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WebSphere® Business Modeler V6.1.2

Model synchronization

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This education module will discuss the new enhancements to the WebSphere Business Modeler, model synchronization feature for V6.1.2

Introduction

Model synchronization is feature that enables the business process development teams to keep the business models synchronized with the implementation models.

This module discusses the 6.1.2 updates to this feature only.

If you are unfamiliar with this feature refer to the IBM Education Assistant module for version 6.1 on this topic.

Model synchronization with WebSphere Integration Developer V6.1.0.

(http://publib.boulder.ibm.com/infocenter/ieduasst/v1r1m0/topic/com.ibm.iea.wpi_v6/wbmodeler/6.1/Overview/WBIV61_WBModelerUpdate_Synch/player.html?dmuid=20080407190508574138)

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Enhancements to model synchronization

- Support for human tasks

- Support for business rules

- Support for the Rational® Asset Manager
  - The Rational Asset Manager is used to implement the *business process management* (BPM) repository.

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When model synchronization was introduced to WebSphere Business Modeler V6.1.0 the human task and business rule elements were not able to participate in the synchronization process. With the release of version 6.1.2 they are both now fully supported with the model synchronization feature.

The Rational Asset Manager is a new feature being introduced for the first time. As shown here is the *business process management* repository. The Rational Asset Manager is a separate product and is not required for model synchronization. As you'll see later in this discussion it can make business process development easier and more reliable.

Support for human tasks and business rules

- This is a completion of the work started with version 6.1.0

- Now when changes are made to the details of either the human task or the business rule,
  - ▸ The changes are detected by the model synchronization feature.
  - ▸ This allows for incremental development of the business processes when human tasks or business rules are involved.
  - ▸ Includes the resource timetables and human resources.

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As mentioned on the previous slide, support for the human task and business rule element in the model synchronization scenario is a completion of the work begun with version 6.1.0.

The work represented here and some additional work in WebSphere Integration Developer V6.1.2 enable the full use of the human resources and resource timetables in the *model driven development* scenario. This means that when you model your human resources and timetables and associate them with a human task, all of the information is carried forward to the WebSphere Integration Developer.

The Rational Asset Manager

- The business process management asset repository for the WebSphere business process suite

- A database of assets and metadata
  - ▶ Assets that are ready to share
    - Business models ready to be implemented
      - Could be an incremental model in an iterative development process
    - Completed implementation models

- Completely optional

- Not a replacement for source code control systems

The Rational Asset Manager is a database that contains assets and the associated metadata. It does keep track of versions of the assets but is not to be confused with a true source code control system such as CVS or Rational Clear Case.

For the purposes of WebSphere Business Modeler V6.1.2, the Rational Asset Manager is used to transfer a business model that is ready to be implemented to the integration developer. This is analogous to the export to WebSphere Integration Developer operation that is available with V6.1.0.

When the model is added to the Rational Asset Manager repository the project interchange file is stored as a binary element of the asset.

Model synchronization with Asset Manager

- The steps
  - ▶ Make connections to the rational asset repository from *WebSphere Business Modeler*
  - ▶ Add the model project to the repository
  - ▶ Make the connections to the rational asset repository from *WebSphere Integration Developer*
  - ▶ Import the model into WebSphere Integration Developer from the repository
    - This becomes the baseline for subsequent model synchronizations
  - ▶ Make changes in the business model
    - Add new version to the repository
  - ▶ Make changes in the implementation model
  - ▶ Synchronize the changes
  - ▶ Update the business model in modeler if needed
    - Using the change report

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The best way to understand how this feature works is to step through an example. Shown here are the steps necessary to go through one iterative development cycle.

Take a few minutes to familiarize yourself with the steps presented here.

Model synchronization - nutshell version

- Works just like version 6.1
  - ▶ Uses the *asset repository* instead of the *project interchange files*
  - ▶ You don't get the message that the change report is created
    - *Change report is put into the Rational Asset Repository automatically*
    - *Business Modeler can be notified using subscriptions*

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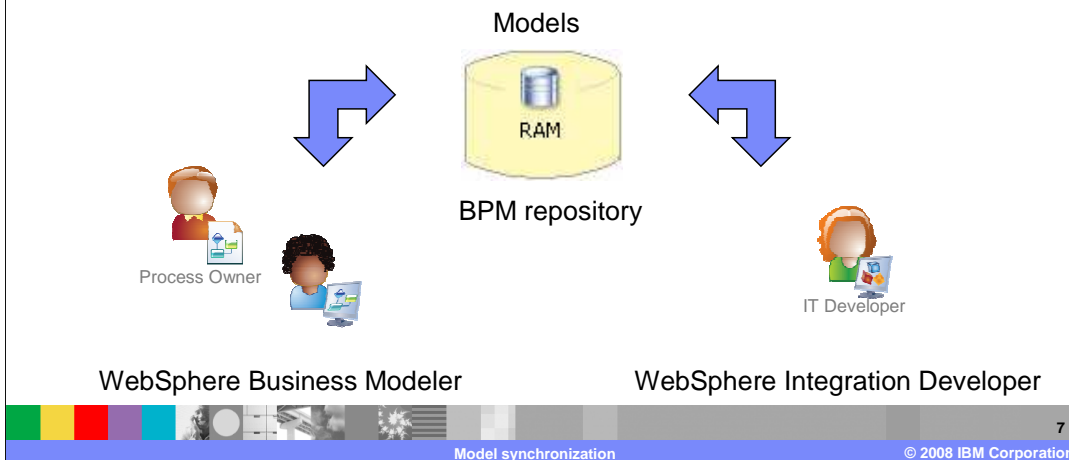
Here is an example to show how the process works using the BPM repository as the intermediary between the business modeler and the integration developer.

Note that when using the BPM repository the change report that might result from the model synchronization is also placed in the repository. One of the nice features of the BPM repository is that users can create subscriptions to assets and be notified when there are changes. In this scenario the business modeler can have a subscription that will notify them if there is a change report available that they need to look at.

Making the connection to the repository

- There are two places to work with the repository
  - ▸ The asset repository perspective
  - ▸ The asset repository view
    - Not shown by default

- When setting up the connection for the first time use the asset repository *perspective*

- After everything is setup it is easier to work with the repository from the asset repository *view*

- They both work the same

This first thing you'll need to do is make sure you've installed the Rational Asset Manager feature. It's available as an option from the installation manager when installing WebSphere Business Modeler V6.1.2 or WebSphere Integration Developer V6.1.2.

If the Rational Asset Manager feature is installed then you can open a perspective for it and or create a view. The view is not shown as part of the default business modeling perspective, so you'll need to add it manually.

From either the view or the perspective you can create the connection to the repository.

Asset repository perspective
- Create a connection
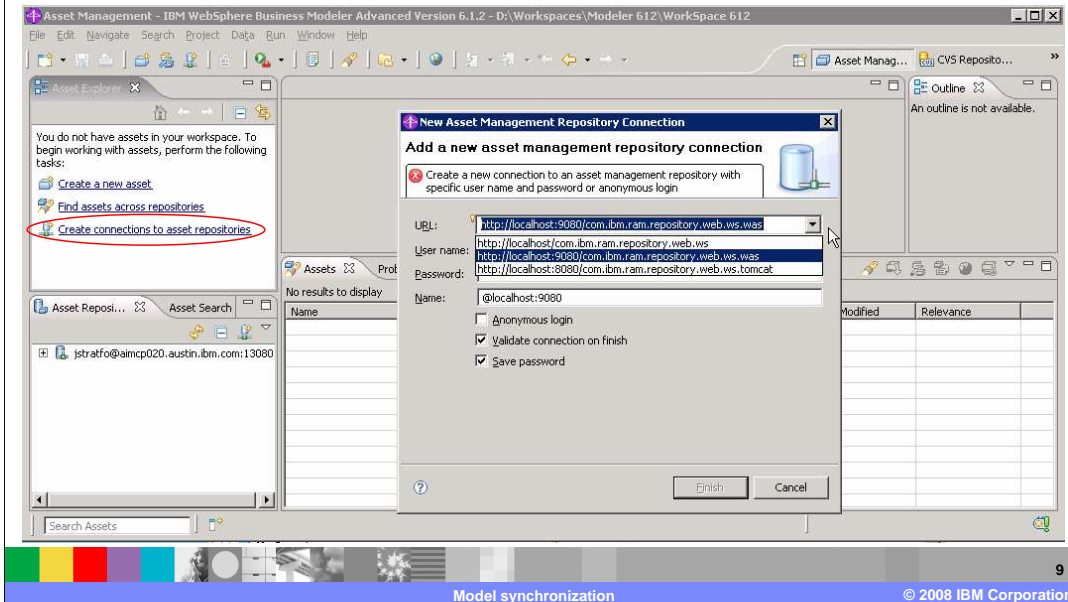
Shown here is the connection creation dialog as invoked from the asset repository perspective.

The user registry and authorizations for the repository must be setup ahead of time by the asset manager administrator.

The asset manager administrator will also provide you with the proper URL. Shown here are the three possible forms of the URL.
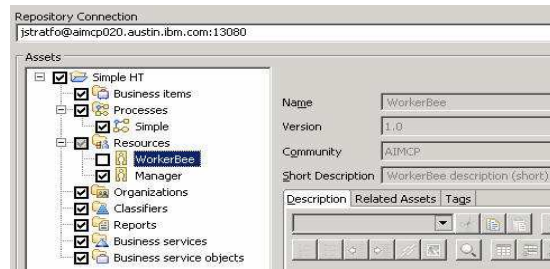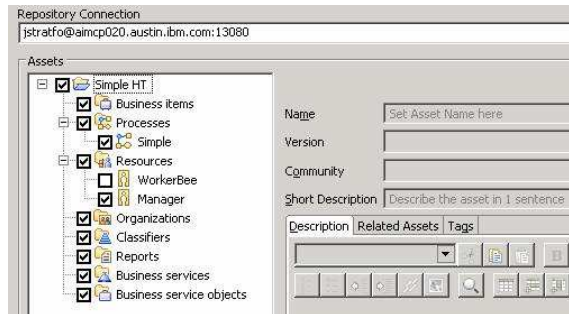
Adding assets to the repository
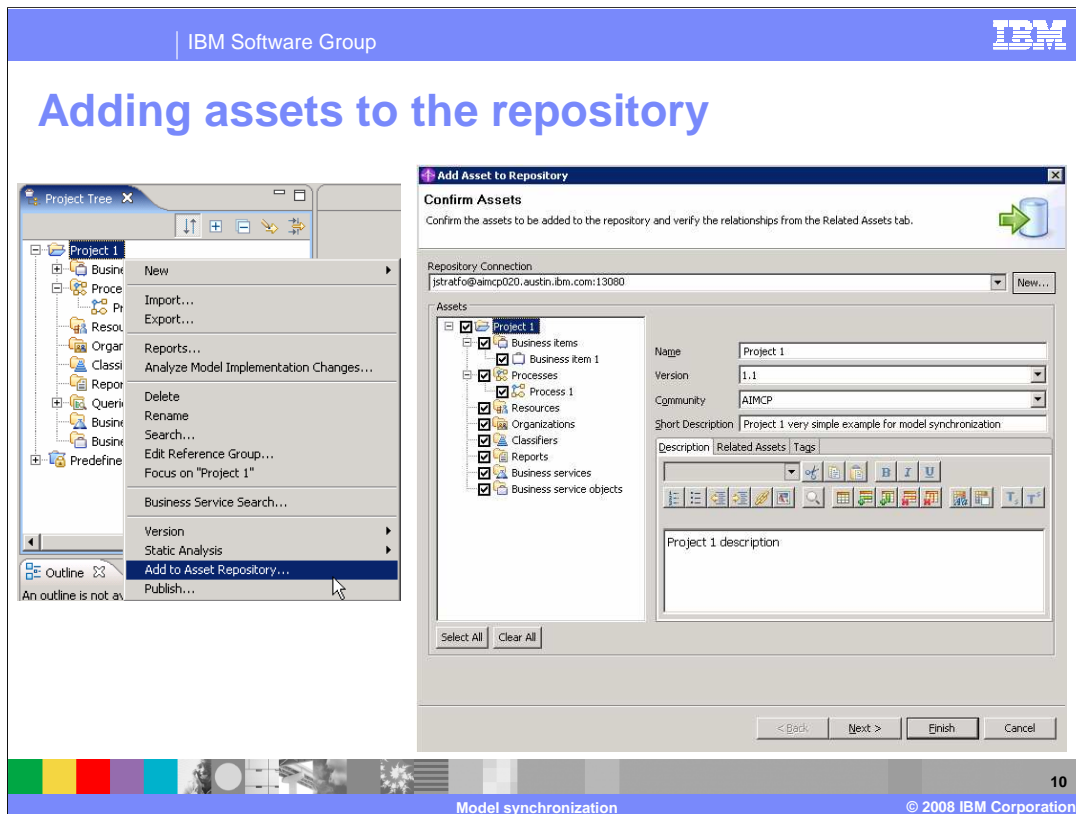
To add a modeling project to the repository, right click on the project and select *Add to Asset Repository…*

This will invoke the wizard where you can select specific components and add comments to the specific components or the entire project.

Notice the version and community attributes. Communities are a concept in the asset repository for managing who can see and work with a given set of assets. This too is provided by the asset repository administrator.

Browse around a little to see what is there and what you can and cannot change.

Only items that have changed are selected initially.

It is important to update the descriptions because they are all that is displayed when browsed at a high level. Keeping the descriptions up to date help identify what is in a given version.

Metadata can be added without version change

The descriptions are part of the metadata. Changing the descriptions does not necessitate a version change.
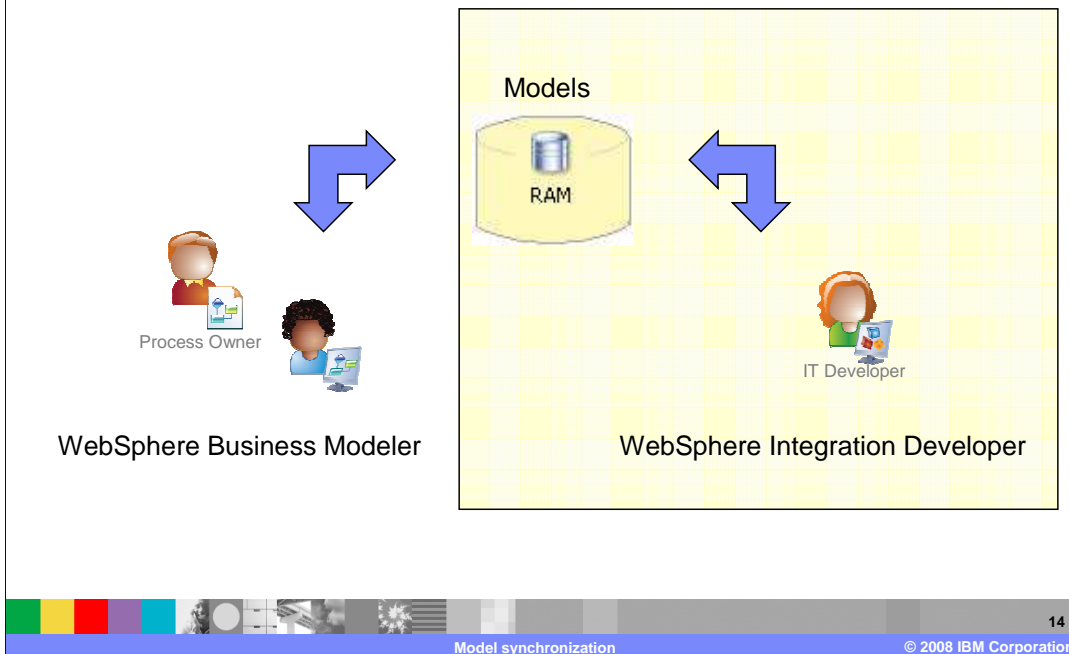
Generate for WebSphere Integration Developer
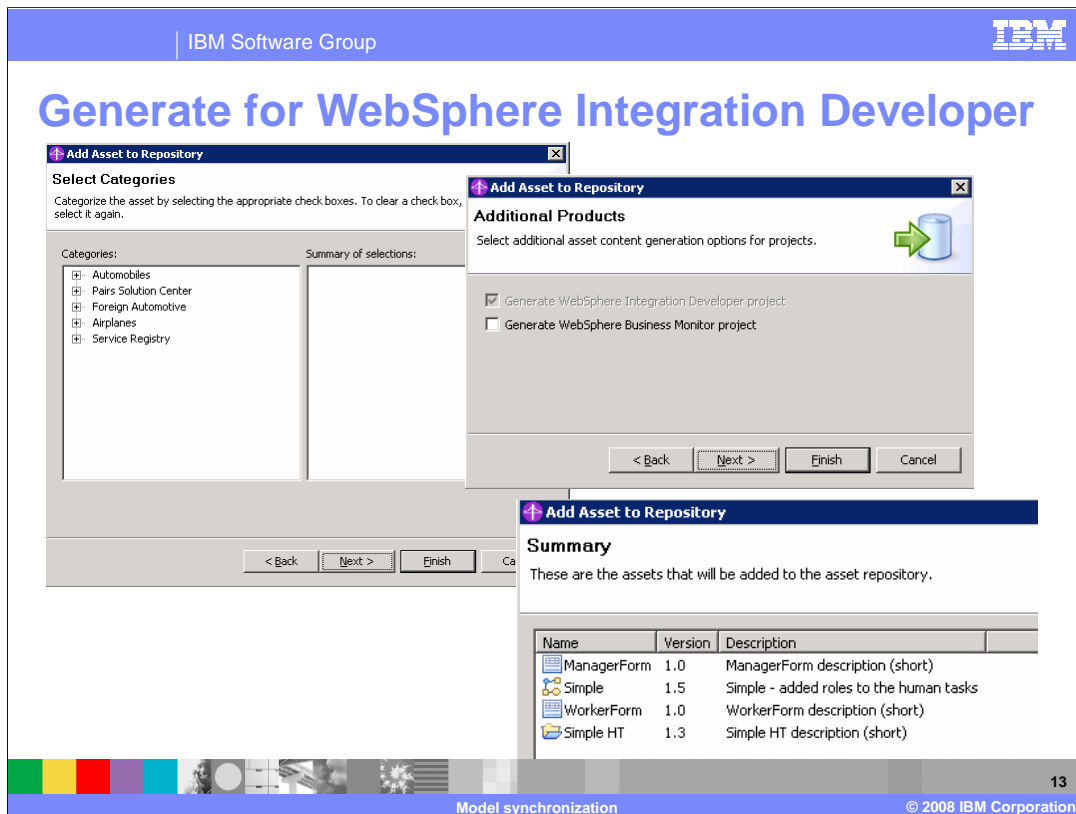
Moving along in the add to repository wizard, the next step is categorize the asset. The categories come from the asset repository and will have to be configured by the repository administrator.

The next step provides the opportunity to create the export files to be used by WebSphere Integration Developer 6.1.2. There is an option to generate either or both the WebSphere Integration Developer or Monitor exports. The export information is stored in the repository as a binary element of the model asset.

Finally there is the summary. This is a good place to verify the version numbers and review the descriptions.

Implementing the model

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Once the model has been added to the bpm repository its time for the integration developer to pick it up and implement it using WebSphere Integration Developer V6.1.2.

The next part of this discussion will pertain to the WebSphere Integration Developer.

**Retrieving the model from the asset manager**

- Create the connection to the asset manager server in WebSphere Integration Developer V6.1.2
- Open an Asset Manager perspective in WebSphere Integration Developer
- Import the asset
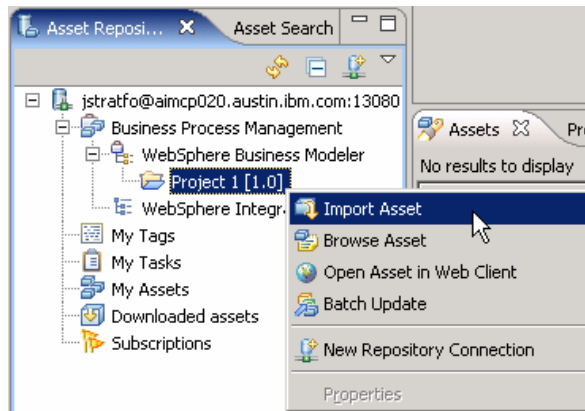
Working in WebSphere Integration Developer 6.1.2; create the connection to the Rational Asset Manager and then open the asset manager perspective. Locate the model to import in the asset manager navigation tree. Notice the folder structure for Business Process Management with a subfolder for the WebSphere Business Modeler artifacts. The modeling projects are in there. Right-mouse click on the project and then select Import Asset.

The implementation model as first imported

- A few things to notice with this example:
  - There are only two modules. The implementation module was not created because there were only *inline human tasks* in the model
    - This is probably not realistic but does highlight an interesting point
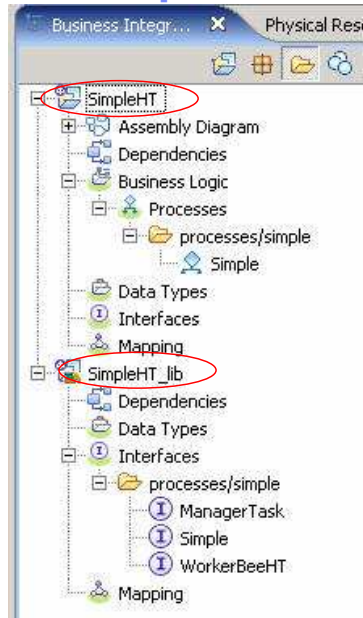
The project is imported into the WebSphere Integration Developer workspace. Typically there are three modules, the business modeling modules, the implementation module and the library module.

In this particular example there are only two modules imported. This is because the Simple HT business process only has local human tasks defined. Local human tasks are implemented in WebSphere Integration Developer as in-line human tasks in the business logic module. Therefore, there is no implementation module required.

More realistically, a business model will be a combination of human tasks, regular tasks and business rules. In that case all three modules will be created.

The business process has been imported into the SimpleHT business logic module and the interfaces have been imported into the SimpleHT_lib library module.

Work on the implementation model

- Add a new task called *NewTask* to the BPEL
  - ▸ Insert it between the WorkerBee and Manager human tasks.

- Best to work backwards starting from the interface
  - ▸ Create the interface for NewTask in the SimpleHT_lib
  - ▸ Create the SimpleHT_impl module and implement the *NewTask* and a Java component and export using SCA bindings
  - ▸ Add an invoke activity called *NewTask* in the BPEL, using the *NewTaskPartner*
    - Use the simpleString var that is already there
    - Insert the invoke between the two human tasks already there
    - Wire up the assembly diagram

Continuing with the scenario, the integration developer discovered that a new task was needed and the progress on the business process implementation can not proceed with out it. The NewTask is created and the invoke is inserted between the two existing human tasks in the BPEL, in the business logic module.
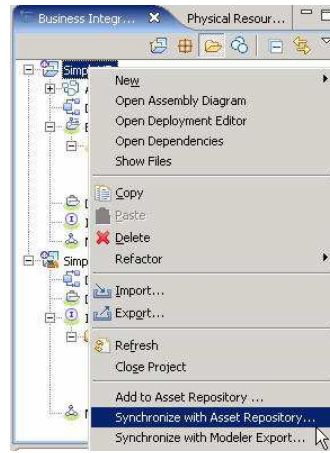
A new module called SimpleHT is created and the implementation of the new task is constructed there. Wire it all together and it's ready to go.
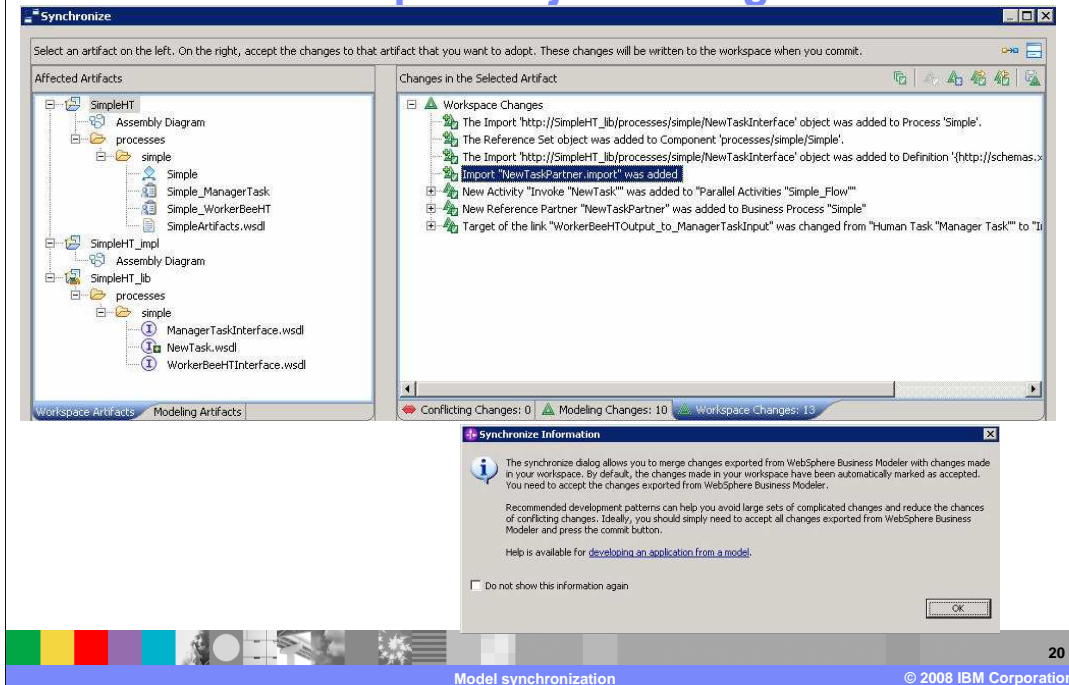
After the implementation
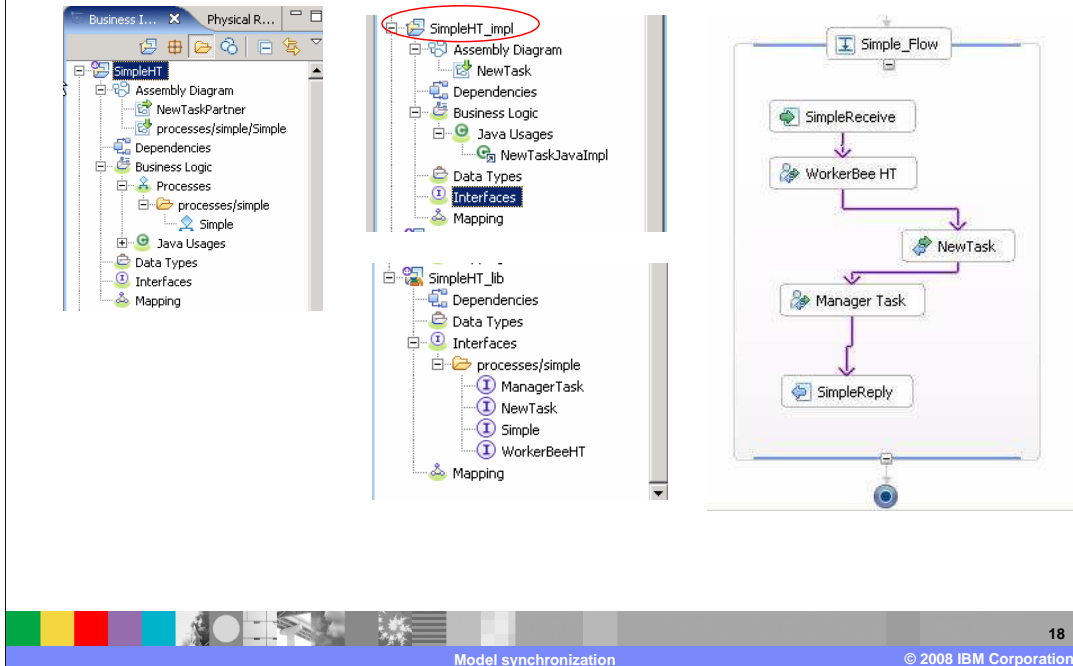
Shown here in the center is the new SimpleHT_impl module and on the right is the BPEL with the invocation to the NewTask inserted between the two human tasks.

Next, right-mouse-click on the SimpleHT module in the Business Integration navigation tree and select *Synchronize with Asset Repository.*
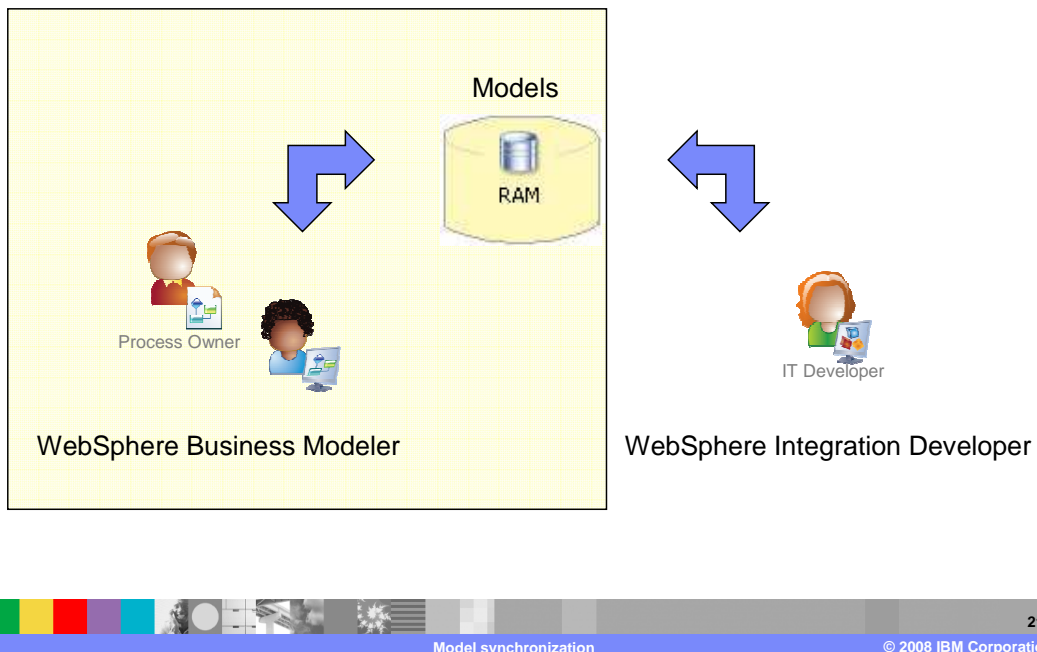
Review and accept or reject changes

The Synchronize wizard is invoked. This is the same as for previous versions of WebSphere Business Modeler, the only changes were made in the workspace so they are all accepted automatically.

Since there were changes made to the business logic and library modules, there is an impact on the business model. These changes are captured in the change report that is now available to the business analyst, through the bpm repository.

Analyzing the changes in WB Modeler 6.1.2

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Switching back to the WebSphere Business Modeler; the business analyst has been notified that there have been changes made to the business model and knows that the change report is in the BPM repository.

Getting the change report

- The change report is placed in the rational asset repository as content of the SimpleHT modeling project asset

- Using the asset repository view
  - ▶ Browse the asset
  - ▶ Inspect the content
  - ▶ Right-mouse-click on the item, a .Zip file and use *save as*, to save the file to disk

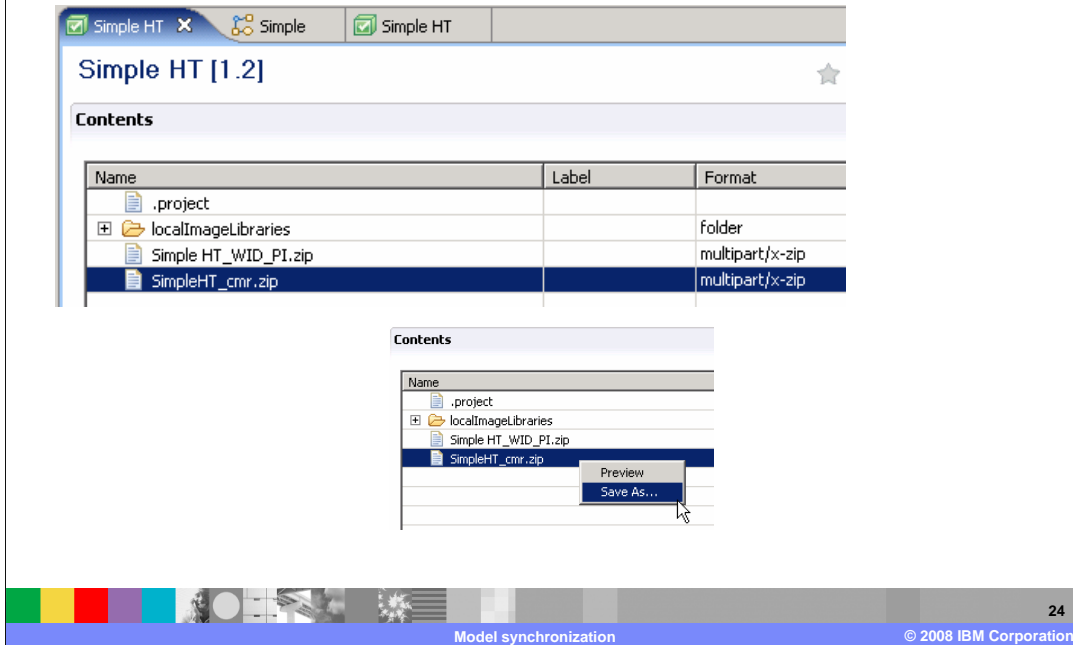- Perform the change management review and update in WebSphere Business Modeler as you did in version 6.1

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Getting the change report from the modeler side requires that the business analyst locate the file in the BPM repository and export it to the file system. Then it can be imported into the modeler. This slide outlines the steps required.

Browse the asset and navigate to the content

Shown here are the steps using the screen captures. First select "Browse asset" and then locate the contents within the asset.

Use the save as menu operation to export the file.

Analyze the changes in WB Modeler

The exported file can now be used as input to the *Analyze Model Implementation Changes.* At this point, it is "business as usual" for the business analyst.

Accept or reject the changes

- Example illustrates the problem of adding new tasks and interfaces to the implementation in WebSphere Integration Developer
  - Still the same as with WebSphere Business Modeler V6.1
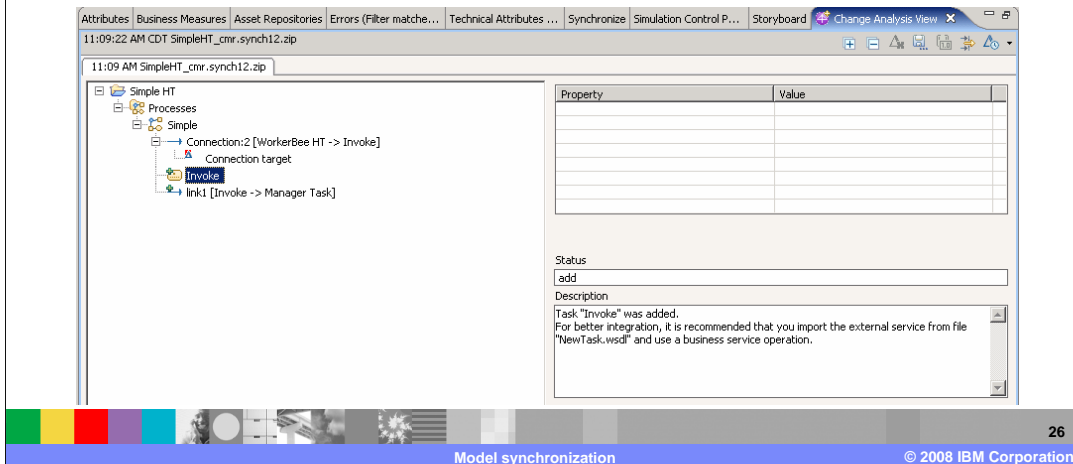
Shown here are the results.

The scenario demonstrated here illustrates the issues involved when adding new tasks and interfaces to the business logic module in WebSphere Integration Developer.

It is very difficult for the business analyst to get the interface and namespaces to match what the integration developer did in WebSphere Integration Developer. It is always best to have the business analyst make the changes in the business model and push the changes down to the implementation team.

The integration developers should avoid making changes in the business logic module. Their changes should be restricted to the implementation module.

Summary

- Support for human task
  - ▶ Including calendars and people resources
- Support for business rules
- Support for the Rational Asset Manager as the business process management repository

WebSphere Business Modeler V6.1.2 extends the model synchronization feature originally delivered with V6.1 with the inclusion of support for human tasks and business rules.

The model synchronization scenario is further expanded with the integration of the BPM repository as implemented by the Rational Asset Manager.

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