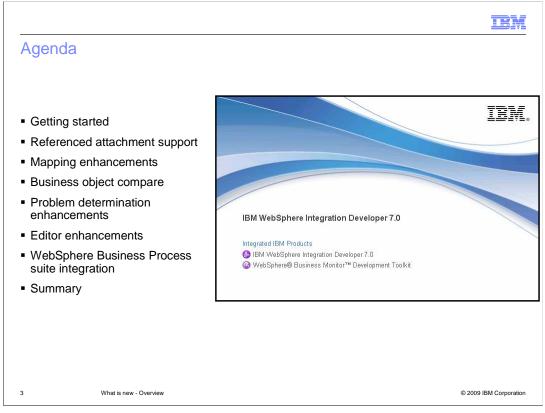


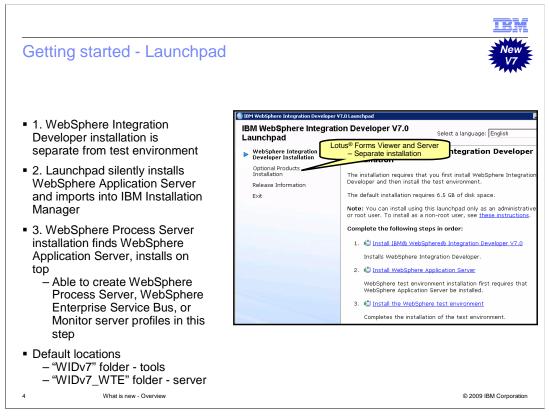
This presentation provides an overview of the new features in WebSphere[®] Integration Developer version 7.

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Goals	
 To provide an outline for WebSphere Integration Developer V7 enhancements 	
 Assumptions Prior experience with previous version, V6.2 	
 Server functionality exposed in tools are covered in runtime presentations Mediation tools covered in WebSphere Enterprise Service Bus presentation Business Process and Human Tasks tools covered in WebSphere Process Server presentation Adapter tools covered in Adapter presentations 	
 For each enhancement, learn What is the enhancement Why the enhancement is needed 	
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2 What is new - Overview © 2009 IBM Corp	oration

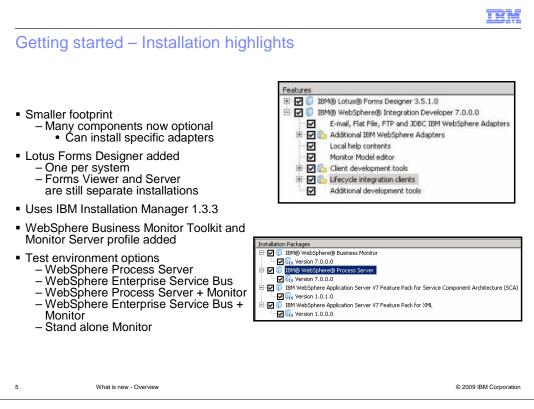
The assumptions for this presentation are that you have prior experience with previous versions, specifically V6.2. One thing to point out is that server functionality exposed in tools is covered in runtime presentations. For example, mediation tool enhancements are covered in the **WebSphere Enterprise Service Bus What is new- Overview** presentation. The same goes for items like business processes, human tasks, and adapter tool enhancements - all are covered in their respective "What is new – Overview" presentations. For each enhancement, you will learn what the enhancement is, why the enhancement was needed, and other overview details that help explain the enhancement.



The agenda is as follows. You will get started appropriately with the installation of WebSphere Integration Developer. From there you will be taken through the list of enhancements in an overview style. Items like the getting started page, quick start task flows, referenced attachment support in SOAP messages, and the ability to compare two versions of business objects with business object compare. Component test enhancements, logging, and tracing will be covered for problem determination. Many mapping enhancements are introduced in version 7. Several editors have been enhanced like relationships, integration solutions, business objects, and interfaces. The WebSphere Business Process suite integration enhancements section highlights connections made with WebSphere Business Modeler, WebSphere Business Monitor, and WebSphere Business Compass. You will finish with a summary of all the enhancements to help review.



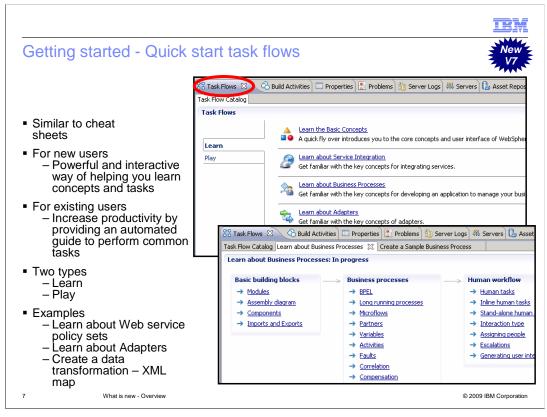
WebSphere Integration Developer is installed with a Launchpad. On this Launchpad you will notice the installation has been separated into three ordered parts. First is the WebSphere Integration Developer installation, which opens IBM Installation Manager to manage the installation. Then the WebSphere Application Server finds the WebSphere Integration Developer installation from the previous step, installs silently, and finishes by importing WebSphere Application Server into IBM Installation Manager. Step 3 is the installation of WebSphere Process Server on top of the WebSphere Application Server installation as the WebSphere test environment runtime. You will be able to create WebSphere Process Server, WebSphere Enterprise Service Bus, or WebSphere Business Monitor server profiles in this step. Another change from version 6.2 is that WebSphere Integration Developer is installed to a separate directory from the test environment runtime. The default location for the tools is a "WIDv7" directory and the runtime in a "WIDv7_WTE" directory.



Making components optional means a smaller hard drive footprint, allowing you to install only the components you need to be successful. Previously, WebSphere Integration Developer installed all components regardless of use. For instance, you can now install the specific adapters you are using. Previously, you installed all adapters or no adapters. If you decide later that you need a component you did not install, use the Modify function of IBM Installation Manager to add it to your installation. Lotus Forms Designer has been added to the WebSphere Integration Developer and WebSphere Business Modeler installation, but only one installation per system is allowed. This will help you work with your Lotus Forms directly in WebSphere Integration Developer, though Lotus Forms Viewer and Server are still separate installations and can be started from the launchpad. The WebSphere Integration Developer installation steps up to IBM Installation Manager 1.3.3 to manage the installation. In addition to Lotus Forms, the Monitor toolkit and Monitor server profile have been added to the WebSphere Integration Developer installation to allow you instant monitor model building and testing. The WebSphere test environment now has several different options: WebSphere Process Server stand-alone or WebSphere Enterprise Service Bus stand-alone, and each can have WebSphere Business Monitor added to their profiles. You can also install WebSphere Business Monitor alone as the test environment.

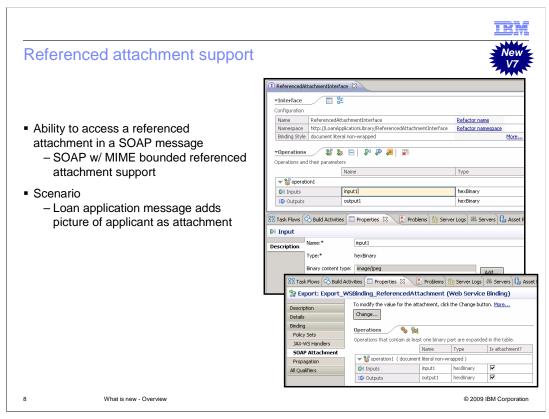
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What is new - Overview		©	2009 IBM Corporatio

The Getting Started page guides you to learning task flows that teach concepts and how to perform tasks, resources to discuss what is new and migration information, samples and tutorials, and patterns. Additionally, you can select that you are only targeting a WebSphere ESB server. This will constrain the projects and artifacts you can create to what can be deployed to the WebSphere ESB server. Plus, the Help > Support menu provides access to newsgroups, developerWorks, the online information center, IBM Education Assistant, and support. The business integration perspective has been streamlined like the removal of the outline, reference, and snippets views.

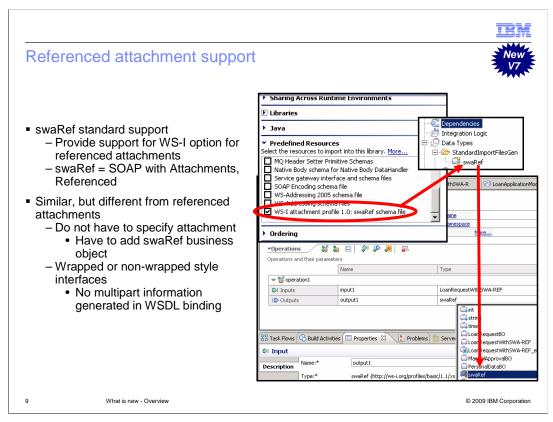


Quick start task flows are automated task helpers new to version 7, similar to cheat sheets. For new users, they are an interactive way of helping learn concepts in WebSphere Integration Developer.

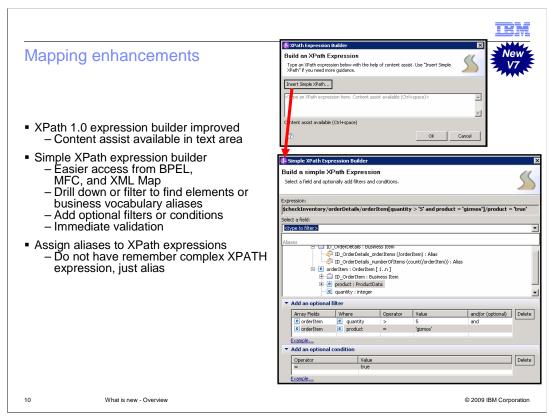
For existing users, they increase productivity by providing an automated guide to perform common tasks. There are two types of task flows, learning and playing. Learning is geared towards concepts and playing for actual tasks in WebSphere Integration Developer.



In version 6.2.0.1, unreferenced attachments support was introduced. In version 7, there have been two additions: referenced attachments and the swaRef attachments. Both give the ability to access a referenced attachment from a SOAP message. Referenced attachments provide SOAP with MIME bounded referenced attachment support. This enhancement is useful in instances where a loan application wants to add a picture of the applicant as an attachment to the application form. There are several stipulations for referenced attachment usage covered in more detailed presentations. MTOM is still not supported.



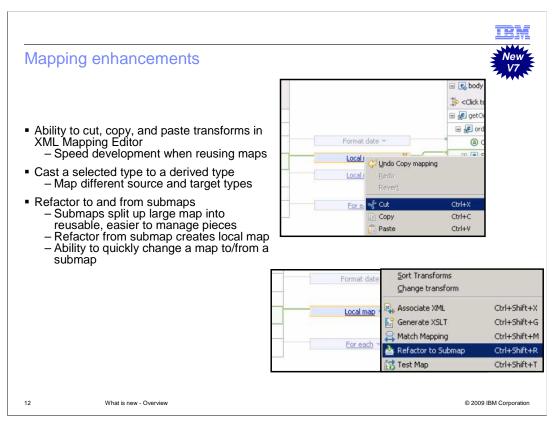
swaRef is short for SOAP with attachments, referenced. This WS-I standard adds further referenced attachment support in version 7. This provides similar support as referenced attachments, with a few differences. You do not have to specify an attachment, but you do have to add the swaRef business object, as seen in the screen captures to the right. swaRef also accepts wrapped or non-wrapped style interfaces, which means the content is not split into multipart information generated in WSDL binding like referenced attachments.



The XPath 1.0 expression builder is improved. Content assist is available in text area, and can call the simple XPath expression builder. This means more complex XPath expressions can be created more easily, and you have easier access from the BPEL Editor, Mediation Flow Editor, and the XML map editor. In the simple XPath expression builder, you will first select a field with the ability to drill down or filter to find elements or business vocabulary aliases. Business vocabulary aliases are new for version 7 and give you the ability to assign aliases to XPATH expressions so that you or your team does not have to remember complex XPATH expressions, just aliases. Then in the expression builder, you will add optional filters or conditions on those elements. You will receive immediate validation on the expression.

Mapping enha	ancements		TEM New
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	ata Map activity to mapping between		Use an XML map for most transformations. An XML map uses standard XSLT for data transformation.
Interfaces Interfaces Interfaces ManualApproverUI ManualApproverUIE Open	Callaboration : Project Data Map Cataloo Data Map Cataloo Relationship		Use a business object map only when you need to perform specific types of transformations. <u>More</u>
	t	?	

The new data map wizard converges the business object map and XML map wizards into one wizard to help you decide which type of map you want to use. Text and additional help will guide you to making an informed choice. In addition, the XML Map is now available in BPEL as Data Map activity. Previously, the business object map was the only map available to be used in BPEL.

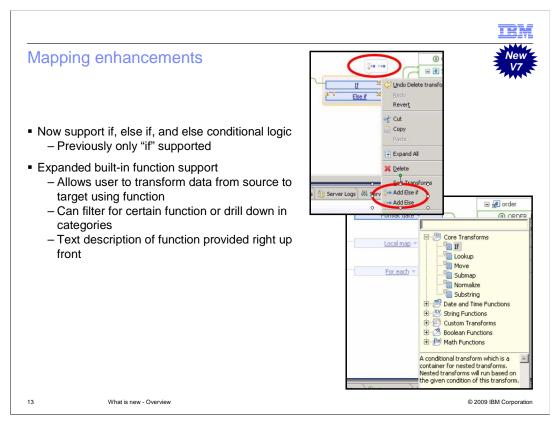


The XML mapping editor has the ability to cut, copy, and paste transforms. This option speeds development when reusing maps. This includes copying and pasting a previously built map into new map or submap. There is validation on the use of the paste function in that if the target schema does not match the source schema you copied, you will then not be allowed to paste.

You can now cast a selected type to a derived type. A new element is then displayed using the derived type.

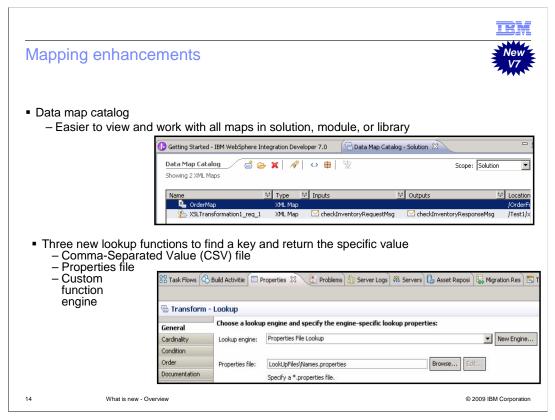
You can map different source and target types.

Version 7 also brings the ability to quickly change a map transform into a submap and change from a submap into a local map. The reason for refactoring into a submap is to split up maps into reusable pieces. Large maps can be hard to manage and not reusable. Using submaps makes map content reusable and easier to manage. The refactor from a submap action allows you to create a local map from submap along with its containing mappings.



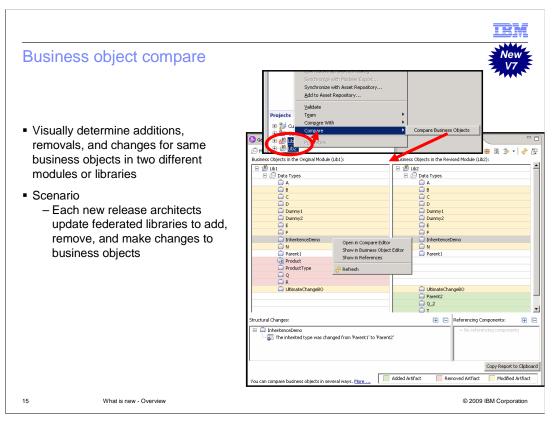
The conditional support in maps has also been expanded. In WebSphere Integration Developer version 6.2.0.1 only supported the **if** condition. Now the if, else if, and else conditional logic is supported. The reason is to provide ability to make logic decisions in maps. The logic is evaluated in order and fires the transform for the true case.

In addition to the conditional support, the built-in function support has been greatly expanded in version 7. This allows you to transform data from source to target using many different functions. You can filter for a certain function or drill down in categories to find the certain function. Also, a text description of the function details is provided in the dialog to help understand how to use the function. The Properties view helps provide editing details and is first class for date formatting, concat, and substring. Custom transforms enables easier calls to custom Java[™] extension functions and custom XSL functions.

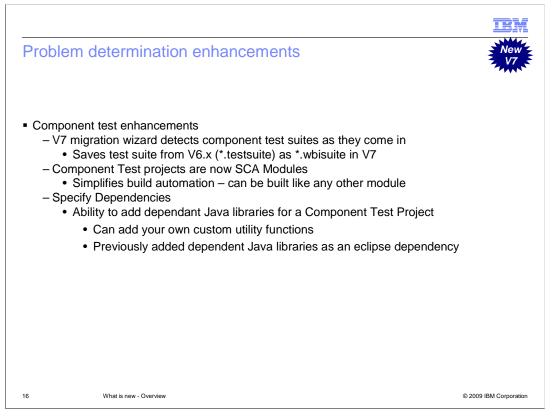


Previously, there was not a good way to see or work with all maps in a solution, module, or library. WebSphere Integration Developer introduces a data map catalog in version 7 to make this possible. To help view, you can filter rows and sort by column headers like name, type of maps, inputs, and outputs. There is also a text search for all the results. Wild cards are accepted when filtering to find a map or certain maps. Toggle buttons in the data map catalog allow you to show and hide content tags and namespaces. In addition, you can see other objects that use the map in the references view. Finally, you can create a new data map from the data map catalog.

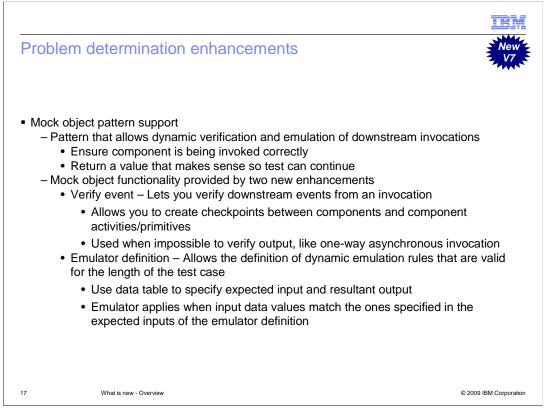
Three new built-in mapping facilities are provided in version 7 to lookup a key and return the specific value. Before version 7, there was only the relationship lookup function. The purpose of a lookup function is to lookup a key and return the specific value. This is done through a Comma-Separated Values (CSV) file, a properties file, or a custom function engine. For the custom function engine, it is easy to create your own Java file. The most used example for the look up functions is the use of a hash table to look up a key and retrieve another value.



Business object compare allows you to visually determine additions, removals, and changes between business objects in two different modules or libraries. For instance, say with each new release architects update federated libraries to add, remove, and make changes to business objects. They can use this to easily see differences. You can see structural changes as text, and colors help differentiate between additions, removals, or changes. You can also see which objects reference the business object, and sort and filter options by name, location, namespace. You can open a text compare editor to see business object code side by side or easily open the business object editor to make changes in real time. The "copy report to clipboard" allows you to paste structural changes as an organized set of documentation into a spreadsheet, document, or other report.



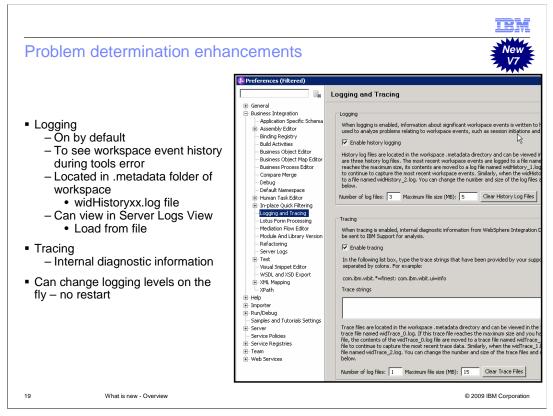
As component test suites from previous versions are migrated into version 7, the migration wizard saves the test suite from V6 (*.testsuite) as *.wbisuite. Component test projects are now supported as SCA Modules; this simplifies build automation where a component test project can be built like any other SCA module. In addition, you can add dependent Java libraries easily since component test projects now have the dependency editor. Previously added dependent Java libraries are specified as an eclipse dependency. Adding java libraries allows you to add your own custom utility functions.



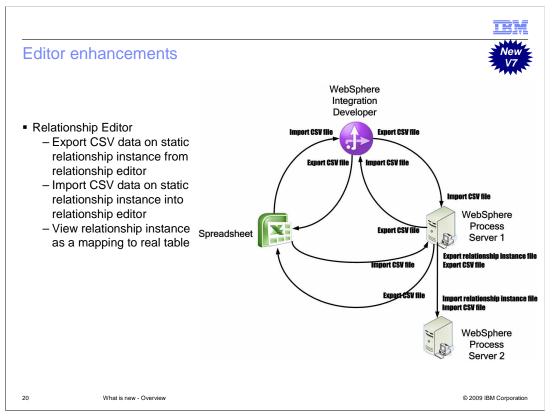
Version 7 component test supports the mock object pattern, which allows verification and emulation of downstream invocations. This allows you to ensure that the component is being invoked correctly and returns a value that makes sense so that the test can continue. Mock object functionality is provided by two new enhancements. The verify event task allows you to verify downstream events from an invocation. The verify event is used to allow you to create checkpoints between components and component activities or primitives. For example, with one-way asynchronous invocations it is impossible to verify output. However, with a verify event task you can now contain this in your tests. The define emulator task allows the definition of dynamic emulation rules that are valid for the length of the test case. You will use the data table view to specify expected input and resultant output. The emulator applies when input data values match the ones specified in the expected inputs of the emulator definition.

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Here you see the component test client and how to add a verify event task. Notice for the verify event task, you have the option of creating one for a request, response, exception, or a fine-grained trace. For the emulator definition task, you have the option of creating one for a component, reference, and human tasks (both inline and stand-alone).



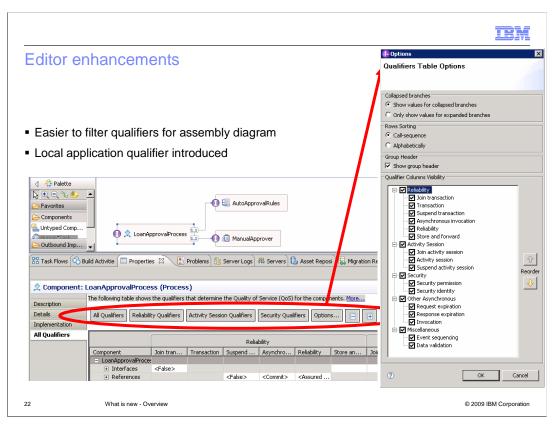
Logging and tracing in WebSphere Integration Developer has been added in version 7 to help with problem determination of the tool environment. Logging is turned on by default and keeps three log files at the size of 5 megabytes. The log allows you to see workspace event history during tools error. For example, if you receive a null pointer error when opening an editor, this would be captured in the log. The widHistoryxx.log is located in the .metadata folder of the workspace that had the error. The "xx" in the log file name represents the number of log files. The easiest way to view these files is in the server logs view, where you choose to "load from file". You can select all of the widHistoryxx.log files to see a combined view of the logs together. You can use the filter in the server logs view to find errors quickly. Tracing is not on by default and is used for internal diagnostic information. You will use tracing to help report issues to IBM Support. Saving any change for logging or tracing in the preferences makes the change instantly. There is no longer a need to restart the software or workspace.



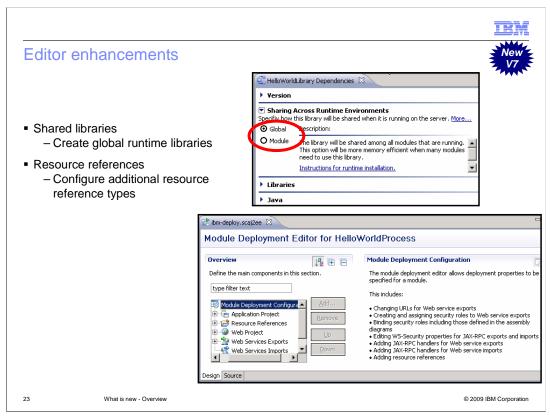
A relationship is a service that manages the correlation between business objects or other primitive data and is internally invoked by business object map and XML map services. Before version 7, there is no direct way to import the relationship instance data from the existing spreadsheet to WebSphere Integration Developer or from WebSphere Process Server back to WebSphere Integration Developer. Now in version 7, pre-defined static relationship data stored in a spreadsheet can be imported into WebSphere Integration Developer's relationship designer as comma-separated values, or CSV, files. The relationship instance data input in WebSphere Integration Developer can be exported back to the spreadsheet in the format of comma-separated values. If the relationship instance data is updated in WebSphere Process Server, it can be exported back into WebSphere Integration Developer, or to a spreadsheet in the format of comma-separated values. It is also easier to migrate the relationship instance data from one server to another by exchanging the relationship instance or comma-separated values file. Two types of comma-separated values are supported, simple and lossless format. The relationship instance pre-population user interface used to show a mapping to the XML file, but now in version 7, the view is a mapping to the real table.

Editor enhancemer	nts						New Y
 Add/Remove integration – Less steps to publish 				to test serv	ver		
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Compared to integration solutions from version 6.2., there are two main additions. In the Servers view, you can now add integration solutions to the test server and remove them from the test server, simplifying deployment. This allows you to deploy and undeploy all of the modules and libraries associated with a solution with fewer steps. For the solution viewer, module-to-module and inner-module transaction boundaries and linkages are visualized for all binding types with green highlighting. This gives you the ability to see more than SCA bindings, given that highlighting was only for SCA bindings before version 7.



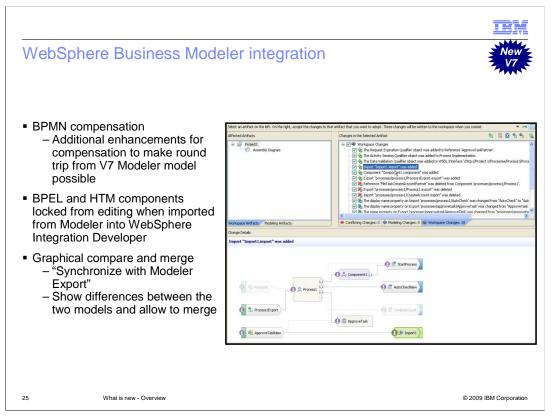
If you use the qualifiers tab to manage the qualifiers in your assembly diagram, version 7 adds buttons to the top of the tab to filter qualifiers easier. These buttons allow you to focus on activity sessions or reliability qualifiers with the click of one button versus manually stepping through the components in your assembly diagram to find the right ones. The end result is quicker viewing and editing of qualifiers. Using the new transaction qualifier "Local application", your applications can control transaction boundaries. For example, you can use with CICS[®] programs that use syncpoint.



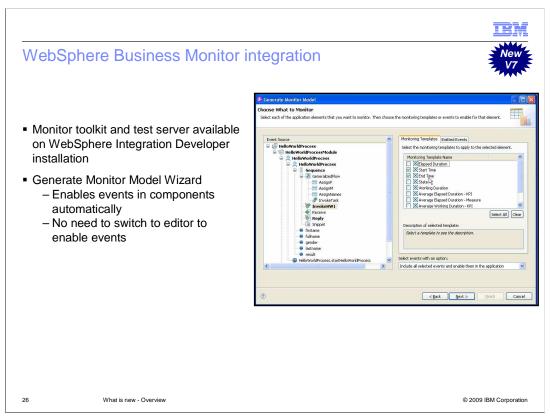
In WebSphere Integration Developer version 7 you now can create shared, or global, libraries to be used with several different applications running on a server. Access the settings in the dependencies editor for the library you want to share. Deployable .jar files are created for globally shared libraries from the export wizard. The resource references for a module can now be configured for additional resource reference types from the module deployment editor.

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Editor enhancements				
 Business object and interface edit 	tors			
- Name and namespace clearly	displayed and ea	sily refact	ored	
Interface editor				
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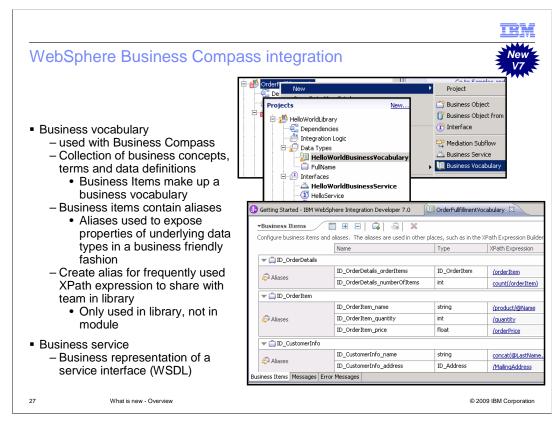
The business object and interface editors have been updated to clearly display the name and namespace. You can also easily refactor from the editors. An enhancement specific to the interface editor is the addition of the binding style being clearly shown. You can change the interface binding from doc-lit wrapped to non-wrapped. For instance, you would make this change to work with attachments.



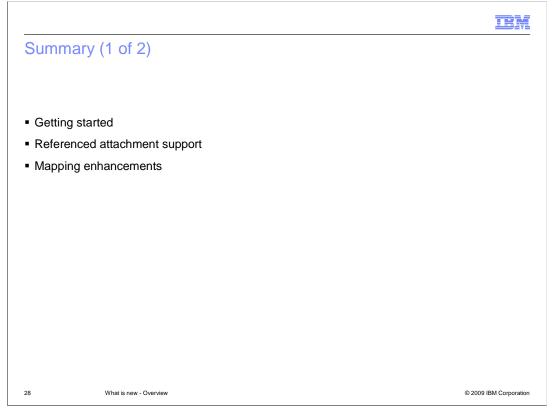
WebSphere Integration Developer version 7 has three main improvements for better integration with WebSphere Business Modeler version 7. The first is Business Process Management Notations, or BPMN, compensation support, where additional enhancements have been made to make round trips from the V7 Modeler model possible. In addition, when projects exported from Modeler are imported into WebSphere Integration Developer version 7, the business process and human task components are locked from editing with small lock symbols. This is done to keep the Modeler model integrity. For those times when the components are unlocked and edited, the graphical compare-and-merge has been improved to synchronize with Modeler export. The graphical editor allows you to see differences between the two models and to merge those differences.



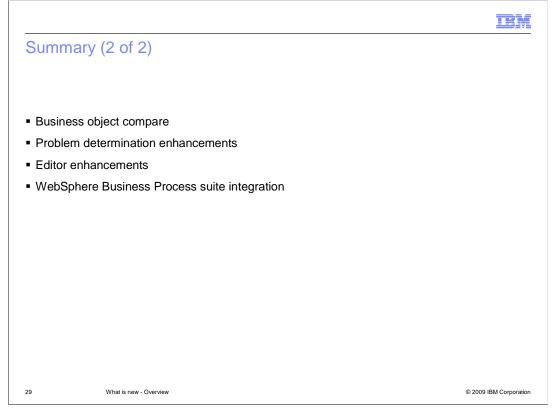
WebSphere Business Monitor is also playing a larger role in WebSphere Integration Developer version 7, given that the Monitor toolkit and Monitor test server are now available options in the WebSphere Integration Developer installation. In addition, the generate monitor model wizard enables events in components automatically. Therefore, you do not need to switch to the editor to enable events.



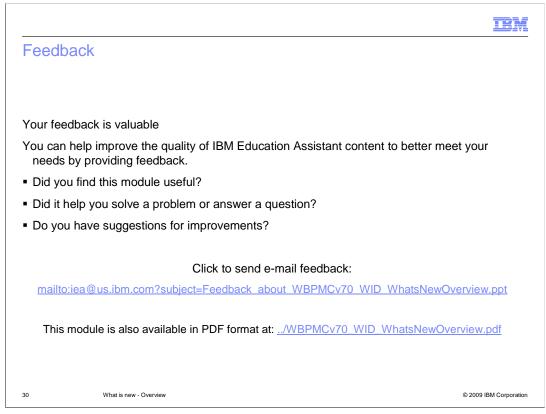
Business vocabulary is used with WebSphere Business Compass and is a BPMN document that contains a collection of metadata that defines your processes, like business concepts, terms, and data definitions. Basically, business vocabulary is the collection of business items where aliases are elements of the business item. These aliases are used to expose the properties of the underlying data types in a business-friendly fashion. In WebSphere Integration Developer version 7, they are used for XPath aliases. XPath aliases are for easily accessing frequently used or long XPath expressions and for sharing with a team in a library. XPath aliases are not available in modules, but in libraries only. Once the alias is created, you can now use the alias in the XPath expression editor to speed development and not have to remember long XPath strings.



In summary, the WebSphere Integration Developer installation has many features now optional, has a smaller hard-drive footprint, and a new launchpad. The Getting Started page guides you to guick start task flows, resources to discuss what is new and migration information, samples and tutorials, and patterns. Additionally you can select that you are only targeting a WebSphere ESB server. Quick start task flows allows new and existing users to increase productivity by providing an automated guide to learn concepts and perform common tasks. Referenced attachment support provides the ability to access attachments in a SOAP message and provide support for WS-I option for referenced attachments. There have been several mapping enhancements, like the combined data map wizard, which provides one entry point to create business object and XML Maps along with text to help you choose which map to use. The XPath 1.0 expression builder is enhanced for easier creation of XPath expressions. You can now create aliases in business vocabulary for frequently used XPath expression to share with a team in the library. Refactoring of maps has been enhanced so that you can cut, copy, and paste transforms, and then refactor into and from submaps. This helps split up maps into reusable pieces and makes them easier to manage. Conditional support has been improved with if, else-if, and else, providing ordered condition capability in maps. Built-in functions are provided upon installation to help speed mapping development, as are the three lookup functions added to retrieve a key from a properties, CSV, or custom Java file. A data map catalog has been added for an easier view of all maps in a solution, module, or library.



The business object compare feature allows you to see which business objects have been added, removed, or changed between two modules or libraries. Component test was enhanced with mock object pattern support using verify event tasks and dynamic emulation definitions for downstream invocations. In addition, test suites are migrated on first touch and component projects become 1st class SCA projects along with a dependencies editor for custom libraries. Logging and tracing for WebSphere Integration Developer allows for view of history and help log and trace internal WebSphere Integration Developer errors. You now have the ability to see module to module connections through more than SCA bindings and publish easier for integration solutions. The qualifiers tab in properties view simplified for viewing qualifiers in assembly diagram. You can now export and import CSV data on static relationship instance to and from relationship editor and view relationship instance as a mapping to real table. Improved WebSphere Business Modeler integration with BPMN Compensation, locking Modeler generated BPEL and HTM components, and graphical compare merge making integration with Modeler models easier. WebSphere Business Monitor also is better integrated with install options added and the generate monitor model wizard enabling events in components automatically.



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