IBM Software Group

IBM® WebSphere® Application Server V6

Migrating Applications and Configurations to V6

This presentation will focus on the Migration to V6.

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Goals

- Understand migration capability from previous WebSphere versions to WebSphere Application Server V6
  - ▶ Environment
  - ▶ Tools
  - ▶ Applications

- Understand which functions are deprecated and which APIs are no longer supported

- Prerequisites:
  - ▶ WebSphere Profiles
  - ▶ WebSphere V6 Installation

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The Goals of this presentation are to focus on migration topics relative to environment, tools, and application-related issues.

Agenda

- Migration Overview

- Migration – Stand-alone Application Server

- Migration – Network Deployment Cells

- Migration Commands

- Migrating Cell Web Server Plug-in module

- Mixed Node Environment limitations

- Tools and Application Migration

- Summary and References

The agenda for this presentation is to discuss migration of WebSphere Application Server V6 and related aspects.

Section

Migration Overview

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This section will cover an overview of the migration process.

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Migration Definition

- Upgrading a WebSphere Application Server installation to a newer version or release
    - ▸ Application functionality is identical to that before upgrade
    - ▸ Sets the stage to later exploit enhanced functionality of newer version

- Goals
    - ▸ Minimize downtime
    - ▸ Minimize manual application and configuration rework

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The definition of migration is to upgrade a WebSphere Application Server installation to a newer version or release such that the application functionality is identical in the new version. This means the application is not changed to exploit any new function. However, the application or WebSphere configuration may need to be manually modified to accomplish the migration. The goal is to minimize such application or configuration rework. The ideal goal is where absolutely no rework is required.

WASv6_Migration.ppt

Overview

- V6 supports Java™ 2 Enterprise Edition (J2EE) 1.2, 1.3 and 1.4 Application migration can be postponed, if needed

- V6 Network Deployment Cell supports mixed version (V5.x and V6) nodes

- Migration step is optional and is the last step
  - Install V6
  - Create V6 profile
  - Run migration utilities

- Migration does not delete previous levels

- On V5 Network Deployment cell, migration deactivates V5 cell - can reactivate V5 Cell via script

- V5.x Deployment Manager and federated nodes are deactivated on migrating to V6 – can be reactivated via scripts

In order to minimize application downtime during migration, WebSphere Application Server V6 supports mixed version cells. This means that a cell can support both WebSphere Application Server V5 nodes and V6 nodes that operate in a fully functional cell.

Migration involves installing V6 and configuring at least one profile. Migration can be done by either running migration utilities , or installing and configuring the application and resources manually.

The previous version will still exist after running migration utilities. However, a V5 deployment manager will be disabled from operation after a migration using migration utilities. The V5 deployment manager can be re-enabled with a provided script.

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Migration Requirement – Naming Rules

- Migrating V5.x Deployment Manager to V6
  - ▸ V6 Deployment Manager cell name must match V5 Cell name
  - ▸ Though not required, it is recommended to have the same node names

- Migrating V5.x federated node to V6
  - ▸ V6 federated node name must match the V5 federated node name

- Migrating V4.x Advanced Edition (AE) node to V6
  - ▸ V6 federated node name must match one of the V4.x node names in the V4.x repository

- Migrating V5.x or V4.x AEs Stand-alone Application Server to V6
 - ▸ No naming rule requirement for this migration

The only naming restrictions involve migrating nodes and deployment managers in a V5 cell.

When migrating the deployment manager, the cell name in the V6 profile must match the cell name of the V5 deployment manager. When migrating a node in a cell, the node name in the V6 profile must match the node name of the V5 node.

There are no naming restrictions when migrating stand-alone nodes. There are no restrictions on how you may assign port numbers.
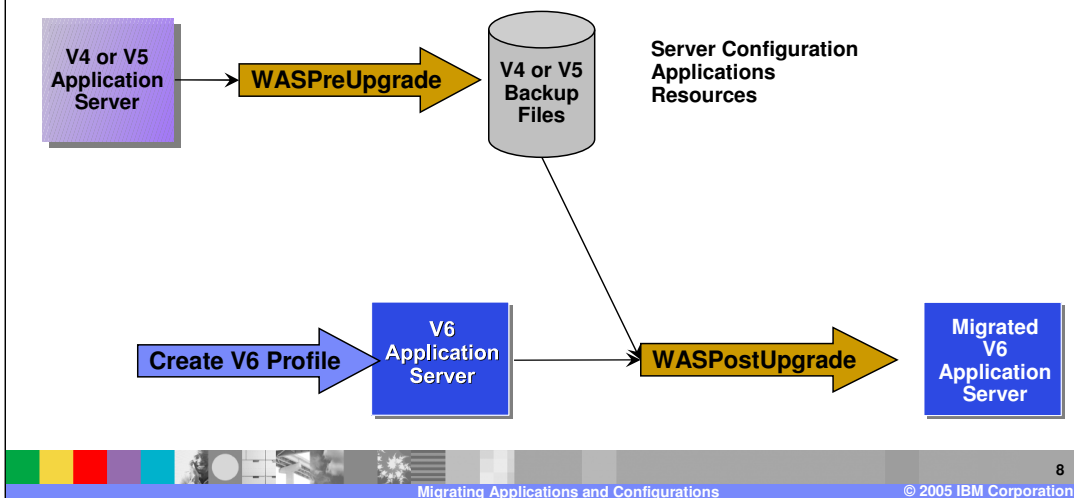
The migration utilities exist as a matched pair of commands. WASPreUpgrade command operates on a V4 or V5 WebSphere configuration and creates a backup directory.

You then must install V6 and create at least one profile.

You then run the WASPostUpgrade command, which takes its input from the backup directory and the new V6 profile. The output product is a modified V6 profile which contains the applications, resources, and configurations already installed and ready to run. Some manual modifications of the configuration may need to be done to make the configuration fully functional.

Note that the WASPreUpgrade step can be performed directly from the installation CD. This means you can run WASPreUpgrade from the installation CD without installing WebSphere Application Server V6 and create a backup directory. You can then transfer the backup directory to a different system, install V6, and then run WASPostUpgrade on that second system. This allows you to migrate to newer hardware at the same time you are migrating the software.

Previous Product Versions Supported for V6 Migration

V4	V5.0.x	V5.1
WebSphere Application Server Advanced Edition	WebSphere Application Server Express	WebSphere Application Server Express
WebSphere Application Server Advanced Single Server Edition	WebSphere Application Server	WebSphere Application Server
WebSphere Application Server Enterprise Edition	WebSphere Application Server Network Deployment	WebSphere Application Server Network Deployment
	WebSphere Application Server Enterprise	WebSphere Business Integration Server Foundation

Migrating a V5.x Deployment Manager of WebSphere Business Integration or WebSphere Application Server Enterprise or WebSphere Business Integration Server Foundation to V6 Deployment manager, only the programming model extensions supported by the standard V6 environment are retained for the cell

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WebSphere Application Server Enterprise V5.0 has been renamed to WebSphere Business Integration Server Foundation as of V5.1.
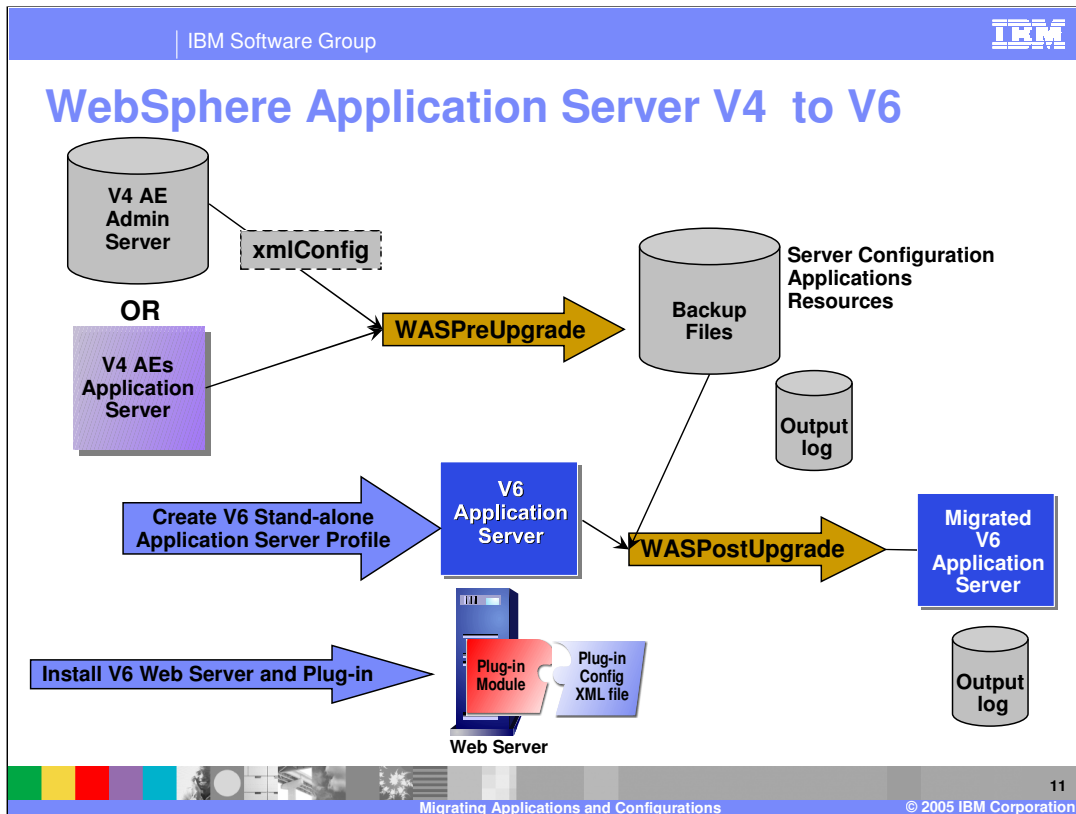
Migration from these product versions to V6 is addressed in this presentation. If your product is not on this list, the configuration and applications will not be handled by the migration utilities. This explicitly means that WebSphere Application Server Version 3.5 , or earlier, is not supported by the migration utilities.

If the Deployment Manager for a V5 PME or WBI cell is migrated to a V6 ND Deployment Manager, only the programming model extensions supported by the standard V6 environment are retained for the cell.

Section

Migration - Stand-alone Application Server

The next section discusses migration of a Stand-alone Application Server environment.

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WebSphere Application Server V4 to V6

V4 AE Admin Server

xmlConfig

OR

V4 AEs Application Server

WASPreUpgrade

Backup Files

Server Configuration
Applications
Resources

Output log

Create V6 Stand-alone Application Server Profile

V6 Application Server

WASPostUpgrade

Migrated V6 Application Server

Output log

Install V6 Web Server and Plug-in

Plug-in Module

Plug-in Config XML file

Web Server

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Migrating Applications and Configurations

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This example illustrates a more detailed picture of a migration sequence involving WebSphere Application Server V4 as the starting point of the migration. Both Advanced Edition (AE) and Advanced Edition Single Server (AEs) are supported.

WASPreUpgrade uses the server-config.xml file , in the case of AEs, or will run xmlConfig, in the case of AE, to generate the backup directory. A log is generated to indicate any problems. The log resides in the backup directory.

WASPostUpgrade uses the backup directory to create a modified profile. An output log is created by WASPostUpgrade and is placed in the profile in the logs directory.

Note that if your configuration uses an external Web Server, you must manually upgrade the server and server plug-ins. The migration utilities do not handle any aspect of migrating Web Server configurations.

There are no naming restrictions when migrating V4.x AEs Stand-alone Application Server to V6 Stand-alone Application Server. However, migrating a V4.x AE Node, the V6 Node name must be same as V4.x AE Node.
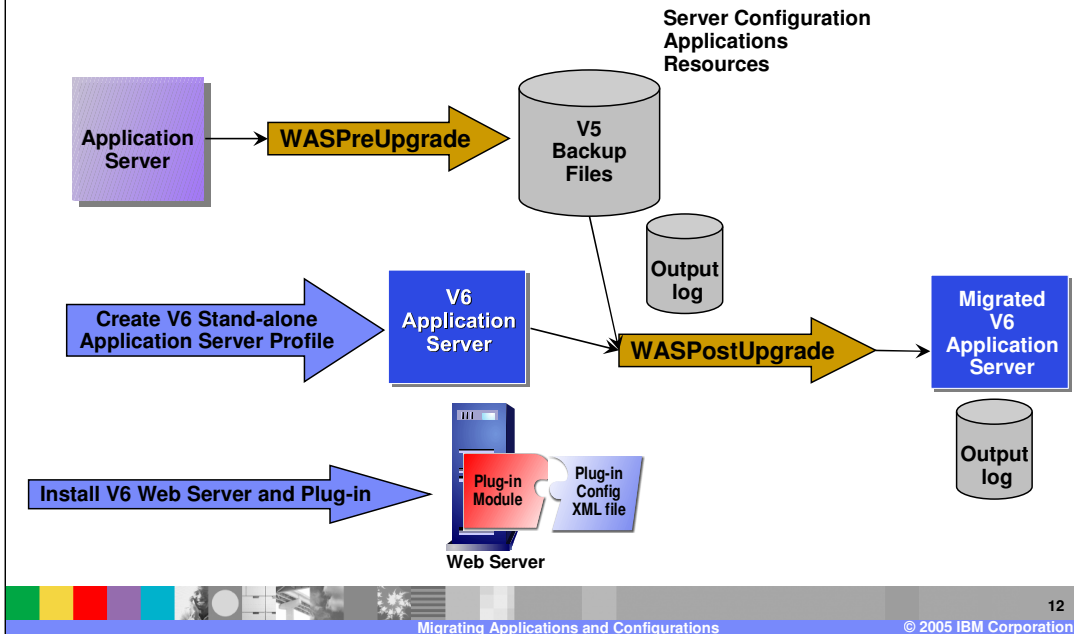
This example illustrates a more detailed picture of a migration sequence involving WebSphere Application Server V5 as the starting point of the migration. The picture is conceptually the same as the sequence shown in the previous page for WebSphere Application Server V4.

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Migrating WebSphere V4 or V5 Stand-alone Node

1. Upgrade web server code and Plug-in via installation

2. WASPreUpgrade quickly copies configuration to backup copy

3. Create V6 Stand-alone Application Server profile

4. WASPostUpgrade copies and transforms configuration data from backup into new profile
   - Migration is now complete

5. Analyze upgrade log

6. Start V6 Application Server and test

Migration of a node at a high level is the same regardless of whether the node is part of a V4 domain, V5 cell, or exists in a stand-alone environment. That is, the basic steps remain the same.

Before WASPreUpgrade can run, the servers that are part of the source installation must be stopped. You should stop these manually. If there are servers running, WASPreUpgrade attempts to stop any active servers.

One exception is migrating WebSphere V4 AE. The V4 administration server must be active so that xmlConfig can be run to create the backup.

Once WASPreUpgrade completes, you can start the source server and continue to run it. If you are careful to avoid conflicts in choosing port assignments at the time you create the V6 profile, you can run both the old configuration and the new configuration concurrently.

Once the WASPostUpgrade completes , the new node can be tested while the old node continues to run. When the new node test completes, the old node can be permanently taken down and the new node switched online.
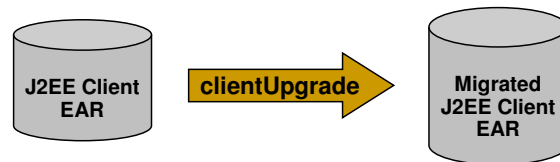
Be sure to analyze the output logs for any warnings or errors.

Section

Migration

J2EE Clients

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The next section discusses migration of Java™ 2 Enterprise Edition (J2EE) Clients.

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Migrating J2EE Client Resources

J2EE Client EAR → **clientUpgrade** → Migrated J2EE Client EAR

- ▪ V4 or 5 J2EE application clients containing resource references must be converted to V6 format

- ▪ Resource references examples
  - ▸ EJB Home
  - ▸ JavaMail
  - ▸ Datasource

- ▪ clientUpgrade converts the deployment descriptor and outputs a new EAR file

Resource references are contained in the deployment descriptor file ibm-application-client-bnd.xmi. The format of this file has changed for V6. The contents must be converted with the clientUpgrade command.

Section

Migration

From V5 Network Deployment Cells

The next section discusses migration of Network Deployment Cells.

Starting with a Full V5.x ND Cell
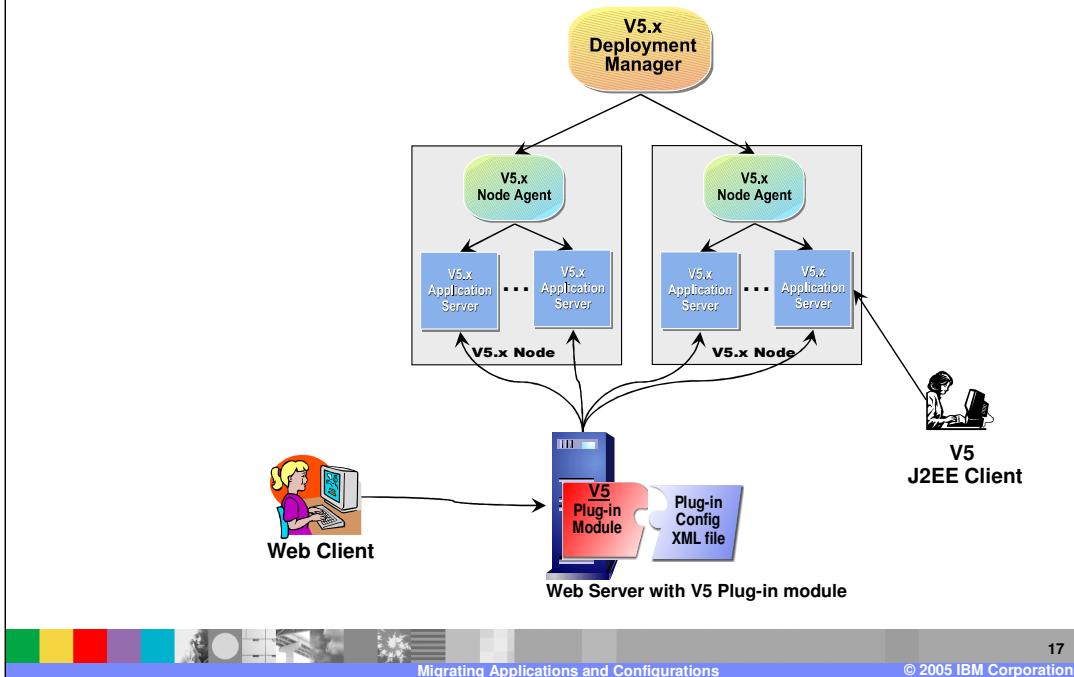
The next several pages will show you a step-by-step process of migrating a full WebSphere Application Server V5 cell to a full WebSphere Application Server V6 cell, with intermediate Mixed V5 and V6 Nodes.

We start with a full V5 cell and V5 Web Server Plug-in.

Upgrading V5 to V6 Cell Environment - Steps …
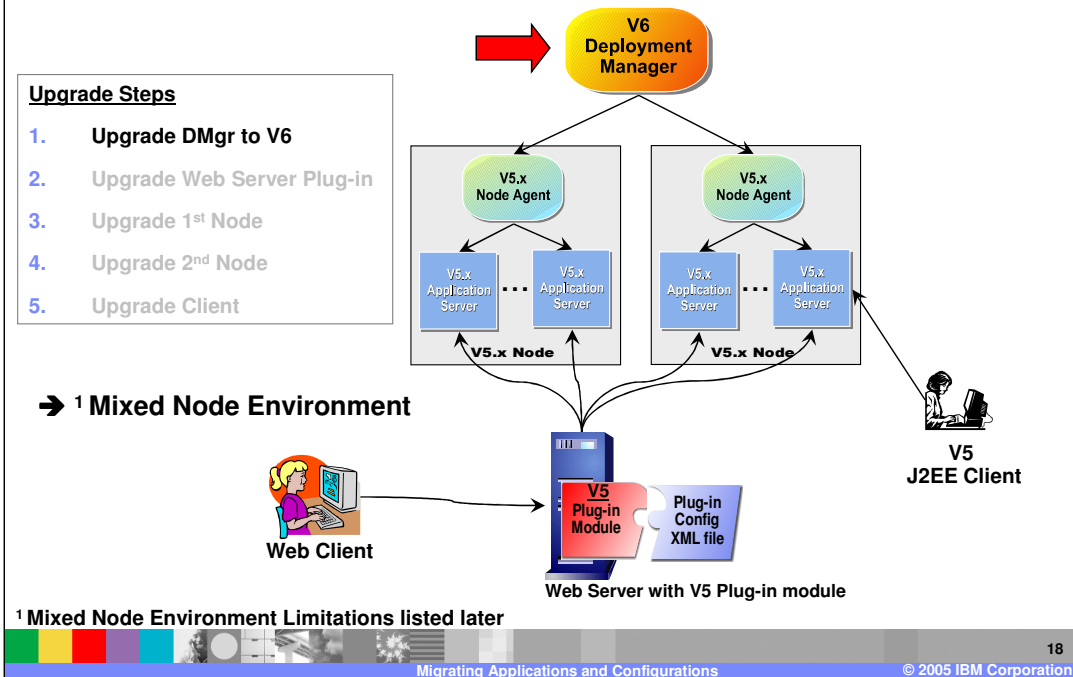
The first step is to migrate the V5 Deployment Manager to V6 with the same Cell name. Now you are in a Mixed Node environment.

The migration detailed steps involve using WASPreUpgrade and WASPostUpgrade as show in the previous pages.
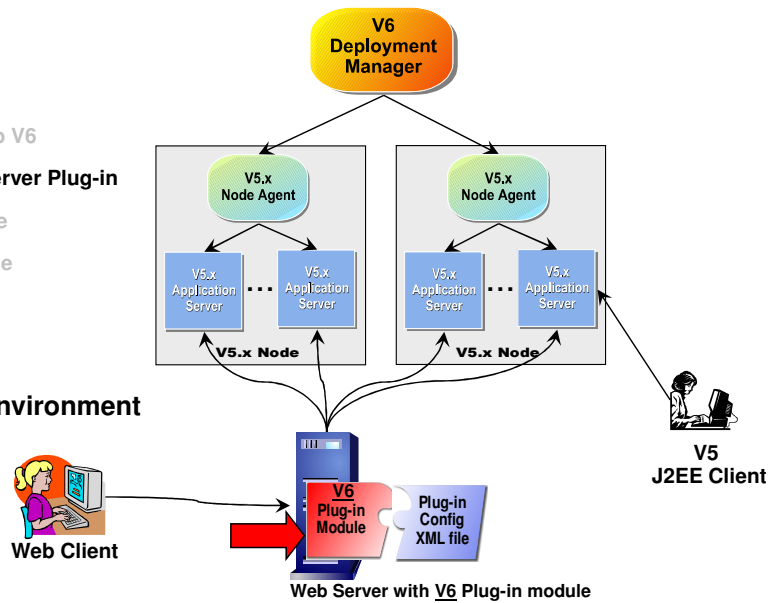
The result is that the V5 Deployment Manager is disabled. The V6 Deployment Manager now manages two V5 nodes. These nodes are fully operational.

Upgrading V5 to V6 Cell Environment - Steps …

Upgrade Steps

1. Upgrade DMgr to V6
2. **Upgrade Web Server Plug-in**
3. Upgrade 1st Node
4. Upgrade 2nd Node
5. Upgrade Client

➔ **Mixed Node Environment**

V6 Deployment Manager

V5.x Node Agent

V5.x Node Agent

V5.x Application Server ... V5.x Application Server

V5.x Node

V5.x Application Server ... V5.x Application Server

V5.x Node

V5 J2EE Client

Web Client

V6 Plug-in Module

Plug-in Config XML file
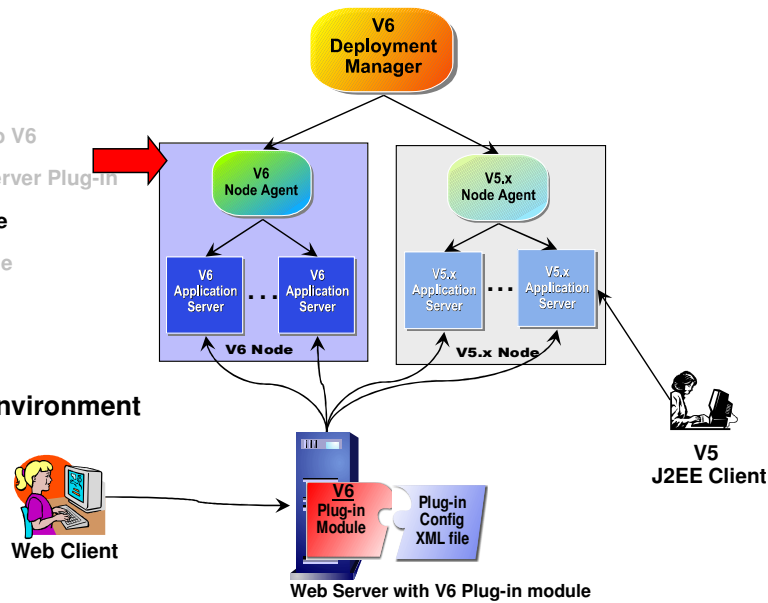
Web Server with V6 Plug-in module

The next step is to upgrade the Web Server installation and WebSphere Plug-in with a manual installation. Note that the V6 Web Server plug-in is compatible with earlier versions in that it can send requests to a V5 Application Server as well as V6 Application Servers.

Upgrading V5 to V6 Cell Environment - Steps …

The next step is to migrate the first node using the migration utilities. Now the cell consists of a V5 node, and a V6 node, which are fully operational.

Upgrading V5 Cell to V6 Cell – Sequence …

The next step is to migrate the second node. Both nodes are at V6 and are fully operational. Now the cell is a full V6 Cell. You still may have V5 Application Clients in the environment that are calling V6 Application Servers.

The last step is to migrate the J2EE client using the upgradeClient command.

Migrating a V5 Deployment Manager

1. WASPreUpgrade copies configuration to backup copy

2. Create V6 profile for the DMgr

3. WASPostUpgrade copies and transforms configuration data from backup into new profile

4. Analyze migration log

5. Start V6 DMgr

You should first stop the V5 Deployment Manager. The WASPreUpgrade will attempt to stop the Deployment Manager if it is running.

Create a V6 profile for the Deployment Manager. Note that you should make sure the cell name matches the cell name for the V5 cell.

Run the WASPostUpgrade command. This modifies the V6 Deployment Manager profile. Consult the output log for any errors. The log resides in the profile logs directory.

The V5 Deployment Manager is disabled from starting. If circumstances dictate that you must start the V5 Deployment Manager , you can re-enable the operation by running a wsadmin script scriptmigrationDisablementReversal.jacl which can be found in the V5 Deployment Manager bin directory.

Migrating V5 Node in a Cell

1. V6 DMgr must be running

2. Stop servers of node

3. Stop nodeagent

4. Run WASPreUpgrade - copies configuration to backup directory

5. Create V6 Application Server profile with same node name as V5 node name

6. Run WASPostUpgrade - copies and transforms configuration data from backup into new profile

7. Analyze upgrade log

8. Start V6 nodeagent and test

Migrating Applications and Configurations

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The initial conditions for migrating a node are:

(1) V6 Deployment Manager must be running

(2) nodeagent and servers must be stopped.

WASPreUpgrade copies the configuration to the backup directory.

Create an Application Server profile and ensure that the node name is the same as the V5 node name.

Run WASPostUpgrade, which first transforms the information in the backup directory into the V6 node profile. The V6 Deployment Manager is contacted and some of this information is transferred there. Analyze the output log in the node profile logs directory for any errors or warnings.

Start the nodeagent using the startNode command from the V6 node profile. The nodeagent will synchronize with the Deployment Manager and the node migration is complete. You can then start the application servers and test the applications.

What is Migrated to New Profile?

- Applications - copied unless turned off by includeApps = false option

- Server settings – copied identically

- Resources
  - ▸ Non-JMS resources copied identically
  - ▸ V5 embedded JMS resource copied to V5 JMS compatibility resources
  - ▸ Generic and WebSphere MQ resources copied

Applications are copied to the new profile unless –includeApps=false is specified on the WASPostUpgrade command. Standard sample applications that are installed as WebSphere samples are always excluded from copying.

All server settings are copied.

All resources are copied. Note that some resources are considered deprecated. V4 datasources are copied, but you must navigate in the administrative console to the V4 datasources. V5 datasources are identified distinctly from V4 datasources. V5 JMS resources are copied, but you must navigate to the V5 JMS resources, which are distinctly identified from V6 JMS resources.

What happens to old V5 Cell DMgr?

- V5.x Deployment Manager is disabled after successful WASPostUpgrade
  - Re-enable with script located in V5 Deployment Manager bin directory, only as a last resort, if needed

After the Deployment Manager is migrated, the V5 Deployment Manager is disabled. You can re-enable it by running a script. See the script migrationDisablementReversal.jacl in the V5 Deployment Manager bin directory.

Section

Migration Commands

The next section discusses migration commands.

WASPreUpgrade Command – Syntax and Options

WASPreUpgrade <backupDirectoryName> <old_version_WebSphere_Dir>
[administrationNodeName] <options>

- backupDirectoryName output backup directory
- old_version_WebSphere_dir - V4 or V5 WebSphere install directory

Additional Optional V4 options

- administrationNodeName – positional optional V4 AE administration node name
- -import V4 AEs xml configuration file
- -nameServiceHost used to call V4 XMLConfig
- -nameServicePort used to call V4 XMLConfig

See the WebSphere V6 Information Center for more options and details regarding the WASPreUpgrade command.

WASPreUpgrade Examples

- Default V5 to V6 migration
  - **WASPreUpgrade   C:/WASV51_backup   C:/Websphere/Appserver**

- Migration from WebSphere V4 AE administration server
  - **WASPreUpgrade C:/WASV4_backup   C:/Websphere/Appserver**
    aV4node
    -nameServiceHost myV4host
    -nameServicePort 9000

  Migration from WebSphere V4 AEs
  - **WASPreUpgrade C:/WASV51_backup   C:/Websphere/Appserver**
    -import server_mod-cfg.xml

The first example shows the simplest case of using the defaults. This example would also be the same for V4 AEs.

The second example shows the case where the source installation is V4 AE. In this case , an administration server manages the configuration and must be contacted in order for xmlConfig to extract the configuration.

The third example shows the case of migrating from V4 AEs and specifying a non-default configuration file. The default value for –import is server-cfg.xml, and can therefore be omitted for the default case.

WASPostUpgrade Command – Syntax and Options

▸ WASPostUpgrade <backupDirectoryName> <options>

backupDirectoryName – output of WASPreUpgrade

-profileName – V6 profile name

[-portBlock – starting seed to create new ports]

[-backupConfig – true/false decision to backup the new install config

[-replacePorts - true / false decision to add or replace virtual host ports]

[-includeApps true / false decision to migrate applications]

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See the WebSphere V6 Information Center for more options and detail regarding the WASPostUpgrade command.

WASPostUpgrade Examples

- Default migration
  - ▸ WASPostUpgrade **C:/WASV51_backup**
    - –profileName V6_Newnode

- No copying applications
  - ▸ WASPostUpgrade **C:/WASV51_backup**
    - –profileName V6_Newnode
    - –includeApps false

The first example shows the most simple case using the defaults. If you omit the –profileName option, the default profile is used.

The second example omits copying applications. This means just server configurations and resources are copied.

ClientUpgrade Examples

- clientUpgrade BankClient.ear

- clientUpgrade MyBank.ear –clientJar Client1

The first example converts the BankClient.ear file in place. The original file is modified and its deployment descriptors are changed. All application client jar files in the EAR file are modfied. Since the input file is modified, be sure to make a backup copy of the input file.

The second example only modifies the Client1.jar file contained in the input ear file

WASv6_Migration.ppt

Section

Migrating Cell Web Servers

Migrating Applications and Configurations

The next section discusses migrating cell Web servers.

WASv6_Migration.ppt

Migrating Web Server Plug-in Sequence

- **All Web Server Plug-in migration issues are manual**
  - ▶ Not handled by migration utilities

- **Must upgrade Web Server Plug-in before upgrading first node of V6 Cell**
  - ▶ V6 Plug-in modules can send request to V5 and V6 Nodes

- **Regenerate plugin-cfg.xml after upgrade of DMgr and each node**
  - ▶ For remote Web Server, make sure it gets the new copy of the plug-in-cfg.xml copy (manually or automatically)

If a node configuration relies on a Web server, that Web server must be upgraded to a supported level for the Web server. That upgrade is a manual installation of the new Web server and installation of the V6 Web server Plug-in files. The upgrade must happen before any WebSphere Application Server V6 node is tested. The alternative is that the HTTP request will not be routed to the V6 application server.

After migrating the Web server and Plug-in files, the Plug-in configuration file , plugincfg.xml, must be regenerated and copied after each node migration.

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Section

Scripting - Migration

The next section discusses scripting with migration.

Script Compatibility

- WebSphere Application Server V4 wscp scripts
  - ▸ Re-implement using wsadmin objects

- WebSphere Application Server V5 wsadmin scripts will still work, with few exceptions:
  - ▸ There is no Embedded JMS server - will need scripts to manage new Service Integration Bus resources
  - ▸ wsadmin scripts will still work on V5 nodes in a Mixed cell environment.

WebSphere Application Server V4 wscp scripts are not compatible on WebSphere Application Server V6, nor was wscp compatible with WebSphere Application Server V5. Wscp scripts must be re-implemented in the new wsadmin scripting syntax. See V6 Information Center for details.

V5 wsadmin scripts continue to work on V6 with the major exception of scripts that create or manipulate JMS resources. If you have any wsadmin scripts that manipulate JMS servers or WebSphere JMS resources such as queue and topic destinations, these will need to be re-coded to use the new messaging framework. See V6 Information Center for details on how to code these kinds of scripts.

Section

Mixed Node Environment Limitations

This section discusses mixed node environment limitations.

IBM

Mixed Node Cell Limitations

Mixed Node has DMgr at V6 level and one or more nodes is at V5.x levels

Function	Type of Node, Server or Cluster Member to be added to the Mixed Node Cell	What can or cannot be done
Adding New Nodes	V6 Node	Yes
	V5.x Node	No [1,2]
Removing Nodes	V6 Node	Yes
	V5.x Node	No [1,2]
Adding New Servers	V6 Servers in V6 Node	Yes
	V5 Servers in V5.x Node	No [1]
Adding New Cluster Member	V5 server in a V5 only Cluster	No [1]
	V6 server in a V5 only Cluster	No [1]
	V5 server in a mixed (V5 and V6) Cluster	No [1]
	V6 server in a mixed (V5 and V6) Cluster	Yes

[1] These limitations may be removed in a V6 fix pack
[2] Can migrate the V5.x Node to V6 and then do the add/remove function

When the WebSphere Application Server V6 cell is in a mixed node environment, there are some limitations of what you can and cannot add to the cell.

Section

Tools – Migration

WebSphere Studio Tools to IBM® Rational® Tools

This section discusses tools migration.

IBM Rational Application Developer

- Rational Application Developer is the new development tool for applications destined for WebSphere Application Server
  - ▶ Supports applications developed for WebSphere Application Server V4.0, V5.0, and 6.0

V5.0

V6

WebSphere Studio Application Developer → Rational Application Developer

WebSphere Studio Web Developer → Rational Web Developer

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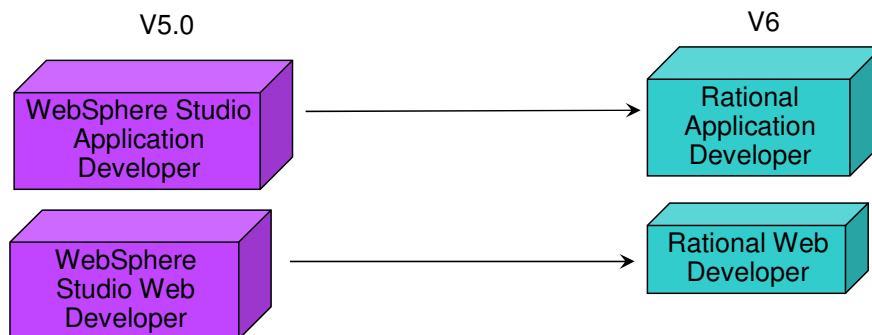
When IBM acquired Rational Development Corporation, IBM complemented its software portfolio with a world class set of design, model, development, and test tools.   It was only natural to move the WebSphere Studio family of tools under the IBM Rational brand and begin integrating the great capabilities of WebSphere Studio with the quality tools in Rational and provide a complete seamless development environment. IBM Rational Application/Site Developer is the follow-on product for WebSphere Studio Application/Site Developer and includes many of the best development features of the Rational products. IBM Rational Application/Site Developer is the new development tool for the applications destined for WebSphere Application Server as support is provided for building J2EE 1.2, 1.3, and 1.4 applications. WebSphere Application Server V6 is the platform which fully supports J2EE 1.4 applications and IBM Rational Application/Site Developer supports deployment to WebSphere Application Server V6 as well as deployment to WebSphere Application Server V4.0 and V5.0.

Workspace and Project Migration

- WebSphere Studio workspace converted by IBM Rational Application Developer
  - ▸ V5.1.0 or newer workspace is converted to V6 automatically
  - ▸ Once converted, workspace is not compatible with earlier versions

- V5.1.0 projects converted by IBM Rational Application Developer
  - ▸ Projects are compatible with previous v 5.1.0

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With Rational Application Developer, you can open an existing WebSphere Studio workspace and continue to use it in V6. The existing workspace must be V5.1.0 or newer. Once the workspace is opened and converted by V6, the workspace cannot be opened by WebSphere Studio V5.1

Projects inside a V6 workspace will be converted into a compatible format such that the project can be manipulated by either V5.1 (or newer) or V6. Since the workspace is no longer readable by V5.1, you would have to export the project using either export to an archive format such as ZIP, or export via a source control package such as CVS or ClearCase®. Once exported, the project can be exchanged between V5.1 and V6.

Section

Application Migration

This section discusses application migration.

Application Programming Interface Evolution

- J2EE Standards evolved with upward compatibility
  - J2EE 1.4 implicitly support J2EE 1.3 and J2EE 1.2
  - V6 runs J2EE 1.2 and J2EE 1.3 applications unmodified
  - Migration tools perform needed transformation
    - Reinstall application and during the process, regenerate deployment code if necessary

- IBM Rational Tools provide Migration capability from J2EE 1.2, 1.3 to 1.4
  - Updates the deployment descriptor

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J2EE standards provide a great deal of upward compatibility. IBM Rational Application Developer handles J2EE 1.2, 1.3, and 1.4 .

Migration wizards also allow you to change the J2EE level from 1.2 or 1.3 to J2EE 1.4 in one automatic operation. The deployment descriptors are changed to the new level and format. No source code or class files are changed.

IBM Programming Extensions

- IBM Programming Extensions evolved by adding more functions to lower level products
  - ▶ Support for certain extensions moved from upper to lower level products
  - ▶ Migration utilities copy applications using extension features supported in V6
  - ▶ If the extension is not supported, the application is not copied over to V6
  - ▶ Most extensions are upward compatible across versions

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IBM offers programming extensions that go beyond J2EE specifications. The majority of IBM extensions are supported in the lowest level program package, which is WebSphere Application Server Express. The migration utilities are aware of programming extensions used by applications by virtue of the deployment descriptors. The utilities, WASPostUpgrade in particular, will only copy those applications that use extensions to the new profile. If the application uses extensions that are not valid for that type of application profile, the application will not be copied and the log file will note that condition.

If the Deployment Manager for a V5 PME or WBI cell is migrated to a V6 ND Deployment Manager, only the programming model extensions supported by the standard V6 environment are retained for the cell. Any application that uses a programming model extension not supported in standard V6 profiles will stop functioning.

In addition, the syncNode command will no longer function from the V5 PME or WBI node to the V6 Deployment Manager. The fix for this syncNode problem may be supplied in a V5 PME or WBI fix pack.

The following pages list which extensions are supported in which product packages.

Previous Versions – IBM Extensions

Extension type	WebSphere V4	WebSphere V5	WebSphere V5.1	WebSphere V6
Business Rule Beans	EE	Enterprise	WBISF [1]	N/A
Process Choreographer	EE	Enterprise	WBISF	N/A
Extended Messaging	EE	Enterprise	WBISF	N/A
CORBA C++ SDK	EE	Enterprise	WBISF	Deprecated
Application Profiling	EE	Enterprise	WBISF	Express and Network Deployment
Work Area	EE	Enterprise	WBISF	Express and Network Deployment
Distributed Map		Enterprise	WBISF	Express and Network Deployment
Startup Beans		Enterprise	WBISF	Express and Network Deployment
Activity Session		Enterprise	WBISF	Express and Network Deployment

[1] WBISF ➔ WebSphere Business Integration Server Foundation

The next two pages of tables show under which product and version the extension is supported for those products currently available.

For more details on the technical content of each extension see the module on Programming Module Extensions.

The V5.0 product that contained the IBM extensions was called WebSphere Application Server Enterprise.

For V5.1, the same product was renamed to WebSphere Business Integration Foundation Server.

CORBA C++ SDK is deprecated in WebSphere Business Integration Foundation 5.1.

Previous Versions – IBM Extensions (cont.)

Extension type	WebSphere V4	WebSphere V5	WebSphere V5.1	WebSphere V6
Internationalization	EE	Enterprise	WBISF [1]	Express and Network Deployment
Asynchronous Beans	-	Enterprise	WBISF	Express and Network Deployment
Object Pool	-	Enterprise	WBISF	Express and Network Deployment
Scheduler	-	Enterprise	WBISF	Express and Network Deployment
Dynamic Query	-	Enterprise	WBISF	Express and Network Deployment
Last Participant	-	Enterprise	WBISF	Express and Network Deployment
Backup Clusters	-	Enterprise	WBISF	Network Deployment
Extended JTA	-	Enterprise	WBISF	Express and Network Deployment
WSGW Filters	-	Enterprise	WBISF	Network Deployment

[1] WBISF ➔ WebSphere Business Integration Server Foundation

This is a continuation of the features of the Programming Model extension supported in V6.

IBM

APIs requiring manual conversion

- C++ CORBA Applications
  - ▸ C++ SDK no longer supported
  - ▸ Re-implement with JAVA Object Request Broker APIs

The C++ CORBA SDK is no longer provided. You should re-code your applications in Java. See V6 Information Center for information on Object Request Broker for more details.

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Deprecated functions

- Apache Soap API and deployment model
  - ▸ Re-implement with J2EE 1.4 Web Services introduced in WebSphere Application Server V5.0.2
  - ▸ If using IBM Rational Tools, this is a simple process of creating Web Service provider, client using the same business logic

The Apache SOAP Web Service API is deprecated and no longer recommended. Applications coded using this API will continue to run on WebSphere Application Server V6, but the performance and functionality of the application would be improved by re-coding the application to the J2EE 1.4 Web Services API.

IBM Rational Application Developer provides wizards that will create J2EE Web Services skeletons. You would copy your business logic from your existing application into the new Web Service skeletons.

Section

Summary and References

The next section summarizes the presentation.

Summary

- Large degree of application compatibility
  - ▶ Application levels forward compatible
  - ▶ Many IBM programming model extensions (Enterprise) supported at lowest product level

- Large degree of upgrade flexibility
  - ▶ Migration tools provide automated migration of configuration and applications
  - ▶ WebSphere Application Server V5 and V6 coexist in Network Deployment cell

This presentation has shown you that the WebSphere Application Server V6 product offers a great deal of application compatibility so that most applications will migrate to V6 with very little effort. Applications can be migrated using automated migration utilities and thus allow rapid migration with a minimum of effort. The migration utilities allow a staged migration of Network Deployment cells such that a node can be migrated one at a time as time permits allowing a more controlled migration with minimum downtime.

IBM Rational Application Developer products also provide compatibility with previous versions of WebSphere Studio products, both in migration of workspace and J2EE projects.

References

- WebSphere Application Server V6 Information Center

- IBM Redbooks – www.redbooks.ibm.com
  - IBM WebSphere Application Server V5.0 System Management and Configuration SG24-6195
  - Migrating to WebSphere V5 SG24-6910
  - Check for new Redbook on migration

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Additional references include the V6 Information Center and various IBM Redbooks covering WebSphere Application Server and migration topics.

References

- ## DeveloperWorks Articles
  - ▸ ### Migrating from V4 to V5
    - http://www-106.ibm.com/developerworks/websphere/library/techarticles/0405_beaton1/0405_beaton1.html
  - ▸ ### Migrating from Weblogic to WebSphere
    - http://www-106.ibm.com/developerworks/websphere/library/techarticles/0405_beaton2/0405_beaton2.html

Migrating Applications and Configurations

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