WebSphere® Integration Developer V6.1

What is new in V6.1 – New function overview

This presentation provides an overview of what is new in version 6.1 of WebSphere Integration Developer.

Goals

- Outline WebSphere Integration Developer V6.1 development environment enhancements
  - ▶ This presentation
    - Focus specifically on functionality not associated with runtime
  - ▶ Server functionality exposed in tools are covered with runtime presentations
    - Examples:
      - Mediation tools covered in WebSphere Enterprise Service Bus section
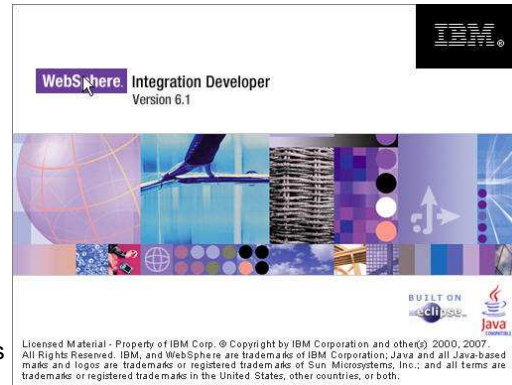   - Business process and human tasks tools are covered in their respective sections

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The goals for this presentation are to quickly outline the V6.1 development environment enhancements for WebSphere Integration Developer. This presentation covers the development environment enhancements only and focuses specifically on functionality not associated with runtime. Server functionality exposed in tools is covered with runtime presentations. For instance, the mediation tools are covered in WebSphere Enterprise Service Bus section. The business process and human task tools are covered in their respective sections. At the end of this presentation you should be able to identify and understand the new version 6.1 enhancements. The requirement to understand this presentation is a working knowledge of WebSphere Integration Developer 6.0.

Agenda

- Major Theme for WebSphere Integration Developer V6.1 Enhancements
  - ▶ Usability
    - Foundation
    - Performance improvements
    - Large project support
    - Installation manager
    - Artifact evolution
    - Component test support
    - XSD/WSDL/Industry schema enhancements
    - View and editor enhancements
    - Deployment improvements
    - Refactoring enhancements
    - Help features

WebSphere. Integration Developer
Version 6.1

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BUILT ON eclipse

Java COMPATIBLE

The agenda for this presentation focuses on the major theme for WebSphere Integration Developer V6.1 enhancements – improved usability. From a user perspective, the product is easier to use in order to provide a better development experience. From an outside service perspective, WebSphere Integration Developer V6.1 is able to use external objects better.

Many of the enhancements mentioned here were not part of WebSphere Integration Developer V6.0.2 or were enhanced in WebSphere Integration Developer V6.1. This presentation starts with the foundational WebSphere Integration Developer V6.1 enhancements and moves directly into one of the most important enhancements: performance. The new features introduced in V6.1 are then covered, including improved large project support, IBM Installation Manager, artifact evolution, and component test support. Then there is a section about improvements to existing functionality like XSD, WSDL, and industry schema enhancements, view and editor enhancements, deployment improvements, refactoring enhancements, and help feature improvements. The first section covers the foundational improvements to WebSphere Integration Developer V6.1.

Foundation

- Eclipse V3.2.2
  - ▸ Better performance and less memory used

- Rational® Application Developer V7
  - ▸ Provides foundation for WebSphere Integration DeveloperV6.1

- Windows® Vista® support added
  - ▸ Tools and runtime

WebSphere Integration DeveloperV6.1 is based on several other software components. The bottom layer is built from Eclipse V3.2.2. There are many benefits introduced from this base layer, including better performance and less memory used. On top of Eclipse is Rational Application Developer Version 7 - this product provides the foundation upon which WebSphere Integration Developer V6.1 is built. In order to save space, there are some plug-ins removed from Rational Application Developer V7 that are not used by business integration developers. Then the WebSphere Integration Developer V6.1 plug-ins and features are added to make up the WebSphere Integration Developer V6.1 package. Windows Vista support has been added for both WebSphere Integration Developer and WebSphere Process Server for V6.1.

Performance improvements

- Builds faster
  - Decrease in both memory and build times
    - Some tests show 50% reduction
  - Options specifically for reducing builds for large projects
  - More granular control of what you want "build" to mean

- Deploys faster
  - Deploy process redesigned for more performance

- Lower hard-drive footprint
  - More functionality in smaller space on hard-drive

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In addition to the performance improvements in Eclipse 3.2.2 and Rational Application Developer V7, WebSphere Integration Developer V6.1 further reduces development time and improves developer efficiency with several performance improvements. Users with large projects or large workspaces can see the most improvements in WebSphere Integration Developer V6.1. The building and indexing of projects are faster in V6.1, with decreases in both memory and build times where some tests show 50% reduction in build times. In addition, WebSphere Integration Developer V6.1 has options specifically for reducing builds for large projects. The product now gives you more granular control of what you want "build" to mean for your workspace with the addition of a new view: the build activities view. As you take advantage of the build performance improvements, you will also see the projects deploy faster. The deploy process has been redesigned for better performance and more accuracy than in V6.0.2. Though there is more functionality in WebSphere Integration Developer V6.1, the amount of space it takes on the hard-drive is smaller and it has been organized better.

Improved large project support

- Can filter business objects and interfaces from Business Integration View
  - ▶ Quick search and can save favorites

- Can exclude libraries from project clean/builds
  - ▶ Useful for stable artifacts and industry schemas

- Faster validation, building, and deploying of large projects
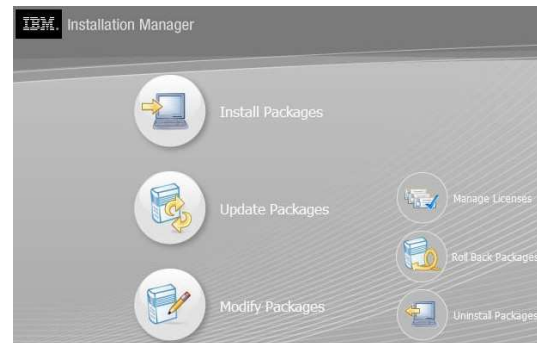 - ▶ Performance improvements and validation depth options

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Improved large project support means a better development experience for developers working on large projects. First, you can dynamically filter business objects and interfaces from the business integration view so that you can quickly find artifacts and even mark those artifacts you use constantly with a favorites tag. A significant improvement in WebSphere Integration Developer V6.1 is the ability to exclude libraries from project clean or builds. This is very useful for stable artifacts that do not change and do not need to be part of every build. This is especially useful for industry schemas. In addition to these large project improvements, there is faster validation, building, and deploying of large projects in WebSphere Integration Developer V6.1.

Installation Manager

- New for WebSphere Integration Developer V6.1
- Installation management tool for 6.1 WebSphere Business Integration tools <u>and</u> runtime
  - ▶ One place to update both tools and runtime
- Unlike using the Rational Product Updater for tools and Update Installer for runtime
- May have seen in Rational V7 products
- Eclipse based
- Self-installs before first package
- Uses repository.config files to coordinate packages

IBM. Installation Manager

Install Packages

Update Packages

Modify Packages

Manage Licenses

Roll Back Packages

Uninstall Packages

Another new feature of WebSphere Integration Developer V6.1 is how you install the product. The IBM Installation Manager V1.0.1 is the new management tool for version 6.1 of the WebSphere Business Integration tools and runtime, giving you one place to update both the tools and the runtime. This is unlike WebSphere Integration Developer V6.0.2, which requires using the Rational Product Updater for the tools and Update Installer for runtime in order to update or do maintenance. IBM Installation Manager was introduced with the Rational V7 products and is a stand-alone, Eclipse-based product. IBM Installation Manager self-installs before first package is installed, so you do not have to go to a different location to install the IBM Installation Manager. It uses repository.config files to read and coordinate packages for installing software.

Installation Manager functions

- Install packages
  - Install multiple packages into new or existing package groups
- Update packages
  - Search and install updates or fixes for installed packages
- Modify packages
  - Add or remove features from a package group
- Manage licenses
  - Configure license support or import activation kit
- Roll back packages
  - Uninstall updates and fixes
- Uninstall packages
  - Uninstall products

IBM. Installation Manager

Install Packages

Update Packages — Manage Licenses

Roll Back Packages

Modify Packages — Uninstall Packages

What is new in V6.1 – New function overview

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The IBM Installation Manager adds to the functionality of Rational Product Updater for the tools and Update Installer for runtime. Not only can you do the same functions as both of those products, you can also manage licenses and install or uninstall from one convenient application. You can install product packages into shell-sharing environments or in separate environments on the same machine. The update packages option allows you to search and install updates or fixes for the installed packages recognized by IBM Installation Manager. In addition, you can modify packages to add or remove features from a package group. A new feature is the ability to manage license support for Installation Manager-based software or import an activation kit to start using purchased software. An important feature is the ability to roll back packages in order to take off updates and fixes. IBM Installation Manager also manages uninstalling packages from the system.

Artifact evolution

- Existing support in V6.0.2
  - ▶ Overwrite business objects with new versions
  - ▶ Manually fix up maps and artifact connections

- Artifact evolution in V6.1 provides ability to version business objects
  - ▶ Uses refactoring framework to update name, namespace, business object element names with any dependent artifact
  - ▶ Updates business object map with new version's content

Another new feature of WebSphere Integration Developer V6.1 is artifact evolution. To bring in new versions of a schema in V6.0.2, you need to overwrite business objects with new versions and then manually fix up maps and artifact connections. This is costly, therefore in V6.1, artifact evolution provides ability to version business objects. It uses the refactoring framework to update name, namespace, and business object element names with any dependent artifacts. Artifact evolution will also update business object maps with the new version's content, simplifying the schema version upgrade and improving your experience. This is especially helpful if you need to upgrade industry schema versions in current workspaces.

Component test support

- Provides development time testing for SCA applications
  - Ability to drive Web service and SCA exports in test
    - Uses SCA or SOAP/HTTP export bindings

- Test cases are deployed, executed, and displayed using integrated test client

- Component test project - New
  - Test suites
  - Test cases

- Test data table view - New
  - New view for managing comments, input data, expected output, and variations

The last new feature mentioned in this presentation is the addition of component test support. It provides development time testing for SCA applications with the ability to drive Web service and SCA exports in a test. Component test uses SCA or SOAP/HTTP export bindings to provide testing of a business process through exports. Component test cases are deployed, run, and displayed using the integrated test client. If you are accustomed to using the integrated test client, picking up component test is easy. This ability brings new additions to the business integration view with a component test project that encapsulates test suites that help define and run like test cases. A new view has been added to manage comments, input data, expected output, and variations. When generating or creating a component test, the test data table view will appear in the bottom right section, along with the servers and properties views.

XSD/WSDL enhancements

- Main points
  - ▶ Handle additional XSD/WSDL constructs
    - xsd:attribute, xsd:union, and xsd:choice support
    - multiple XSD imports, relative namespace support
  - ▶ Better toleration for non-standard definitions
    - Support for weak types (any, anyTypes, simpleTypes)
  - ▶ Extended support for industry schemas
  - ▶ Enhanced performance and usability for large amount of BO's
    - New WSDL Validator
      - Schemas are held in memory and no duplicate reading

WebSphere Integration Developer V6.1 has extended support for additional XSD and WSDL constructs like xsd:attribute, xsd:union, and xsd:choice. Schemas can also handle multiple XSD imports better and support relative namespaces. Another enhancement is the better toleration for non-standard definitions. An example is the support for weak types like any, anyTypes, and simpleTypes. The support for industry schemas has also been extended in V6.1. More good news for large project support is the enhanced performance and usability for large amount of business objects. An example is the new WSDL validator where now schemas are held in memory and no duplicate reading is performed for duplicates of the same schemas.

View and editor enhancements

- New build activities view
  - ▶ Dedicated view for build and deploy controls
  - ▶ Ability to select what "build" means for your workspace
    - ▪ Better control of when to build and what occurs during build
  - ▶ Better build performance and user experience

- Improved servers view
  - ▶ Modules now listed in a tree view under server
  - ▶ SOAP now used as default communication with test servers
  - ▶ Adding or removing projects on a server does not require starting server

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A new build activities view is lets you manage build and deploy controls for your workspace, giving you better control of when to build and what occurs during the build. The default is to validate and update deploy code every time a build is activated, but you can choose to validate, or validate and update deployed code and running servers. In addition, you can view more deploy details from this view than in the servers view. The servers view has also been improved with modules now being listed in a tree view under each test server. SOAP, rather than RMI/IIOP, is now used as the default communication with test servers, since SOAP has better consistency for communicating with local test environments. Another enhancement is the ability to add or remove projects on a server without needing to restart the server. In this case, the action is taken at next start or publish of the test server.

View and editor enhancements

- Main navigation improved for better visual scalability
- Business integration view
  - ▶ View non business process projects
    - No need to switch perspectives
  - ▶ Object filtering for business objects and interfaces
    - Name based filtering improves speed of finding objects in lists
      - – Also in window -> preferences
    - Favorites allow you to only work on a select set of objects
- Assembly editor
  - ▶ Name and layout changes to simplify experience
- Business process editor
  - ▶ Menu groups and text icons make the palette easier to use
- Xpath expression builder
  - ▶ Full XPath 1.0 support
  - ▶ Content assist for property fields
  - ▶ Validation support for expressions

The main navigation in WebSphere Integration Developer V6.1 has been improved for better visual scalability. First, the business integration view now has the ability to view non business process projects created in V6.1. This means you can see Java™ and Web projects in the business integration view without needing to switch perspectives. Another enhancement is the object filtering for business objects and interfaces in the business integration view. It is a name-based filtering that improves the speed of finding objects in the list that can also be found in the Window -> Preferences menu. In addition to object filtering, WebSphere Integration Developer V6.1 allows you to mark favorites to allow you to only see a select set of business objects or interfaces. The assembly editor has name and layout changes to simplify the experience. The business process editor also has similar name and layout changes to the menu groups and text icons, to make the palette easier to use. The XPath expression builder has also been improved with full XPath 1.0 support, content assist for property fields, and validation support for expressions.

Deployment improvements

- Maintain changes in J2EE deployment descriptor
  - User changes are preserved across build and deploy cycles
    - Web context root
    - JAX-RPC handlers
    - Servlet URL mappings
    - URL resource constraints and roles (Web services URLs)
    - JDBC resource references
- Publishing process redesigned
  - More accurate server side publish behavior
  - Better performance

The first deployment improvement is the ability to maintain changes in J2EE deployment descriptors through the building of modules. In V6.0.2, user changes to the J2EE deployment descriptor were overwritten whenever a build was run. This is because a module is really an extension of an Eclipse Java project and needs to be generated into a J2EE project with every build to keep up dependencies. User changes are now preserved across build and deploy cycles. Examples of what now can be saved include the Web context root, JAX-RPC handlers, Servlet URL mappings, URL resource constraints and roles like Web services URLs, and JDBC resource references. The publishing process has also been redesigned for more accurate server side publish behavior and better performance.

Refactoring enhancements

- Infobar
  - ▶ Dialogue displays when editing artifact that has dependencies
  - ▶ Changing artifact name, namespace, or moving location in module

- Merge interfaces
  - ▶ Combine operations of two interfaces into a target interface

- Move an operation from one interface to another
  - ▶ Useful in granular redesign

- Rename element in business object
  - ▶ Element name change propagated throughout project

The structural refactoring framework was introduced in V6.0.1.2 and has been improving with each subsequent release. Four new additions have been added in V6.1. First, an infobar appears when editing an artifact that has dependencies, as in changing the artifact name or namespace, or moving the location within a module. The infobar dialogue reminds you to refactor this change instead of making the change that other files depend on. A merge interfaces action combines the operations of two interfaces into a target interface. This is useful in speeding up redesign of new or existing applications. Another useful addition for this same type of work is the ability to move an operation from one interface to another. If an interface's operation makes more sense in another interface, moving that operation and all its dependencies can be handled with the click of a button. The last addition to refactoring is the ability to change an element's name in a business object. The element name change is then propagated throughout the project to any dependencies.

Help features

- Dynamic help

- F1 help

- Question mark icon

- The information center is being redesigned
  - Emphasizes task orientation
  - Common scenarios outlined in documentation

- Two sample galleries offered
  - Samples shipped with product
    - Simple and easy to get something running quickly
  - Dynamic samples gallery
    - Able to download more complex samples

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WebSphere Integration Developer V6.1 takes advantage of an Eclipse function called dynamic help. When an item is highlighted or has focus when help is activated, a help view appears to give you information on what is highlighted or has focus. In addition, it searches the help contents that are connected to that object to help you find out more instantly. As always, you can select an object and press the F1 key to access this dynamic help. If you see a question mark icon in the bottom left side of a wizard or view, you can also click the question mark icon to access dynamic help. The information center is being redesigned with many new additions to emphasize task orientation and to outline and document common scenarios. Two sample galleries are now offered instead of one. The samples shipped with product have been changed to be simple and easy to get something running quickly. From the samples view, you can now retrieve more samples that are more complex and focused on tasks.

Summary

- Foundation

- Performance enhancements

- Improved large project support

- Installation Manager

- Artifact evolution

- Component test support

- XSD, WSDL, and industry schema enhancements

- Views and editor enhancements

- Deployment improvements

- Refactoring enhancements

- Help features

In summary, the enhancements for WebSphere Integration Developer V6.1 discussed in this presentation all point to better usability of the product. The foundation is further strengthened with the Eclipse 3.2.2 base, Rational Application Developer V7 added on top, and the extended operating system support for Windows Vista. The performance enhancements allow faster builds and deployments all on a smaller hard-drive footprint. Large project support provides faster validation, building, and deploying of large projects in WebSphere Integration Developer V6.1. The IBM Installation Manager for V6.1 is a better installation management tool for WebSphere Business Integration tools and runtime. Artifact evolution eases version handling of business objects into existing applications. Component test support provides testing for SCA applications through Web service and SCA export bindings. There is extended performance, usability, and support for XSD and WSDL constructs and industry schemas. New views along with improved existing views and editors make for better user experience. Deployment has been redesigned for better accuracy and ease of use. Four additional refactoring enhancements have been added to the framework for version 6.1. Finally, the self help and help options have been improved to round out a more consumable, easier to use WebSphere Integration Developer V6.1.

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