IBM Software Group

WebSphere® Process Server V6.0
WebSphere Integration Developer V6.0

Human Task Manager Runtime Overview

@business on demand.

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This presentation will provide an overview of the Human Task Manager feature of WebSphere Process Server V6.0.

Goals

- Describe the architecture of the Human Task Manager

- Discuss the installation options

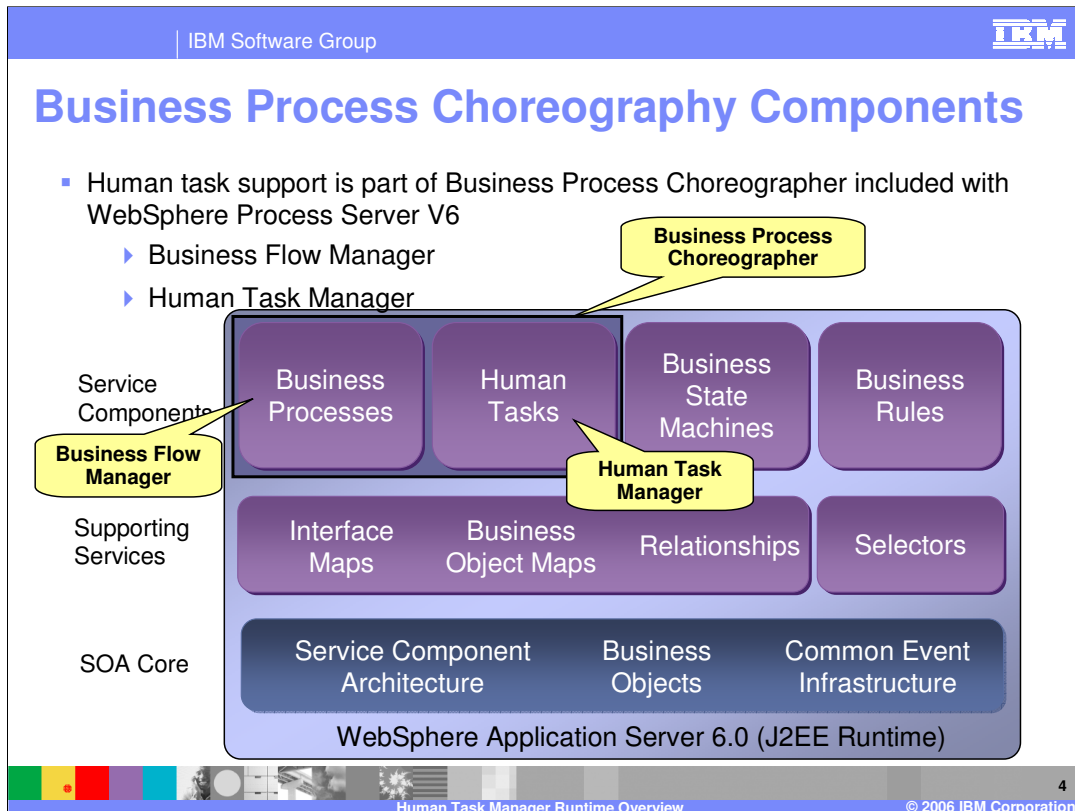- Explain locations and steps for administering the Human Task Manager and Human Tasks

The goals of this presentation are to describe the architecture and installation options for the Human Task Manager and the locations and steps for administrating the Human Task Manager and Human Tasks.
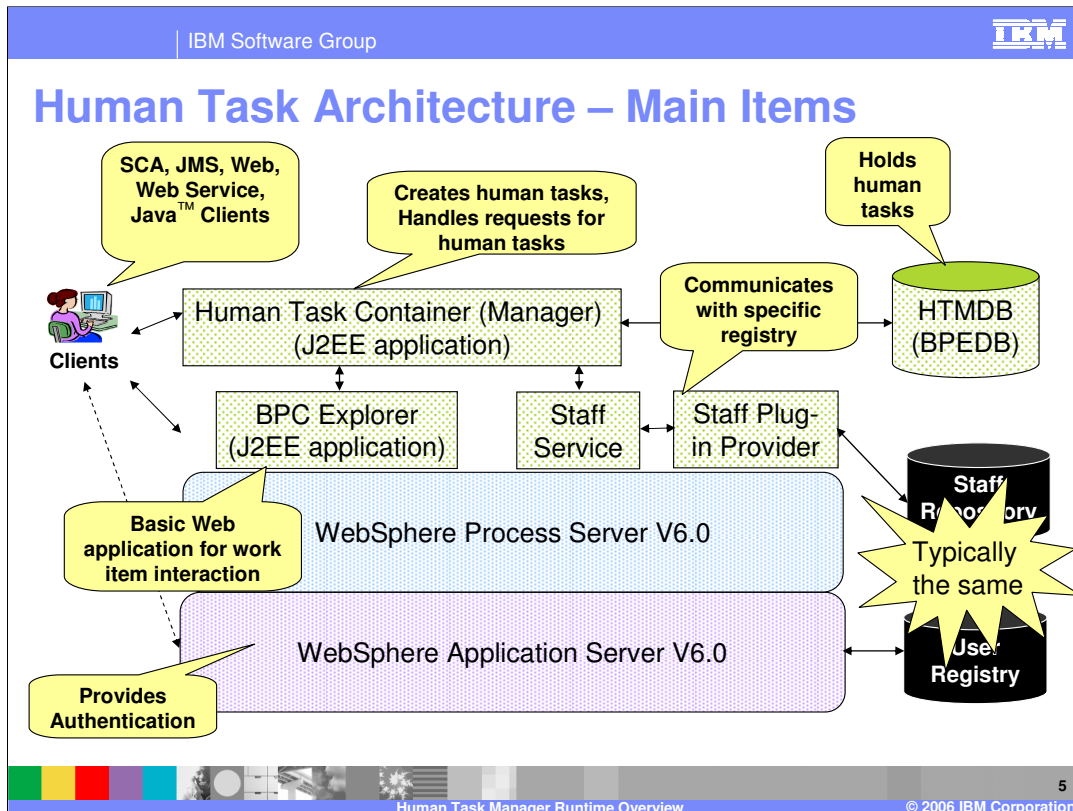
Agenda

- **Architectural Overview**
- Installation
- Human Task Administration
- Summary and References

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This section will provide an architectural overview of the Human Task Manager.

Business Process Choreography Components

- Human task support is part of Business Process Choreographer included with WebSphere Process Server V6
  - ▶ Business Flow Manager
  - ▶ Human Task Manager

Business Process Choreographer

Service Components

Business Flow Manager

| Business Processes | Human Tasks | Business State Machines | Business Rules |

Human Task Manager

Supporting Services

| Interface Maps | Business Object Maps | Relationships | Selectors |

SOA Core

| Service Component Architecture | Business Objects | Common Event Infrastructure |

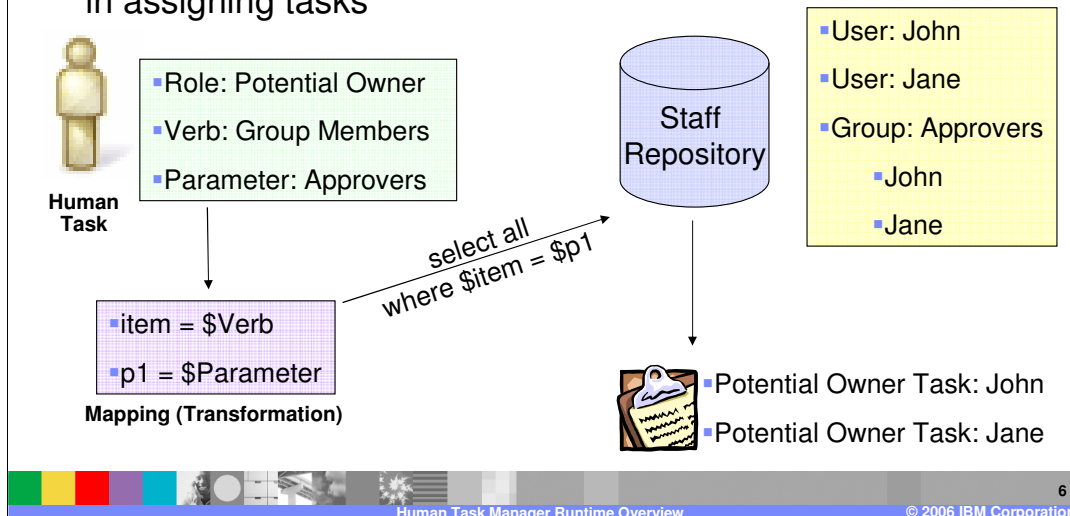WebSphere Application Server 6.0 (J2EE Runtime)

Support for Human Tasks in applications running on WebSphere Process Server V6 is provided by the Human Task Manager component. This component is part of Business Process Choreographer which is part of WebSphere Process Server V6. While the Business Flow Manager is also a component and part of Business Process Choreographer, the Human Task Manager can be used separately from the Business Flow Manager. The Human Task Manager is built upon the SOA core capabilities provided by WebSphere Process Server. Human tasks can be defined as service components with SCA and Business Object definitions can be used to define the data for the tasks. For monitoring the human tasks, the common event infrastructure can be used.
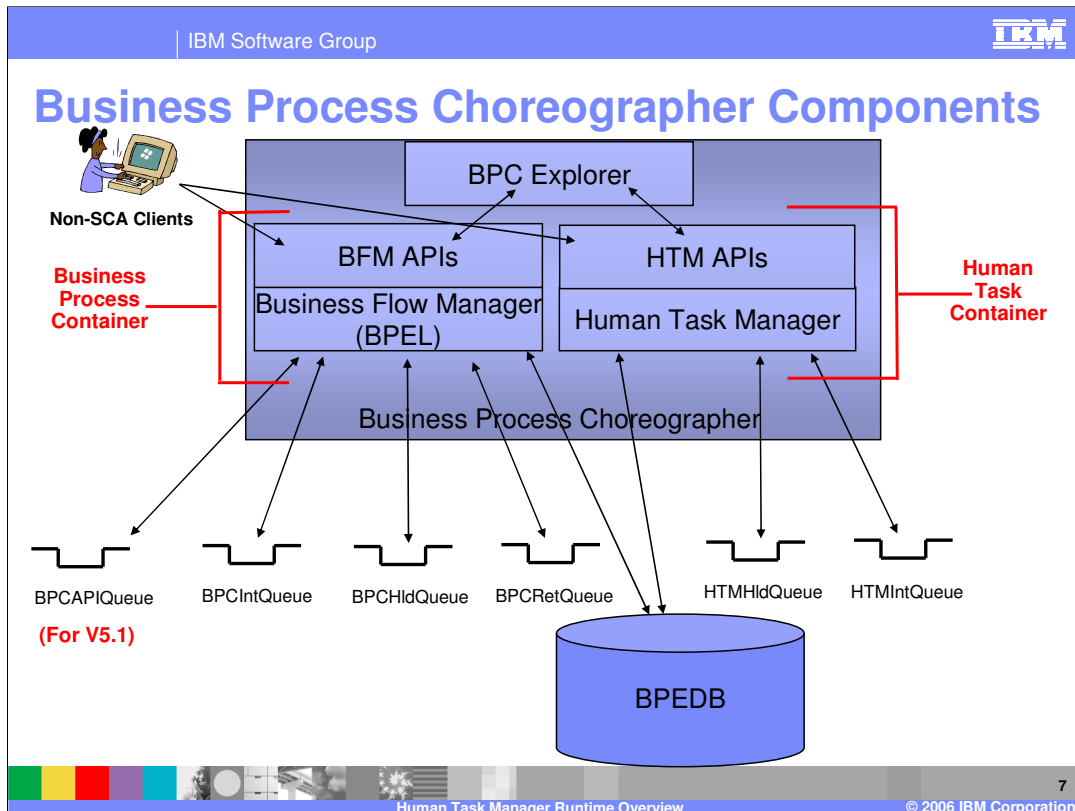
Human Task Architecture – Main Items

SCA, JMS, Web, Web Service, Java™ Clients

Creates human tasks, Handles requests for human tasks

Holds human tasks

Clients

Human Task Container (Manager) (J2EE application)

Communicates with specific registry

HTMDB (BPEDB)

BPC Explorer (J2EE application)

Staff Service

Staff Plug-in Provider

Basic Web application for work item interaction

WebSphere Process Server V6.0

Staff Repository

Typically the same

WebSphere Application Server V6.0

User Registry

Provides Authentication

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This slide illustrates the main components that make up the human task runtime architecture. At the base is the Application Server, followed by WebSphere Process Server, and the human task container, which is responsible for generating human tasks and providing a point for clients to access those human tasks. There is also a pluggable framework where different staff repositories can be accessed through a staff plug-in provider. Finally there is the BPC Explorer, which is the default client J2EE application that can be used to access the human tasks. When requested, the human task container creates human tasks and handles requests for human tasks that come from clients. These human tasks are stored in the human task manager database. Staff plug-in providers are specific to a staff repository and will have the correct implementation to communicate with that staff repository for user and group information. The human task manager database holds the human tasks, however this database is also shared with the Business Flow manager which may store process instances in the database as well. Client types include SCA, Web Service, and JMS. For all of these clients, human tasks can be created. The application server is a very important part of the overall human tasks architecture. WebSphere Application Server provides a framework with all the security capabilities needed for incoming requests to the application server. In order to ensure an incoming request gets the correct human tasks, the request must be authenticated and the application server provides this authentication to WebSphere Process Server and the Human Task Manager. Typically, the staff server plug-in will utilize the same user registry that is utilized by the application server for authentication, although a different registry could be used if necessary. Once the client is identified, the security token can be established and the username stored in the session. The username is then used to retrieve human tasks for that user. The human task manager performs an authorization by filter and basically performs a database query where it is issuing a select statement against the database to select human tasks where username equals the stored username. The BPC explorer is a Web client for working with tasks where you can suspend, resume, claim, transfer, and complete tasks. It can also be extended for more customized clients.

WPSWIDv6_HumanTaskManagerRuntim
e.ppt

Human Tasks and User Registries

- Human Tasks assigned to users based on mappings to a staff repository

- Flexible architecture allows for custom attributes to be used in assigning tasks

Human Task

- Role: Potential Owner
- Verb: Group Members
- Parameter: Approvers

Staff Repository

- User: John
- User: Jane
- Group: Approvers
  - John
  - Jane

select all
where $item = $p1

- item = $Verb
- p1 = $Parameter

Mapping (Transformation)

- Potential Owner Task: John
- Potential Owner Task: Jane

As part of the Staff Plug-in Providers implementation, a flexible design has been used. Each Staff Plug-in Provider is for a specific staff repository (user registry) and has the specific implementation to make calls to a staff repository in an understandable format. The calls are made based on a generic verb and set of parameter values.   A transformation file is used by the Staff Plug-in provider to map the generic verb and parameters to a query specific to the staff repository. The query would then return the appropriate results which can be used for assigning human tasks. The transformation file is an XSL file and can be easily modified to support different types of queries for a generic verb. With this design changes to the transformation file can be made without changing the human task definition.

Business Process Choreographer Components

Non-SCA Clients

BPC Explorer

Business Process Container

BFM APIs

HTM APIs

Human Task Container

Business Flow Manager (BPEL)

Human Task Manager

Business Process Choreographer

BPCAPIQueue

(For V5.1)

BPCIntQueue

BPCHldQueue

BPCRetQueue

HTMHldQueue

HTMIntQueue

BPEDB

The main components of the Human Task Manager have already been discussed, however there are some additional resources which are of value to mention. For processing business processes or human tasks, the Business Flow Manager and Human Task Manager, respectively, use a set of messaging resources. These messaging resources can use WebSphere's Service Integration Bus technologies or WebSphere MQ. As stated earlier, the same database is currently used for the storing of business process instances and human tasks. Finally, the BPC Explorer is used for managing and viewing business process instances and human tasks. The BPC Explorer calls public APIs for working with the processes or tasks. These APIs can be called directly from a client as well. It is the combination of the APIs and the appropriate manager, which form the Business Process Container and Human Task Containers.

Agenda

- Architectural Overview

- **Installation**

- Human Task Administration

- Summary and References

This section will cover the installation of the Human Task Manager.

Human Task Manager Installation

- Different installation options
  - ▶ Option available at profile creation time
    - Sample configuration – not supported for production Human Task Manager use
 - ▶ Business Flow Manager and Human Task Manager both installed as part of Business Process Choreographer setup

Profile Wizard

Business Processor Choreographer Configuration

Enter the WebSphere Platform messaging user name and password for the sample Business Process Choreographer configuration as well as the security role for the business process system administrator.

☑ Configure a sample Business Process Choreographer

User ID to authenticate with the WebSphere Platform Messaging queue

- All required database and JMS resources are defined and created
  - ▶ Cloudscape database setup and Service Integration messaging engines

There are a number of different ways in which the Human Task Manager can be installed. At profile creation time, there is an option to configure a sample Business Process Choreographer. This option includes the installation for both the Business Flow Manager and the Human Task Manager. The configuration will include the database and JMS resource definitions and the Business Process and Human Task containers, however it is not supported for use in production. This is because a Cloudscape database is created and security is not enabled. For a production environment a different database such as DB2® or Oracle should be used and security should be enabled.

Human Task Manager Installation (cont.)

- Human task container installation wizard in Administrative console
  - Adds Human Task Manager and datastore and messaging resources
  - Database must be setup manually
  - Supported configuration setup option for production
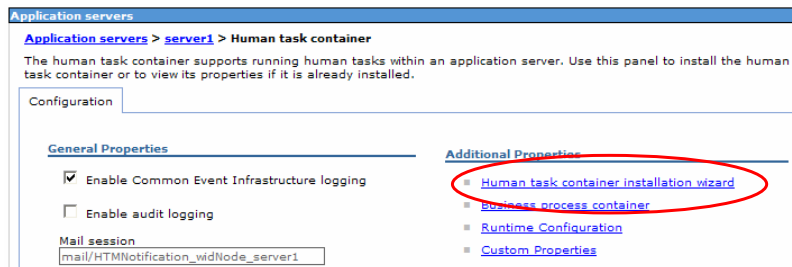
- Command line configuration option
  - <INSTALL_DIR>\ProcessChoreographer\taskconfig.jacl
  - Supported configuration setup option for production

The option for configuring Process Choreography in the Profile wizard only sets up a sample configuration. For production, there are two ways to set up the Human Task Manager. The Human Task Manager can be configured through the Administrative console. Under the server container settings section, there is a Human task container link. This link will show some of the configuration values for the Human Task Manager if it has already been created or the installation wizard can be launched from here. The installation wizard is made up of 3 steps. The first step is where the different user IDs and role mappings are specified for running with security enabled. Step two provides choices for the internal messaging resources and the datasource. Step three is a summary of the settings. The installation wizard will configure the datastore and messaging resources. The wizard does not create the database and this must be setup manually.

Another option for setting up the Human Task manager is to use a jacl script taskconfig.jacl. This file is located under <INSTALL_DIR>\ProcessChoreographer directory. When you run this script with wsadmin, the script will prompt for values used to set up the Human Task Manager and the different resources. Like the installation wizard in the Administrative console, the taskconfig.jacl script will set up the Human Task Manager and the datasource and messaging resource definitions, but it will not create the database. This will need to be performed manually.

Database and JMS Resources Supported

- Supported Databases
  - ▶ Cloudscape
    - Not recommended for production environments
    - Not supported in clustered environments
  - ▶ DB2 Universal Database
  - ▶ Oracle
  - ▶ Microsoft™ SQL Server
  - ▶ Informix Dynamic Server
- Specific JDBC driver available for each database
- Scripts available to setup BPC schema
  - ▶ <INSTALL_DIR>\ProcessChoreographer
- JMS resources
  - ▶ Default JMS messaging provider
  - ▶ WebSphere MQ JMS provider
- List of supported software available at
  - ▶ http://www-1.ibm.com/support/docview.wss?rs=2307&context=SSQH9M&uid=swg27006206

Business Process Choreographer and thus the Human Task Manager support different databases for the datastore and different JMS implementations for the messaging resources. For Databases, Cloudscape is available for testing and development use, but it is not available for production environments.   DB2, Oracle, Microsoft SQL Server, or Informix Dynamic Server can all be used for production environments.   When setting up the Human Task Manager through the Administrative Console or the jacl script, you may choose the database and the appropriate driver will be configured in the datasource definition. With any database, you will need to create the database and schema. DDL files are provided and located in the ProcessChoreographer directory. For the JMS resources, the default JMS messaging provider included with WebSphere Process Server can be used or WebSphere MQ may be used. The resources can be created, or you can use existing messaging resources that you have defined on the server.

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Human Task Manager Runtime Overview

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This section will cover human task administration.

Human Task and WebSphere Process Server

- Human Task templates are managed from within the encompassing application
  - ▶ Start and stop Human Task templates
- The Human Task Manager runs as a container
  - ▶ Accessible through SCA or specific APIs
- Staff Service provides access Staff Plug-in Providers
- The Staff Plug-in Provider registers as a server resource
  - ▶ Accessible through JNDI name

- Enterprise Applications
  - Application
    - EJB Modules
      - Human Tasks

- Containers
  - Web Container
  - EJB Container
  - Business Process Con
  - Human Task Manager
  - …..

- Services
  - Transaction Service
  - ORB Service
  - Dynamic Cache Ser
  - Staff Service
  - …..

- Resources
  - JDBC Resources
  - Resource Adapters
  - Messaging Resources
  - Staff Plug-in Providers
  - …..
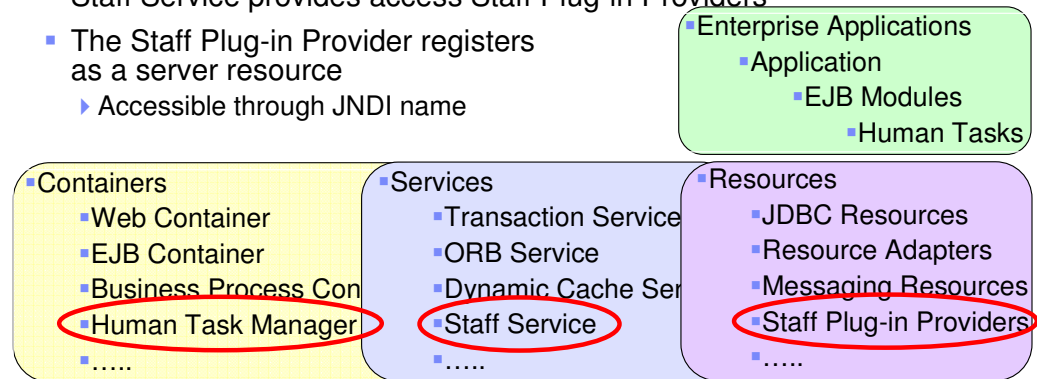
Administration of Human Tasks and Human Task Manager components is done in four areas, using the Administrative Console or the wsadmin command line tool.

These four areas are the Application, Containers, Services, and Resources.

Human task templates are managed within the application which is the deployable unit for the task.   Underneath the EJB modules section, in a specific EJB module is a section titled Human Tasks. Here you will find the Human Task templates that are part of the application. The human task templates may be started or stopped and this controls when a task can be created using a particular template.

The Human Task Manager is a J2EE application that is installed as a container in the server. Within the Human Task Manager, you can specify operations and settings for generating events.

The Staff Service is listed as a service on the server and is enabled by default, though it can be disabled if you are not using human tasks. Administration of Staff Services is under the Services section of the server.

There are also multiple staff plug-in providers, which appear as resources running on the server and each one has a JNDI name associated with it. This JNDI name is specified in the human task application as a type of binding value, and used to look up the appropriate Staff Plug-in provider for retrieving users in the creation of human tasks. The Staff Plug-in provider is administered under the Resource section of the Administrative Console.

Supported User Registries

- Three Staff Plug-in Providers are included for different staff repositories
  - ▶ LDAP – uses LDAP server
  - ▶ User Registry – uses WebSphere Process Server security registry
  - ▶ System – uses static single user values or context variables

- Each Staff Plug-in Provider has specific support for interacting with a particular staff repositories **Staff Plug-in Provider**
  - ▶ Each plug-in has its own transformation file

Human Task Manager

Staff Service
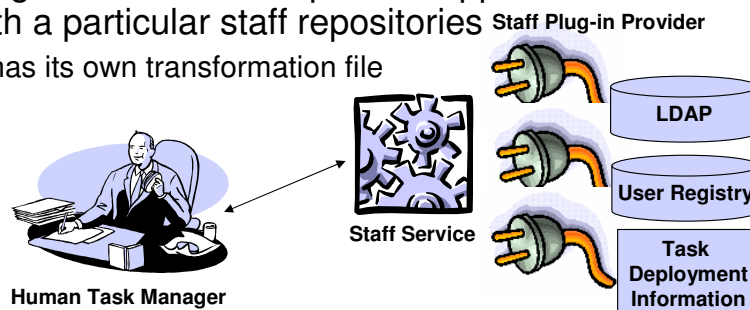
LDAP

User Registry

Task Deployment Information

As mentioned earlier, there is a specific staff plug-in provider for each staff repository. The three Staff Plug-in Providers that are provided by default are LDAP, User Registry, and the system registry which communicates directly with the BPEDB. The LDAP staff plug-in provider is capable of communicating directly with an LDAP server, while the User Registry plug-in provider communicates through WebSphere to retrieve information from the User Registry configured there for server security and authentication purposes. The system repository only works with static, hard coded values and no validation or verification against a user registry occurs at run time. For this reason, only the LDAP and User Registry plug-in providers are supported in a production environment, while the system plug-in provider is intended for use only in a test or debug environments. If you use the User Registry plug-in provider, you will be limited by what is available to WebSphere for security and authentication, which usually means users and groups only. As mentioned earlier, each of these staff plug-in providers has its own transformation file which contains the mapping of verb and parameter values to a specific query string for the registry.

LDAP Staff Plug-in Provider

- Provides Transformation for all Verbs
  - ▸ Supports Users, Users by User ID, Group Members, Department Members, Role Members, Manager of Employee, Manager of Employee by user ID, Person Search, Group Search, Native Query, Everybody, Nobody
  - ▸ All Verbs may not have attributes defined in LDAP repository and may not be available

Provides most options and greatest flexibility
  - ▸ Attributes in LDAP repository can be used to determine Work Item Assignment

Human Task Container

Human Task Manager | Staff Support Service | LDAP Staff Plugin Provider:

Transformation.xsl

Server and Plug-in can use same LDAP server

WebSphere Process Server

LDAP Repository

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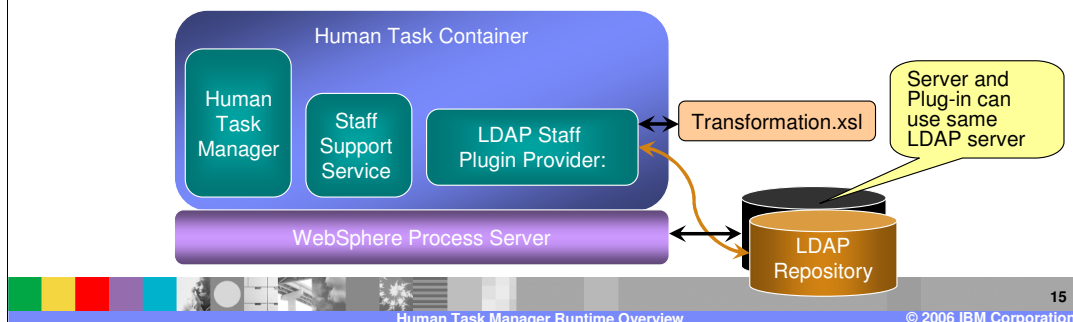
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The LDAP Staff Plug-in Provider supports all of the different verbs which can be specified for human tasks in WebSphere Integration Developer. These verbs include Users, Users by User ID, Group Members, Department Members, Role Members, Manager of Employee, Manager of Employee by user ID, Person Search, Group Search, Native Query, Everybody, and Nobody. A transformation for each verb is provided and allows the LDAP Staff Plug-in Provider to make calls to retrieve users or groups of users for assigning human tasks. While there are mappings for all of the verbs, it is not guaranteed that the query will be resolved. Some of the verbs, such as Manger of Employee, assume that the manager attribute is defined on a person object in the LDAP server and thus can be used in retrieving the user when the query is run. If the manager attribute is not specified for this example, then the query will fail. The use of the LDAP Staff Plug-in Provider and an LDAP server provides the most options and flexibility as the a LDAP server can have custom attributes which may be used through a new verb and transformation.

User Registry Staff Plug-in Provider

- Provides Transformation for some Verbs
  - Users, Users by ID, Group Members, Person Search, Native Query, Everybody, Nobody

- Uses same user registry as WebSphere Business Integration Server Foundation Authentication and Authorization
  - Local OS
  - LDAP
  - Custom Registry

Human Task Container

| Human Task Manager | Staff Support Service | User Registry Staff Plugin Provider: |

Transformation.xls

WebSphere Process Server

Security User Registry
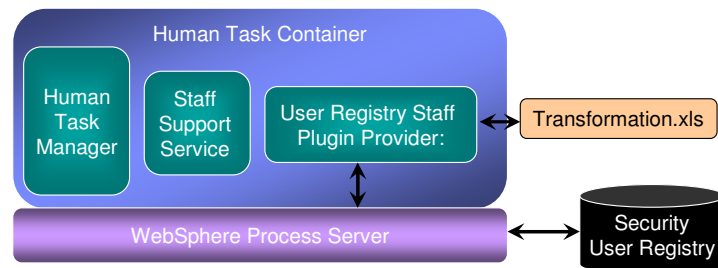
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The User Registry Staff Plug-in Provider is also supported in a production environment like the LDAP Staff Plug-in Provider. The User Registry Staff Plug-in Provider is not as robust as the LDAP Staff Plug-in Provider. It only supports the verbs Users, Users by ID, Group Members, Person Search, Native Query, Everybody, and Nobody which can be specified in WebSphere Integration Developer.   The main reason for the limitation is that the User Registry Staff Plug-in Provider makes calls to WebSphere Process Server and the security service for resolution of the queries.   The security service can be pointed to a user registry but only requires the ability to search for users and groups of users. It does not need to search based on departments, roles, or other attributes such as manager name. Therefore, only queries which involve users and groups are available for the User Registry Staff Plug-in Provider. Since the plug-in makes calls to the security service and not a specific registry, the plug-in can make use of any user registry the security service is pointing to. The local operating system, a LDAP server or a custom registry can all be used by the User Registry Staff Plug-in Provider through the security service.

System Staff Plug-in Provider

- Not supported in a production environment
- Small number of Verbs supported for testing purposes
  - Users, Users by ID, Everybody, Nobody
- All Staff assignments based upon explicit parameter values, custom properties/attributes, or variable data stored as query
- No staff repository used

All resolution is dynamic or statically set in Business Process Model

Human Task Container

Human Task Manager

Staff Support Service

System Staff Plugin Provider:

Transformation.xls

Task Deployment Information

WebSphere Process Server

Security User Registry
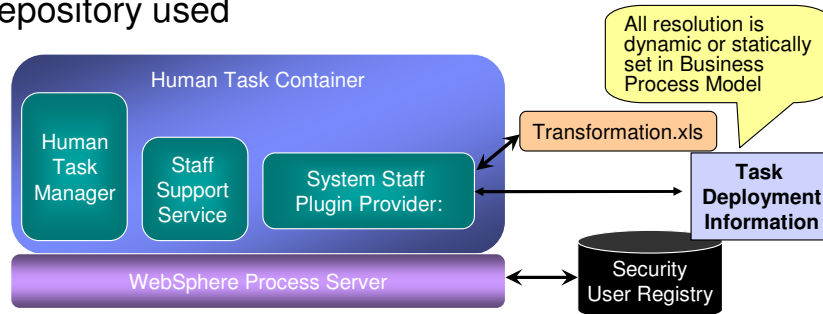
The final Staff Plug-in provider that is included with WebSphere Process Server V6.0 is the System Staff Plug-in Provider. This plug-in is not supported in a production environment since it only supports the Users, Users by ID, Everybody, and Nobody verbs and there is no user registry or staff repository involved. All of the resolution is done based on values specified directly in the Human Task definition and stored in the BPEDB database with the Human Task template. The user registry that the security service is using is not used at all. The user registry is only used for authenticating requests which can then be used when the human tasks are retrieved.

Runtime Configuration for Staff Support Checklist

- Staff Plug-in Provider must be configured on server

- Enable Global Security for server
  - Configure user registry
  - Java2 security not required

- The TaskSystemAdministrator and EscalationUser roles in Human Task Container must be mapped to a valid user for executing with Security

- JAAS Authentication Aliases must be configured with valid users for access to JMS resources

With the Human Task Manager installed, there may be a few additional steps which need to be performed for your production environment. First, you will need to make sure the Staff Plug-in Provider is configured. This only applies for the LDAP Staff Plug-in Provider. In this provider, you will need to specify the correct LDAP server values in order for the plug-in to make requests against the server to retrieve users for assigning human tasks. If the User Registry Staff Plug-in Provider is used, this will already be set to use the WebSphere server and its user registry that it has specified for authentication purposes. After setting up the Staff Plug-in Provider, you must enable Global Security. This may involve specifying the correct setting to use a particular user registry such as an LDAP server. You can use the same LDAP server for server authentication and for the Staff Plug-in Provider. When turning on security, it may be necessary to update the TaskSystemAdministrator and EscalationUser roles which are specified in the Task Container application to use valid users or groups. Finally, you may also need to update the JAAS Authentication Aliases which were configured for authenticating to the JMS resources which the Human Task Manager uses for processing human tasks. Each one of these different configuration steps will be discussed in more detail in the next few slides.

Configuring Staff Plug-in Providers (LDAP)

Each Staff Provider can have multiple configurations with each configuration pointing to a different staff repository. For example, if you had two LDAP servers and two human tasks, you could bind each human task to a different server. If you have two human tasks that use the same LDAP server, you can use a single provider; for example every human task does not need an individual Staff Plug-in configuration. Another situation where you may want to have multiple Staff Plug-in configurations, although highly unlikely, would be if you have different transformations to the same LDAP server. Within each Staff Plug-in configuration, you specify a JNDI name and transformation file. The JNDI name is the entry that the human task will bind to, and the transformation file is the mapping of the generic Verbs and Parameters used in the human task to the specific attributes in the staff repository.

When setting up the Staff Plug-in Configuration, there are additional custom properties that can be set, allowing you to direct the configuration to the correct location of the staff repository.   The LDAP Staff Plug-in configurations are typically the only configurations where you will need to change or set the custom properties.

When creating a new configuration, select an existing Staff Plug-in Provider and select New configuration rather than creating a new provider.   If you should need to create another provider, the implementation is located at <INSTALL_DIR>\lib.   The files are bpestaffldap.jar, bpestaffsystem.jar, and bpestaffuserregistry.jar.

Configuring Staff Plug-in Providers (LDAP – cont.)

As indicated in the last slide, the LDAP Staff Plug-in Provider is typically the only plug-in configuration which needs to be modified. For the configuration, you can specify a JNDI name.   In the configuration you must specify the values which describe the LDAP server location and the structure. The BaseDN and ProviderURL properties should be specified.

Security setup for Human Tasks

- The Human Task Manager only handles authorization to access human tasks
- WebSphere Process Server security provides authentication to identify incoming requests for human tasks
- Global Security must be enabled
  - Java 2 security not required
  - Use LTPA option
    - SWAM not supported for WebSphere Process Server V6.0

Global security

Configuration

General Properties

☑ Enable global security
☐ Enforce Java 2 security
☐ Enforce fine-grained JCA security
☐ Use domain-qualified user IDs
* Cache timeout
600   seconds
☑ Issue permission warning
Active protocol
CSI and SAS
Active authentication mechanism
Lightweight Third Party Authentication (LTPA)

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Since the Human Task Manager is responsible for authorization and not responsible for authentication, to run the Human Task Manager in a production environment you will need to enable global security. Global security is enabled in WebSphere Process Server using the normal WebSphere Application Server mechanism. You do not need to enable Java 2 security. For the authentication mechanism, you will need to specify LTPA. SWAM or Simple WebSphere Authentication Mechanism is not supported in WebSphere Process Server since it does not contain sufficient information during token propagation.

Specify Valid Users

Global security > J2EE Connector Architecture (J2C) authentication data entries

Specifies a list of user IDs and passwords for Java 2 connector security to use.

Preferences

New   Delete

Select	Alias
☐	SCA_Auth_Alias
☐	widCell/BPEAuthDat...
☐	widCell/widNode/ser...
☐	widNode/CommonE...

Enterprise Applications > TaskContainer_widNode_server1 > Map security roles to users/groups

Map security roles to users/groups

Each role that is defined in the application or module must map to a user or group from the domain us

Look up users   Look up groups

Select	Role
☐	TaskSystemAdministrator
☐	TaskSystemMonitor
☐	EscalationUser

Enterprise Applications > TaskContainer_widNode_server1 > Map RunAs roles to users

Map RunAs roles to users

The enterprise beans that you are installing contain predefined RunAs roles. Some ente
particular role that is recognized when interacting with another enterprise bean.

username

password

Apply

Remove the RunAsUser user name and password from the selected roles.

Remove

Select	Role	User name
☐	EscalationUser	wsdemo

While you may have entered user IDs and passwords at the time you set up the Human Task Manager, you may need to update these values when you enable security or over time. The three areas which will have user IDs or user information which is used by the Human Task Manager are the J2EE Connector Architecture (J2C) authentication data entries, the Map security roles to users/groups for the Task Container application and the Map RunAs Roles to users setting for the Task Container. The J2EE Connector Architecture authentication data entries are used in authenticating to the messaging resources and the datasource. The Map security roles to users/groups TaskSystemAdministrator role is for specifying an overall task administrator. The Map RunAs roles to users EscalationUser role is used during the processing of escalations which may fire off a human task.

WPSWIDv6_HumanTaskManagerRuntim
e.ppt   Page 22 of 30

Synching Tasks with User Registries

Enhanced in V6

- Query results for a Staff query are cached
  - ▶ Results stored in BPEDB
  - ▶ Default cache of 1 hour set to reduce need for repetitive queries
  - ▶ StaffQueryResultValidTimeSeconds custom property

- If the same Task or another Task which uses an identical query is reached after the query results have expired, the query is performed again

- New human tasks are created for the current Task and existing human tasks are updated to new results
  - ▶ Changes in user registry are picked up

- Assigned human tasks and user registries stay nearly in synch

Application servers

Application servers > server1 > Human task container > Custom Properties

Specifies arbitrary name and value pairs of data. The value is a string that can configuration properties.

⊞ Preferences

| New | Delete |

Select	Name ◇	Value ◇	De
☐	StaffQueryResultValidTimeSeconds	3600	
Total 1			

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Because human tasks are stored in the BPEDB database, this introduces the potential for information to become out of sync with the organization staff repository. For example, if someone changes jobs, leaves the company, or is newly hired, this should be reflected in the human tasks. The way this is solved is through the use of synchronization between the human tasks and the staff repository. When a staff query is performed to determine who are the potential owners of a task or who should have editor rights, the staff repository is queried and the results are returned. These results are stored in a cache. If an identical query is run again, the results stored in the cache will be retrieved instead of querying the staff repository. By default, the cache is set to persist for one hour, though this value can be reduced or increased by modifying the StaffQueryResultValidTimeSeconds custom property in the Human task container. After the cache time has expired, if the query is run again, the cache will be bypassed, the staff repository is queried and updated values are retrieved and the cache is updated. These results are then used not only to assign the current task, but also to update any existing human tasks with the correct users. If you are using the default cache value of one hour and within that hour someone is added to a group, when that query is run against the staff repository again, the new user will be retrieved and they will be assigned a work item for that instance and any previous instances. While you can increase or decrease the cache value, it can become resource intensive if you have a lot of human tasks to be updated. For this reason, you might want to increase the cache value to a time that is appropriate for your enterprise.

WPSWIDv6_HumanTaskManagerRuntim
e.ppt

Synching Tasks with Staff Repositories (cont.)

- Human tasks will never be refreshed unless cache is expired and Staff query is performed again
  - ▶ No automatic refresh of work item assignments

- Option in Administrative Console to re-execute all Staff queries to force refresh
  - ▶ Available under Application Servers > Server1 > Human Task Container > Replay Messages > Refresh Staff Query

Application servers > **server1** > **Replay messages**
Replay failed messages that are held in the hold queue.

Runtime

| Refresh Message Counts | Replay Hold Queue | Refresh Staff Query |
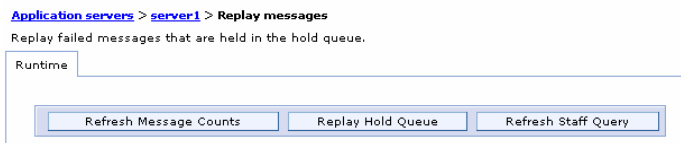
- Command line option for re-execute specific
  - ▶ Available under
    <INSTALL_DIR>\ProcessChoreographer\util\refreshStaffQuery.jacl

If the cache value expires, and the query statement is not performed again, the updated list will not be retrieved from the staff repository and the human tasks will become out of date. For these cases, you can manually force the human task manager to re-execute the queries and update all human tasks with updated organizational changes. This would be useful in the event of a departmental reorganization, for example. All of the Staff queries can be refreshed through the Refresh Staff Query button in the Replay messages section of the Administrative console. This could be very resource intensive if there are a large number of human tasks. For a more fine-grained approach, individual Staff queries can be refreshed with the use of the refreshStaffQuery.jacl script.

Human Task installation and removal

- Install
  - ▶ Human Tasks are packaged in Enterprise Archive (EAR) files and are installed just as any EAR file
    - Human Task Template does not need to be started
    - Valid from time value must be for a date in the past for the template to be available for requests
- Uninstall
  - ▶ Human Task template must be stopped and all human tasks must be complete and deleted before application maybe uninstalled
    - Stop operation located under EJB module in EAR file containing Human Task
    - Stopping, completing and deleting tasks is not required for tasks when server is in Development Mode

Enterprise Applications

Enterprise Applications

Enterprise Applications > **MyTestProcessApp** > **EJB Modules** > **MyTestProcessEJB.jar** > **Human tasks**

This panel is used to start and stop human tasks, which are defined as part of a business process. Generally, configuration changes take effect after you restart the server, but this panel updates both the configuration and the status of the task on each running server without requiring the servers to be restarted. Each server and cluster which has this task installed must be running.

⊞ Preferences

| Start | Stop |

Select	Name ◇	Valid from time ◇	Namespace ◇	Status ◇
☐	SimpleTask	Wednesday, January 11, 2006 12:06:29 PM CST	http://MyTestProcess/com/acme/task	Started

Total 1

The management of individual Human Tasks is very similar to the management of J2EE applications. Human Tasks are packaged in Enterprise Archive or EAR files and are installed in the same manner as any other applications. Applications with human tasks can be installed using the Administrative Console or wsadmin. After the application is installed it should be started prior to handling any calls for the human task. In order for a human task to be called the Valid from time value must be for a date in the past. This value is set as part of the task definition and can not be changed after you deploy the task.

For uninstalling an application with a human task, you can follow the same steps as with any EAR file, however there are some additional points to note. If the server is not running in Development mode, prior to uninstalling the application, the human task template must be stopped. The stop operation can be performed by locating the application and navigating to the EJB modules and selecting the EJB module representing the components. In the EJB module, is a link titled "Human tasks". This section will have a list of all of the human task templates defined in the module. Each one of these human task templates will need to be stopped. You will also need to complete any outstanding human tasks and then delete the tasks. After performing these steps, you can uninstall the application with the human tasks.

Administering Tasks with BPC Explorer

New V6

- BPC Explorer included for task and process administration.
  - ▸ View Tasks and Escalations
  - ▸ Claim, Complete, Transfer, Create Sub Tasks and Follow-on Tasks
  - ▸ Located at http://localhost:9080/bpc

- Built with reusable JavaServer Faces (JSF) components
  - Starting point for customized clients
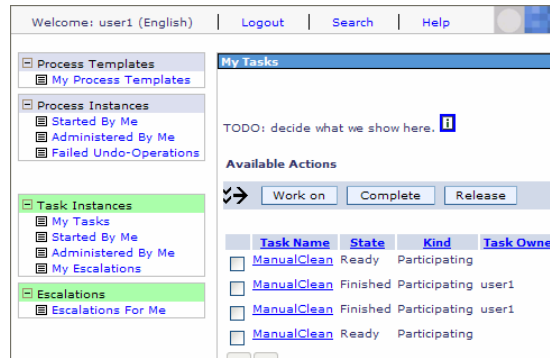
Human Task Manager Runtime Overview   © 2006 IBM Corporation

The BPC Explorer has been provided for managing human tasks. The BPC explorer is an administrative client application where you can perform basic tasks such as viewing, claiming, completing, transferring, and deleting tasks. If the definitions of the human task specifies the different JSP in the client section, they will be replaced at the appropriate times when you use the BPC Explorer to view a task. The BPC explorer is built using JSF components with a set of tag libraries that you can use to build your own custom clients.

Agenda

- Architectural Overview

- Architecture

- Developing Human Tasks

- Human Task Administration

- **Summary and References**

This section will provide a summary and references.

Summary

- The Human Task Manager is part of the Business Process Choreographer component

- Different installation options available for setting up the Human Task Manager

- Configuration of Staff Plug-in Providers and enabling Security comprise majority of administration tasks

In summary, the Human Task Manager, along with the Business Flow Manager, makes up Business Process Choreographer component. There are a number of different installation options which are available for setting up the Human Task Manager. And finally, as explained in the last section, the majority of administration tasks is around configuring the Staff Plug-in Providers and enabling Security for running the Human Task Manager in a production environment.

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  - http://www-106.ibm.com/developerworks/websphere/library/techarticles/wasid/WPCStaffReference.html

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