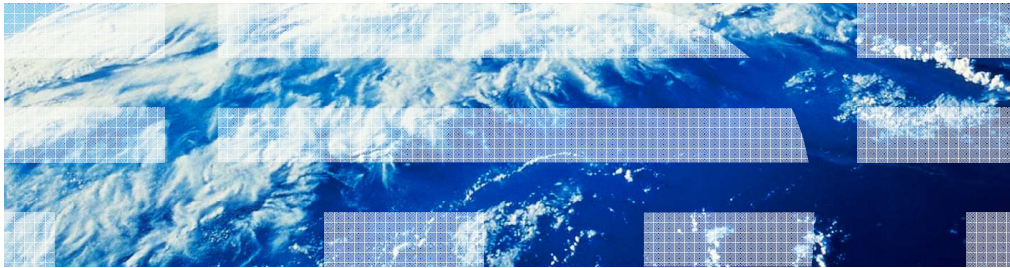


# IBM Business Process Manager V7.5

## BPMN 2.0 import Business Process Management



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The primary purpose of the BPMN 2.0 import feature is to allow a path for moving business process models from IBM Business Modeler and WebSphere Business Compass to the Process Designer. BPMN 2.0 is used as the model exchange format.

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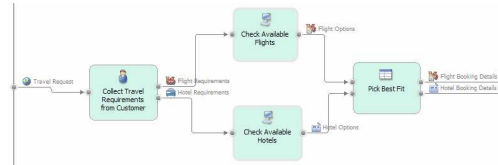
- Overview
- Exporting from WebSphere Business Modeler V7.0.0.4
- Importing into IBM Business Process Manager V7.5: Process Center
- Swimlanes
- Data flow
- Shared projects and toolkits
- Problem determination
- Other things to note

After a brief overview you will see how to export a WebSphere Business Modeler model using the BPMN 2.0 export type. Next you will see how to import this new file type into the BPM Process Designer. Once a model is imported, the next step is to understand the new layout and what elements got transformed and what did not. There are several new key concepts such as swimlanes, process applications and toolkits which are introduced.

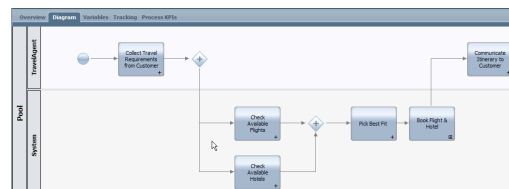
## Overview

- You can import the BPMN models that were
  - Exported from
    - IBM Business Modeler
    - WebSphere Business Compass
  - Using the BPMN 2.0 export format
- You then import your models into the IBM Process Center
- You then use the IBM Process Designer
  - To inspect and edit the resulting process application or toolkit,
- There are noticeable changes from IBM Business Modeler and WebSphere Business Compass.
- BPMN 2.0 is the exchange format

### IBM Business Modeler



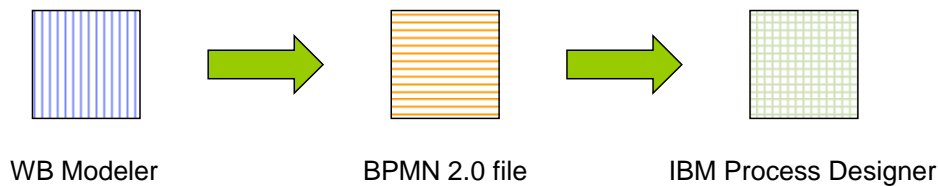
### BPM Process Designer



The overall procedure is straightforward. You export from modeler or Compass using the BPMN 2.0 export option. Then import into the Process Center and use the Process Designer to inspect and edit the result. There are differences in the layout, the icons used to represent the activities and flows, and the way the data is handled. BPMN 2.0 is the exchange format used when moving the model from one system to another.

## BPMN 2.0 as an intermediate representation

- There is no direct mapping from IBM Business Modeler or WebSphere Business Compass to the IBM Process Designer
- WB Modeler models are exported to BPMN 2.0
  - **Some information is lost**
- BPMN 2.0 model is then imported into IBM Process Designer



Details are documented in the information center:  
<http://publib.boulder.ibm.com/infocenter/dmndhelp/v7r5mx/index.jsp>  
Search on the keyword = bpmn

The primary motivation behind the BPMN 2.0 import feature is to be able move models from IBM Business Modeler and WebSphere Business Compass to the BPM Process Designer.

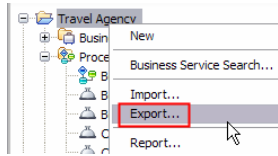
To achieve this goal, the BPMN 2.0 model interchange format is used. None of the tools use all of the same features available with BPMN 2.0. Modeler and Compass both use some features but they also have their own ways of representing data, flows and relationships. The Process Designer has its unique way of representing the data, flows and relationships. The challenge is to find the common ground in the BPMN 2.0 exchange format and then make reasonable assumptions and decisions when importing into the Process Designer. There will be gaps and new constructs to learn.

Once the model is imported, it will need to be reworked to fill in the holes and implement the stubs that are created.

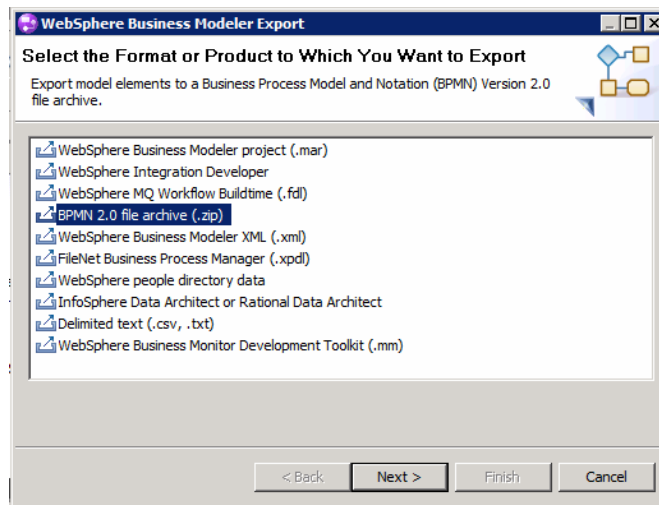
The details about how the elements are mapped at each step are documented in the Information Center. The link is provided here for your convenience.

If you are in the Information Center, search on BPMN and you will find what you need.

## Exporting from WebSphere Business Modeler V7.0.0.4



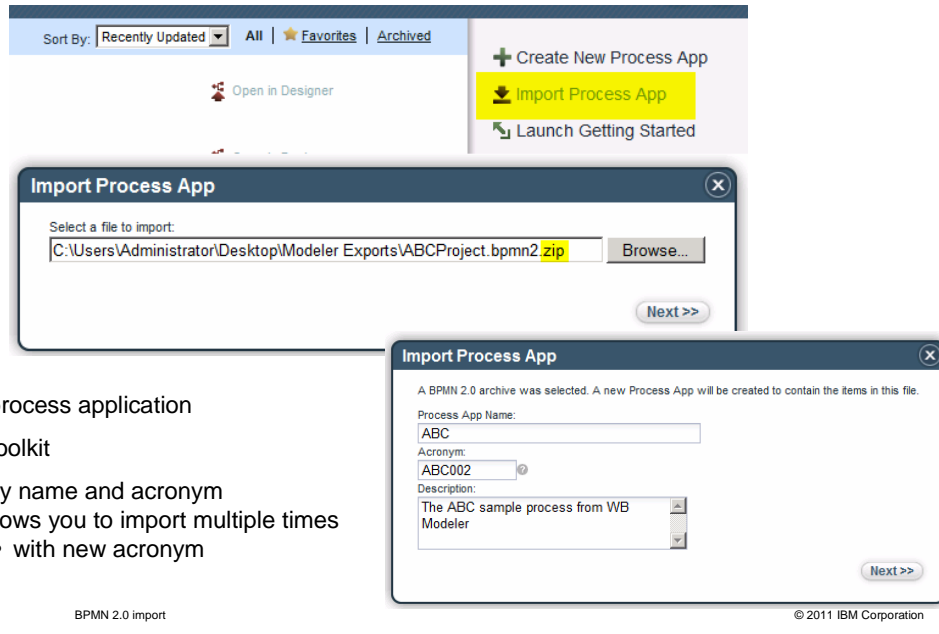
- A new export type
  - Right-click the modeling project and select export
- Some loss of information as a result of the transformations
- Export the entire project and all related projects



**Modeler → BPMN 2.0 → Process Designer**

When exporting from IBM Business Modeler, there are several different export formats that are supported. With version 7.0.0.4 a new export type is introduced for BPMN 2.0. To invoke the export wizard, right-click the modeling project and select the export option. You will then see the selection list shown here. When exporting your model, Export the entire model and all of its related projects.

## Importing into IBM Business Process Manager V7.5: Process Center



Sort By: Recently Updated | All | Favorites | Archived

Open in Designer

+ Create New Process App

Import Process App

Launch Getting Started

**Import Process App**

Select a file to import:

C:\Users\Administrator\Desktop\Modeller Exports\ABCProject.bpmn2.zip

Browse...

Next >>

- As a process application
- As a toolkit
- Specify name and acronym
  - Allows you to import multiple times
    - with new acronym

**Import Process App**

A BPMN 2.0 archive was selected. A new Process App will be created to contain the items in this file.

Process App Name: ABC

Acronym: ABC002



















Description: The ABC sample process from WB Modeler

Next >>

6 BPMN 2.0 Import © 2011 IBM Corporation

To import the file into the Process Center, you follow the only import path available. The BPMN 2.0 file that you import has a file extension of .zip. Everything imported will go into a single process application. You will have to refactor the dependent projects into toolkits as part of the re-work after the import. The acronym is the unique identifier used to identify the process application. If you need to import multiple times, you will need to create a new acronym each time. Be sure to provide a description of the process application.

## Mapping WebSphere Business Modeler elements to IBM Business Process Manager constructs

WebSphere Business Modeler element	IBM Business Process Manager element	Comments
Global Human task 	Human Service 	
Global Business Rules Task 	Decision Service 	
Service 	Integration Service 	
Business Service (WSDL-based) 	Integration Service 	
Business Service Object (XSD-based) 	Business Object 	
Business Item 	Business Object 	
Business Item Template 	Business Object 	
Role 	Participant Group 	
Process 	Business Process Definition 	

Shown here are the mappings that occur when you import a BPMN 2.0 file that was created by the export from IBM Business Modeler, into the BPM Process Center.

There are no real surprises here with the mappings. The human task and the business rules from the IBM Business Modeler are mapped to appropriate services in the Process Designer. Any information that can be mapped to something in the Process Designer is. Quite often there is no one to one correspondence therefore a place holder is created and the implementation must be completed as part of the post-import re-work of the model.

In modeler, there are a couple of different flavors of services. There are those that are created in modeler, the first ones in the list above. And then there are the WSDL-based services which are imported into modeler. Both kinds are mapped to integration services in the Process Designer.

Business objects come in several flavors also. There are those that are native, XSD-based objects that were imported, and then there are the business item templates. The story is simplified as you move to the Process Designer. All three kinds are mapped to business objects.

Although the concept of roles that specify who can work or specify tasks in a business process definition is common to both systems, it is implemented differently in each. In the IBM Business Modeler, the role is associated with a individual task. In the Process Designer, there are participant groups which are associated with swim lanes, which in turn contain the tasks that can be performed by the members of the associated participant groups. The import process will create a participant group and swim lane for each of the roles defined in modeler and place the tasks in the appropriate swim lane. If there are no roles associated with a task, then they will go into the default swim lane called Participants. The Participants group is equivalent to the 'all-users' designation in IBM Business Modeler.

Finally, a business process in modeler gets mapped to a Business Process Definition, frequently referred to as a BPD, in the Process Designer.

## Mapping WebSphere Business Modeler elements to IBM Business Process Manager constructs

WebSphere Business Modeler element	IBM Business Process Manager element	Comments
		<p>If a Task has <u>Roles</u>, the Activity has a Service (task) implementation and references a Human Service.</p> <p>If the Task has multiple <u>Roles</u>, only the first is used, and all others are dropped.</p> <p>If a Task has <u>no Roles</u>, the Activity has a Service (task) implementation and references an Integration Service or System Service.</p>
Human Task	Activity - with a Service (task) implementation, referencing a Human Service	
Business Rules Task	Activity - with a Service (task) implementation, referencing a Decision Service	
Receive Task	Intermediate Message Event	
Map	Activity - with a Java Script implementation	
Sub Process	Activity	The Activity references a separate Business Process Diagram containing the contents of the Sub Process.
Global Sub Process	Activity	The Activity references a separate Business Process Diagram containing the contents of the referenced Global Sub Process.

Process Designer 7.5.0 does not support the "Local" sub-process concept

The Process Designer uses a layered architecture to separate the flow model from the services that implement the activities in the business process flow. The previous slide presented the mappings that happen at the level of the business process flow. This and the next couple of slides discuss the implementation layer.

The task in IBM Business Modeler is mapped to an activity in the Process Designer. Notice the comment section. If the task in modeler has a role associated with it then it is assumed that it is a human task;

therefore it is mapped to the human service in the Process Designer. When a human service is created a coach is also created. The coach is based on the business objects specified in the input and output of the task defined in modeler.

IBM Business Modeler allows for a given task to be associated with multiple roles. In the Process Designer however, an activity can only be in one swimlane. Therefore in the case where there are multiple roles associated with a task, only the first one is used. The human task gets mapped to a human service and when the service is created, the inputs and outputs are used to create a coach for the human service.





















The business rule gets mapped to an activity that has a decision service for the implementation. The decision service is merely a place holder. The logic for the business rule will need to be re-constructed using the tools available with the Process Designer decision service. A receive task in modeler is a point in the business process flow that waits for some external input. The analogous construct in the Process Designer is the intermediate message event.

Maps in the IBM Business Modeler can be very sophisticated when the XML map feature is used. There is no corresponding feature in the Process Designer. Therefore a map node gets mapped to an activity with a Java Script implementation. In the Process Designer, you will need to re-create the mapping function using Java Script.

Sub-processes are another feature in IBM Business Modeler for which there is no direct equivalent. For each sub-process in the modeler business process, a top level business process definition is created and referenced from the main business process definition. This is equivalent to promoting it to a global process. Global sub-processes are handled in the same way.



## Mapping WebSphere Business Modeler elements to IBM Business Process Manager constructs

WebSphere Business Modeler element	IBM Business Process Manager element	Comments
While Loop 	Activity 	The Activity references a separate Business Process Diagram containing the contents of the While Loop.
Do While Loop 	Activity 	The Activity references a separate Business Process Diagram containing the contents of the Do While Loop. It behaves like a While Loop.
For Loop 	Activity 	The Activity references a separate Business Process Diagram containing the contents of the loop.
Exclusive Decision 	XOR Gateway 	
Inclusive 	IOR Gateway 	
Merge 	XOR Gateway 	
Fork 	AND Gateway 	
Join 	AND Gateway 	
Start Node 	Start Event 	
End Node 	End Event 	






















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BPMN 2.0 import

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When working with loop constructs in IBM Business Modeler the loop is like a container and you put the flow that you iterate over, into it. With the Process Designer the perspective is slightly different. With the Process Designer, the loop construct is a property with each activity. The transformation will take the contents of the while, do-while or for loop and place them in a business process diagram, that is then referenced in the main flow as an activity. You will need to check the behavior of the loop and the values of the loop control elements to verify that you have the required looping semantics for your business process. The gateways and the start and stop nodes map directly to equivalent elements in the Process Designer.

## Mapping WebSphere Business Modeler elements to IBM Business Process Manager constructs

WebSphere Business Modeler element	IBM Business Process Manager element	Comments
Terminate Node 	End Event 	
Compensation Activity 	Not mapped ... dropped from flow	
Compensation End Event 	End Event 	The compensation semantics are dropped.
Notification Broadcaster 	Activity 	The ability to broadcast a Notification is lost.
Notification Receiver 	Activity 	The ability to receive a Notification is lost.
Timer 	Intermediate Timer Event 	
Observer 	Activity 	The ability to react to a condition is lost.
Global Repository 	Private Process Variable  Private	The ability to store data as part of a process is lost.
Local Repository 	Private Process Variable  Private	
Annotation 	Note 	
Connection 	Sequence Flow 	If the connection has data associated with it, then the related data mappings are generated on the connected activities.

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BPMN 2.0 Import

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The distinction between end and terminate is not made in the Process Designer, therefore the terminates nodes from the IBM Business Modeler are mapped to end events in the Process Designer. There is no compensation support in the Process Designer so the compensation activity is dropped from the flow and the compensation end event is mapped to normal end event. The notification and receiver broadcaster and the observer are not supported in BPM 7.5.0. An activity is created as a placeholder to remind you that there is some functionality that you will need to implement.

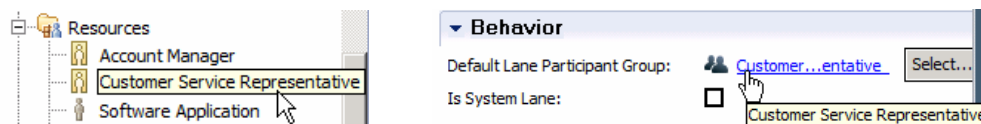
With the IBM Business Modeler variables are represented using the repository abstraction.

In the Process Designer you can work with the variables directly. Both the global and local repositories are mapped to private variables in the Process Designer. There is a direct corollary for the annotation in the Process Designer, called Note. The behavior is slightly different though. In the modeler the annotation can be associated with a process modeling element using a link. In the Process Designer the notes cannot be associated with a specific element.

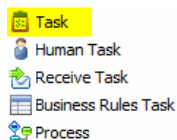
The way the connections are represented is significantly different. In the IBM Business Modeler, the source and the destination have optional nodes that can be displayed, but the real difference is the ability to display the data elements that flow through the connection. In the Process Designer to view and understand the data flow, you will need to inspect the data mapping in the properties of the activity your interested in.

## Swimlanes

- Optional in WebSphere Business Modeler
- Required in Process Designer
  - A special swimlane called *Participant* is used for human tasks that have not been assigned a role. Analogous to the *Everybody* role in WebSphere Process Server
- Roles in WebSphere Business Modeler map to swimlane Participant Group in Process Designer



- Special System swimlane for automated activities .....
  - All generic tasks that do not have an associated role assigned, are placed in the system lane



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BPMN 2.0 Import

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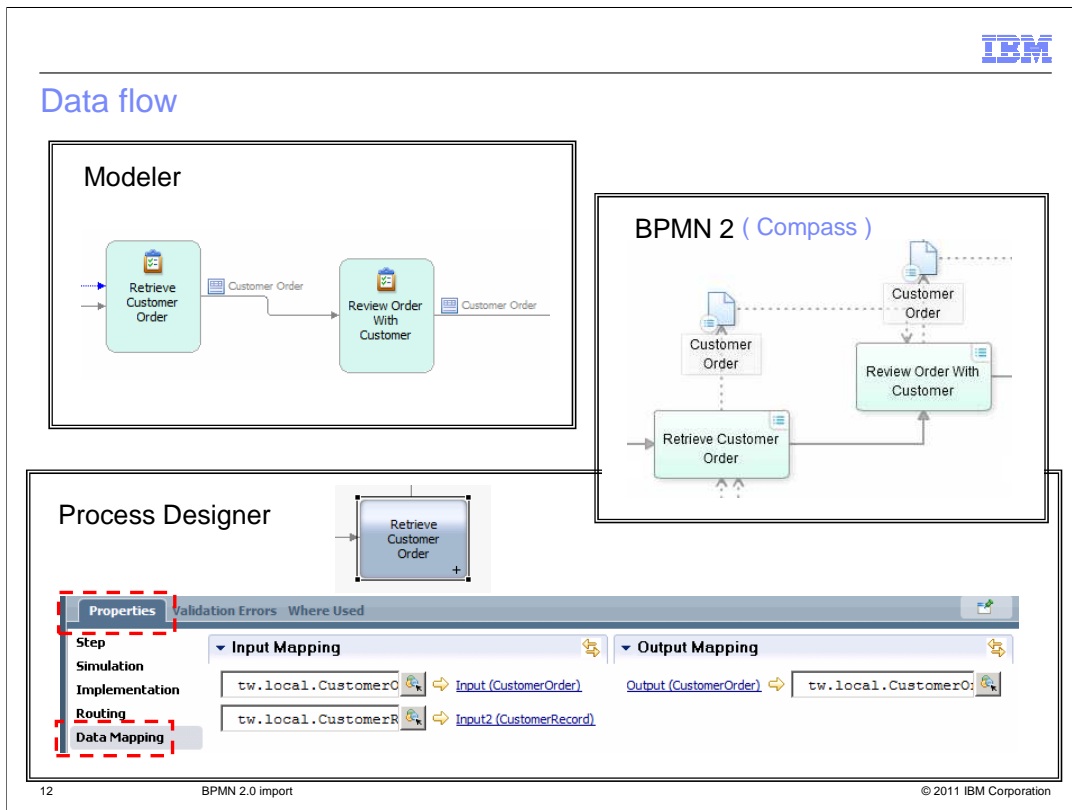
The representation of the business process flow using swimlanes is an optional view in the IBM Business Modeler. In the BPM Process Designer it is mandatory.

In modeler, the role is a property of the task, and if you want, you can view the business process flow as swimlanes by role. In the Process Designer, there is only the swimlane view.

In the Process Designer, swimlanes have a participant group associated with them. The participant group specifies what people or groups can perform that activity in the associated swimlane. The participant group is analogous to the roles of the IBM Business Modeler. The rules by which the activities are assigned to the swimlanes were presented in the section on the element mapping.

For those tasks that cannot be clearly identified as activities that involve human interactions there is the system lane. The system lane is a special lane for automated activities that are invoked without direct input from a user. The activities in the system lane are invoked by the process server runtime using the system security context.

## Data flow

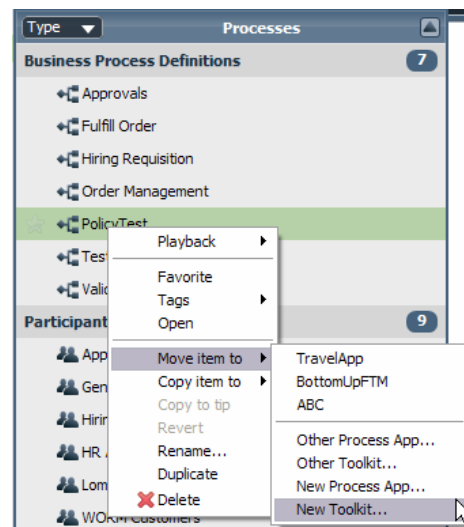


The next area where you will notice a significant difference between the modeling tools is the way the data flow is represented. With the IBM Business Modeler you can optionally display the data elements on the connection as shown in the box on the top left. The BPMN 2.0 notation supported by WebSphere Business Compass, you can display the data flow as shown in the box on the upper right. Here the data flow is shown as an alternative flow.

The Process Designer does not have a way to display the data flow in the process diagram. To understand the data flow you need to inspect the data mapping in the properties of each activity. This is shown in the box at the bottom.

## Shared projects and toolkits

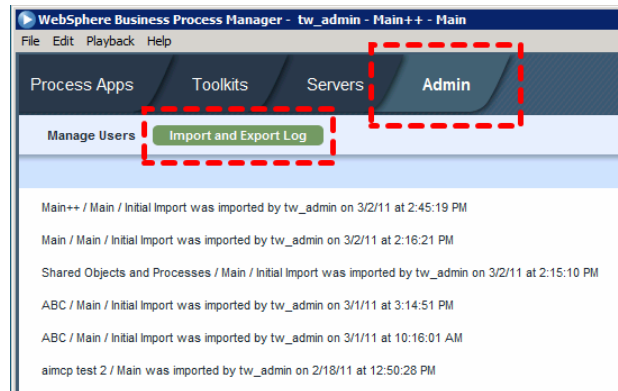
- In IBM Business Modeler
  - By default all referenced projects will go into a single *Process Application* or *Toolkit*.
  - To maintain the required project relationships....
    - You will need to re-factor the shared elements into toolkits,
      - **after** the import
- This necessary because the relationship links are not maintained as part of the export.



Any significant modeling effort will most likely be partitioned into several projects that are referenced from the main project. Your first inclination might be to export the independent projects first and import them into the Process Designer as toolkits. Do not do this. The relationships between the projects are not maintained when the project is exported using the BPMN 2.0 format. Select the top level project, and export that one, along with all referenced projects, as a single export.

## Problem determination

- Process Center
  - Import / export log
  
- On import
  - Unsupported constructs that were not imported are logged to the System Out log



```

wle_perf I CWLLG1175I: Data transfer from IBM Process Server to Performance Server completed.
wle_bpmn2imp I BEGIN: importModel, originalImportFile = C:\fakepath\Shared Objects and Processes.zip, serverImportFile = C:\U:
wle W CWLLG0541W: Current version lock for branch Branch.114f34e1-020e-4a74-a0cd-e9117d9d44da missing. Creating now.
wle W CWLLG2110W: For the diagram named "Process 2" there are no simulation scenarios. A new default one is being
wle_bpmn2imp I BPMN0022I: The data structure "SharedBusinessObject1" was transformed into variable type "SharedBusinessObject:
wle_bpmn2imp I BPMN0020I: The process "Process 2" was transformed into business process diagram "Process 2".
wle W END: importModel
wle W CWLLG2114W: There is no selected data distribution for BPDDatabistributionList.
wle W CWLLG2115W: The first distribution to be selected for the business process diagram
  
```

Problem determination involved reading and understanding the log file that gets generated during the import. When importing the BPMN 2.0 file it is good to know exactly what got imported, what transformations were made and what did not get imported or transformed.

At the completion of the import, there is a message dialog displayed which lists what was imported and what was not. You can copy this information to a file for documentation purposes and if you need it, the information is also logged to the SystemOut log file. Shown at the bottom of this slide are the key words in the SystemOut log file that will help you locate the information.

At a higher level, you can see when a project was imported by going to the Admin tab in the Process Center and then selecting the "Import and Export Log" tab.

## Other things to note

- Business rules
  - Will need to be re-implemented in the Process Designer
    - The rule logic is not transferred
- Rich text is not supported in the Process Designer
  - All rich text is stripped from the descriptions
- Start and end nodes are created as required in Process Designer
- Larger business processes are hard to read
  - No auto layout
  - No zoom in/out
  - No panning in outline view
- As stated in the beginning this is not really a migration
  - It is an aid to move existing models to the Process Designer
  - There are a lot of gaps still

This last slide is to alert you to some general issues you might encounter when importing a BPMN 2.0 model that originated in IBM Business Modeler. The business rules will need to be implemented using the tools available with the decision service. Rich text is not supported in the Process Designer so any fancy formatting you might have done is lost. Start and stop nodes are not required in the IBM Business Modeler, but they are in the Process Designer, therefore they are automatically created for you as needed.

Larger models are a challenge to read because you are working with a new diagramming tool that does not have all the features you might be used too. There are no auto layout, zoom or outline panning in the Process Designer. As you begin the process of moving your models to the Process Designer, keep in mind this this is not a migration tool. It is an aid that will help you make the transition to the Process Designer.

## Summary

- Exporting from WebSphere Business Modeler V7.0.0.4
- Importing into IBM Business Process Manager V7.5: Process Center
- Swimlanes
- Data flow
- Shared projects and toolkits
  - Features in the Process Designer permit easy refactoring.
- Problem determination
- Other things to note

The BPMN 2.0 import feature is provided as an aid to help you move your models from IBM Business Modeler or WebSphere Business Compass to the new BPM Process Designer. The BPMN 2.0 interchange format is an intermediate format that is common between many different systems. Not all systems support all of the elements, therefore there are gaps between the source and the target transformations.

In addition to the mappings and transformations, there are a few conceptual differences between the source and the target, the Process Designer. First is the layered architecture of the Process Designer that combines the model and the implementation into a single business process definition. Next are the swimlanes which are an integral part of the process designer



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