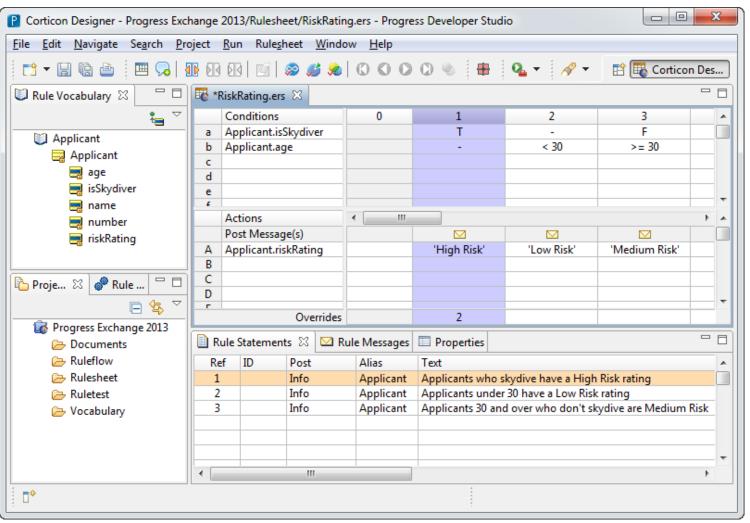
Corticon Decision Development Scenario





Exercise 1: Model Corticon Decision Service (60 Minutes)



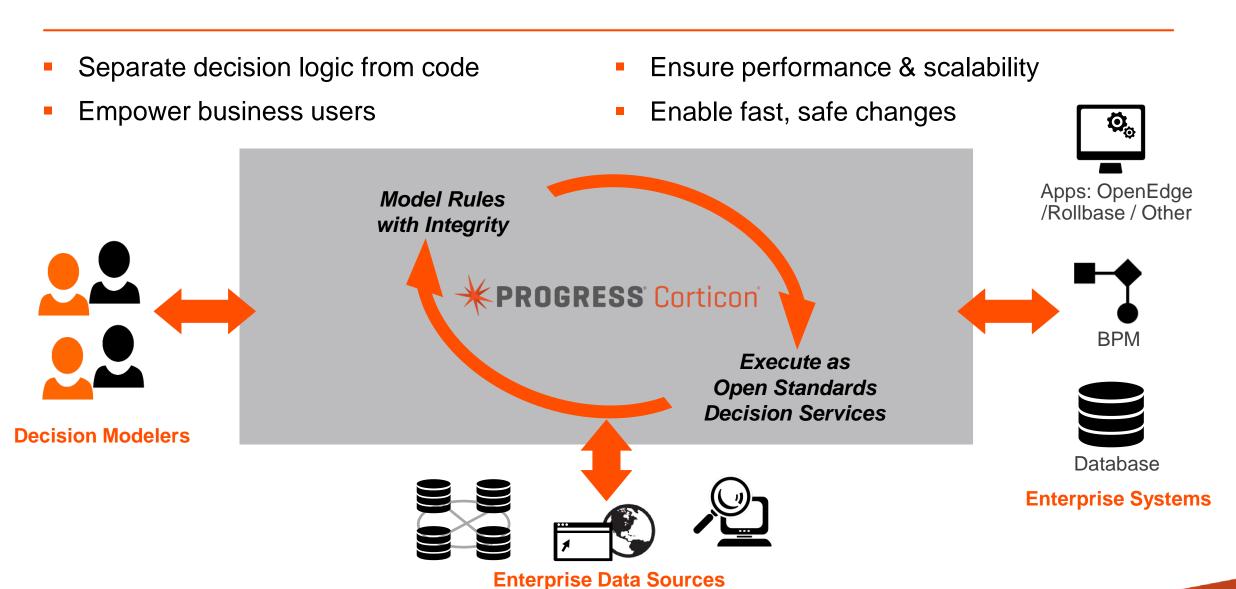


Review Exercise 1: Model Corticon Decision Service

Deploy Decision Model Business Test Deployed Create & Vocabulary **Execute Tests** Service Rules Service The business friendly No coding, drag & Real data to see real Quickly publish Allows for quick and terms that rules are drop, complete decision outcomes decision to one easy SOAP service validation of business or more Corticon written against testing right from within Corticon Studio Servers logic



The Solution: Progress Corticon Business Rules Management System

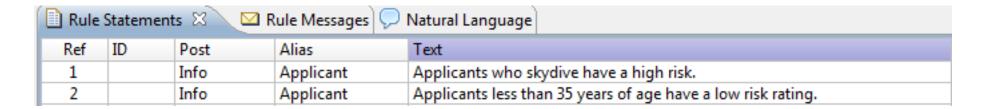


1. Simple, fast ABL API

- Simple API that hides most if not all complexity
- Allows ABL application to reuse existing data structures as inputs/outputs (ProdataSets, Temp Tables)
- API hides transport (currently XML payload)

OpenEdge Contains following ABL macros:

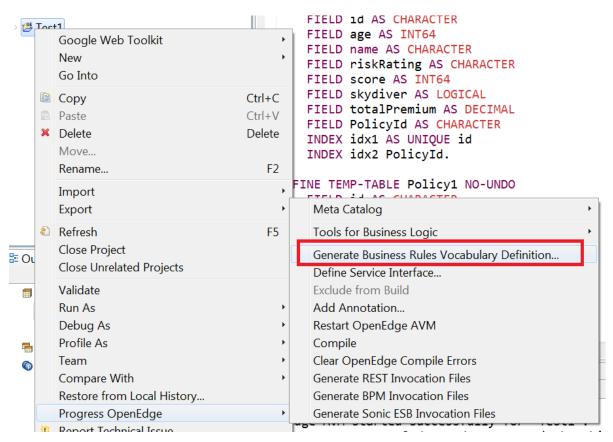
- BR-CONNECT: Establish Decision Service Connection
- BR-INVOKE: Invoke Decision Service (Connection Parms, Service Name, Version)
- BR-GETMSG: Call Get Rule Messages



```
METHOD PRIVATE VOID button1 Click( INPUT sender AS System.Object, INPUT e AS System.EventArgs ):
oOptions = NEW JsonObject().
oOptions:Add ('URL', 'http://localhost:8980').
oParams = NEW RulesServerConnectionParameters(oOptions).
oConnection = NEW RulesServerConnection(oParams).
                                                                        Establish connection
cServiceName = 'RiskRatingOE'.
decisionService = NEW DecisionService(oConnection, cServiceName).
                                                                        with decision service
EMPTY TEMP-TABLE Applicant.
CREATE Applicant.
Applicant.age = INTEGER(THIS-OBJECT:txtAge:Text).
Applicant.isSkydiver = LOGICAL(THIS-OBJECT:chkSkydiver:Checked).
                                                                        Call decision service
decisionService:InvokeService(INPUT-OUTPUT TABLE Applicant BY-REFERENCE)
FIND LAST Applicant.
THIS-OBJECT:txtRiskRating:Text = Applicant.riskRating.
/* get the messages */
                                                                        Work with the rule
decisionService:GetMessages(OUTPUT table RulesMessage).
                                                                        execution messages
listBox1:Items:Clear().
FOR EACH RulesMessage:
listBox1:Items:Add(RulesMessage.MessageText).
END.
```

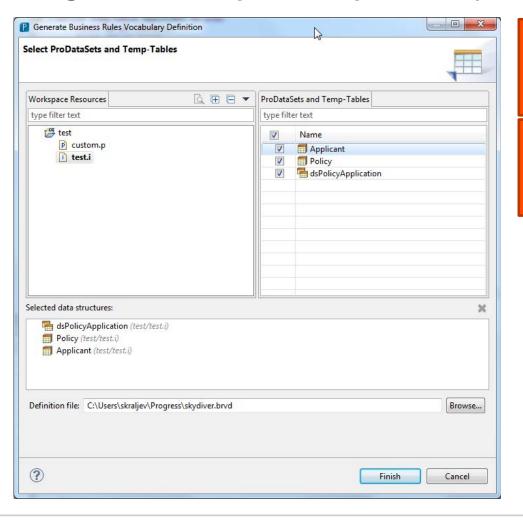
2. Integrated development experience

 Shared Definition of Vocabulary that rules operate on: import Schema definitions, ProDataSets & Temp tables as Corticon vocabulary Entities



or Prodataset
to create a
Corticon vocabulary
From Progress
Developer
Studio

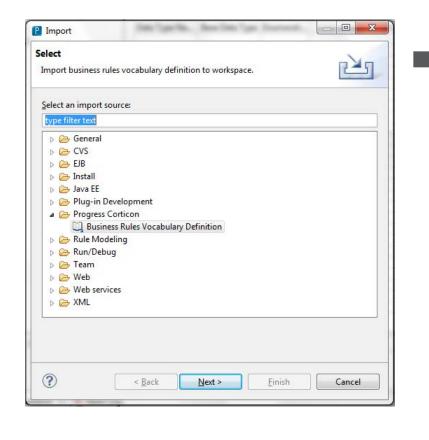
Integrated development experience (continued)

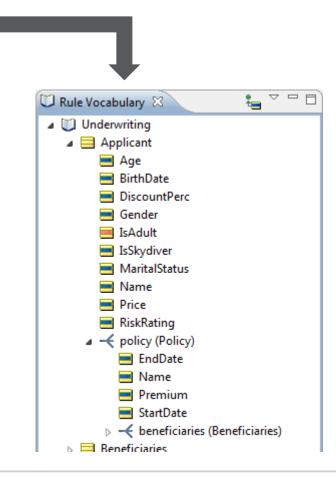


Select from **Temp Table** or **Prodataset** the business entities (data structures) to export

Save to an intermediary business rules vocabulary file (.brvd)

Integrated development experience (continued)





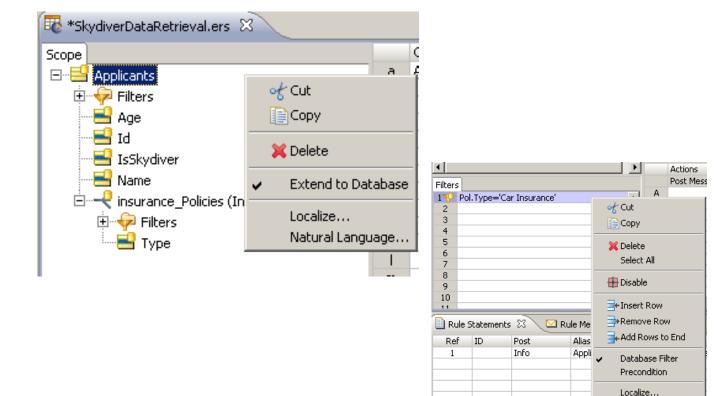
In Corticon Studio import the .brvd file

This will create your Corticon vocabulary

3. Corticon access to OpenEdge data and services

Corticon EDC (Enterprise Data Connectivity) for OE DB (via DataDirect JDBC drivers).
 Support for OE 11.x and 10.2B

Natural Language...

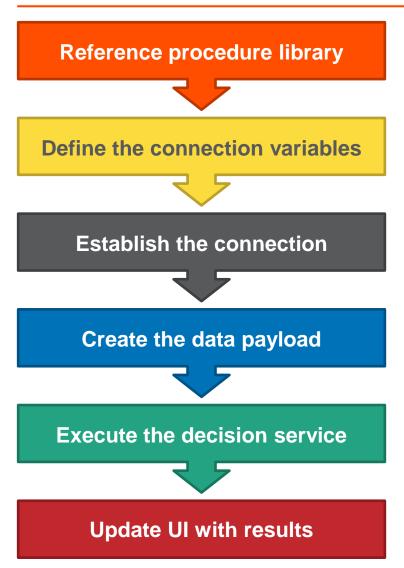


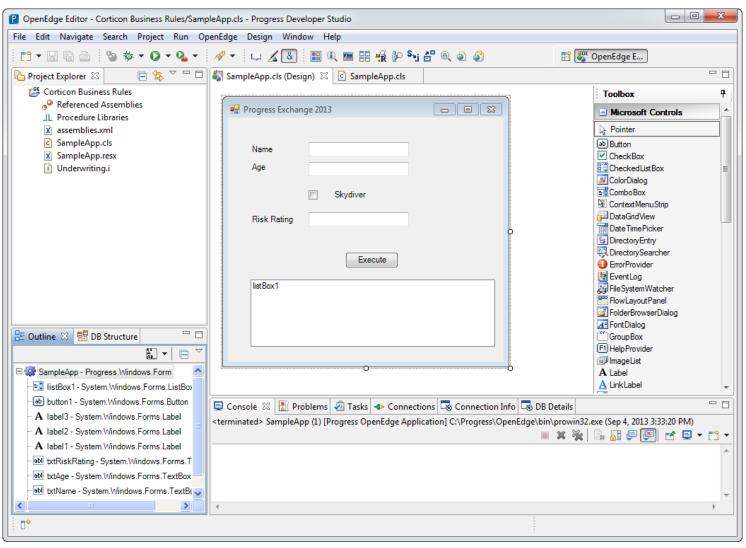
Bind your Corticon *vocabulary to your* OE database tables

Conditionally retrieve
data and optionally
persist results whilst
processing rules
without SQL coding!



Exercise 2: Integrate Decision With OpenEdge (40 Minutes)





Review Exercise 2: Integrate Decision with OpenEdge

Leverage Pre-defined Business Rules Classes

Create Data Payload

Execute Decision Service

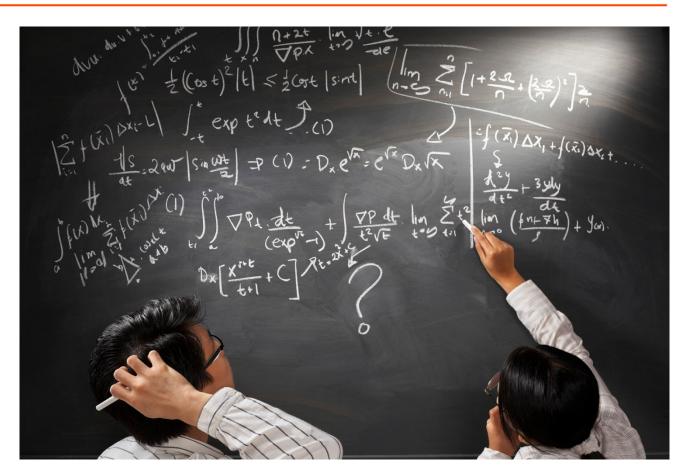
Retrieve Rule Messages

- Simplifies connection and execution
- Hides complexity of creating SOAP messages
- Utilize existing temptables and data sets
- No need to create auxiliary data in your OpenEdge application
- 1 line of ABL to execute against a remote decision service
- Built in function to retrieve all rule messages
- Full explanation as to how and why a decision was made



Why Use Corticon?

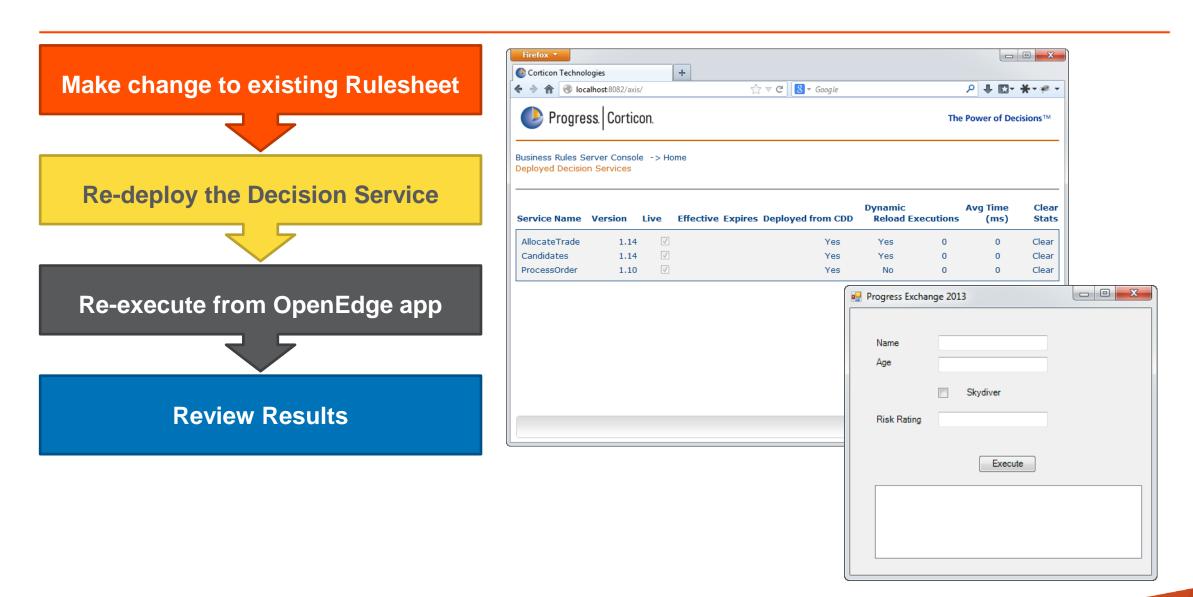
- Is the business logic the result of relatively complex decisions?
- Is the business logic customized by the client?
- Are changes frequently required to the application's business logic?
- Is quality / integrity of logic critical?



The more "yes" answers, the better the fit for Corticon!



Exercise 3: Update Decision Service (20 Minutes)



Review Exercise 3: Update Decision Service

Change in place decision logic

Hot deploy decision service

Monitor results

- Updates to application logic are governed by rule models
- No need to update ABL code to update apps

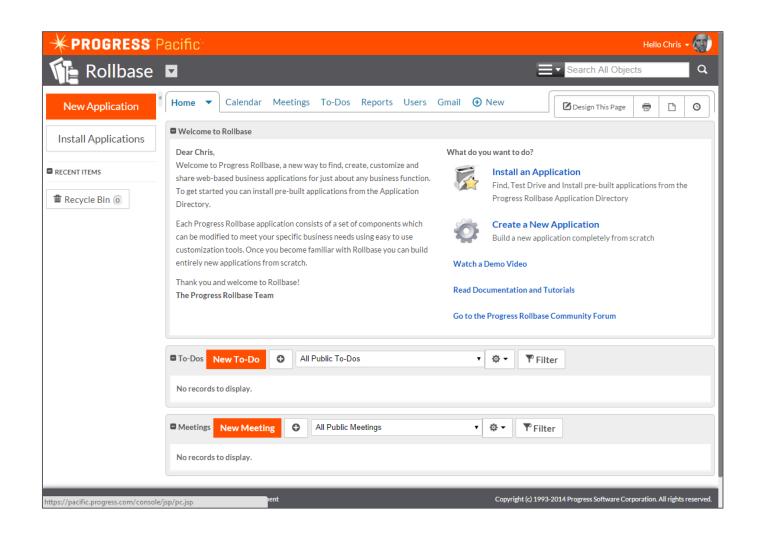
No need to cycle server

- Corticon Server console shows executions for all versions
- Can review execution counts, times, and monitored attribute values

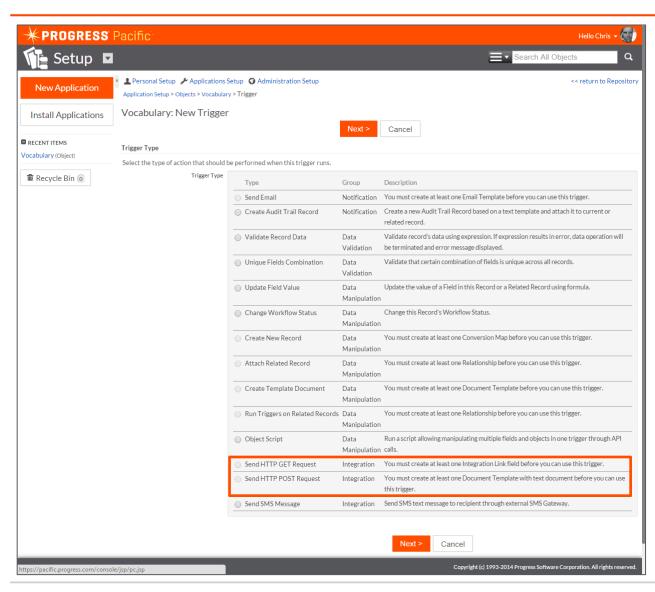


Progress Rollbase

- Application Platform as a Service
- Model Driven development
- Data Model
- Workflow Model
- User Interface Model
- 80% clicks / 20% code
- JavaScript language



Progress Rollbase



- Trigger Driven Event Model
- HTTP GET/POST
- Template driven SOAP/REST

Java & .NET Applications

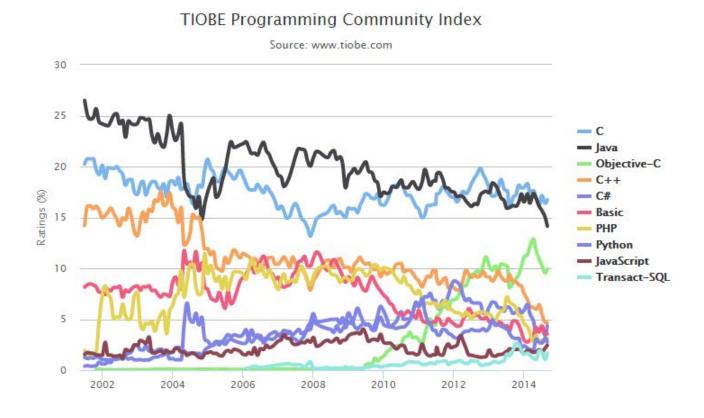
- Deployment to commercial app servers
 - WebSphere
 - WebLogic
 - JBoss
 - Tomcat
 - .NET Server
- Embedded in-process
 - XML
 - Native objects





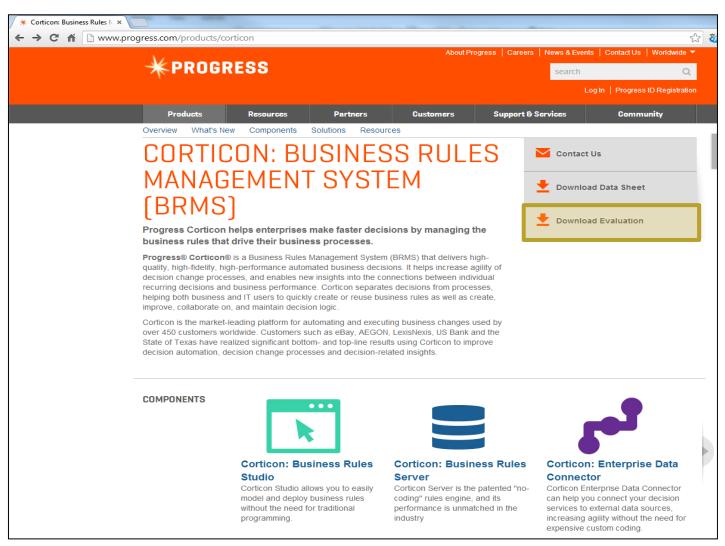
Other Applications

- SOAP Web Services consumed universally (C++, PHP, COBOL, Python, Perl)
- Business Process Management (BPM)
 - Routing determination
 - Escalations
 - Dynamic task assignment
- Bulk Data Transformation
 - Model Driven Data Connectivity





Evaluate Progress Corticon

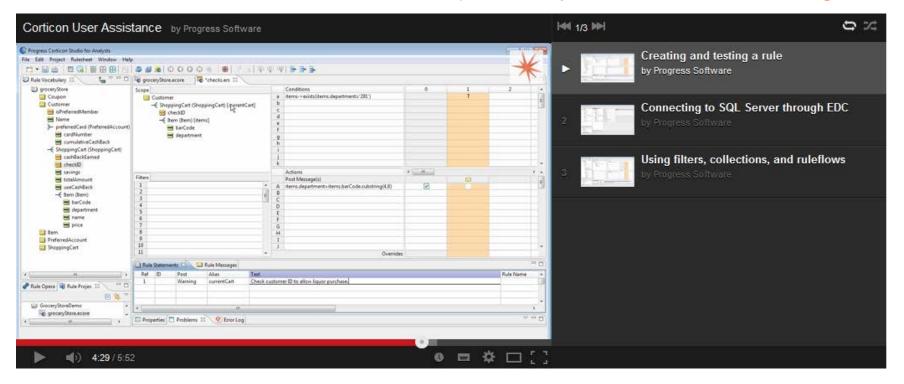


Download Corticon Studio

www.progress.com/products/corticon

Watch & Learn

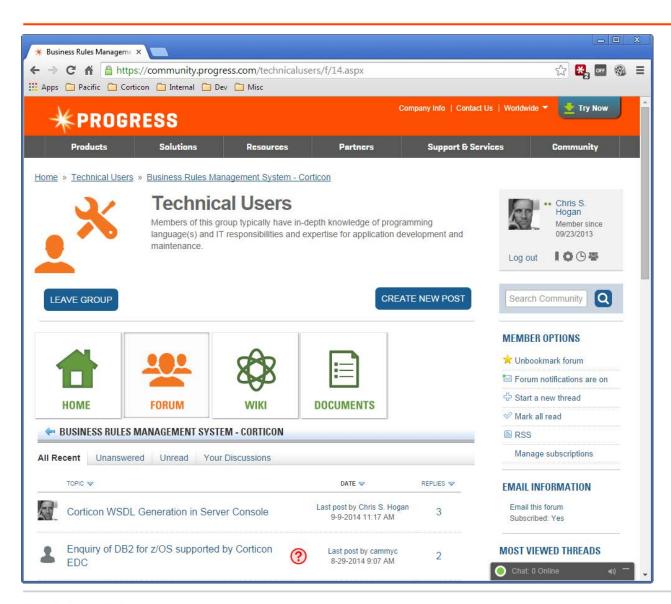
Watch Corticon in Action on YouTube: http://www.youtube.com/user/ProgressSW





Start Taking Training Courses!

Join Us!



Explore Progress Community

http://community.progress.com

PROGRESS EXCHANGE

Visit the Resource Portal

- Get session details & presentation downloads
- Complete a survey
- Access the latest Progress product literature

www.progress.com/exchange2014

PROGRESS