



IBM Software Group

WebSphere® Process Server for z/OS® V6.0.2 WebSphere Enterprise Service Bus for z/OS V6.0.2

Network Deployment configuration



@business on demand.

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This presentation will look at the configuration of a Network Deployment environment to enable WebSphere Process Server for z/OS V6.0.2 or WebSphere Enterprise Service Bus for z/OS V6.0.2 function. It is recommended that you look at the installation and configuration overview presentation as a prerequisite to this one.

Goals

- Describe the WebSphere Process Server for z/OS V6.0.2 and WebSphere Enterprise Service Bus V6.0.2 configuration process in a Network Deployment environment

The goal of this presentation is to explain what is necessary to configure WebSphere Process Server for z/OS or WebSphere Enterprise Service Bus for z/OS in a Network Deployment environment.

Section

WebSphere Process Server or WebSphere Enterprise Service Bus Network Deployment configuration

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Network Deployment configuration

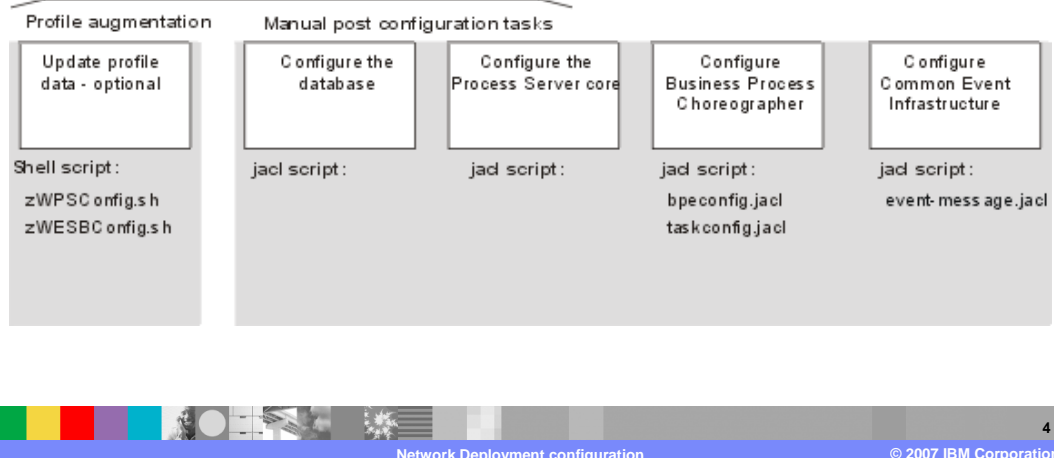
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This presentation will take you through the steps necessary to configure WebSphere Process Server for z/OS or WebSphere Enterprise Service Bus for z/OS in the more complicated Network Deployment environment.

Configuration overview

Product configuration WebSphere Process Server for z/OS

Configuring the product after installation



This slide shows the product configuration steps. Notice that there are several manual post-configuration tasks listed on the right. These are all tasks that were taken care of in the simple stand-alone application server configuration. In a Network Deployment configuration, you will have to manually configure more options. Those options will be presented here.

Configure Network Deployment environment

- The network deployment configuration supports a DB2® for z/OS database only
- Need to 'configure' the deployment manager node and an empty managed node before federation (that is, do not run BBOWMNaN)
 - ▶ Cloning is available once server is configured as needed
 - ▶ V6.02 adds support for federation of WPS/WESB-augmented stand-alone profiles
- Response files:
 - ▶ **DmgrDB2.rsp**
 - ▶ **ManagedDB2.rsp**
 - ▶ **standAloneProfileDB2.rsp**



New

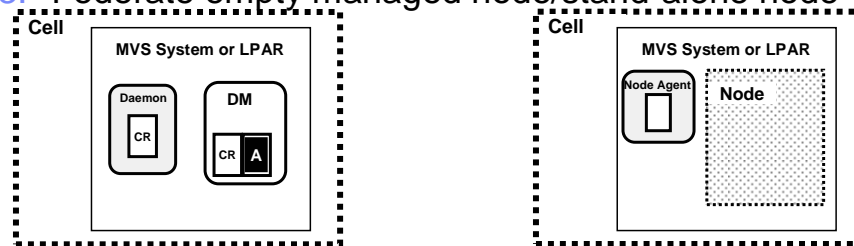
To configure WebSphere Process Server for z/OS V6.0.2 or WebSphere Enterprise Service Bus for z/OS V6.0.2 in a Network Deployment environment, DB2 for z/OS is a requirement. Cloudscape is not supported in this environment. In order to configure the products in this environment, you will see that you will first 'configure' the deployment manager node and then 'configure' an empty managed node before federating it. In other words, you will create an empty managed node but not run the BBOWMNaN job until you have run the WebSphere Process Server or WebSphere Enterprise Service Bus configuration scripts against the empty managed node. You will create a server in this node as a manual process.

Starting with V6.0.2, you are also able to configure a stand-alone profile with WebSphere Process Server or WebSphere Enterprise Service Bus and then federate that into the Network Deployment cell. Again, the deployment manager node needs to be configured for either WebSphere Process Server or WebSphere Enterprise Service Bus before the federation of the stand-alone profile. As you will see later, this approach has some limitations and drawbacks when it comes to resource naming.

There are two new response files to support this environment. The DmgrDB2 response file is used to run the configuration script against the deployment manager node while the ManagedDB2 response file is used to run the configuration script against the empty managed node. The standAloneProfileDB2.rsp may be used if you decide to federate a stand-alone node.

Configure Network Deployment environment

- Three steps:
 1. Configure deployment manager node for WebSphere process server or WebSphere enterprise service bus
 2. Configure empty managed node/stand-alone node for WebSphere process server or WebSphere enterprise service bus
 3. Federate empty managed node/stand-alone node



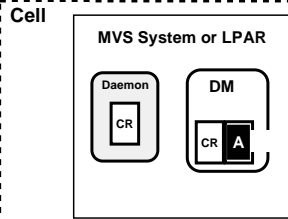
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The configuration of WebSphere Process Server for z/OS or WebSphere Enterprise Service Bus for z/OS in a network deployment environment can be thought of as a three step process. You will run the configuration shell scripts against the deployment manager node first. This sets the deployment manager up to be able to manage a WebSphere Process Server or Enterprise Service Bus environment. You will then configure an empty managed node or stand-alone node to be able to host servers that have the WebSphere Process Server or Enterprise Service Bus function. Finally you will federate the empty managed node or stand-alone node into the Network Deployment cell. The starting point is shown in the graphic.

Configure deployment manager node



1. Run zSMPIInstall.sh

```
<WPS_SMP_ROOT>/zos.config/bin/zSMPIInstall.sh  
-smproot <WPS_SMP_ROOT>  
-runtime <WAS_HOME>  
-install
```

- -runtime should point to deployment manager configuration

- -runtime=/WebSphere/V6R0M0/DeploymentManager



Starting with the deployment manager node, you need to run the zSMPIInstall.sh script, pointing the runtime to the deployment manager configuration HFS. This will create symlinks in your WebSphere Application Server Deployment Manager configuration to the WebSphere Process Server or WebSphere Enterprise Service Bus product code. This is a task for the system administrator, since it is somewhat of an extension of the SMP/E install. You should use a WebSphere Administrator user ID to run the script. The zSMPIInstall.sh script will also add plug-ins to the administrative console for new functions needed for the WebSphere Process Server or WebSphere Enterprise Service Bus.

Configure deployment manager node

```
<WAS_HOME>/dbscripts/*
```

Needs
Customization

```
CommonDB/DB2/createCommonDb2Zos.sql
CEI/DB2/createCeiDb2Zos.sql
EsbLoggerMediation/DB2/createEsbDb2Zos.sql
ProcessChoreographer/DB2/createBpcDb2Zos.sql
```

2. Create databases:

```
cd <WAS_HOME>/bin
    for example, cd /WebSphere/V6R0M0/AppServer/bin
./DBUtility.sh createTable
-DsqlScriptPath.default=/u/wpswork/createCommonDb2Zos.sql
-DdbType=DB2UDBOS390_V8_1 -DdbName=xxxxxV2
-DprofilePath=<WAS_HOME>
-DdbJDBCProperties=<DB2_PROPERTIES_LOC>
-DdbConnectionLocation=<DB2_LOCATION>
-DdbJDBCClasspath=<DB2_JCC_HOME>/classes
-DdbUserId=<DB2USER> -DdbPassword=<DB2PASSWORD>
-DdbDelayConfig=false -DdbCreateNew=false
>/tmp/DBUtility.output 2>/tmp/DBUtility.err
```

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Network Deployment configuration

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In the next step, you should create the databases and storage groups that are needed. There are samples provided in the dbscripts directory as shown on the slide. Note that these files are all in ASCII and need to be customized so you will need to use an editor that is able to edit ASCII files or convert them to EBCDIC before editing. This shows an example of using the DBUtility.sh script in order to create the DB2 databases and storage groups. The createTable parameter tells the utility to run the sql or ddl file you specify in the sqlScriptPath.default parameter; the content of the file doesn't necessarily need to have anything to do with creating tables. Note that the dbName parameter can be anything here. It is merely used as a directory name where the sql or ddl is copied before it is run. If EBCDIC ddl is specified, it will be converted to ASCII before running.

Configure deployment manager node

- Alternatively:

Recommended!

- ▶ <http://www.ibm.com/support/techdocs/atmastr.nsf/WebIndex/PRS2520>

- Contains V6.0.2 SQL and DDL sample using one database/storage group/schema
- **XXCell.sql or XXCell.ddl**
 - Defines database/storage group
 - <xx> needs to be globally replaced with a two-letter cell identifier
 - Assumes one database and storage group will be used for all tables



Alternatively, techdoc PRS2520, found at the URL shown on the slide, contains sample SQL or DDL that can be used instead to create the DB2 database and storage group needed. The SQL DDL found in the techdoc assumes the use of one database and storage group for all the tables needed for WebSphere Process Server or WebSphere Enterprise Service Bus. The XXCell.sql or XXCell.ddl file needs to be customized for your installation but they are set up for global replacement making it very easy to customize.

Configure deployment manager node

3. Copy **DmgrDB2.rsp** and modify it

- Found in <WPS/WESB_SMP_ROOT>zos.config directory
- Same basic fields as StandaloneDB2.rsp but no need for CEI or Business Process Choreographer here

4. Run zWPSConfig.sh

```
export LIBPATH=/db2810/jcc/lib:$LIBPATH
<WAS_HOME>/bin/zWPSConfig.sh
    -response DmgrDB2.rsp
    -augment
```

No longer creates default messaging environment with Cloudscape™ during Network Deployment augmentation

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The DmgrDB2 response file needs to be modified in order to run the augmentation against the deployment manager node. For detailed information on the parameters needed, see the simple configuration presentation. The DmgrDB2 response file has the same basic fields as the StandaloneDB2 response file but note that there is no need for CEI and business process choreographer information here. Those functions need a server host and at this point, there is none.

Once the response file is updated, you will run the zWPSConfig.sh or zWESBConfig.sh script against the deployment manager node. If you plan to have the augmentation configure the databases for you (you have set dbDelayConfig='false' in the response file), you will need to export your JCC LIBPATH as shown.

You should note that the deployment manager augmentation will no longer create a default messaging environment with Cloudscape as it did in V6.0.1.

Configure deployment manager node

5. Run SQL created during augmentation for WPRCSDB and ESBDB

Use DBUtility.sh

- .sql files for WPRCSDB are found in

<WAS_HOME>/profiles/default/dbscripts/CommonDB/DB2zOSV8/<DBNAME>

```
createTable_AppScheduler.sql
createTable_CommonDB.sql
createTable_Recovery.sql
createTable_Relationship.sql
createTable_customization.sql
createTable_lockmanager.sql
createTable_mediation.sql

insertTable_CommonDB.sql
```

- ESBDB is only necessary if logging

<WAS_HOME>/util/EsbLoggerMediation/DB2UDBOS390_V8_1/
Table_esb_DB2UDBOS390_V8_1.ddl

need to break the symlink and customize:

```
mv Table_esb_DB2UDBOS390_V8_1.ddl Table_esb_DB2UDBOS390_V8_1.ddl.orig
cp Table_esb_DB2UDBOS390_V8_1.ddl.orig Table_esb_DB2UDBOS390_V8_1.ddl
```

Since a DB2 administrator will most likely be involved with setting up the databases, the next step most likely involves getting the DB2 administrator to run the .sql that was generated during augmentation. This can be done using the DBUtility.sh script. Note again that the .sql files are in ASCII. The generated .sql will configure the WPRCSDB Common Database. If you plan to log Enterprise Service Bus mediation events, you will need to customize the .ddl that is provided in the directory listed here. This file is in EBCDIC, and you will need to break the symlink and copy it to a writable HFS first.

Configure deployment manager node

Alternatively:

- ▶ <http://www.ibm.com/support/techdocs/atmastr.nsf/WebIndex/PRS2520>
- ▶ XXCell.sql (defines database/storage group)

```

XXwpsdef.sql    -- Common Database tables, required
XXCellSIB.sql  -- Service Integration Bus Database tables
                xxSCASIB tables, required
                xxAPPSIB tables, required
                xxBPCSIB tables, optional
                xxCEISIB tables, optional

```

.ddl or .sql

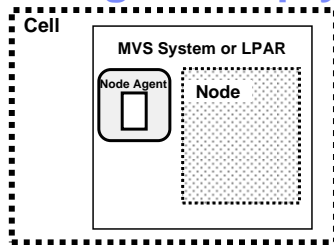
```

XXbpcdef.sql   -- Process Choreographer/Human Task Manager
                tables, optional
XXceidef.sql   -- Common Event Infrastructure tables, optional
XXesbdef.sql   -- ESB Mediation Logging tables, optional

```

Again, as an alternative, techdoc PRS2520, found at the URL shown on the slide, contains sample SQL or DDL that can be used instead to create the DB2 database tables needed. The SQL/DDDL found in the techdoc assumes the use of one database and storage group for all the tables needed for WebSphere Process Server or WebSphere Enterprise Service Bus. The XXCell.sql is shown again for completeness but has most likely already been run. The files that you need to run will depend on what functions in WebSphere Process Server or WebSphere Enterprise Service Bus that you plan to use. You'll see that only the Common Database Tables and the SCA-related service integration bus tables are required. If you plan to use process choreographer, human tasks, ESB mediation logging or CEI, there are additional tables as noted on the slide.

Configure empty managed/stand-alone node



6. Run zSMPIInstall.sh

```
<WPS_SMP_ROOT>/zos.config/bin/zSMPIInstall.sh
-smproot <WPS_SMP_ROOT>
-runtime <WAS_HOME>
-install
```

- -runtime should point to empty managed node configuration
- -runtime=/WebSphere/V6R0M0/**AppServer**

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After completing the deployment manager node configuration, move your attention to the empty managed node that you have configured. Remember, you should not have run the BBOWMNAN job yet to federate it! You will run the zSMPIInstall.sh script again, this time specifying the configuration HFS for the empty managed node or stand-alone node that was created. This will again set up the symlinks to the product code from the configuration HFS.

Configure empty managed/stand-alone node

7. Copy **ManagedDB2.rsp** (or **StandaloneDB2.rsp**) and modify it

- Found in <WPS/WESB_SMP_ROOT>zos.config directory
- Same basic fields as StandAloneDB2 but again no need for CEI or Business Process Choreographer here

8. Run zWPSConfig.sh

```
export LIBPATH=/db2810/jcc/lib:$LIBPATH
```

```
<WAS_HOME>/bin/zWPSConfig.sh
```

```
-response ManagedDB2.rsp
```

```
-augment
```

Empty managed node
being shown

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Before running the augmentation job against the empty managed node, you need to update a copy of the ManagedDB2 response file. Again, the ManagedDB2 response file has the same basic fields as the StandAloneDB2 response file but note that there is again no need for CEI and business process choreographer information here. Those functions need a server and the empty managed node, by definition, has no servers defined. Note that you could instead use the StandaloneDB2.rsp to configure a stand-alone node. Once the response file is modified, you should run the zWPSConfig.sh or zWESBConfig.sh script in order to augment the node with WebSphere Process Server or WebSphere Enterprise Service Bus function.

Fix variable settings

9. Run the fixWPSvars.jacl script found here:

<http://www.ibm.com/support/techdocs/atmastr.nsf/WebIndex/PRS2520>

```
cd /WebSphere/V6R0/DeploymentManager/bin
./wsadmin.sh -conntype none
-f /u/wsuser/wpswork/fixWPSvars.jacl
-wbiInstallRoot "/WebSphere/V6R0/DeploymentManager"
-node "c6dmnode"
-jcchome /usr/lpp/db2810/jcc
-jccproperties /etc/db2cfg/DB2JccConfiguration.properties
-dbLoc LOC1
-dsSchema C6CELL
```

- Updates DB2UNIVERSAL_JDBC_DRIVER_NATIVEPATH variable at the Node level
- Adds DB2UNIVERSAL_JDBC_DRIVER_PATH variable at the cell level
- Verifies ws.ext.dirs field for CEI on the Deployment Manager Servant and Control JVMs
- Sets db2.jcc.properties custom property on the Deployment Manager JVM

Before starting the deployment manager in order to federate the augmented node, some variables need to be set. In that same techdoc, PRS2520, you will find a jacl script called fixWPSvars.jacl to assist you. It will update the DB2UNIVERSAL_JDBC path variables and set some needed properties in the JVM custom properties. These updates can be done manually in the administrative console but the .jacl script allows you to do it quicker and without having to restart the deployment manager.

Federate augmented node

10. Run the BBOWMNAN job to federate the empty managed node (or stand-alone node)

```
addNode.sh <DM_HOST> <DM_PORT> -includeapps -includebuses  
-nodegroupname DefaultNodeGroup  
-nodeagentshortname xxAGNT1 -replacelog
```

- `-includebuses` required for stand-alone node
- Configuration is now ready for WebSphere Process Server or WebSphere Enterprise Service Bus function
 - Note: stand-alone node is already configured with WebSphere Process Server/WebSphere Enterprise Service Bus function

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Once both the deployment manager node and the empty managed or stand-alone node are configured, you can run the BBOWMNAN job to federate the empty managed node or stand-alone node into the Network Deployment cell. Also shown on the slide is the `addNode.sh` script invocation that will do the same thing. The `includebuses` parameter is required on the `addNode` command if federating a stand-alone node.

If you federate an empty managed node, there are still no servers defined where you can run a workload that uses the new WebSphere Process Server or WebSphere Enterprise Service Bus functions. In the case of the stand-alone node, there is a server defined and some of the additional function that needs a server may already be configured. For instance, it is possible that the process choreography and human task function may already exist.

Federation of augmented stand-alone node

- Start with an augmented empty deployment manager node
 - ▶ Only initial federation supported
 - After the first federated node with applications and buses, only empty nodes can be federated
 - ▶ Can then promote WebSphere Process Server/WebSphere Enterprise Service Bus Server to a cluster
 - ▶ Note that some data source scopes may change
 - jdbc/WPSDB is moved from node to cell scope

As mentioned earlier, there are limitations when it comes to federating a stand-alone node that has been augmented with WebSphere Process Server or WebSphere Enterprise Service Bus. First of all, only initial federation is supported. This means that it is only supported if there are currently no other nodes in the network deployment cell. Then after the federation of the first stand-alone node, all other WebSphere Process Server or WebSphere Enterprise Service Bus-capable nodes that are federated must be empty managed nodes. Once federated though, you are able to promote the configured server to a cluster. Note that some data source scopes may change as you move the node into the Network Deployment cell. The data source for the jdbc/WPSDB definition is moved from the node to the cell scope, for instance.

Federation of augmented stand-alone node

- Naming of resources based on stand-alone node cellname
 - ▶ Bus names
 - BPC.**ssbase2**.Bus
 - CommonEventInfrastructure_Bus
 - SCA.APPLICATION.**ssbase2**.Bus
 - SCA.SYSTEM.**ssbase2**.Bus
 - ▶ Messaging engines
 - ssnode2.sssr012-BPC.**ssbase2**.Bus
 - ssnode2.sssr012-CommonEventInfrastructure_Bus
 - ssnode2.sssr012-SCA.APPLICATION.**ssbase2**.Bus
 - ssnode2.sssr012-SCA.SYSTEM.**ssbase2**.Bus

Stand-alone
Node federated into
sscell



Drawbacks were also mentioned when it comes to resource naming. After federation into the Network Deployment cell, you may notice that the names of the resources are still based on the original stand-alone node's cell name. This may be confusing in your configuration. On the slide here, the original cell name was `ssbase2`. If resources were originally created in the deployment manager node instead, they would have the correct `sscell` name.

Federation of augmented stand-alone node

- Eventually going to cluster

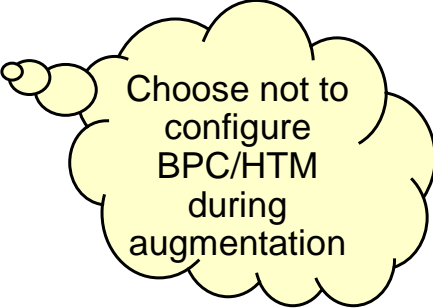
- ▶ Applications:

- BPEcontainer_ssnod2_ssr012
 - BPCexplorer_ssnod2_ssr012
 - TaskContainer_ssnod2_ssr012

- ▶ SCA Configuration

- Probably do not want to inherit stand-alone node's configuration

- Empty managed node better choice



Choose not to configure BPC/HTM during augmentation

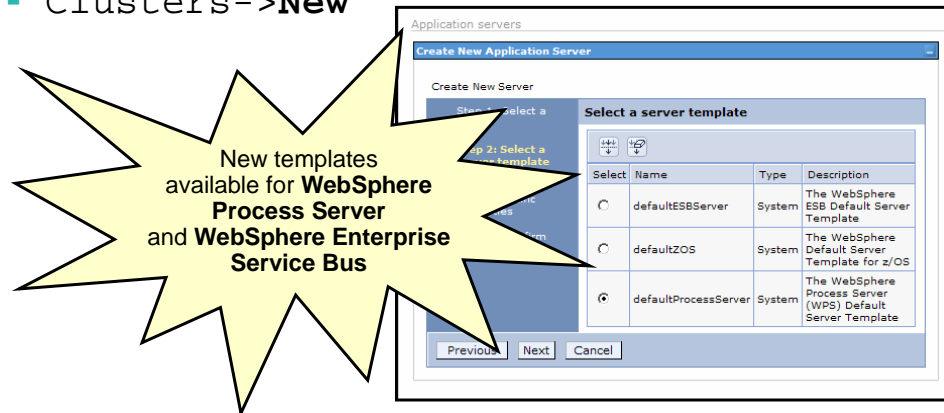
The application names are also based on the stand-alone configuration. If you will eventually be configuring a cluster to run WebSphere Process Server or WebSphere Enterprise Service Bus applications, you may want to choose not to configure the business process choreographer and human task manager during augmentation of the stand-alone node. If you wait until you have created the cluster, the names will better reflect your configuration. The same goes for the SCA configuration. You probably do not want to inherit the stand-alone node's SCA configuration, but in that case, you have no choice but to configure it in the stand-alone node first. The empty managed node gives you better control over your configuration and is the recommended alternative.

Define servers to run workloads

Steps to configure the **empty managed Node**

11. Create application server (or cluster) in the now-federated empty managed node

- Application Servers->**New**
- Clusters->**New**



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Given the recommendation to configure an empty managed node rather than the stand-alone server in the network deployment scenario, the next slides will look at what's needed for that scenario. The first thing needed is a server or cluster to run a WebSphere Process Server or WebSphere Enterprise Service Bus workload. You will notice new server templates are available for the WebSphere Process Server and the WebSphere Enterprise Service Bus functions.

Define servers to run workloads (continued)

12. Select the new server and change values as appropriate (for example, **short name**, **ClusterTransitionName**, **HTTP transports**)

The image displays three screenshots from the IBM Network Deployment configuration console, illustrating the configuration of a new server or cluster. The screenshots are arranged in a grid-like fashion.

Top Left Screenshot: Shows the 'Application servers > test' configuration page. The 'Configuration' tab is selected, and the 'short name' field is highlighted with a yellow box. The 'Name' field contains 'test' and the 'short Name' field contains 'CL1TEST'.

Top Right Screenshot: Shows the 'Application servers > test > HTTP transport' configuration page. The 'Preferences' tab is selected, and the 'HTTP transports' table is highlighted with a yellow box. The table has columns for 'Host', 'Port', and 'SSL Enabled'. Two rows are visible: one with port 9083 and SSL disabled, and another with port 9446 and SSL enabled.

Bottom Right Screenshot: Shows the 'Application servers > test > HTTP transport > Custom Properties' configuration page. The 'Preferences' tab is selected, and the 'ClusterTransitionName' field is highlighted with a yellow box. The table has columns for 'Name', 'Value', and 'Description'. One row is visible with 'ClusterTransitionName' as the name and 'BBOC001' as the value.

At the bottom of the page, there is a footer with the text 'Network Deployment configuration' and '© 2007 IBM Corporation'.

Once you have chosen one of the new templates and created a new server or cluster, you will most likely want to change some basic values as you would for a 'basic' application server. Some of the values you might change include the port numbers for the HTTP transports, the server shortname and the ClusterTransitionName as shown here.

Configure service component architecture

13. <SERVER_NAME> > Service component architecture

<CLUSTER_NAME> > Service component architecture

- Configures service integration buses and messaging engines

- Change databaseName
- Uncheck 'Create tables'

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WebSphere Process Server applications or WebSphere Enterprise Service Bus applications need the service component architecture customized. You can configure it easily in the administrative console as shown. You need to fill in some information on the database you plan to use for the messaging engines that will be created for you. Keep in mind that the schema names will differentiate the table names for each of the service integration buses.

Configure business process and human task containers manually

14. Two options:

- ▶ Installation wizards:
 - `Application servers > <SERVERNAME> > Business process container > Business process container installation wizard`
 - `Application servers > <SERVERNAME> > Human task container > Human task container installation wizard`
- ▶ JACL scripts
 - `bpeconfig.jacl`
 - Will also configure human task container
 - `taskconfig.jacl`

Once you have the basic core functions set up for the WebSphere Process Server, you should decide if you need either the business process choreography container or the human task manager container, or both. Note that these functions are not available if configuring the WebSphere Enterprise Service Bus function. These are available only in the WebSphere Process Server product. If you are configuring the WebSphere Enterprise Service Bus, you can skip ahead to configure the common event infrastructure if needed.

There are two installation options for the business process and human task container. The path in the administrative console to the first option, the installation wizards, is shown. Starting with V6.0.2, this is the recommended option and will be shown here. The second option is jacl scripts, `bpeconfig.jacl` and `taskconfig.jacl`. These can be run interactively. Notice that the `bpeconfig.jacl` script has the ability to configure the human task container as well.

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Using the installation wizard for BPC container

Application servers > aser011 > Business process container

The business process container provides services to run business processes within an application server. After installing the business process container, you can only change the general properties on this page and on the custom properties page.

Configuration

General Properties

- Enable Common Event Infrastructure logging
- Enable audit logging
- Retry limit: 5
- Retention queue message limit: 20
- Retention queue: /ims/BPERetQueue
- Hold queue: /ims/BPEHldQueue

Additional Properties

- Business process container installation wizard**
- Human task container
- Runtime Configuration
- Custom Properties

Apply OK Reset Cancel

- Found under <SERVER_NAME> or <CLUSTER_NAME>
- Creates various resources/installs the bpecontainer application.
- Still need to configure DB2 tables

Business process container installation wizard

Step 1: Select the database configuration that this business process container will use

Select the desired JDBC provider. A new XA datasource will be created for this provider.

JDBC providers: DB2 z/OS 7 & 8 (DB2 Universal JDBC Driver Provider type 2)

Implementation class name: com.ibm.db2.jcc.DB2ConnectionPoolDataSource

Classpath: {{DB2UNIVERSAL_JDBC_DRIVER_PATH}}/db2jcc.jar; {{UNIVERSAL_JDBC_DRIVER_PATH}}/db2jcc_license_ou.jar; {{DB2UNIVERSAL_JDBC_DRIVER_PATH}}/db2jcc_license_ciruz.jar

Data source user name: DB2D

Data source password: *****

Custom Properties: driverType=2; serverName=MVS215.rtp.raleigh.ibm.com; portNumber=50000; description=DataSource for Process Choreographer; traceLevel=; traceFile=; FullyMaterializeLobData=false; resultSetHoldability=2; currentPackageSet=

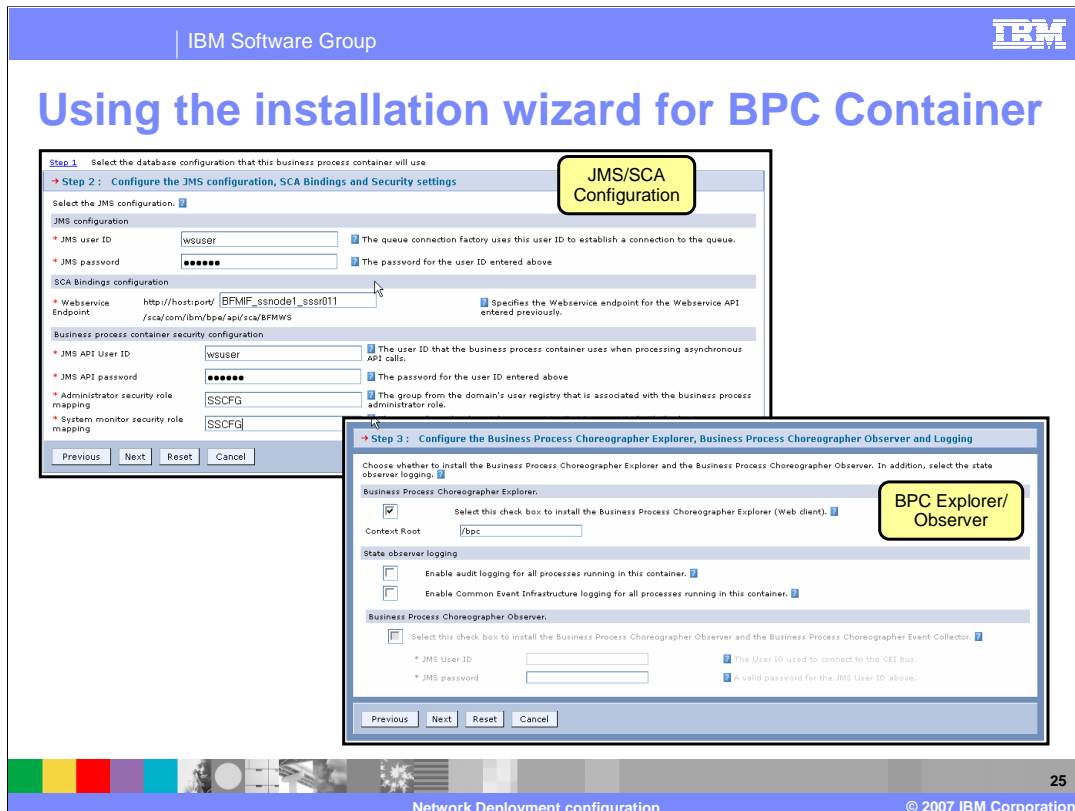
Database configuration

Change databaseName

Next Reset Cancel

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This slide shows the installation wizard for the business process choreography container. It allows you to configure the server or cluster to have the ability to run applications that take advantage of process choreography. It is found under the server or cluster that you are configuring as shown on the slide. In the first step, you need to provide information about the database configuration that is being used by the business process choreographer. You should have this information from the database configuration that was done earlier.



In the second step, you will provide information that will be used for the JMS and SCA configuration and for security. The security groups input here need to be added to the appropriate EJBROLE definition if using a SAF-based registry. The appropriate EJBROLES are BPESystemAdministrator and BPESystemMonitor.

In the third step, you should check the box to have the business process choreographer explorer installed. This provides a sample Web application that allows you to interact with business processes and human tasks to manage them.

Using the installation wizard for human task container

Application servers > sssr11 > Human task container

The human task container supports running human tasks within an application server. Use this panel to install the human task container or to view its properties if it is already installed.

Configuration

General Properties

E-mail session JNDI name

State listeners

Enable Common Event Infrastructure logging

Enable audit logging

E-mail service

Sender e-mail address
taskmanager_emailservice@tms.companydomain

Escalation URL prefix

Task URL prefix

Administrator URL prefix

Process Explorer URL prefix

Additional Properties

- Human task container installation wizard
- Business process container
- Business configuration

Human task container installation wizard

→ Step 1: Configure the JMS configuration, SCA Bindings and Security settings

Select the JMS configuration.

JMS configuration

- JMS user ID: wsubser
- JMS password: ●●●●●●

SCA Bindings configuration

- Web service Endpoint: http://host:port/HTMLF_ssnode1_ssr011
- Endpoint: /sca/com/ibm/task/api/sca/HTMWS

Human Task Manager security configuration

- Escalation user ID: honken
- Escalation password: ●●●●●●
- Administrator security role mapping: SSCFG
- System monitor security role mapping: SSCFG

Next Reset Cancel

- Step 2 Select the Mail Session and Logging
- Step 3 Summary

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The installation wizard for the human task container is found in the same place under the server or cluster you are configuring. The first step is similar to the JMS and SCA configuration you saw under the business process container configuration. The groups you specify in the security portion here would need to be added to the TaskSystemAdministrator and TaskSystemMonitor EJBROLES.

Using bpeconfig.jacl

```
<WAS_HOME>/ProcessChoreographer/sample/bpeconfig.jacl
```

- `../bin/wsadmin.sh -f bpeconfig.jacl parameters`
 - may be run non-interactively if all needed parameters are specified on the command line
 - see 'Using the bpeconfig.jacl script file to configure Business Process Choreographer' article in the Information Center for more detail

If you have any experience with the WebSphere Business Integration Server Foundation, the bpeconfig.jacl script should be familiar. It can be run interactively where you are prompted for all the values it needs or you can specify all values on the command line. To see all the possible parameters and for more information on running it, see the article in the information center.

Configure CEI manually (optional)

15. Deploy event application

```
<PROFILE_PATH>\bin\wsadmin [-conntype none] -profile event-profile.jacl
-f event-application.jacl -action install -earfile event-application.ear
-backendid DB2UDBOS390_V8_1 -node <node_name> -server <server_name>
[-cluster cluster_name] [-appname app_name] [-trace]
```

- **Messaging support: default messaging**

```
<PROFILE_PATH>/bin/wsadmin.sh [conntype -none] -profile event-profile.jacl
-f default-event-message.jacl -action install -earfile event-message.ear
-node <node_name> -server <server_name>
[-cluster cluster_name] [-appname app_name] [-trace]
```

- **Messaging support: external JMS Provider**

```
$WAS_HOME/bin/wsadmin -profile event-profile.jacl -f event-message.jacl
-action install -earfile event-message.ear -node node_name
[-server server_name] [cluster cluster_name]
-appname app_name -qjndi queue -qcfjndi connection_factory
[-listenerport listener_port] [-activation-spec-jndi spec_name]
[-event-profile-scope scope] [-trace]
```

Now that you have the business process choreography container and the human task manager containers configured, you can move on to the common event infrastructure. This is available in both the WebSphere Process Server and WebSphere Enterprise Service Bus environments. The event server enterprise application must be deployed in each WebSphere runtime environment where you plan to use the common event infrastructure. Examples of the wsadmin.sh script, to deploy the application, are found on the slide, along with configuration of the messaging support needed for the common event infrastructure. One example shows default messaging while the other shows an example where an external JMS provider is used instead.

Configure CEI manually (continued)

- Configure event databases

- Update:

- ```
<PROFILE_PATH>/event/dbconfig/DB2ZOSResponseFile.txt
```

- Specify EXECUTE\_SCRIPTS=NO

- Run:

- ```
./config_event_database.sh DB2ZOSResponseFile.txt
```

The event server enterprise application needs some database resources. The `config_event_database.sh` script will create `.ddl` to allow you to create and configure the databases needed. The script needs a response file in order to run. You need to update the file specified and specify `EXECUTE_SCRIPTS=NO`.

Configure CEI manually (continued)

- Configure event databases

Tables possibly
already configured
using XXceidef.sql

- Run the generated .DDL:

```
<PROFILE_PATH>/event/dbscripts/db2zos/ddl/cr_db.db2  
<PROFILE_PATH>/event/dbscripts/db2zos/ddl/cr_db_catalog.db2  
<PROFILE_PATH>event/dbscripts/db2zos/ddl/cr_tbl.db2  
<PROFILE_PATH>event/dbscripts/db2zos/ddl/cr_tbl_catalog.db2  
<PROFILE_PATH>/event/dbscripts/db2zos/ddl/ins_metadata.db2  
<PROFILE_PATH>event/dbscripts/db2zos/ddl/catalogSeed.db2
```

- Create event data source

- Run:

```
<PROFILE_PATH>/event/dsscripts/cr_db2zos_jdbc_provider.sh server  
<SERVER_NAME>
```



Once the .ddl is created, have your DB2 Administrator run it if you haven't already used the sample found in the techdoc as shown on the slide, XXceidef.sql. You also need to create the data source for the WebSphere Configuration to point to the database. A shell script to create the data source is shown here.

Once CEI is configured, you should have a working Network Deployment configuration that includes WebSphere Process Server or WebSphere Enterprise Service Bus.

IBM Software Group IBM

Fix variable settings

JDBC providers > DB2 Universal JDBC Driver Provider > Data sources > WPS SIB DataSource

A data source is used by the application to access data from the database. A data source is created under a JDBC provider, which supplies the specific JDBC driver implementation class.

Configuration

General Properties **Additional Properties**

* Scope
[cells:sscell]

* Name
WPS SIB DataSource

JNDI name
jdbc/MEDataSource

Use this Data Source in

Description
DB2 Universal Driver Data

Category

Data store helper class name
 Select a data store helper class
DB2 Universal data source (com.ibm.websphere.ssi) for iSeries data source (com.ibm.websphere.ssi)

Specify a user-defined class
Enter a package-qualified class name

Component-managed authentication
Component-managed authentication alias
WPSDBAlias

Assuming one JNDI name for all MEs

Application servers > sssr012 > Messaging engines > ssnode2.sssr012-SCA.APPLICATION.sbase2.Bus > Data store

The persistent store for messages and other state managed by the messaging engine.

Configuration

General Properties **Related Items**

UUID
605700DE56197AB5

* Data source JNDI name
jdbc/MEDataSource

Schema name
SSAPPSIB

Authentication alias
sscell/SCAAuthDataAlias_ssnode2_sssr012

Create tables

■ [J2EE Connector Architecture \(J2C\) authentication data entries](#)

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Before starting the server, there are a few things that need to be completed however. The messaging engines that were created should be checked and fixed up. To simplify things, one JNDI name for all four messaging engines that are created during the configuration is recommended. This data source needs to be created and then you can use the fixWPSvars.jacl script again to update the Messaging Engine data stores. This is shown on the next slide. This all assumes that one database is being used for all the service integration buses.

Fix variable settings (continued)

16. Run the fixWPSvars.jacl script found here again:

<http://www.ibm.com/support/techdocs/atmastr.nsf/WebIndex/PRS2520>

```
cd /WebSphere/V6R0/DeploymentManager/bin
./wsadmin.sh
  -conntype none -f /u/wsuser/wpswork/fixWPSvars.jacl
  -wbiInstallRoot "/WebSphere/V6R0/DeploymentManager"
  -node "c6nodea" -jcchome /usr/lpp/db2810
  -jccproperties /etc/db2cfg/DB2JccConfiguration.properties
  -sibCEI C6CEISIB -sibBPC C6BPCSIB
  -sibSCA C6SCASIB -sibAPP C6APPSIB
  -sibauth SCA_Auth_Alias -sibjndi jdbc/MEDataSource
  -dbLoc LOC1 -dsSchema C6CELL -esbSchema
```

- Update the data store on messaging engines to reflect the correct schema names
- Ensure the 'create tables' box is not checked on the data store
- Update the jndi name on messaging engines

As one last cleanup before starting the server, rerun the fixWPSvars.jacl script. This will update the data stores on your messaging engines to reflect the correct schema names and it will update the JNDI name to be the one just created. It will also add a name space binding for the "esb/messageLogger/qualifier" JNDI name. This is necessary if your schema name for the ESB database is not ESBLOG.

Server initialization

17. Start the server!!

- Check for SQL errors
- Check that the messaging engines start
- Verify configuration with IVP found here:

<http://www-1.ibm.com/support/docview.wss?uid=tss1wp100830>

18. You are done!

With that, you should have a fully configured WebSphere Process Server or WebSphere Enterprise Service Bus server and you can start it up. Check for any severe errors on startup and check that the messaging engines start. Errors are often seen with the database configuration so check for any SQL errors as well. SQL errors are very common. Once everything looks good, verify the configuration with the white paper shown at the URL on the slide. It has you verify each of the various components in a very informative, methodical manner.

Configuration documentation, tools and samples

<http://www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/PRS2520>

► Consolidation of configuration information found here

- Redbooks/Techdocs
 - Getting started
 - Data source and database configuration hints and tips
 - Performing installation verification
 - Configuration labs
- Tools
 - Sample .jacl script to fix variables
 - ASCII to EBCDIC conversion utilities
- Sample SQL
 - SQL to combine databases

Cookbook:
Network Deployment
configuration
'Lab'

<http://www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP100878>

This slide has the URL of the techdoc referenced many times in this presentation. It is the source of a lot of good information so you should be sure to explore it fully. The documentation points out that there is a 'lab' that takes you through a network deployment configuration step-by-step. It allows you to fill in the values that will be used in your installation and then provides a customized cookbook to help configure WebSphere Process Server or WebSphere Enterprise Service Bus in a Network Deployment environment. That URL is found at the bottom of the slide and is a good place to start in your Network Deployment configuration journey.

Summary

- WebSphere Process Server for z/OS V6.0.2 and WebSphere Enterprise Service Bus for z/OS V6.0.2 configured in a Network Deployment environment is a highly manual
 - ▶ .jacl and shell scripts are available where possible to make the job easier

In summary, the Network Deployment Configuration of WebSphere Process Server and WebSphere Enterprise Service Bus is very manual compared to what is possible with the stand-alone configuration. Many .jacl and shell scripts are provided to make the job simpler and less error-prone though.

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