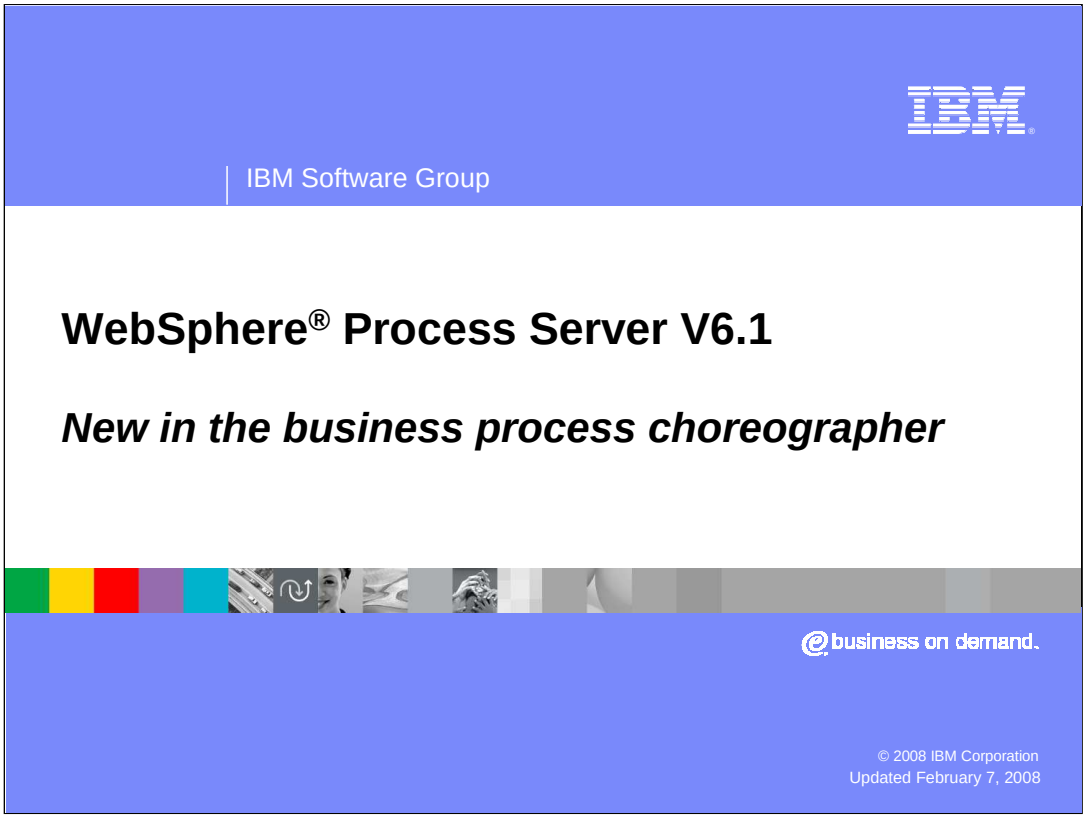
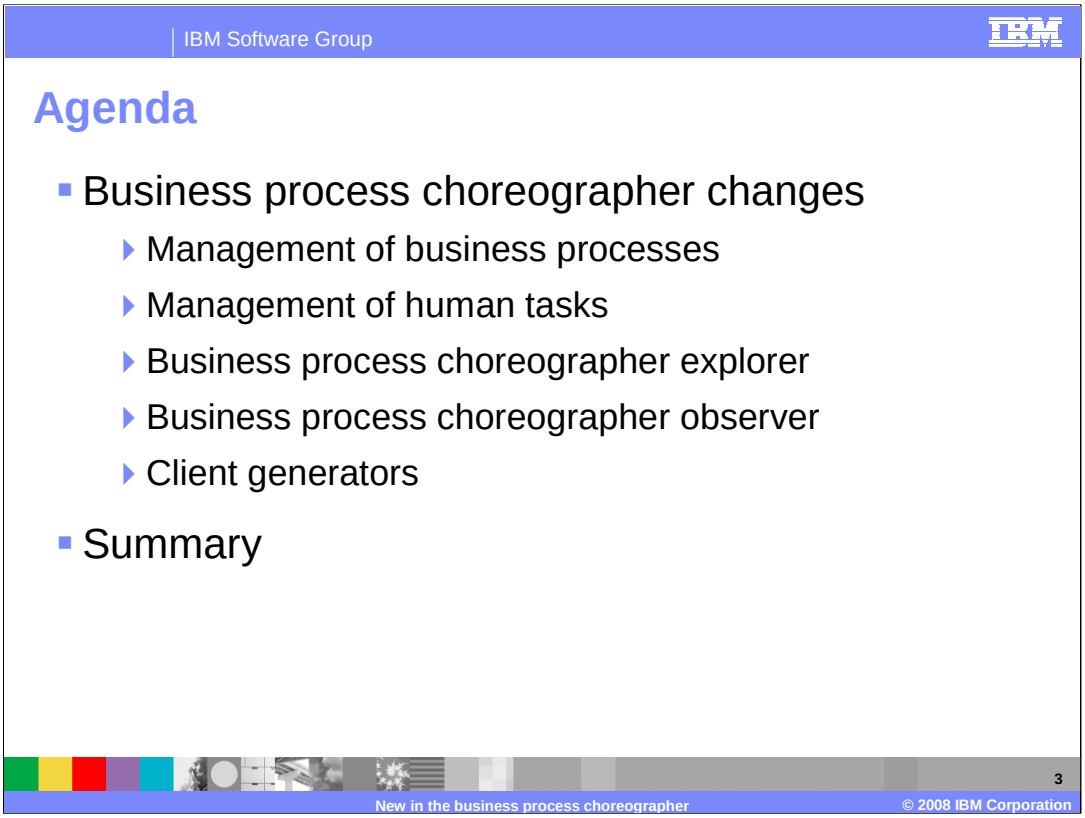


This presentation covers the new functions and enhancements for the business process choreographer in WebSphere Process Server version 6.1.

Goals

- Introduce new features and enhancements for the business process choreographer in V6.1
- At the end of the presentation you should be able to:
  - Identify the new business process choreographer features available in the V6.1 release of WebSphere Process Server
  - Understand the benefits of the enhancements to the business process choreographer in the V6.1 release of WebSphere Process Server
- Prerequisites to understanding this presentation
  - Knowledge of the business process choreographer from WebSphere Process Server V6.0.2

The focus of this presentation is on the new features and enhancements to the business process choreographer component of WebSphere Process Server Version 6.1. This presentation provides an overview of the differences between version 6.0.2 and version 6.1. The format is to list the status of the product in version 6.0.2, the new features and enhancements introduced in version 6.1, and to discuss the benefits resulting from those changes.

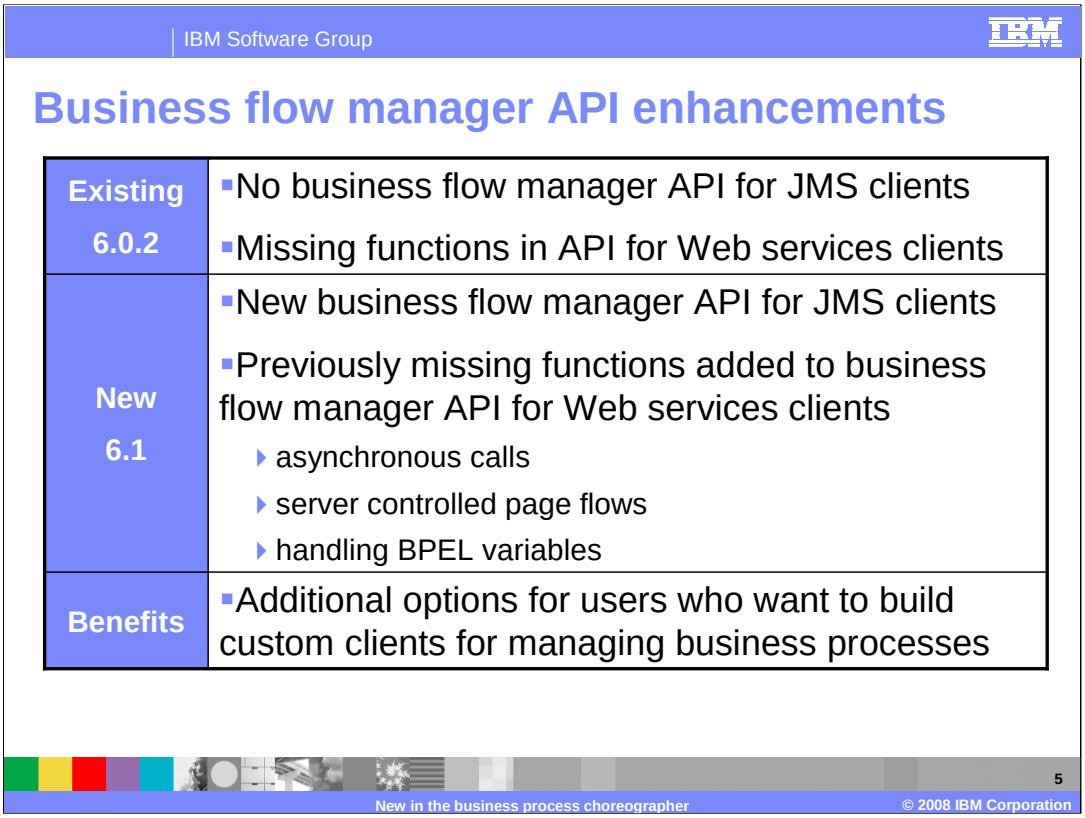


The new features and enhancements for the business process choreographer are grouped into several different categories, including the management of business processes and human tasks, and two client components. Finally, two new client generator features are introduced.

Section

Management of business processes

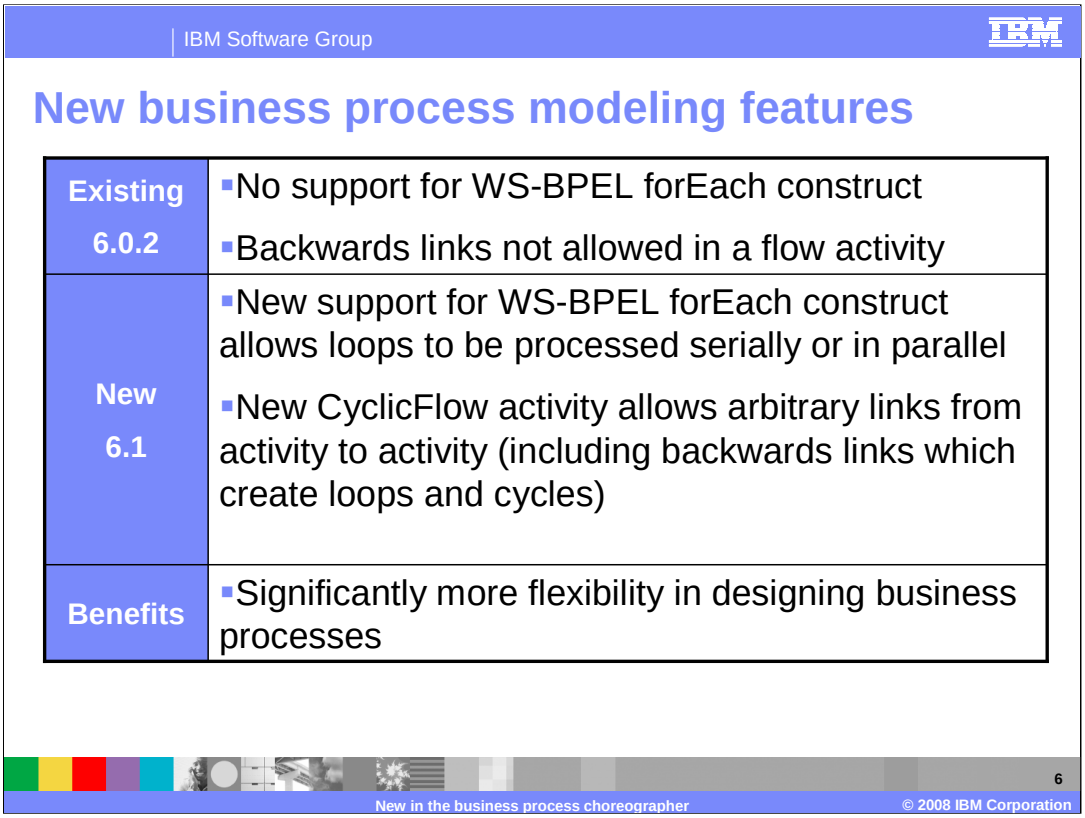
This section covers the business process management features.



The business flow manager is the component of the business process choreographer that is responsible for managing the flow and state of business processes. Before version 6.0.2, the business flow manager API existed only for EJB clients. Version 6.0.2 introduced an API for Web services clients, but it was missing support for several key business flow manager capabilities. Also, before version 6.1, no API existed for JMS clients.

Version 6.1 includes an API for JMS clients, allowing you to build custom clients that manage business processes by sending JMS messages to the business flow manager. This API allows JMS clients to query processes, call a microflow or a long-running process, send messages to waiting activities, repair a business process, delete process instances, and suspend or resume process instances. Note that this capability was previously available to users of the WebSphere MQ Workflow and the WebSphere Business Integration Server Foundation products.

The API for Web services clients that was introduced in version 6.0.2 has been enhanced significantly. In version 6.0.2, the API does not have support for calling long-running processes and receiving a response asynchronously, interacting with server controlled page flows, and handling BPEL variables. Functions that support these key missing capabilities are available in version 6.1. This lets you build much more sophisticated custom Web services clients using the same set of operations as is available for EJB and JMS clients.

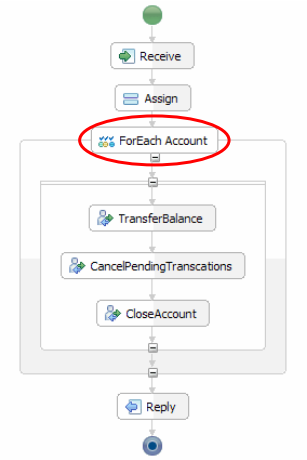


The next set of enhancements in the management of business processes is a pair of new business process modeling features. The OASIS standards organization introduced a new looping construct called “forEach” in version 2.0 of the WS-BPEL specification. Version 6.1 introduces support for this new standard feature. The forEach construct allows you to define a loop that can be processed serially or in parallel. Additionally, if not all branches of the forEach construct are required to complete, you can specify a completion condition so that the process ends once a sufficient number of branches have completed.

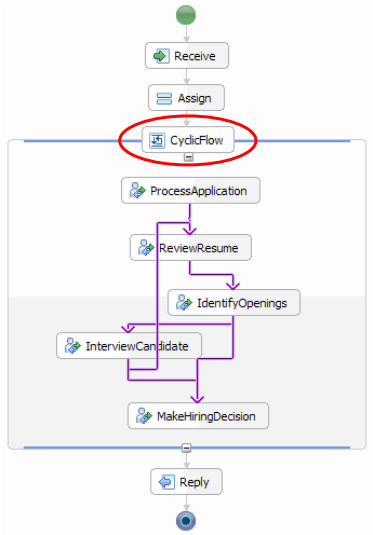
A new activity called “CyclicFlow” is also introduced in version 6.1. Previously, backwards links were not allowed in a flow activity. But now, using the new CyclicFlow activity, links between any two activities are allowed, including backwards links that create loops and cycles. There are only two restrictions regarding the body of the CyclicFlow activity. First, there must exist one and only one activity without any links into it. This is referred to as the “start activity”. Second, there must be at least one activity without any links from it. This is referred to as an “end activity”.

New business process modeling features

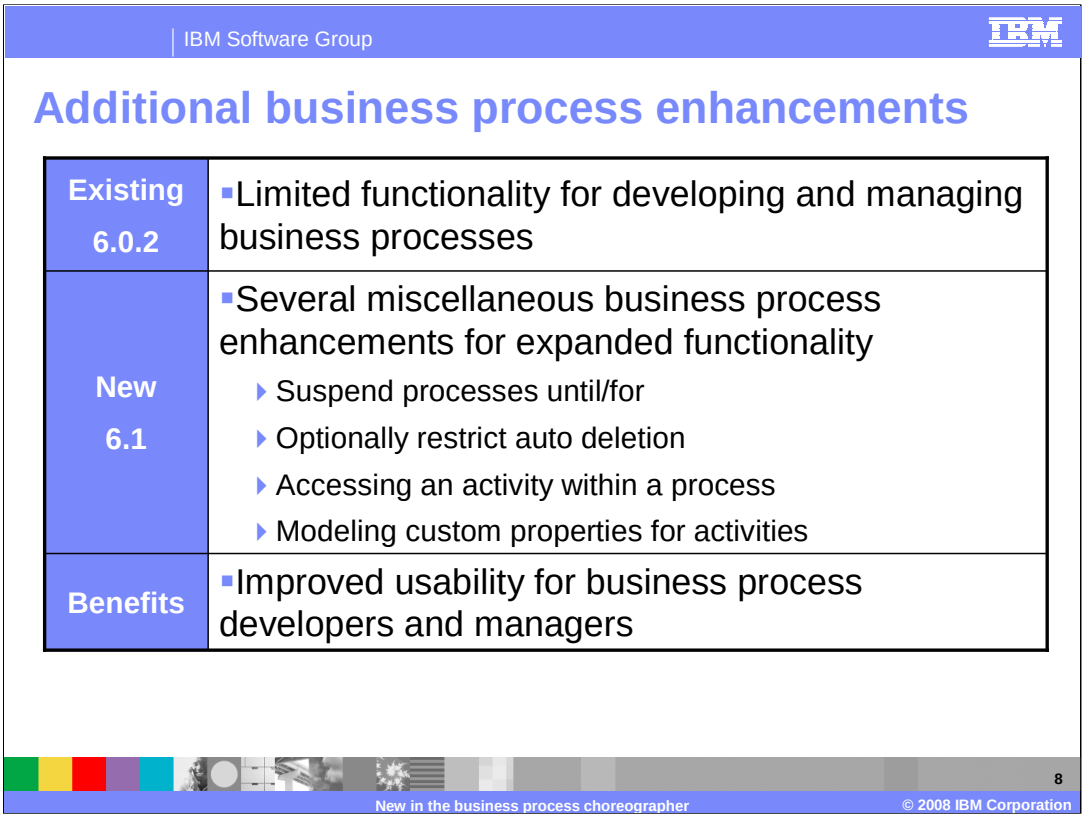
WS-BPEL *forEach* construct



Processes w/ arbitrary cycles



These screen captures show the two new business process modeling features. The example on the left shows how the WS-BPEL forEach construct can be used in a banking related business process. The example on the right shows how the CyclicFlow activity can be used in a human resources type of business process.

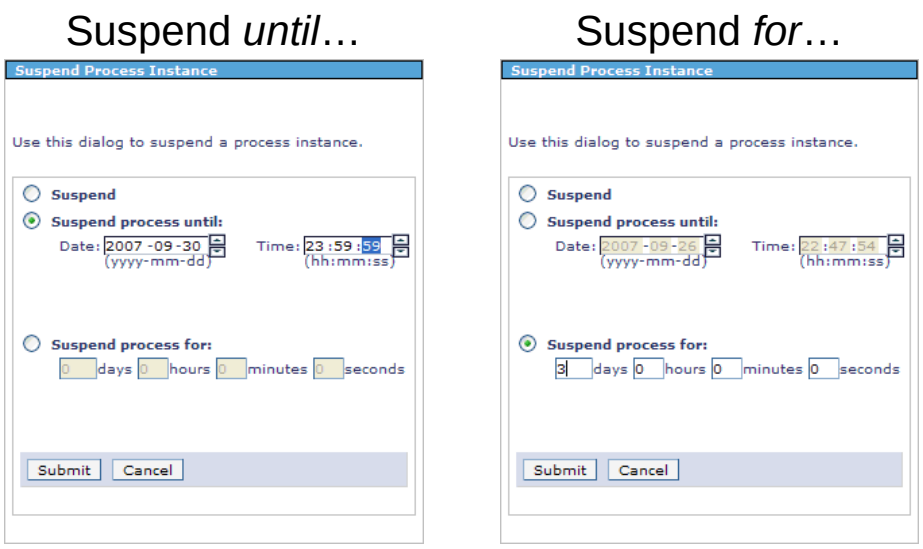


The next new feature for managing business processes involves the automatic resumption of suspended processes. Before version 6.1, business processes can be suspended indefinitely, requiring someone to manually resume the process. However, often it is known in advance for how long to suspend a process, or until when the process should be suspended. In version 6.1, the duration can be specified at the time the process is being suspended. This can be done using either the business flow manager APIs, or the business process choreographer explorer. In either case, the business flow manager will resume the process automatically at the predetermined time. Note that this capability was previously available to users of the WebSphere MQ Workflow product.

Also, before version 6.1, processes can be configured to be automatically deleted upon completion. This is done using the WebSphere Integration Developer tool. However, this is an “all or nothing” proposition; the business flow manager can automatically delete all completed processes, or none of them. Now, in version 6.1, the automatic deletion of completed processes can be restricted to only those processes that complete successfully; that is, those processes in a “finished” state. Processes that complete unsuccessfully, meaning they are in a “failed” or “terminated” state, are not automatically deleted. These processes can then be analyzed and potentially repaired or restarted.

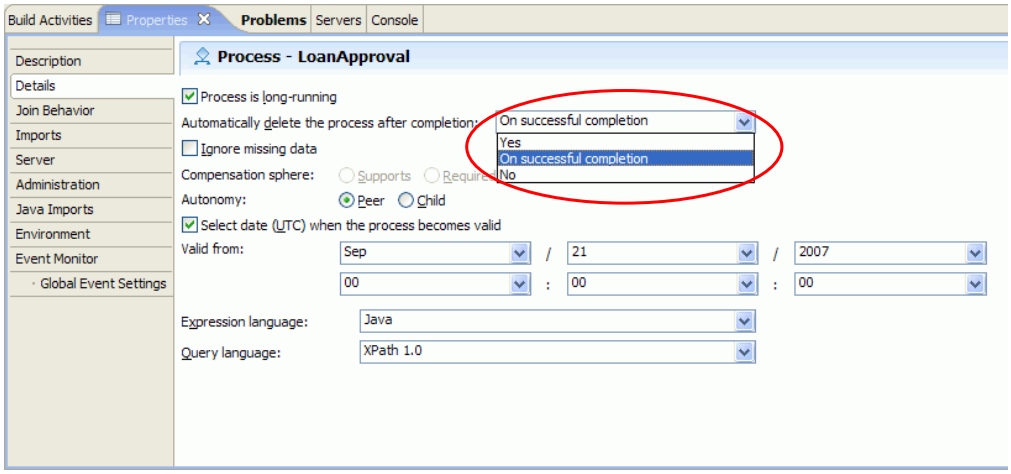
Finally, in version 6.0.2 only the current activity in a business process can be accessed, whereas in version 6.1, any activity in a business process can be accessed by specifying the name of the activity. Note that this capability was previously available to users of the WebSphere MQ Workflow product. Also, in version 6.0.2 custom properties can be specified for a process but not for an activity at development time, but WebSphere Integration Developer version 6.1 allows custom properties to be specified for an activity as well. Each of these enhancements individually might seem like a minor change, but altogether they significantly improve usability for business process developers and managers.

Suspend process with automatic resumption



This slide shows the two ways of suspending a process using the business process choreographer explorer. In the example on the left, the process is suspended until midnight of September 30, 2007. In the example on the right, the process is suspended for three days.

Optionally restrict auto deletion of processes

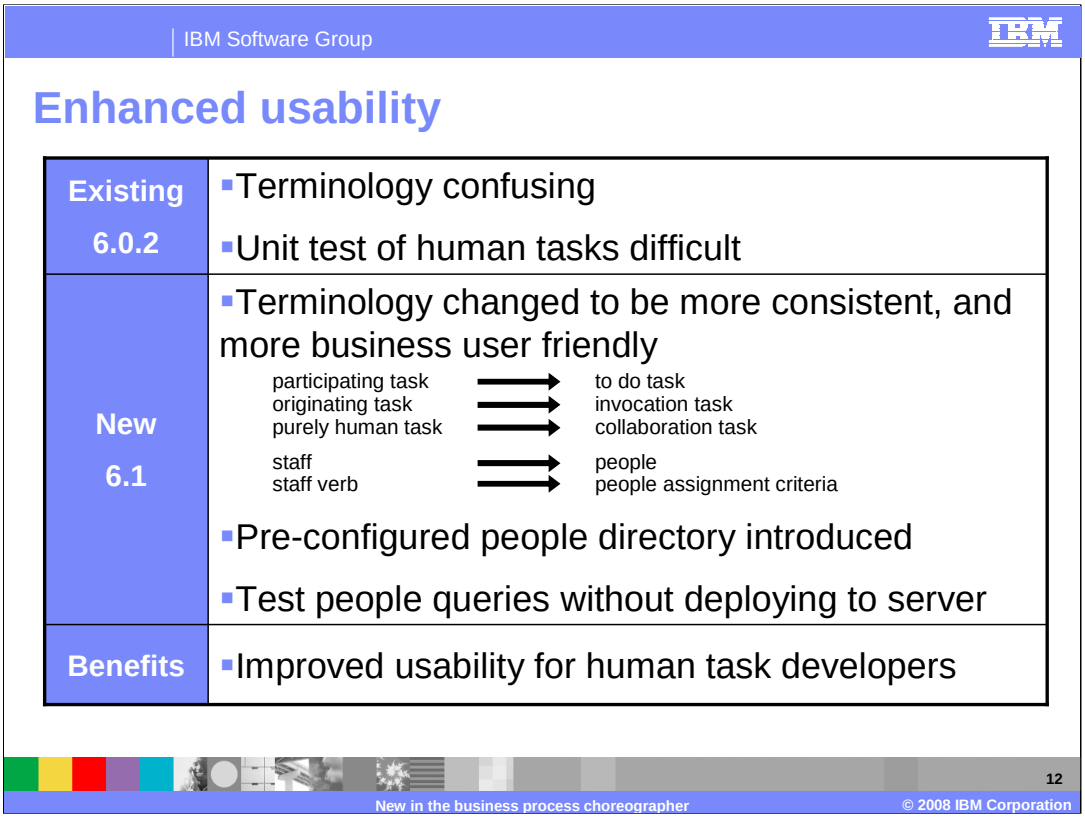


This screen capture from the WebSphere Integration Developer tool shows how to specify the auto deletion policy for a process. In the detailed properties of a business process - in this example it is a LoanApproval process - there is a drop-down list box labeled “Automatically delete the process after completion”. The possible values are “No”, “Yes” or “On successful completion”.

Section

Management of human tasks

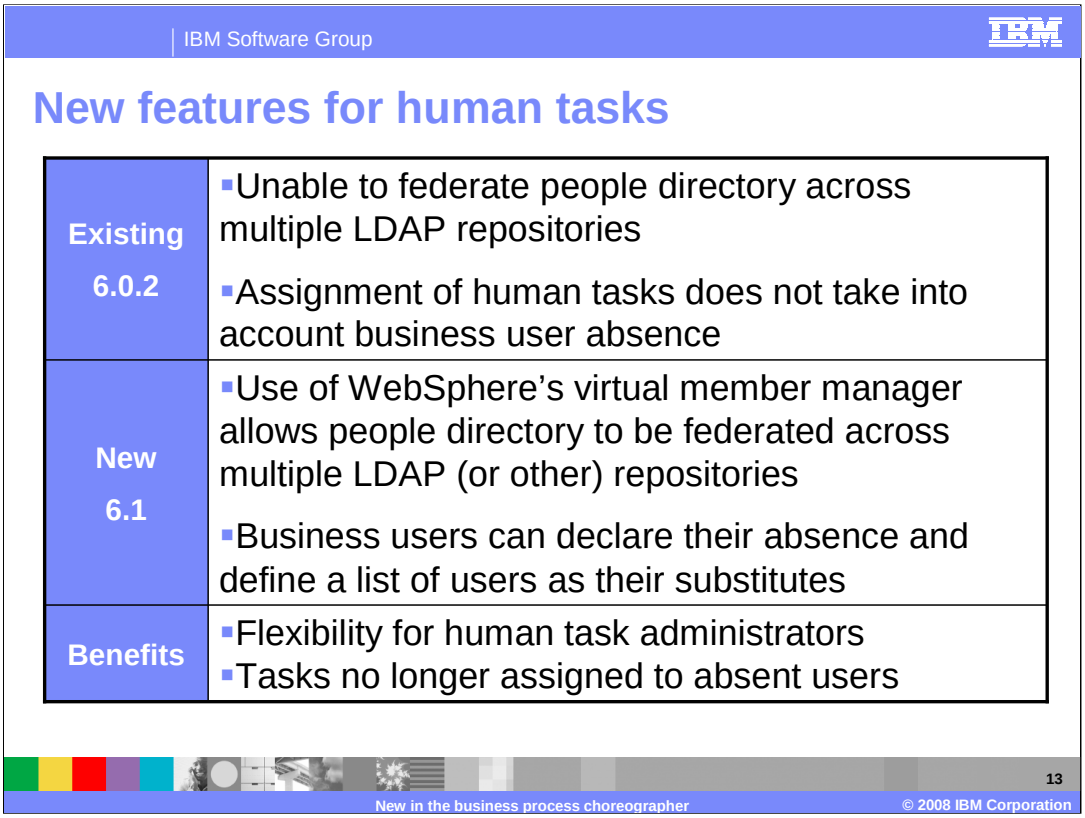
This section covers features associated with the management of human tasks.



In version 6.0.2 and earlier versions, the terminology associated with the management of human tasks was not very consistent and not very "friendly" to business users. Also, it was very difficult to unit test human tasks during development.

To make the terminology more consistent and business user friendly, several terms have been renamed in version 6.1. A "participating task", which represented a task that the system assigns to a business user to perform, is being renamed to a "to do task". An "originating task", in which a business user invokes a business process, is being renamed to an "invocation task". A "purely human task", which represents a task that one business user requests another business user to perform, is being renamed to a "collaboration task". Also, the term "staff" is being replaced with the term "people", such that "staff verb" now becomes "people assignment criteria".

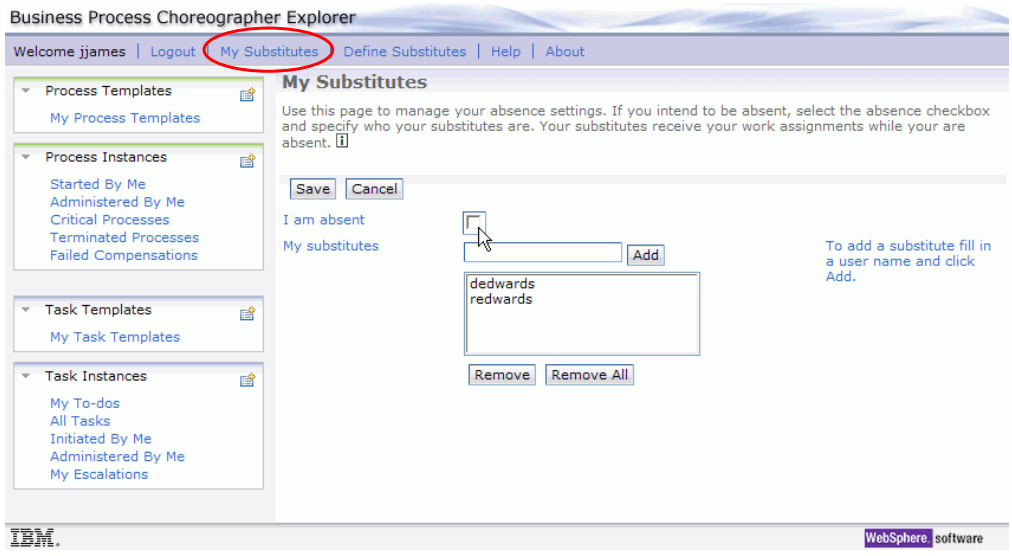
There are two new features that make it easier to unit test human tasks during development. First, there is a new pre-configured people directory. This is a file-based repository that contains several business users in a simple organizational hierarchy and supports a wide variety of people assignment criteria. Second, there is a new capability that allows developers to test the selected people assignment criteria without having to deploy the human task to a server. However, access to a running server is required for this new people query test capability in the WebSphere Integration Developer.



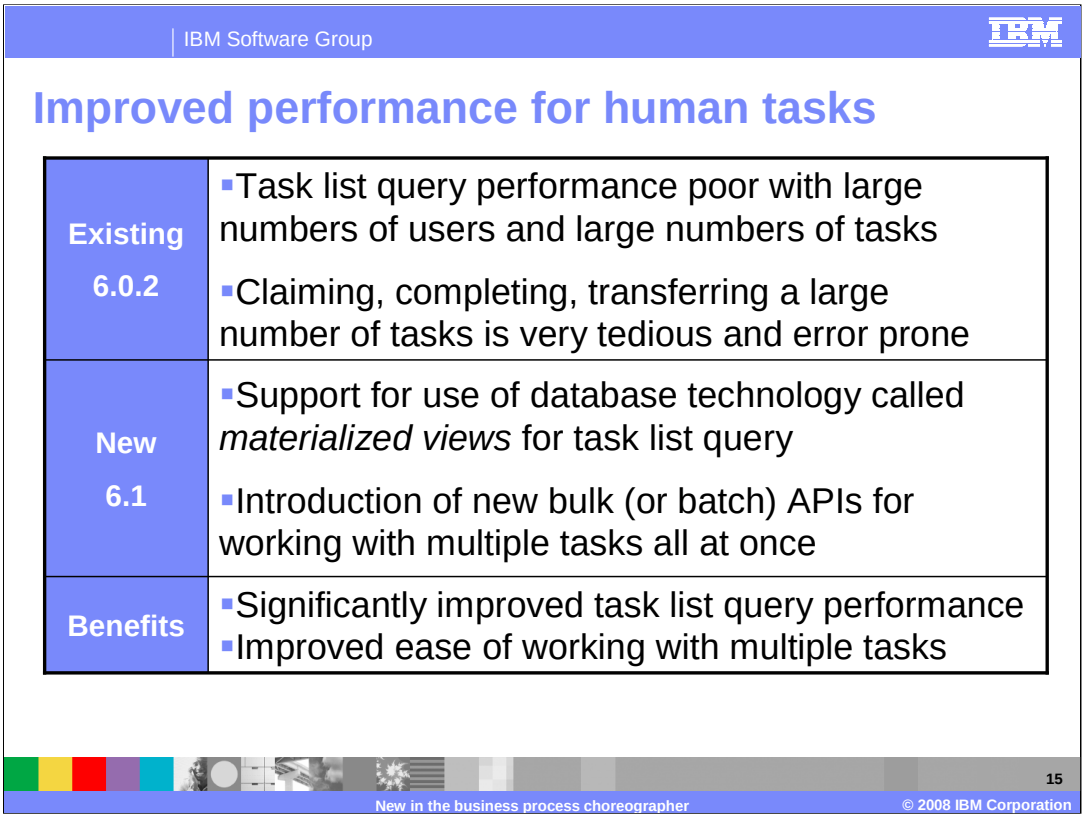
Version 6.1 of WebSphere Process Server also introduces several new features associated with the management of human tasks. One of the two most significant features is the ability to federate your people directory across multiple LDAP or other repositories. This frequently-requested feature is enabled now by the virtual member manager component that was introduced in version 6.1 of WebSphere Application Server. The virtual member manager component allows for federating user repositories for the purposes of application server security. The human task manager component of WebSphere Process Server has been enhanced to provide a virtual member manager plug-in for people resolution.

The other significant new feature is the ability for business users to declare their absence and to define a list of users as their substitutes. With respect to people assignment, a human task can be configured to either ignore absent users, or to replace absent users with one of their defined substitutes. Management of absence and substitutes can be done either using new human task manager APIs, or using enhancements to the business process choreographer explorer. Business users can manage their own settings. Administrators can manage anybody's settings. Additionally, the ability for a business user to manage the settings of other business users can be optionally enabled. Note that this feature requires the use of the virtual member manager plug-in, since the absence settings are stored outside of the people directory in a "look-aside" buffer maintained by the virtual member manager.

Managing your own absence settings



This screen capture from the business process choreographer explorer shows how business users can manage their own absence settings. After logging into the business process choreographer explorer, the business user clicks on the “My Substitutes” link at the top. This causes several controls to appear in the main panel of the window. These controls include a check box to set your status to absent, and buttons for adding and removing substitutes.



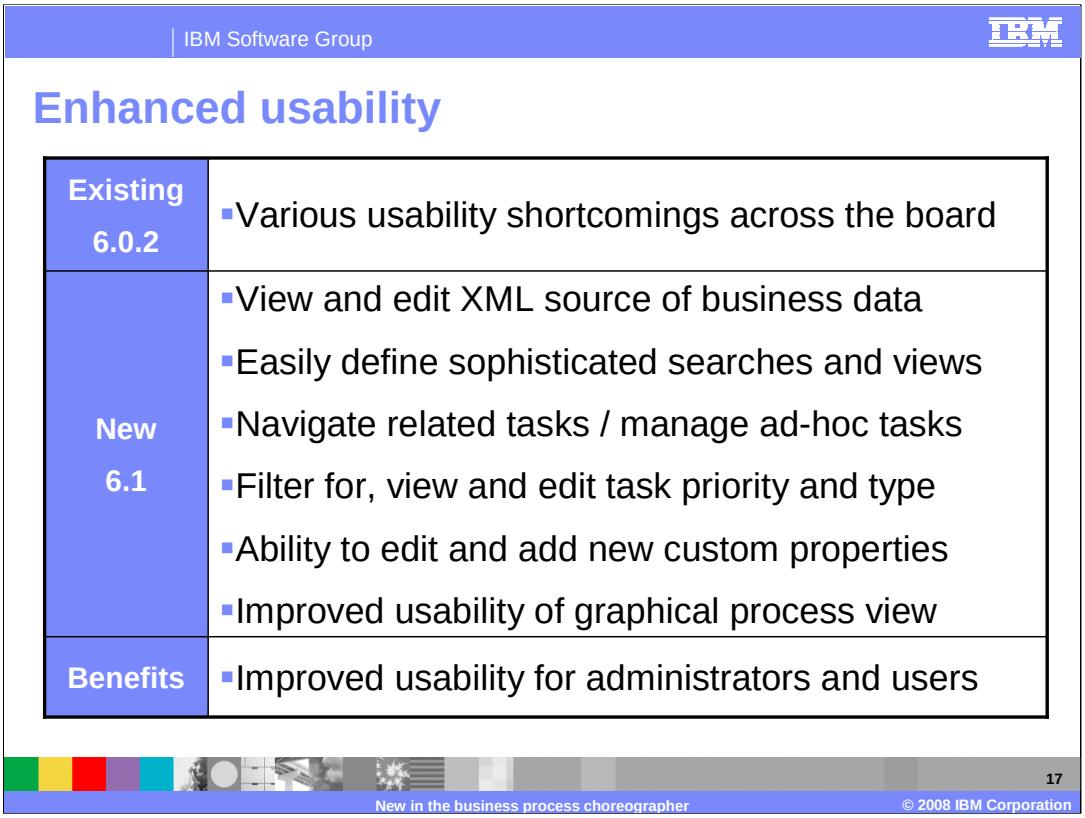
The final set of human task management enhancements has to do with performance. In previous versions of WebSphere Process Server, the performance of task list queries was poor with large numbers of users and large numbers of tasks. The cause of this poor performance is the fact that state information pertaining to a given human task is spread across many different database tables causing many join operations to be performed by the database server. Task list query performance can now be significantly improved using a database technology called materialized views. Materialized views combine the data previously spread across many tables into a single view. Data currency in materialized views can be controlled by the setting of the updateInterval property.

The other performance enhancement in version 6.1 is perhaps more of a productivity enhancement. Before version 6.1, claiming, completing or transferring several tasks was a tedious and error prone procedure. WebSphere Process Server version 6.1 introduces new bulk (or batch) APIs for working with multiple tasks all at once. In addition to improving administrator productivity, performance is improved by replacing many client-server interactions with a single client-server interaction. Also, actions to be performed on multiple items are grouped into a single transaction, which results in a measurable decrease in transaction processing over-head.

Section

Business process choreographer explorer

This section covers features associated with the business process choreographer explorer.



Besides many enhancements in support of new business process and human task features (such as suspend until/for and participant substitution), there are also many enhancements that improve usability. Version 6.1 of the business process choreographer explorer now lets you view, edit and even validate the XML source code of business data such as task or activity input messages. Several changes allow for much more sophisticated searches and views; for example, new filter criteria, and the ability to mix filters of different types. There is added support for managing ad-hoc tasks and for navigating between tasks and related tasks (both subtasks and follow-on tasks). You can now filter for, view and edit the priority and type of a human task. The ability to edit and add new custom properties for business processes, activities and human tasks is also new in version 6.1. Finally, the graphical process view that was introduced in version 6.0.2 has been improved in several ways. Properties of the graph element pointed at by the cursor are now shown in a separate window pane. You can now zoom in and out, and scroll around in large graphs more intuitively. The graphical view now uses all of the window space available to it.

Section

Business process choreographer observer

This section covers features associated with the business process choreographer observer.

Export and automate report generation

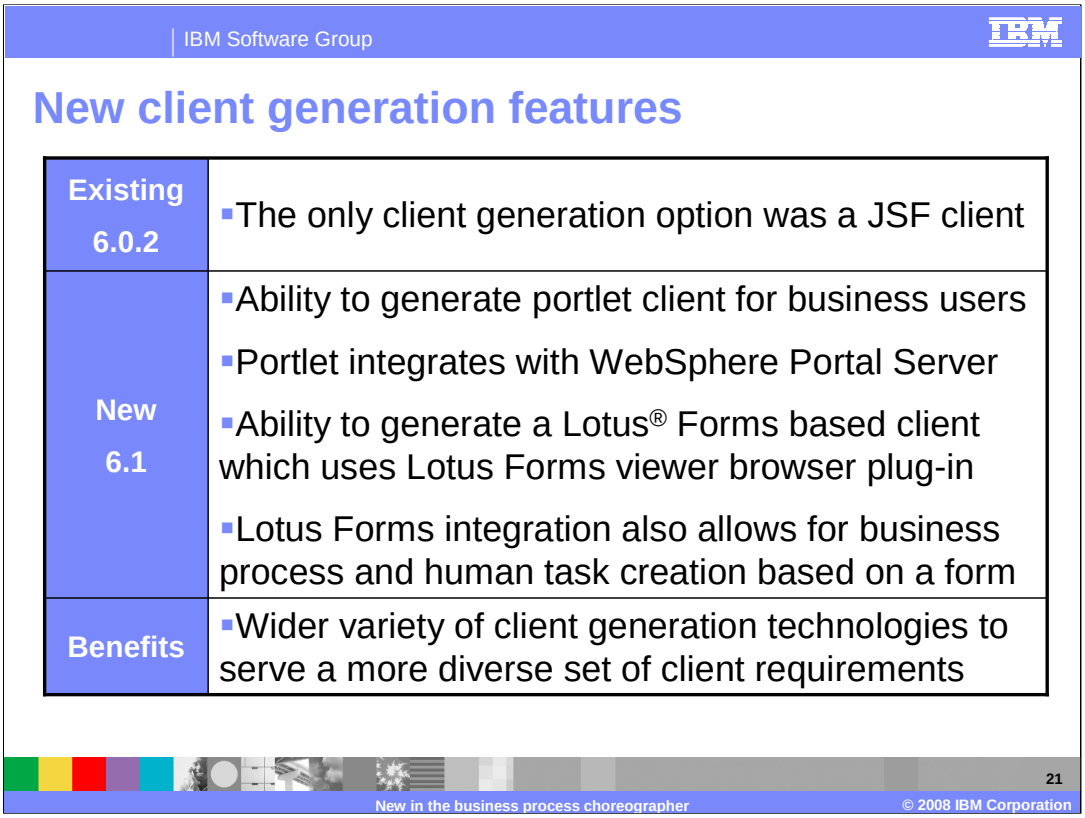
Existing 6.0.2	▪Business process choreographer observer reports can only be viewed while logged into the business process choreographer observer
New 6.1	▪Business process choreographer observer reports can be exported for further analysis and charting in a spreadsheet application ▪Users can automate report generation using a new command line application together with a scheduling mechanism of their own choosing
Benefits	▪Much better accessibility to the data provided by the business process choreographer observer

The enhancements to the business process choreographer observer relate to report generation and export. In previous versions of WebSphere Process Server, business process choreographer observer reports can only be viewed while logged into the business process choreographer observer. Version 6.1 introduces the ability to export reports to a comma-separated-values format file, which can subsequently be imported into any spreadsheet application for further analysis and charting. In addition to exporting reports using the browser-based business process choreographer observer, reports can also be exported using a new command line application. This new command line application can be used together with a scheduling mechanism of your own choosing - for example, the Windows Scheduler service or a UNIX cron job - to automate the procedure.

Section

Client generators

This section covers features associated with the generation of clients for working with business processes and human tasks.



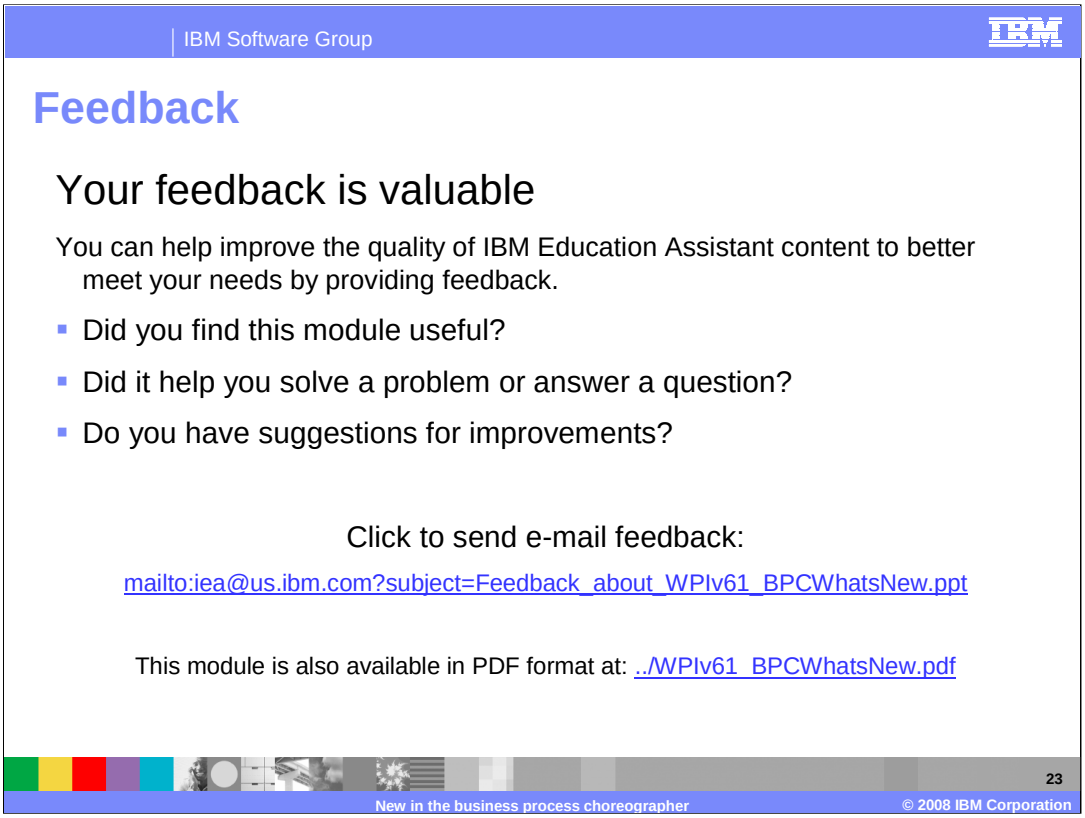
In version 6.0.2, the only client generation option was a JSF client. Version 6.1 introduces two new options: a portlet client and a Lotus Forms based client. A portlet client allows business users to see the input data for a human task, and it provides buttons to submit output data and complete the human task. The generated portlet is enclosed in a "Task Page," which is accessed from the "My Tasks" portlet of the WebSphere Portal Server. A generated portlet can be customized using the Portal Toolkit, which comes with WebSphere Integration Developer as a separate installation option.

A Lotus Forms based client is similar to a JSF client, except that it has an embedded Lotus Form for interacting with the state data of the human task. When the Lotus Forms based client is loaded in a Web browser, the browser loads the Lotus Forms viewer plug-in to display the state data of the human task. In addition to client generation, the integration with Lotus Forms provides a new wizard that allows business processes and human tasks to be created based on the data fields defined in a form.

Summary

- Business process choreographer changes
  - Management of business processes
  - Management of human tasks
  - Business process choreographer explorer
  - Business process choreographer observer
  - Client generators

In summary, this presentation introduced many new features and enhancements for business process choreographer in version 6.1. For business processes, there are some business flow manager API enhancements - including a new API for JMS clients. There is also a pair of new business process modeling features - forEach and CyclicFlow - and several miscellaneous enhancements. For human tasks, there is enhanced usability with improved terminology, a preconfigured people directory, and the ability to test your people query without deploying your task to a server. There is also support for federating your people directory across several different repositories, and for allowing business users to declare their absence and having their tasks subsequently assigned to their substitutes. The business process choreographer explorer has several new enhancements that significantly improve usability for administrators. The business process choreographer observer has new report exporting capabilities. Finally, there are two new client generators: a portlet based client and a Lotus Forms based client.



You can help improve the quality of IBM Education Assistant content by providing feedback.

Trademarks, copyrights, and disclaimers

The following terms are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both:

Lotus WebSphere

Product data has been reviewed for accuracy as of the date of initial publication. Product data is subject to change without notice. This document could include technical inaccuracies or typographical errors. IBM may make improvements or changes in the products or programs described herein at any time without notice. Any statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only. References in this document to IBM products, programs, or services does not imply that IBM intends to make such products, programs or services available in all countries in which IBM operates or does business. Any reference to an IBM Program Product in this document is not intended to state or imply that only that program product may be used. Any functionally equivalent program, that does not infringe IBM's intellectual property rights, may be used instead.

Information is provided "AS IS" without warranty of any kind. THE INFORMATION PROVIDED IN THIS DOCUMENT IS DISTRIBUTED "AS IS" WITHOUT ANY WARRANTY, EITHER EXPRESS OR IMPLIED. IBM EXPRESSLY DISCLAIMS ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT. IBM shall have no responsibility to update this information. IBM products are warranted, if at all, according to the terms and conditions of the agreements (for example, IBM Customer Agreement, Statement of Limited Warranty, International Program License Agreement, etc.) under which they are provided. Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products in connection with this publication and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products.

IBM makes no representations or warranties, express or implied, regarding non-IBM products and services.

The provision of the information contained herein is not intended to, and does not, grant any right or license under any IBM patents or copyrights. Inquiries regarding patent or copyright licenses should be made, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. The actual throughput or performance that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput or performance improvements equivalent to the ratios stated here.

Note to U.S. Government Users - Documentation related to restricted rights-Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract and IBM Corp.