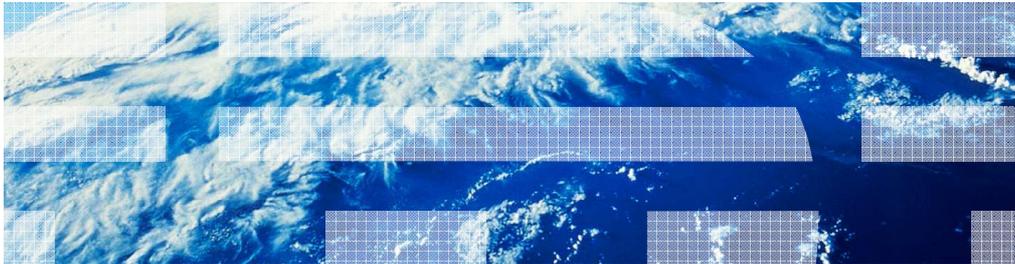

IBM WebSphere Enterprise Service Bus IBM WebSphere Process Server

System migration



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This presentation will cover migration of system artifacts from previous versions of V6 of WebSphere Enterprise Service Bus and WebSphere Process Server to version 7.

Agenda

- Migration methods
- Migration Process V6.0.2 – V7
 - Profiles
 - Configuration
 - Applications
 - Data
 - Scripts
- Common Migration tools
 - WebSphere Enterprise Service Bus
 - WebSphere Process Server
 - Monitor
 - Compass
 - WebSphere Business Space Fabric
 - WebSphere Dynamic Process Edition

There are several methods to migrate from previous versions the latest version of the WebSphere Business Process Management suite of products. Each method provides different levels of manual configuration and the ability to duplicate the existing environment. This migration of V6 artifacts to V7 includes the profiles, configuration, applications and scripts. Depending on the migration type chosen and database, the data can be migrated separately. The slides in this module apply to both the WebSphere Enterprise Service Bus and the WebSphere Process Server. The migration tools now also support migration of product augmented profiles to allow consistency in the migration process. The same migration tool is available in all of the BPM products listed here.

Migration methods

The first thing you are going to look at in this presentation are the various migration methods available to you for migration to WebSphere Process Server V7.

Migration methods

- Migration versus Upgrade
 - Versions are side by side
 - New version as a replacement (upgrade)

- Manual migration
- Artifact migration
- Runtime migration

Migration is required when the first and second digit of the release number changes. This requires a new install beside the existing version to allow version to version migration. If only the third or fourth numbers of the version changed, then an upgrade can be performed on the existing installed product. The upgrade installs apply to interim fixes, refresh packs or fix packs.

There are three methods you can choose to use in migrating from a previous version of WebSphere Process Server to V7 of the product. They are manual migration, artifact migration and runtime migration. You will look briefly at each of these methods on the next few slides.

Supported Migration Paths

By Release

From	To	V6.0.2*	V6.1.0*	V6.1.2*	V6.2*	V7.0.0
V6.2.0						Recommended now
V6.1.2						Recommended now
V6.1.0				Upgrade		Recommended now
V6.0.2						Recommended now
V6.0.1	Upgrade				**	**

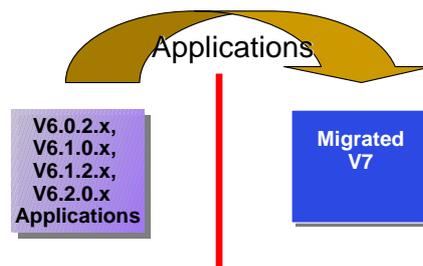
(*) It is recommended to use the latest versions of WPS/WESB for migration purposes.
 At this time, V6.0.2.5, V6.1.2.3, V6.2.0.2 are the latest published versions.
 You will need to install V6.2.0, apply fixpack V6.2.0.1 then perform migration

(**) Recommended to upgrade from V6.0.1 to V6.0.2 then migrate to V6.2 or V7

This table shows the correct upgrade and migration paths that are allowed for the Business Process Management products. It is recommended to move from the 6.0.1 to 6.0.2 version before upgrading to the latest version. It is also very important to apply all fixpacks that pertain to the versions for both the source and the target environments.

Manual migration

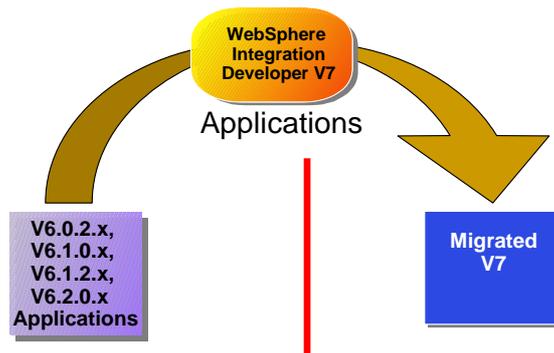
- Parallel target production environment
 - Configured from scratch so can be different than source production environment
 - Applications selectively redeployed to new environment
 - New database tables created
 - Long-running processes finish in original production environment



With a manual migration, you create a new parallel target production environment. Since it is configured from scratch, you can change the configuration in any way that you deem necessary. The new environment will not share the database data from your original environment in this case. You are required to create new database tables in the case of a manual migration. When you have the new parallel production environment up and running to your satisfaction, you can then selectively manually move applications to the environment. Since the two environments do not share database data, long-running processes need to finish processing in the original environment. After moving the long-running applications to the new environment, the new processes will start there. Both environments need to be in production, however, until all applications are moved and all long-running processes that were started before the migration finish.

Artifact migration

- Same as manual migration
 - Parallel production environment
 - User applications are also upgraded to make them compatible with WebSphere Process Server V7.0
 - Allows exploitation of new capabilities delivered in version 7



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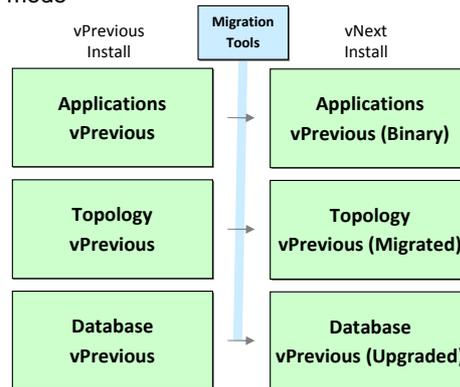
System migration

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The artifact migration is similar to the manual migration where you create a parallel production environment but in this case, the applications will also be upgraded to be compatible with WebSphere Process Server V7. This application upgrade is done using WebSphere Integration Developer V7. With the manual migration, you move the applications to the new environment unchanged. The artifact migration method allows you to exploit the new capabilities delivered by V7 in your applications.

Runtime migration (Runtime Migration Tools)

- Topology
 - Target automatically configured using the source configuration
- Database
 - Target uses the same database as the source
- Applications
 - Applications automatically redeployed using the source configuration
 - Binary compatible mode



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With a runtime migration, you will create a target environment next to the existing installed version and move the configuration, applications and database data over to the target environment. The migration is performed moving control to the new version and when the process is complete, the source environment becomes unusable. Only one environment can be in use at one time. It results in a copy of your source environment into the new version. If you have long-running tasks, they will move to the new target environment and are able to finish there since you are using the same database data.

You will see more details on the runtime migration method in this presentation.

Migration process

The migration process using the runtime migration tools is described in the next few slides.

Profile migration wizard

- Profiles from V6 to V7
 - All WBPM product augmented profiles
- Configuration migration
- Enterprise application migration
 - Sample, system, product, user
- Database migration
 - Cloudscape or Derby to Derby
- Tools
 - WBIPreUpgrade script
 - WBIPostUpgrade script
 - Migration Wizard BPMmigrate.bat on Distributed platforms

A runtime migration must be performed in order to migrate the existing V6 profiles to V7 profiles to duplicate the existing environment. This migration involves migrating the configuration files (server, resource, cell configuration files), business applications, and "system" or "admin" applications. The sample applications are not migrated but are provided with the V7 installation. Database migration from Cloudscape or Derby to the new Derby version of the default database is also provided. All other databases must be migrated using that databases tools. A GUI is provided which uses the WBIPreUpgrade and WBIPostUpgrade command files. These scripts can also be used without the GUI which is started using the migration script. These scripts are not described in this presentation but are available in the information center for the product.

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Migration wizard

- BPMigrate.bat
- Typical or Custom
- Detected versions
- Source version
- Source profile selection

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Running BMMigrate.bat will start the profile migration tools as a GUI which will guide you through the migration process. The profile migration will detect any previous versions of the server that is installed on the same system as the new V7 installation or a path can be specified to a specific location. Select the previous version and then the profile which needs to be migrated. Enter the security information to access that configuration.

Migration wizard

- Snapshot directory
- Target profile
- Application destination
- Enable administrative scripts
- Summary

Business Process Management Profile Migration Wizard

Select the target profile name and directory

Target profile name: Dmgr01
Target profile directory: C:\IBM\WebSphere70\ProcServer\profiles\Dmgr01

Business Process Management Profile Migration Wizard

Set the application migration setting

Install the applications in the default directory of the target installation.
 Keep the current application installation directories.
Warning: Do not delete the application installation directories unless the applications in them are uninstalled.

Verify your migration selections.

Source installation product(s)	WebSphere Process Server v6.2.0.1
Source installation directory	C:\IBM\WPS
Source profile name	Dmgr01
Source profile directory	C:\IBM\WPS\profiles\Dmgr01
Target installation product(s)	WebSphere Process Server v7.0.0.0
Target installation directory	C:\IBM\WebSphere70\ProcServer
Target profile name	Dmgr01
Target profile directory	C:\IBM\WebSphere70\ProcServer\profiles\Dmgr01
Snapshot directory	C:\MigrationSnapshots\WPS
Port assignment setting	Use the port assignments from the source profile
Application Migration Directory Setting	Use the target installation's default application directory
Script compatibility setting	Enabled

Click next to migrate the profile.

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A snapshot directory can be specified to backup the profiles before migration. You can enable source profile administrative scripts for the use in the target installation after selecting the target directory. This will make any required changes to the scripts required for the target environment. A summary screen is presented before accepting these settings and clicking next to begin the migration. Verify that these settings are correct before proceeding with the migration.

General V2V Migration Best Practices

- **Download** and fill out the **migration planning worksheet** from IBM support site to assess a migration project (see References)
- Identify a person with **overall migration responsibility**
- **Skills** and **education** are needed
- **Involve IBM Services**
 - Ideally in all phases but at least in the assessment, planning and production migration phase
 - To ensure a quick problem resolution
 - To keep the focus on the migration
- **Document** migration procedure and problems
- For the runtime migration approach plan **application migration** as a **separate** project
- **Test thoroughly!**
- Don't overlook performance testing and tuning
- Always save migration logs!
- **Keep migration backups** until the production migration is done!

This is a list of some best practices which should be followed to have a successful product version migration. Planning and testing are very critical which require special skills and background knowledge. Always create a failure plan which will allow the previous version to be restored to full operation. The references slide at the end of this presentation will help you create a complete and successful migration. Migration is not an immediate transition to the new version and requires planning.

Summary

This section summarizes the topics discussed in this presentation.

Summary

- Discussed migration to version 7
 - Migration options

- Migration tools V6 – V7
 - Profiles
 - Configuration
 - Applications
 - Scripts

This module covered the migration of WebSphere Process Server to version 7. The focus was on migration of V6 to V7 for profiles, configuration, applications and scripts using the runtime migration tools. If you are migrating from an earlier version, then refer to the migration process for that version before migrating. Always refer to the latest documentation on migration before starting this process. A complete migration plan should be developed and tested before the production migration is done.

References

- WPS 7.0 Migration Tutorial
http://www.ibm.com/developerworks/websphere/tutorials/1003_madgula/index.html
- WPS Migration Info Center
http://publib.boulder.ibm.com/infocenter/dmndhelp/v7r0mx/index.jsp?topic=/com.ibm.websphere.wps.doc/doc/welcome_bpm_mig.html
- Migration Planning Worksheet
<http://www.ibm.com/support/docview.wss?rs=2307&uid=swg27015595>
- Data Migration for the Business Process Choreographer
<http://www-01.ibm.com/support/docview.wss?rs=2307&uid=swg21327385>

This documentation should always be referred to before a migration is started. The latest information should always be updated at these URLs.



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