

Progress Corticon Integration with Progress OpenEdge and BPM

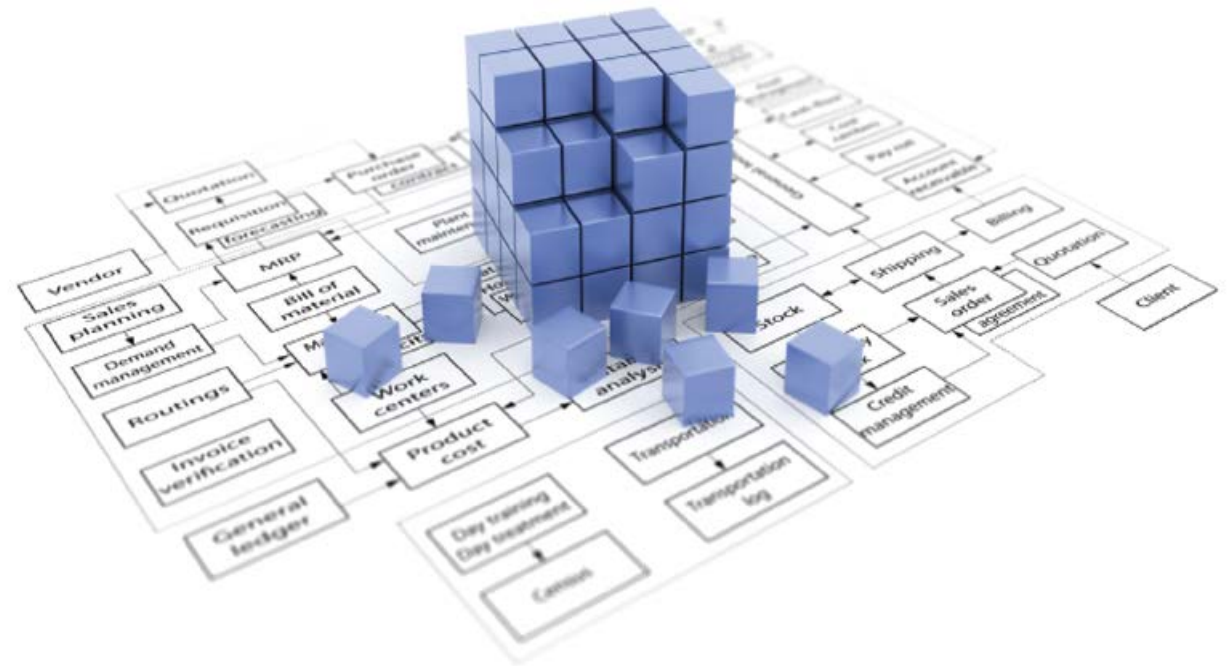
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October 8, 2014

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Agenda

- Overview of Products Involved
- When to Integrate with Rules Engine
- Integration Flow
- Demo
- Q&A

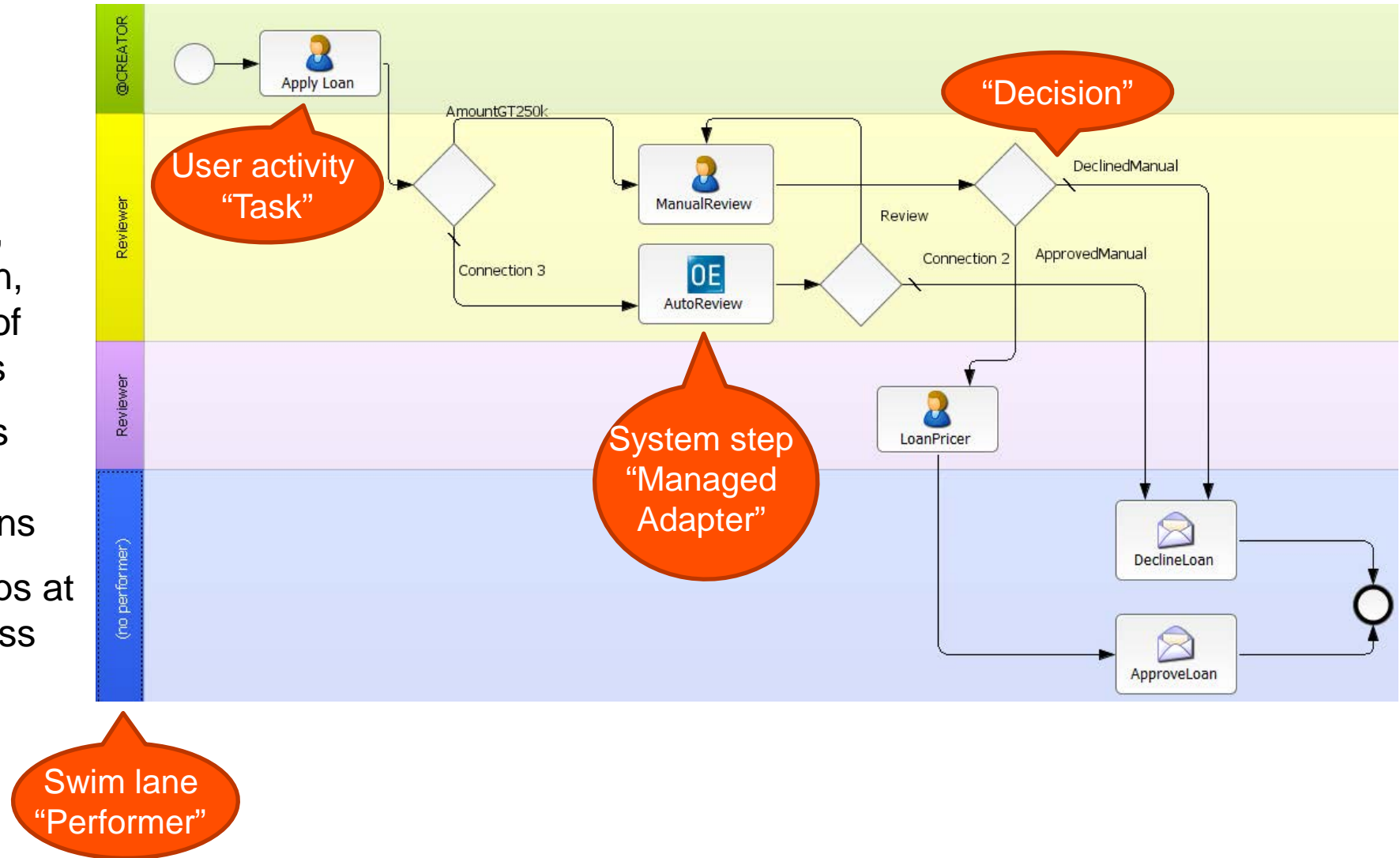


Progress OpenEdge ABL

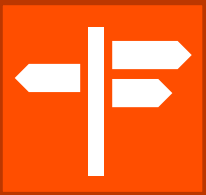




 Powerful Language	Purposed to develop business applications
 Strengths	Business logic, user interfaces, complex data management
 Customization	Enables to write character, web, mobile applications
 Code Distribution	Across multiple platforms that adopts strong, adaptive syntax

Progress OpenEdge BPM

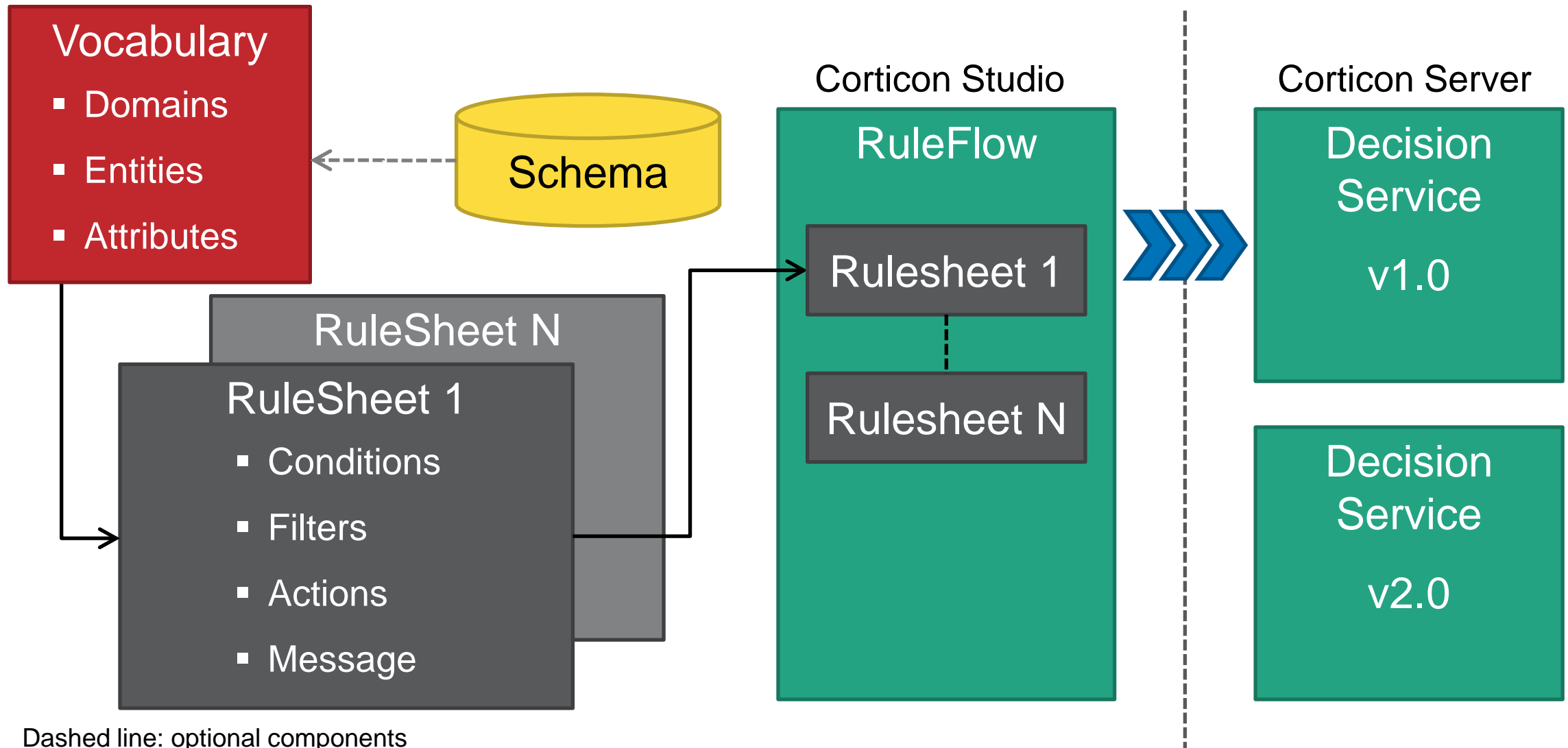
- Provides ability to develop and deploy business process applications
- Rapid development, easier customization, and modernization of existing applications
- Identify and address bottlenecks and Streamline operations
- Modify business apps at the speed of business and independent of SDLC



Progress Corticon

	Rule Integrity: making the right decision
	No coding: out-of-the-box accessibility
	Reusable decisions
	Low integration effort, high integration flexibility
	High performance and scalability

Progress Corticon Architecture

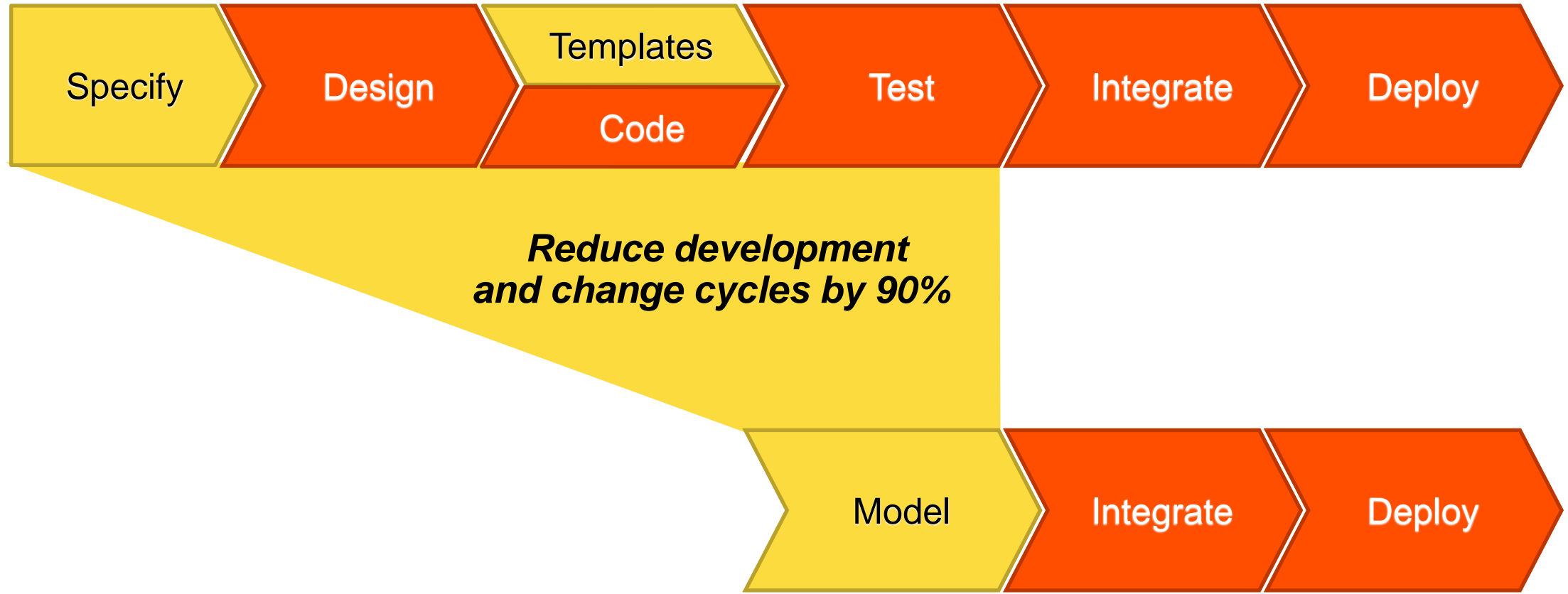


When to Use Corticon

Volatile Business Rules	Adapt logic rapidly Simplify customization
High Costs	Prove regulatory compliance Accessible to business users
Empower Business Users	Centralize changing business logic Free up ABL resources
Geographic Specific Business	No coding to handle geographical specific aspects

Rule Development Lifecycle

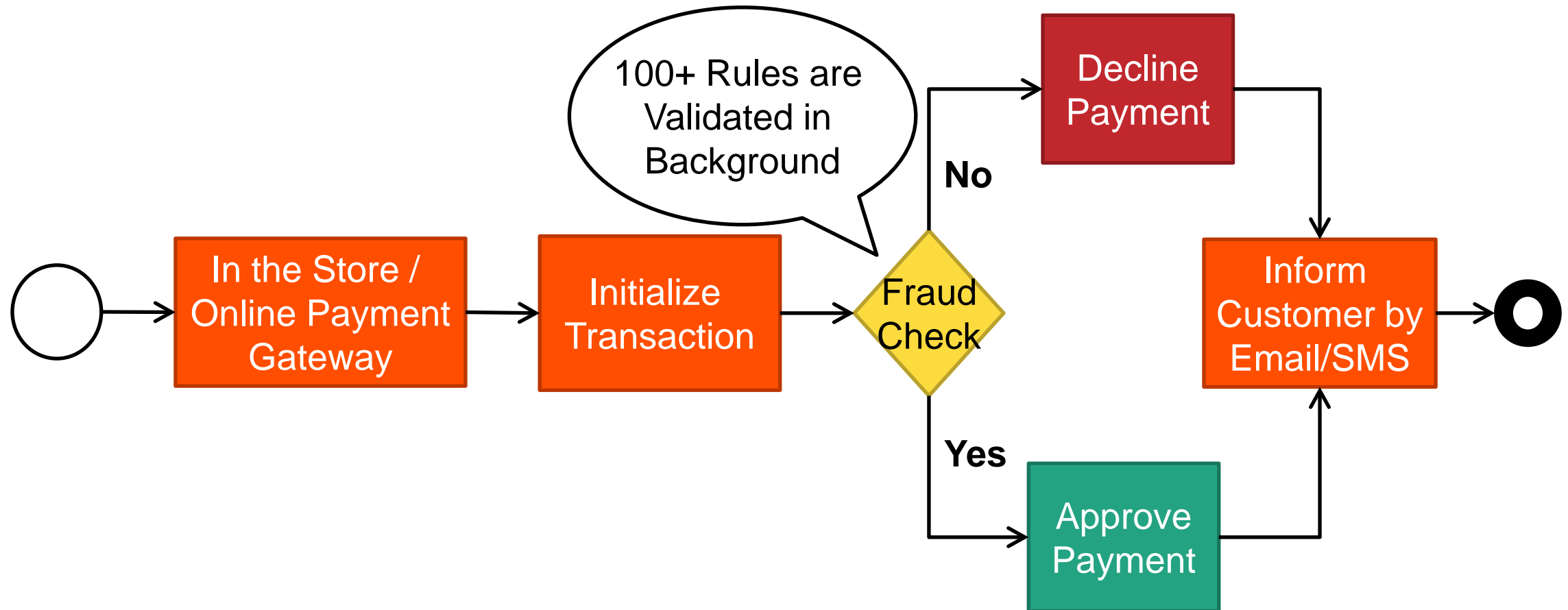
Traditional Approach



Corticon Approach

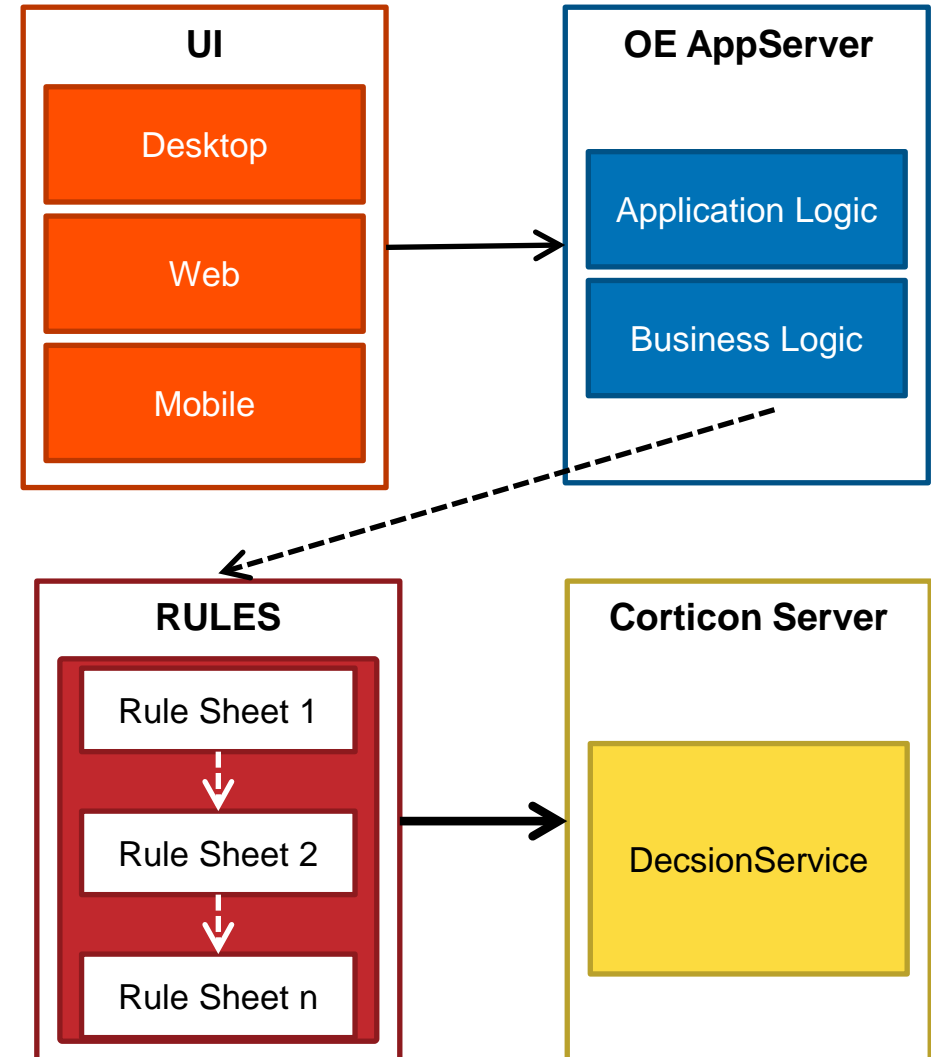
Higher quality, higher performance, agility

Credit Card Authorization Usecase



Challenges Encountered if Rules Written in ABL

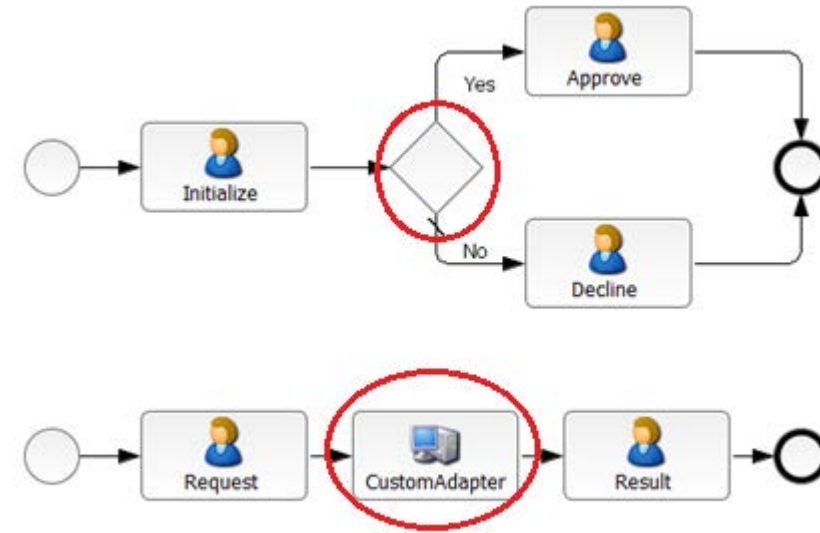
- Ties up valuable ABL development resources
- High maintenance cost and extended release cycles
- Hard to detect rule Ordering errors
- Hard to identify Conflicting rules, Completeness



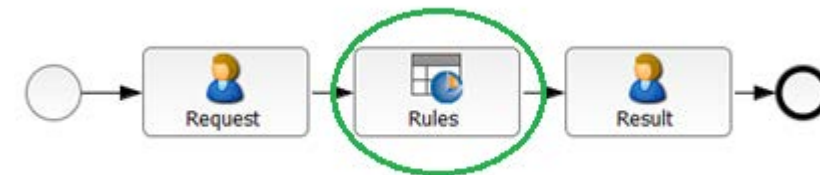
Challenges Encountered if Rules Developed in OpenEdge BPM

- Difficulty in modeling complex rules
- No reusability of rules across different process
- Lack of visibility for rule execution
- Changing the logic results in modification, redeployment

When Used Decisions and CustomAdapter



Replaced With Corticon Adapter



OpenEdge – Corticon

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OpenEdge – Corticon

Define Schema

Create Rules

Deploy

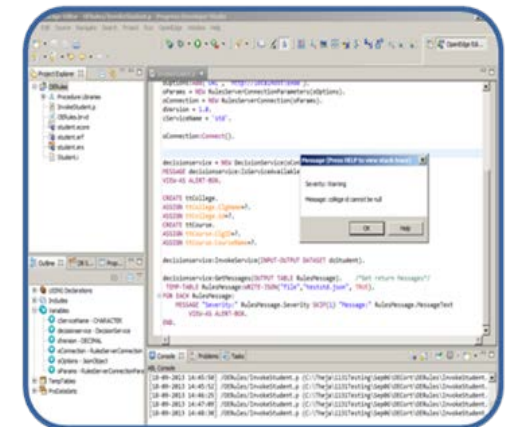
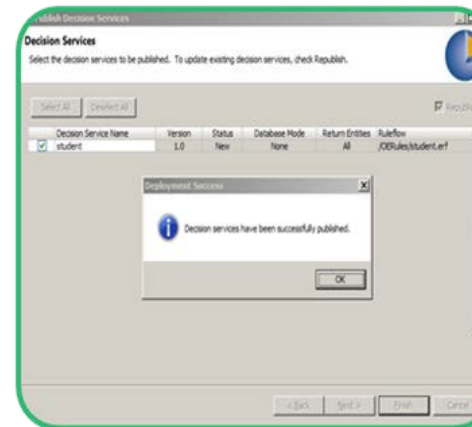
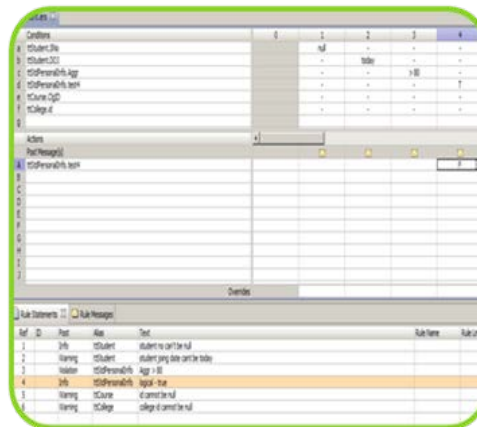
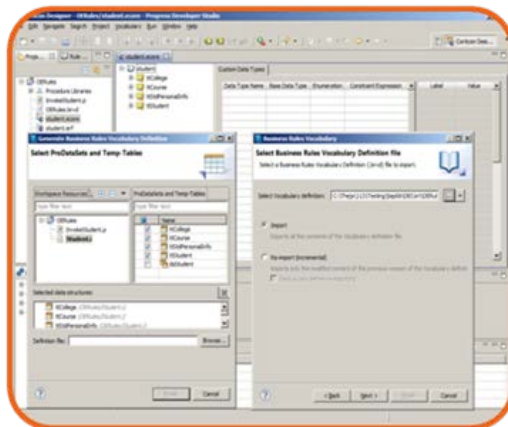
Invoke Decision Service

Define Schema
in ABL

Write business rules
in Corticon

Deploy the rules to
Corticon Server

Invoke Decision
Service from ABL



Define Schema

Create Rules

Deploy

Invoke Decision Service

■ Define ABL Schema

- Temp-Table
- ProDataSet

■ Export Schema

- Export from PDS for OE
- Business Rules Vocabulary Definition(BRVD) file

```
DEFINE TEMP-TABLE Transanction
  FIELD TransactionID AS INTEGER
  FIELD CCNumber AS INT64
  FIELD Name AS CHAR
  FIELD ExpiryDate AS DATE
  FIELD Amount AS DECIMAL
  FIELD Result AS LOGICAL
  FIELD ResMessage AS CHARACTER.
```

```
DEFINE TEMP-TABLE CCInfo
  FIELD CCNumber AS INT64
  FIELD HolderName AS CHARACTER
  FIELD ExpiryDate AS DATE
  FIELD Limit AS DECIMAL.
```

```
DEFINE DATASET dsCCard FOR CCInfo, Transanction
  DATA-RELATION relation1 FOR CCInfo, Transanction
  RELATION-FIELDS (CCNumber, CCNumber).
```

```
<ns2:table name="CCInfo">
  <ns2:fields>
    <ns2:field name="CCNumber" type="xs:long"/>
    <ns2:field name="HolderName" type="xs:string"/>
    <ns2:field name="ExpiryDate" type="xs:date"/>
    <ns2:field name="Limit" type="xs:decimal"/>
  </ns2:fields>
</ns2:table>
<ns2:table name="Transaction">
  <ns2:fields>
    <ns2:field name="TransactionID" type="xs:int"/>
    <ns2:field name="CCNumber" type="xs:long"/>
    <ns2:field name="Name" type="xs:string"/>
    <ns2:field name="ExpiryDate" type="xs:date"/>
    <ns2:field name="Amount" type="xs:decimal"/>
    <ns2:field name="Result" type="xs:boolean"/>
    <ns2:field name="ResMessage" type="xs:string"/>
  </ns2:fields>
</ns2:table>
```

OpenEdge – Corticon

Define Schema

Create Rules

Deploy

Invoke Decision Service

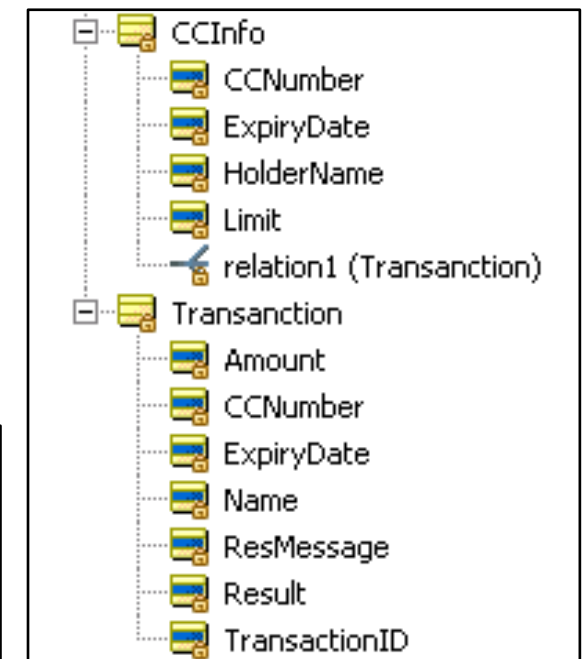
■ Import Schema

- BRVD file -> Vocabulary file
- Temp-Table -> Entity
- Temp-Table Fields -> Entity Attributes

■ Write Rules

- Create Rule Sheet
- Write rules

Conditions	0	1
Transanction.Amount > CCInfo.Limit		T
CCInfo.ExpiryDate < today		-
Transanction.ExpiryDate <> CCInfo.ExpiryDate		-
Transanction.Name		-
Transanction.Name <> CCInfo.HolderName		-
Actions		
Post Message(s)		
Transanction.Result	T	F
Transanction.ResMessage	...	"Limit Exceeded"



OpenEdge – Corticon

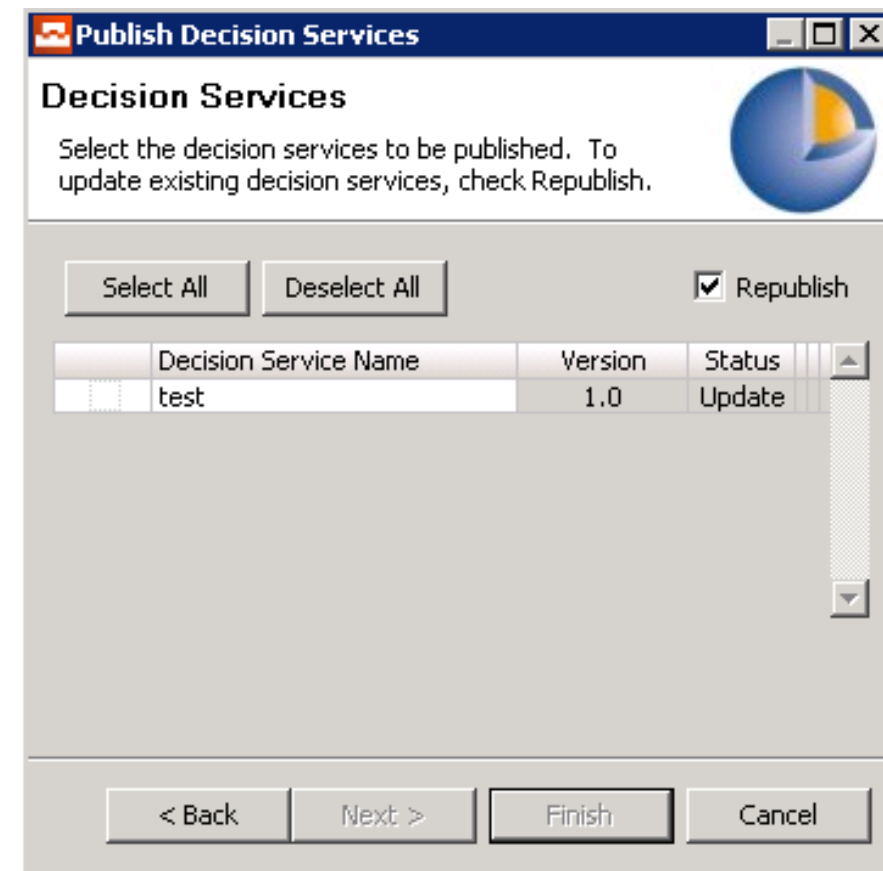
Define Schema

Create Rules

Deploy

Invoke Decision Service

- Define Flow
 - Create Rule flow
 - Define the flow
- Deploy
 - Configure Corticon Server
 - Deploy Rule Flow to Server



Define Schema

Create Rules

Deploy

Invoke Decision Service

■ Invoke Decision Service

- ABL API

- Connect
- IsDecisionService
- InvokeService
- GetMsgs
- Disconnect

```
oOptions = NEW JsonObject().
oOptions:Add('URL', 'http://localhost:8980').
oParams = NEW RulesServerConnectionParameters(oOptions).
oConnection = NEW RulesServerConnection(oParams).
dVersion = 1.0.
cServiceName = 'testDemo'.

TEMP-TABLE Transanction:WRITE-JSON("file","before.json", TRUE).

decisionService = NEW DecisionService(oConnection, cServiceName, dVersion).

hAppData = DATASET dsCCard:HANDLE.
decisionService:InvokeService(INPUT-OUTPUT DATASET-HANDLE hAppData).
```

The background consists of several overlapping geometric shapes in two shades of orange and brown. A large, dark brown shape is positioned in the upper left, partially overlapping a lighter orange shape. Another dark brown shape is in the lower right, overlapping a medium orange shape. The word "Demo" is centered in the middle of the image, overlapping the dark brown shape on the left and the medium orange shape on the right.

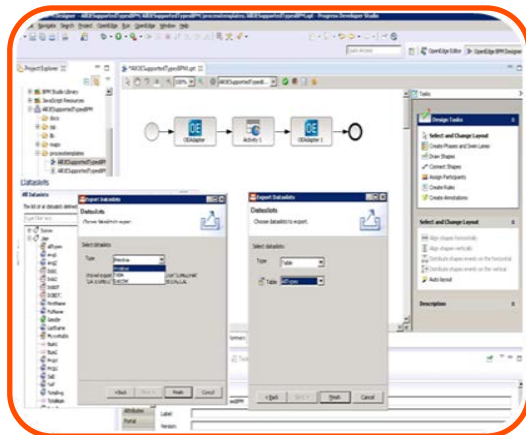
Demo

OpenEdge BPM – Corticon

OpenEdge BPM – Corticon

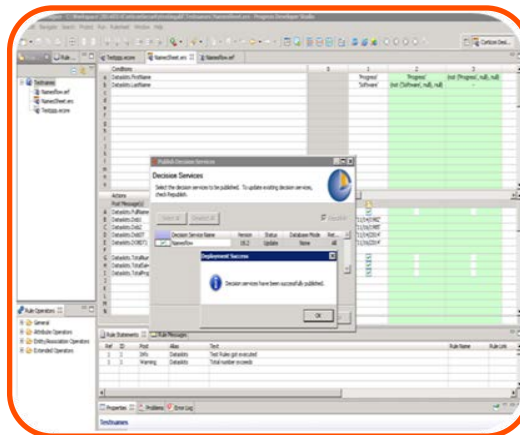
Define Dataslots

Export Schema from Dataslots and Import it as Vocabulary



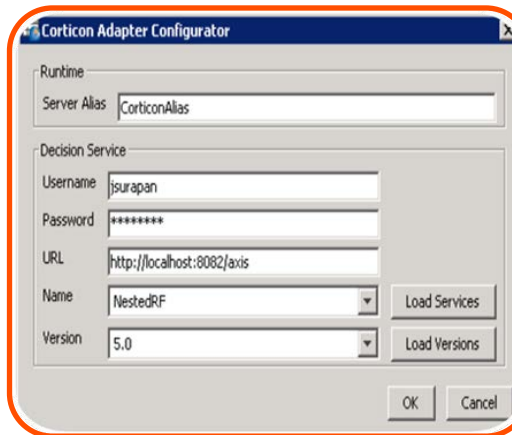
Model & Deploy Business Rules

Create Business Rules and Deploy



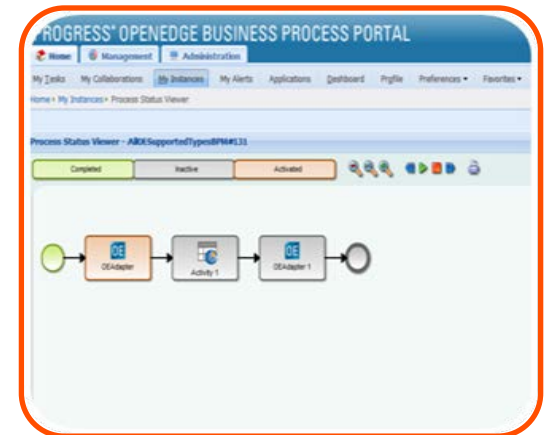
Configure Corticon Adapter

Configure Corticon Adapter



Invoke Decision Service

Invoke the adapter from Business Process



The background is a solid orange color with several large, dark orange geometric shapes overlaid. These shapes are polygons of various sizes and orientations, creating a layered, abstract effect. The word "Demo" is centered in the middle of the image.

Demo

OpenEdge BPM – Corticon

Define Dataslots

Model & Deploy
Business Rules

Configure Corticon
Adapter

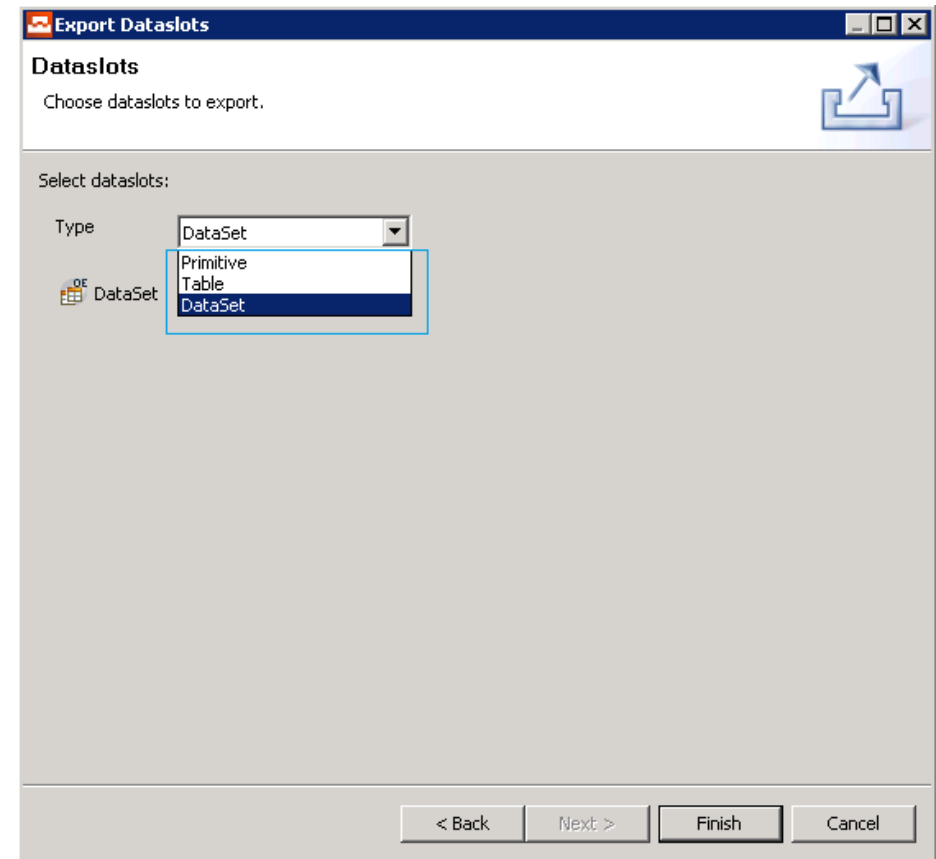
Invoke Decision
Service

■ Define Dataslots

- Primitives, Prodatasets and Temp-Table types
- Assign schema definition for Prodatasets and Temp-Table

■ BRVD Export

- Primitives
- Prodatasets
- Temp-Table



OpenEdge BPM – Corticon

Define Dataslots

Model & Deploy
Business Rules

Configure Corticon
Adapter

Invoke Decision
Service

■ Corticon studio

- Create Corticon Project
- Import BRVD
- Create Rule sheet and model rules
- Define Rule flow using the Rule sheet

■ Corticon server

- Deploy the modeled Rule flow

The screenshot displays the Corticon Studio interface. The top pane shows a rule sheet with conditions and actions. The bottom pane shows rule messages.

Conditions	0	1	2	3
a CCDetails.relation1.Amount<CCDetails.Limit		T	T	-
b CCDetails.ExpiryDate>CCDetails.relation1.ExpiryDate		T	-	-
c CCDetails.HolderName<>CCDetails.relation1.Name		T	-	-
d				
e CCDetails.CCNumber		-	-	1111
f				
g				
h				
i				
j				
k				
l				
m				

Actions	0	1	2	3
A Post Message(s)				
B CCDetails.relation1.Result		T	T	F
C CCDetails.relation1.ResMessage				
D Transaction.new[Amount=2000.00,CCNumber=4444333...				
E Transaction.new[Amount=3000.00,CCNumber=5555666...				
F				
G				
H				
I				
J				
K				
L				

Ref	ID	Post	Alias	Text
2		Info	CCDetails	New Records got inserted
2		Warning	CCDetails	Test Record
3		Violation	CCDetails	Transaction Failed

OpenEdge BPM – Corticon

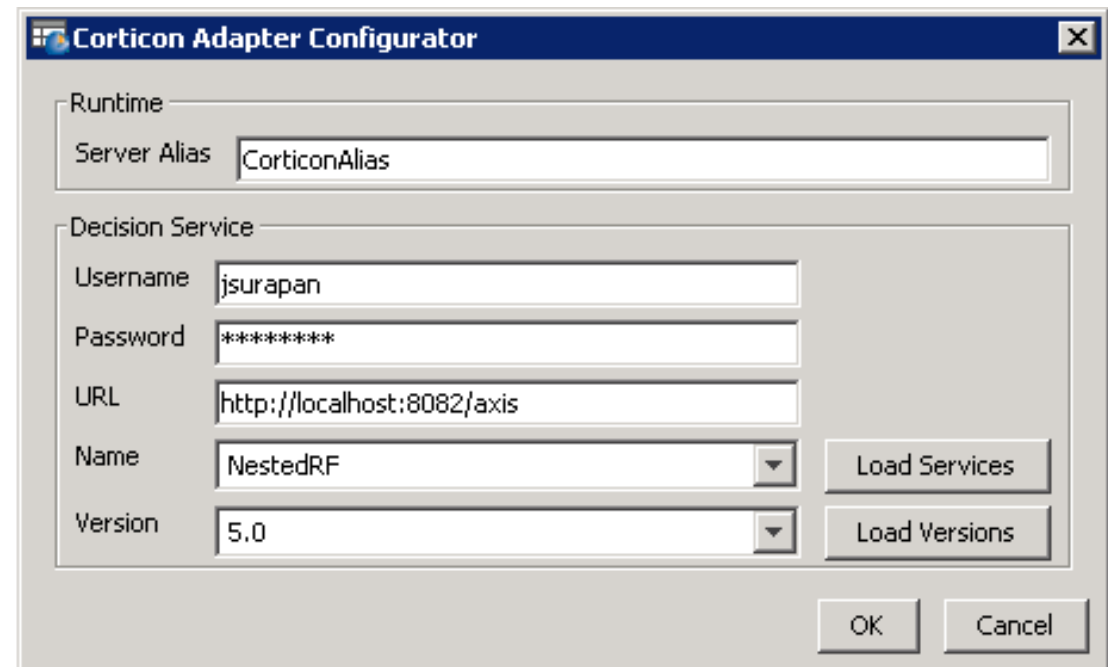
Define Dataslots

Model & Deploy
Business Rules

Configure Corticon
Adapter

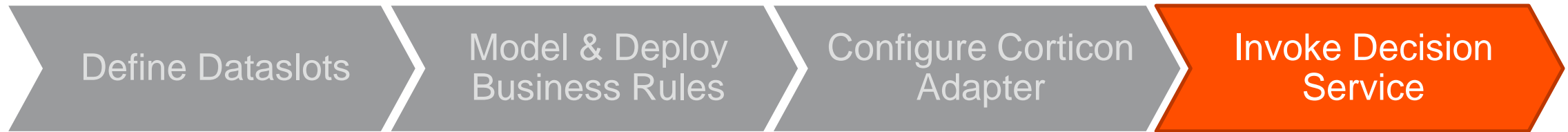
Invoke Decision
Service

- In BPM studio
 - Model BPM process
 - Add Corticon adapter
- In Corticon Adapter
 - Username & Password (If secured)
 - Server URL
 - Decision Service name
 - Decision Service version
 - Define dataslot mapping for either Primitive/Prodataset/Temp-Table types



The screenshot shows the 'Corticon Adapter Configurator' dialog box. It has two main sections: 'Runtime' and 'Decision Service'. In the 'Runtime' section, the 'Server Alias' is set to 'CorticonAlias'. In the 'Decision Service' section, the 'Username' is 'jsurapan', the 'Password' is masked with '*****', the 'URL' is 'http://localhost:8082/axis', the 'Name' is 'NestedRF' (selected from a dropdown), and the 'Version' is '5.0' (selected from a dropdown). There are 'Load Services' and 'Load Versions' buttons to the right of the 'Name' and 'Version' dropdowns respectively. At the bottom right, there are 'OK' and 'Cancel' buttons.

OpenEdge BPM – Corticon



- Deploy the Business Process
- In Portal
 - Instantiate the process
 - Invoke decision service using Corticon Adapter

CCDetails Transaction						
TransactionID	CCNumber	Name	ExpiryDate	Amount	Result	ResMessage
410	1111	At Burger King	Aug 10 2014	100	true	Transaction Successful
123	4444333322221111	NewRecord	Aug 08 2024	2000	true	SuccessfulTransaction
13	5555666677778888	NewRecord	Aug 08 2020	3000	true	NewSuccessfulTransaction
Page 1 of 1						

RuleMessages				
Severity	MessageText	TableName	DataKeyField	DataKeyValue
Info	New Records got inserted	CCDetails	CCNumber	1111
Warning	Test Record	CCDetails	CCNumber	1111
Page 1 of 1				

Supported Versions

- OpenEdge – Corticon
 - OpenEdge 11.3
 - Corticon 5.3.2
- OpenEdge BPM – Corticon
 - OpenEdge 11.4
 - Corticon 5.3.2

Q & A

PROGRESS EXCHANGE²⁰¹⁴

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