
IBM® WebSphere® Partner Gateway v6.2 migration white paper

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1 Introduction

1.1 *About WebSphere Partner Gateway v6.2*

WebSphere Partner Gateway v6.2 is a B2B offering of IBM that is designed to exchange business documents with trading partners. It supports a diverse range of business protocols, transport protocols, and security requirements.

Some examples of supported business protocols are AS2, RosettaNet, cXML, ebMS, and so on. The different supported transport protocols are HTTP and HTTPS, JMS, SMTP, FTP, SFTP, and so on. The product allows integration of information. For example, the product can be integrated with a variety of backend systems, such as IBM WebSphere Process Server, IBM WebSphere Message Broker, or any such backend systems.

With v6.2, all WebSphere Partner Gateway components (except the Integrated FTP Server) are supported on WebSphere Application Server Network Deployment, which facilitates better administration of WebSphere Partner Gateway. Also, WebSphere Partner Gateway v6.2 makes use of WebSphere Platform Messaging (WPM) for inter-component integration.

Refer to the [WebSphere Partner Gateway v6.2 features and benefits](#), so as to know more about WebSphere Partner Gateway editions, new platform support, and features.

1.2 *Purpose of this document*

The purpose of this document is to provide insights into the steps involved in the migration of WebSphere Partner Gateway releases. The steps outlined in this document provide a high level overview of migration for the following phases:

- Planning
- Upgrading,
- Pre-requisites
- Topology mappings across WebSphere Partner Gateway releases
- WebSphere Partner Gateway database migration
- WebSphere Partner Gateway hub migration.

This document describes the steps and best practices to migrate an existing WebSphere Partner Gateway v6.0.x environment to WebSphere Partner Gateway v6.2.0.1. For the purpose of

illustration, the steps involved in the migration process of WebSphere Partner Gateway v6.0.0.7 to WebSphere Partner Gateway v6.2.0.1 is described, which also includes the manual steps.

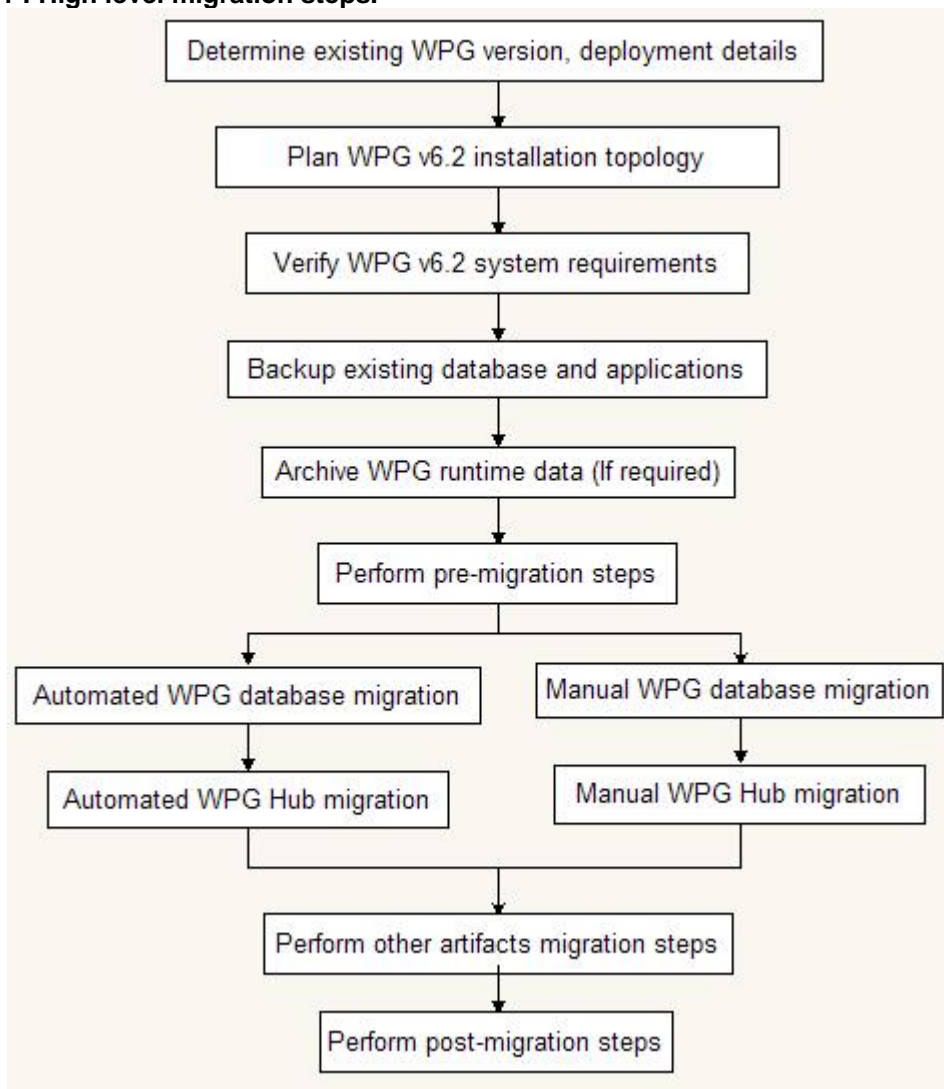
In the [Information Center for WebSphere Partner Gateway v6.2.0.0](#) there is a section on “Migrating from previous versions of WebSphere Partner Gateway to version 6.2”. The primary focus of this document is to provide details with respect to migration from WebSphere Partner Gateway v6.0.x to WebSphere Partner Gateway v6.2.x. The steps required to migrate from other WebSphere Partner Gateway releases are almost similar. However, there are some differences, which are beyond the scope of this white paper.

2 Understanding the migration

The high level steps for performing a typical migration of WebSphere Partner Gateway product is depicted in Figure 1: High level migration steps. The migration activity is divided into planning and implementation phases. Planning phase includes finalizing of desired environment, hardware requirement, and the skills required to perform the migration activities. Implementation phase includes the following tasks:

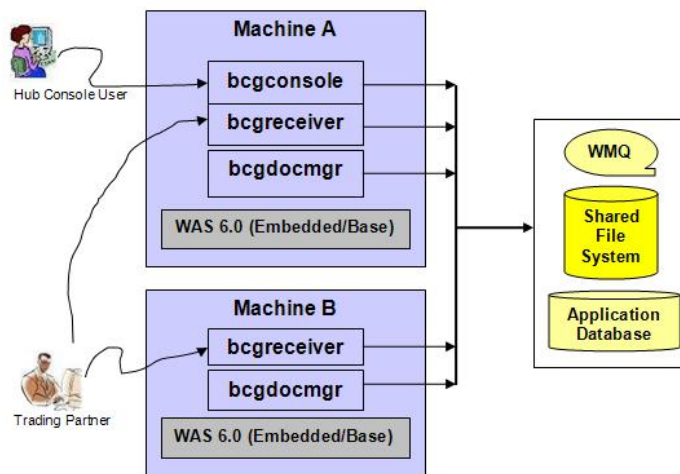
- Backup of existing WebSphere Partner Gateway components
- Pre-migration steps
- Migration of application database, hub and other WebSphere Partner Gateway artifacts.

Figure 1 : High level migration steps.



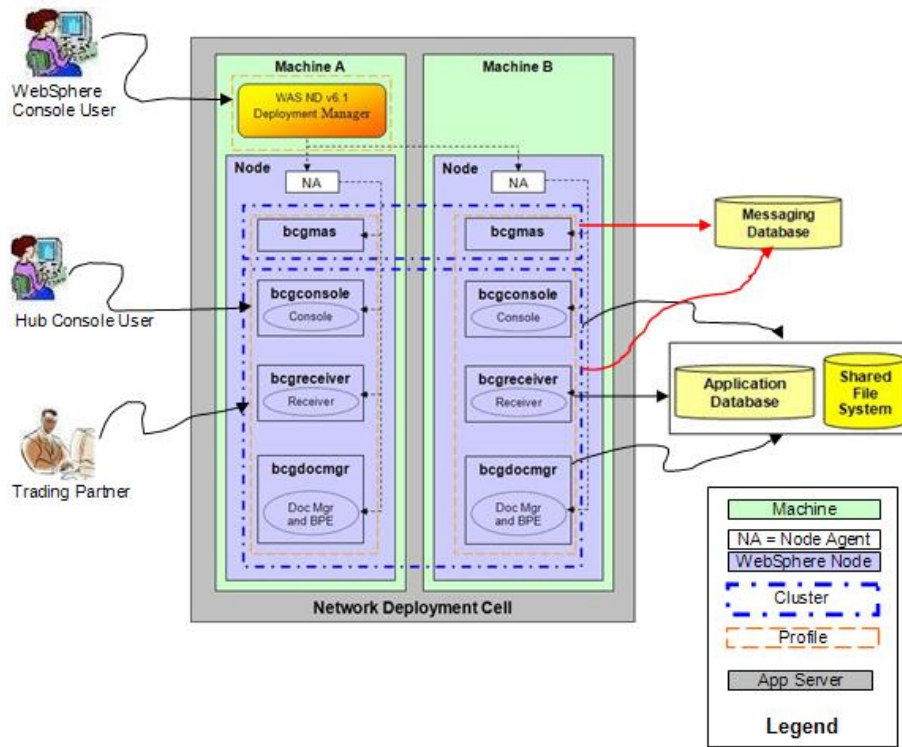
The Figure 2: Sample pre-migration WebSphere Partner Gateway v6.0 system topology depicts a typical WebSphere Partner Gateway v6.0 installation using a two-machine setup. The Machine A has the WebSphere Partner Gateway components - Console, Receiver, and Router. Machine B has Receiver and Router WebSphere Partner Gateway components. Both machine A and B have access to the common file system, WebSphere Partner Gateway application database, and WebSphere MQ. WebSphere Partner Gateway v6.0 installation uses WebSphere MQ for hosting WebSphere Partner Gateway internal queues.

Figure 2 : Sample pre-migration WebSphere Partner Gateway v6.0 system topology



The migrated configuration consists of WebSphere Partner Gateway v6.2 installed in a simple distributed mode with two machines. This setup is a typical production system involving clustering of the WebSphere Partner Gateway applications. As depicted in the figure 3, this setup involves WebSphere Partner Gateway application database, WebSphere Partner Gateway MAS Database (bcgmas), WebSphere Deployment Manager, and the WebSphere Partner Gateway applications of Console (bcgconsole), Receiver (bcgreceiver), and Router (bcgdocmgr). For WebSphere Partner Gateway v6.2, WebSphere MQ is required only in case of external JMS integration.

Figure 3 : Sample post-migration WebSphere Partner Gateway v6.2 system topology



The following table lists the major differences in the direct dependencies of v6.2 and WebSphere Partner Gateway v6.0.



Please refer the WPG v6.2 [system requirements](#) for details.

High level differences in v6.0 and v6.2 system requirements:

Products required for v6.0.x	Products required for v6.2.x
WebSphere Application Server 6.0 (Embedded WAS)	WebSphere Application Server 6.1 ND
WebSphere MQ	Does not require WebSphere MQ, as the internal queues of WebSphere Partner Gateway are now hosted on WebSphere Application Server Internal messaging.
Supported Operating System: Aix, Linux, Solaris, Windows 2000, Windows 2003.	Any of the supported Operating System: AIX, HP-UX, Linux on Intel, Linux on POWER, Solaris, and Windows 2003 Server Edition.
Database either of: DB2, Oracle	Database - DB2 or Oracle



Refer to the details provided in sections of “Installing on Windows” and “Installing on other platforms” in the [Information Center for WebSphere Partner Gateway v6.2.0.0](#). These sections have useful information on verifying and configuring installation pre-requisites, which are required before the installation of WebSphere Partner Gateway v6.2.



Refer to the details provided in below technical notes for installation of WAS v610 and WAS v7 for WPG. These technical notes have useful information on performing the WAS installation, and would be specifically useful, for the migration scenarios, wherein the new WAS pre-requisite versions are being used before the installation of WebSphere Partner Gateway v6.2.

Note: WAS v7 is supported only for WPG v6.2.1

[Installing the WAS v610 pre-requisites for WPG](#)

[Installing WAS v7 for WPG](#)

2.1 Overview of WebSphere Partner Gateway components migration

2.1.1 Database migration overview

When using WPG 6.0, it was required to have one single database instance for hosting the WPG configuration and runtime data. The functioning of WPG 6.0 also relies on the properties files for its components of receiver, router and console.

With WPG 6.2 system, it is required to have a database (referred to as application database) instance for WPG configuration and runtime data. The properties defined externally in files are now stored in the application database, and can now be modified using WPG console. When using WPG 6.2 in either of the simple distributed mode or fully distributed mode installations it is also required to have another database referred to as MAS database. The MAS database is used to store the WPG internal queue transactions.

It is found to be a best practice to periodically archive runtime data, so as to minimize time required to perform the database migration. It is also recommended to execute the data archival, before starting of migration.

The existing WPG application database may also be required to be migrated to a different DB version, as required by WPG v6.2. The DB provided backup and restore functionality should be used for performing such migration scenario.

The migration of WPG application database can be performed either manually or using the automated (smart) migration feature of WPG v6.2.

The major activities involving Database migration are,

- **Migrating application database**

During the migration process, the application database needs to be migrated, so as to upgrade the application database schema, procedures and functions. There are database scripts provided along with WPG 6.2 release to perform application database upgrade.

The manual database upgrade requires extraction of the database upgrade scripts by executing the v6.2 application DB-Loader. These extracted upgrade scripts are to be executed manually.

When migration is performed using the automated (smart) migration, execute the installation of v6.2 application DB-Loader, and chose to migrate the existing database instance.

- **Installing MAS database**

The MAS database was not required when using v6.0 and hence a new instance of MAS database is required to be installed when using the v6.2 in either of simple or full distributed modes. For v6.2 simple mode installations, MAS database is not required.



For the detailed migration steps, refer to the [Section-4 Migration steps](#) in this document.

2.1.2 Common File System (CFS) migration overview

When using v6.0, the common file system is used by various components for the WebSphere Partner Gateway functions. The prominent components and functional areas that make use of the common file system are WebSphere Partner Gateway receivers, gateways, non-repudiation, and message storage. Though the same is used even for v6.2, there are certain improvements done on the way the folder structure of non-repudiation and message storage are organized and handled. For performance gains, these folders are now organized based on the date on which the WebSphere Partner Gateway transactions are performed.

During the migration process, the common file system path used for v6.2 may be the same or different as that of WebSphere Partner Gateway v6.0. When using a different common file system location, it is required to carry forward the user exit artifacts from the earlier CFS location to the new CFS location.



For the detailed migration steps, refer to the [Section-4 Migration steps](#) section of this document.

2.1.3 Hub migration overview

The WebSphere Partner Gateway v6.0 hub constitutes the applications of Receiver (bcgReceiver), Router (bcgDocMgr), Console (bcgConsole), and help (IEHS Help). In WebSphere Partner Gateway 6.2, the hub has applications of (bcgReceiver), Router (bcgDocMgr), Console (bcgConsole), Archiver (bcgArchiver), and help (EHS 3.01 Help).

WebSphere Partner Gateway v6.0 is based on WebSphere Application Server v6.0 whereas, in WebSphere Partner Gateway v6.2, it is mandatory to have WebSphere Application Server ND v6.1 as application server platform. Refer to the section on WebSphere Application Server upgrade to know about the specifics on how and when to upgrade WebSphere Application Server versions.

The hub migration can either be performed using an automated (smart) upgrade, or using the manual upgrade steps. During the migration, the earlier hub is uninstalled and v6.2 hub is installed.

- **Migrating property files and business document metadata**

WebSphere Partner Gateway v6.0 defines the configuration properties in a property file. In v6.2, these properties are based on WebSphere Partner Gateway application database, so as to provide greater flexibility in managing the property values from the administration console. Also, the way the business document metadata is stored is changed from file system to database. There are certain additional steps to be performed during manual hub migration, so as to migrate the existing property files and business metadata to v6.2.



For the detailed migration steps, refer to the [Section-4 Migration steps](#) of this document.

2.1.4 Overview of migrating other artifacts

This section provides an overview on the migration of other artifacts.

- **User Exits**

Both versions support user exits that are used to customize the business process steps and various configuration handlers. The user exit artifacts are available under the appropriate locations < WebSphere Partner Gateway installation location>/router/lib/userexits and < WebSphere Partner Gateway installation location>/receiver/lib/userexits.

- **Security configurations**

To perform migration of certificates inside WebSphere Partner Gateway keystores and to set client authentication certificates, certain manual steps are to be carried out. The keystore file is to be made available at the appropriate locations inside WebSphere Partner Gateway common file system, and the additional WebSphere Partner Gateway supplied jacl script is to be executed so as to set the client authentication certificates.

- **XML formats in WebSphere Partner Gateway v6.2**
In v6.2, there is a change in the way the XML format definitions are defined as compared to the v6.0 XML format definition. There are certain manual steps required so as to define additional configuration choices, which are not available in v6.0.
- **Multiple internal partners in WebSphere Partner Gateway v6.2**
WebSphere Partner Gateway v6.2 has a new functionality to support more than one internal partner. To enable this feature for existing partners, in the migrated data, the partner type has to be changed. In earlier versions, these partners would have been configured as External partners.



For the detailed migration steps, refer to the [Section-4 Migration steps](#) in this document.

2.2 Overview of Infrastructure Migration

2.2.1 Operating Systems

WebSphere Partner Gateway 6.2 supports various operating systems including, AIX, Solaris, Linux, Windows and HP-UX. Refer to the [system requirements](#) for a complete list supported versions of these operating systems.

It is recommended to upgrade the operating system version before performing the WebSphere Partner Gateway migration activities.

2.2.2 Database

WebSphere Partner Gateway v6.2 application and MAS database can be installed either on IBM DB2 or Oracle database products. Refer to the [system requirements](#) for the supported versions of these products.

It is recommended to upgrade the database product versions before performing the WebSphere Partner Gateway migration activities. The database product version upgrade is not handled by WebSphere Partner Gateway migration scripts. It is recommended that a DBA is involved to perform the product version upgrade.

2.2.3 WebSphere Application Server

WebSphere Partner Gateway v6.2 requires usage of WebSphere Application Server ND v6.1. For the exact version of the supported fix pack level, refer to the [system requirements page](#). As v6.0 is based on WebSphere Application Server v6.0, it is required to install the WebSphere Application Server ND v6.1 along with the supported fix pack level before performing the WebSphere Partner Gateway migration activities.

2.2.4 WebSphere MQ

In v6.2, WebSphere MQ product installation is not required for internal queues unlike in WebSphere Partner Gateway v6.0. However, for external JMS integration, WebSphere Partner Gateway v6.2 still supports usage of WebSphere MQ to host the queues. During the migration, it is required to uninstall WebSphere MQ that was installed along with v6.0 as per the v6.0 usage restrictions. If external JMS integration is required for v6.2, then WebSphere MQ is to be installed separately with its own license requirements.

3 Planning

3.1 WebSphere Partner Gateway v6.2 deployment assessment

The main configurations on which v6.2 can be installed are Simple Installation topology, Simple-Distributed Installation topology, and Fully Distributed Installation topology. It is not advisable to use Simple Installation topology for production usage.

The topology mapping is arrived based on business requirements of the customer and the advice of the experts during planning. Refer to the WebSphere Partner Gateway v6.2 Information Center for more details on the supported topologies.

Typical topology mappings from v6.0 to v6.2

Existing v6.0.x setup	Suggested v6.2.x setup
Single Machine	Simple Distributed Mode
Two Machines (HA)	Simple Distributed Mode
Multiple Machines	Fully Distributed Mode

Figure 4 : Typical Simple Mode Topology

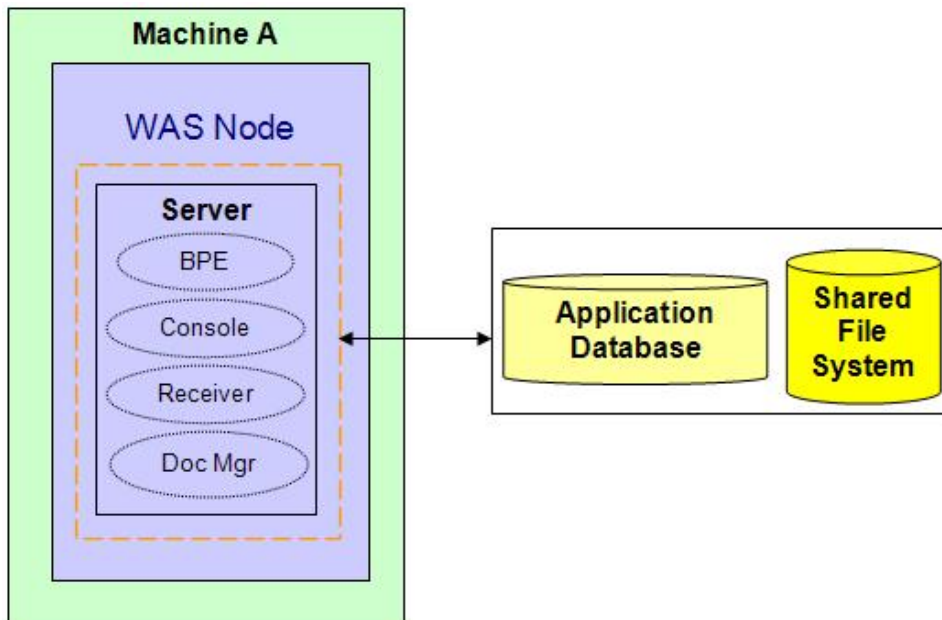


Figure 5 : Typical Simple Distributed Mode Topology

(Note: NA shown below stands for Node Agent)

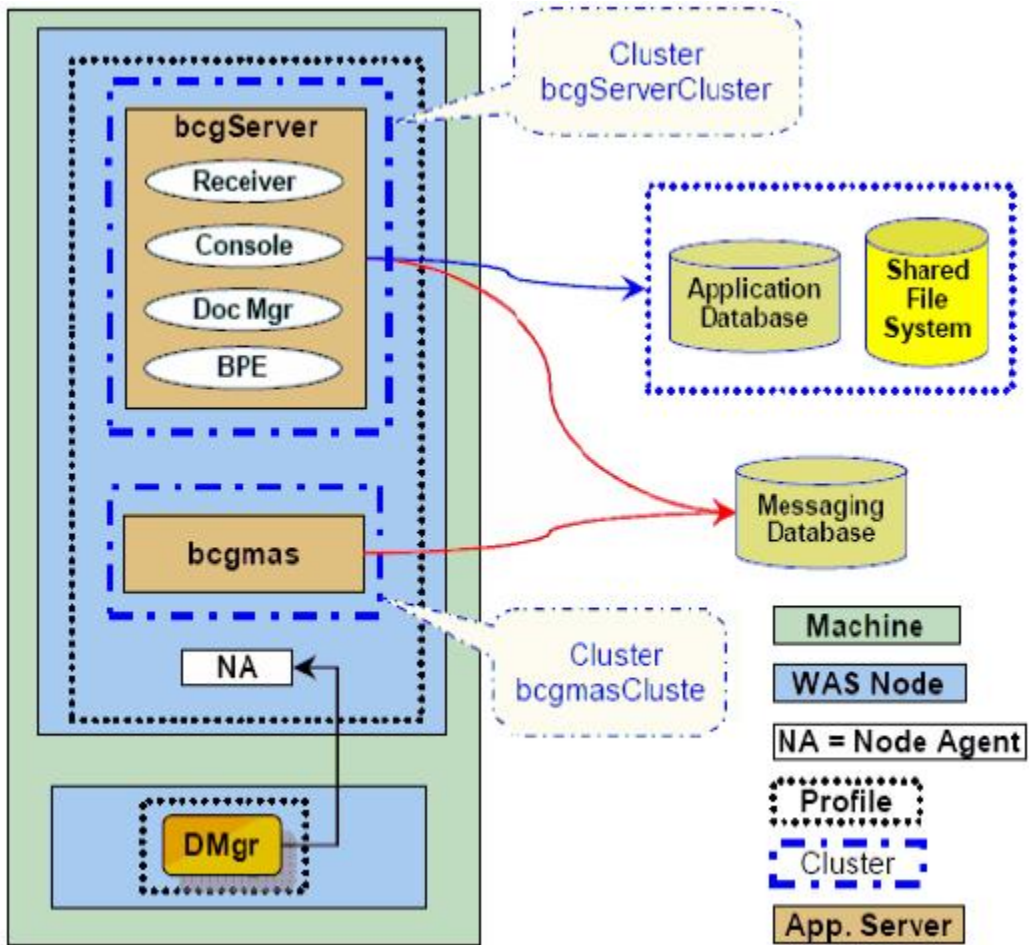


Figure 6 : Simple Distributed Mode Topology – Variation

(Note: NA shown below stands for Node Agent)

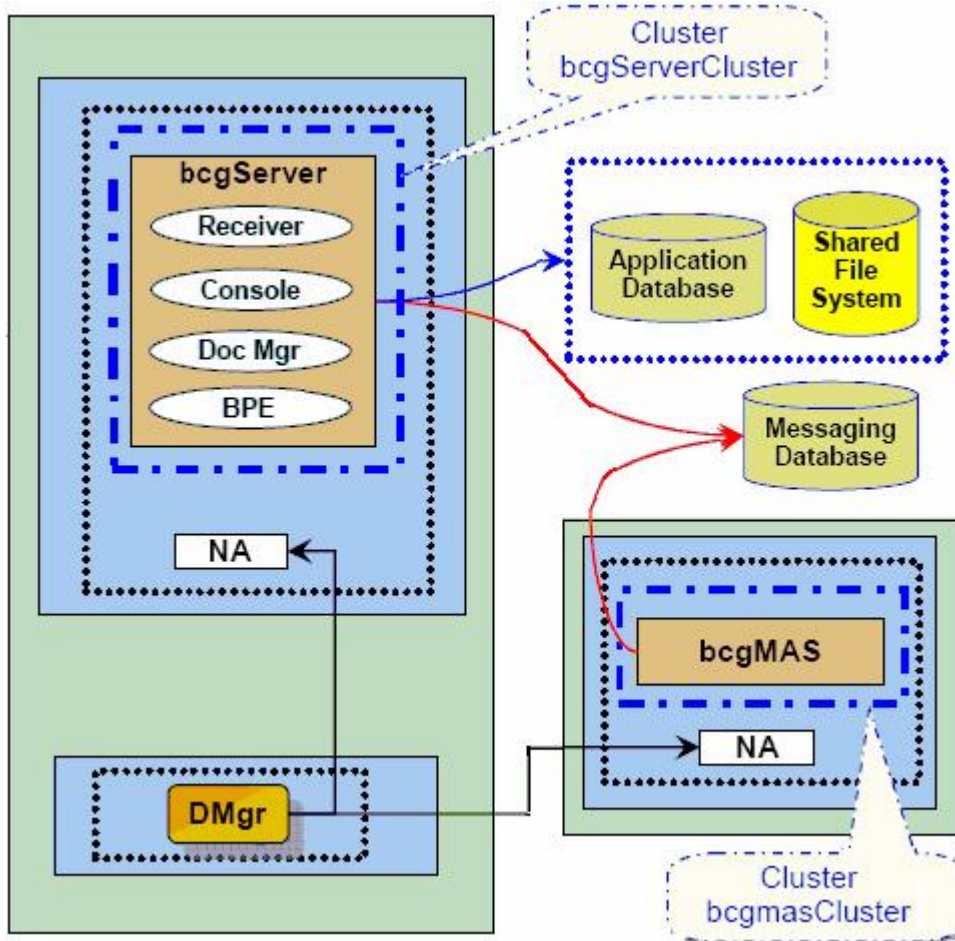


Figure 7 : Typical Full Distributed Mode Topology

(Note: NA shown below stands for Node Agent)

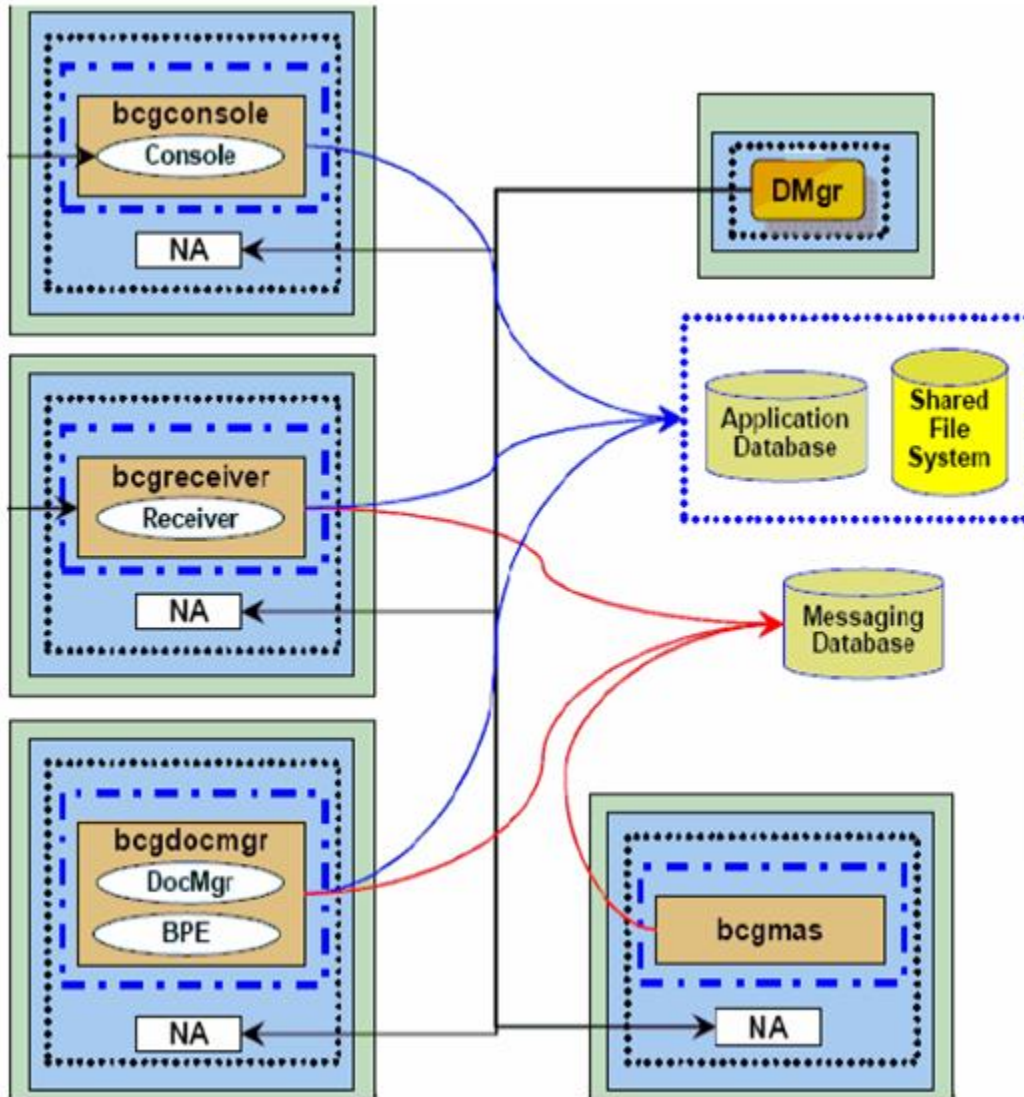


Figure 8 : Split Cell Deployment topology

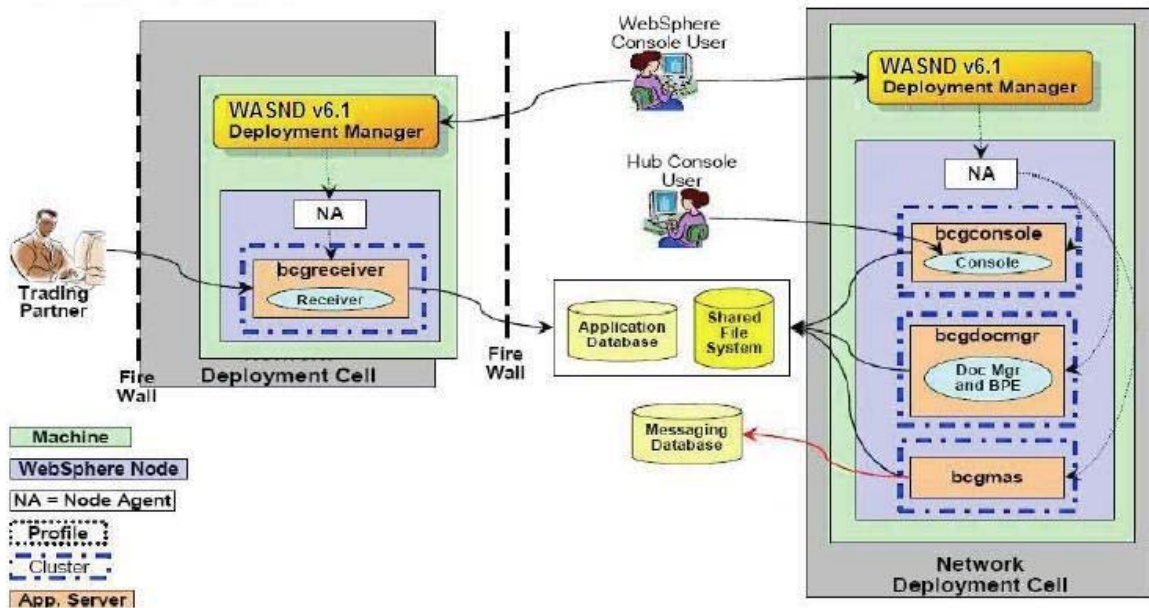
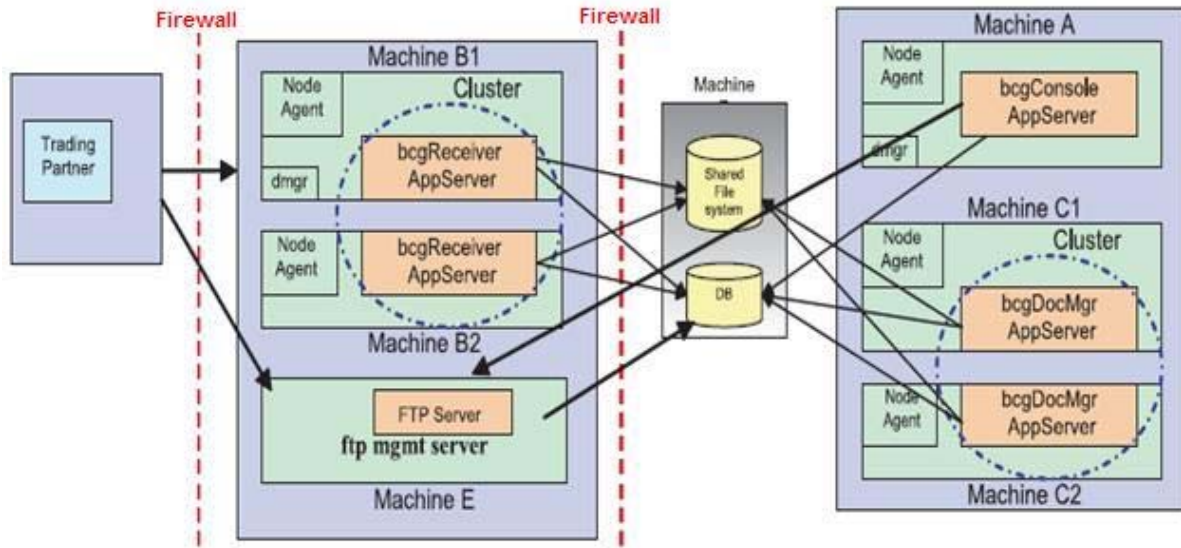


Figure 9 FTP Server and WebSphere Partner Gateway Receiver behind firewall



Refer to the [WSTE presentation session](#) on migration, which covers the details on the possible WebSphere Partner Gateway deployment topologies.

3.2 Migration Considerations

3.2.1 WebSphere Application Server Considerations

Unlike v4.2.2, in v6.0 there is an option to install WebSphere Partner Gateway on top of an existing installation of WebSphere Application Server v6.0. WebSphere Partner Gateway v6.1.1 and WebSphere Partner Gateway v6.2.0 have the option of installing using the existing installation of WebSphere Application Server ND v6.1.

During installation, WebSphere Partner Gateway creates a profile for its components based on the topology. These server profiles are for WebSphere Partner Gateway use only. Do not deploy other WebSphere Application Server applications into these server profiles. Use the default profile or create another profile based on the requirement.



WebSphere Partner Gateway requires a messaging cluster for distributed deployments. This messaging cluster is to be used only by WebSphere Partner Gateway. WebSphere Partner Gateway v6.1.1 runs using an existing WebSphere Application Server base or WebSphere Application Server ND installation. Refer to [system requirements page](#).

For simple distributed and fully distributed installations, the security.jks and securityTrust.jks certificate stores are configured as default stores of WebSphere Application Server at the WebSphere Application Server ND cell level.

When WebSphere Partner Gateway is installed in an existing WebSphere Application Server ND cell, it is recommended to take a backup of the deployment manager profile. This will be used later whenever there is a need to revert the deployment manager profile.

In distributed deployment, each computer in the deployment has to have the same WebSphere Application Server version and fix pack level.

3.2.2 Cross platform migration

There are additional considerations required in a migration scenario wherein hub configuration data has to be carried over from an existing Windows operating system installation to a new AIX operating system installation. The WebSphere Partner Gateway specific data from the common file system, such as the property files and business metadata files (.vmd, and .vhd) has to be copied to the new common file system on a different platform. Also, the file system path references to the common file

system in WebSphere Partner Gateway database and the system properties has to be updated to take care of the file path separators. It may also require an additional staging system that can be used during the migration process. It is recommended to carry out these and tasks based only on the advice of an expert.

3.2.3 Cross database migration

When configuration data of an existing Oracle installation is required in the new DB2 installation, the configuration data is imported using WebSphere Partner Gateway partner migration after it is exported from existing setup. It is recommended to carry out these tasks only on the advice of the expert.



For migration of WebSphere Partner Gateway runtime data, use specific database routines as per the support provided by the database products. The runtime data migration is not supported.

3.3 *Known issues and migration related technical notes*

- It is a best practice to be familiar with the migration related technical notes, which are already published by IBM. Refer to the [WebSphere Partner Gateway Support](#) page for details on the available technical notes on known issues, workarounds, and solutions. These technical notes provide a solution to the known problem or cite the limitations.
- The WebSphere Partner Gateway automated (smart) migration path is not applicable when the previous WebSphere Partner Gateway versions are v6.1 FP3 and above OR v6.0 FP8 and above. For migration from v6.1 FP3 and above or v6.0 FP8 and above, the manual migration has to be followed.
 - **Note:** It is recommended to use manual migration, when the previous WPG versions are other than WPG v6.0.0.7



The most up to date issues and solutions are available under migration section of the [indexed WebSphere Partner Gateway technical notes](#).

- The following migration related known issues and solutions were available while authoring this document:
 - [After migrating to WebSphere Partner Gateway 6.1, my trading partner fails to send documents to WebSphere Partner Gateway](#)
 - [After migrating to WebSphere Partner Gateway 6.1.x, how do I connect to the Console, using the secure port?](#)
 - [bcgPropMigrate script fails when migrating from WBIC 4.2.2.x to WPG 6.1](#)

- [Change in Property names and default values during migration from WBIC 4.2.2 to WebSphere Partner Gateway 6.0](#)
- [Database migration \(DB2\) when applying Fix Pack 2 for WebSphere Partner Gateway v6.0.0](#)
- [JMS integration failure after migrating to WebSphere Partner Gateway 6.1.x](#)
- [Migrating certificates from WebSphere Business Integration Connect, V4.2.x to WebSphere Partner Gateway V6.0.0](#)
- [Migrating user exits to WebSphere Partner Gateway 6.1.x](#)
- [Migration from WBIC 4.2.2.x/ WebSphere Partner Gateway 6.x.0.x to WebSphere Partner Gateway 6.1.1 on DB2 database](#)
- [Partner Migration with LDAP setup in WebSphere Partner Gateway](#)
- [Remote Message Engine is not created while migrating WebSphere Partner Gateway directly from V6.1 to V6.](#)
- [WebSphere Partner Gateway Receiver and/or BPE applications may fail to start after migration due to variable \\$SHARED_DATA_DIR\\$](#)
- [XML Formats do not work after migrating to WebSphere Partner Gateway 6.1](#)

Checklist – Planning phase

The below table provides the steps that can serve as a checklist during planning phase. It is a good practice to have this list handy while carrying out the migration.

Checklist 1 – Planning phase

Migration Phase	Checkpoint Description	References
Planning	Determine existing WebSphere Partner Gateway version.	<ul style="list-style-type: none"> ▪ Verify the bcgversion.properties file in WebSphere Partner Gateway v6.0 installation \<WPGInstallation>\router\lib\config location.
	Is WebSphere Partner Gateway 6.2 hosted on a different Operating system or a different version than that of existing Operating system?	<ul style="list-style-type: none"> ▪ Refer to WebSphere Partner Gateway v6.2 System requirements ▪ Also, refer to the section cross platform migration in this document.
	Is WebSphere Partner Gateway 6.2 to be hosted on different Database product or version than that of existing database product?	<ul style="list-style-type: none"> ▪ Refer to WebSphere Partner Gateway v6.2 System requirements ▪ Also, refer to the section cross database migration in this document.
	Is the WebSphere Partner Gateway application database runtime data required to be carried forward?	<ul style="list-style-type: none"> ▪ Note the size of runtime data being migrated.
	What would be the v6.2 installation topology?	<ul style="list-style-type: none"> ▪ Refer to section on “Topologies” in v6.2 installation guide.

	Is the v6.2 common file system (CFS) to be hosted on the same location as that of existing common file system?	<ul style="list-style-type: none"> ▪ Refer sections on security files and property files in this document.
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4 Migration Steps

The migration of v6.0 to v6.2 can be achieved using the smart migration feature provided along with v6.2. The overall migration task is sub divided into the sections of pre-migration tasks, database migration, hub migration and post-migration tasks. The detailed steps that need to be followed for each of these sub-tasks are mentioned in the forthcoming subsections.

4.1 Pre-migration tasks

Before starting with the migration activity, the existing v6.0 is stopped to ensure that the WebSphere Partner Gateway does not process any documents during the migration activity.

✓ Stopping all the servers of v6.0

Navigate to the directory: <WPG Install location>\IBM\bcghub\bin

- Shut down the console by entering the command:
 - `bcgStopServer.bat bcgconsole`
- Shut down the receiver component by entering the command:
 - `bcgStopServer.bat bcgreceiver`
- Shut down the Document Manager by entering the command:
 - `bcgStopServer.bat bcgdocmgr`
- Shut down the Help Server by entering the command:
 - `bcgStopHelp.bat`

✓ Backup the WebSphere Partner Gateway database.

Based on the database type used in existing WebSphere Partner Gateway installation, perform the following tasks to back up the existing database:

For DB2 :

BACKUP DATABASE <databasename> TO <BACKUP FILE PATH>

Example: `BACKUP DATABASE bcgapps TO c:\mybackups`

For Oracle :

```
exp <schemaname>/<schemapassword@instancename> FILE=<path of file>  
LOG=<path of logfile>
```

Example:

```
exp bcgapps/bcgapps@orcl FILE=c:\dbdump\expdump.dmp  
LOG=c:\dbdump\expdump.log
```

The following commands can be used on DB2 and Oracle, so as to restore the backups.

Restoring on DB2 :

```
RESTORE DATABASE <databasename> FROM <BACKUP FILE PATH>
```

Example: RESTORE DATABASE bcgapps FROM c:\mybackups

Restoring on Oracle :

```
imp <schemaname/schemapassword> fromuser= <schema to be imported>  
touser=<schema's password> file=<path of the file name>
```

Example:

```
imp bcgapps/bcgapps fromuser=bcgapps touser=bcgapps  
FILE=c:\dbdump\expdump.dmp
```

✓ Backup Common File System

Back up the common directory tree, located in <WBIC/ WPG *install location*>/common.

This step is important because the common file system contains the WebSphere Partner Gateway data, such as the non-repudiation and message store directories. During migration, ensure that the WebSphere Partner Gateway Common file system location remains unchanged.

✓ Backup property files

The WebSphere Partner Gateway runtime properties are stored in the files corresponding to each of the WebSphere Partner Gateway components. Ensure that the property files of `bcg_console.properties`, `bcg_receiver.properties`, `bcg.properties`, `ediconfig.properties` and `ediparams.properties` are backed up from <WBIC/WPG Install location> to a different directory. For example the backup directory name can be <WPGFileBackups>.

✓ **Backup file for common.jar and bcgsdk.jar**

The files for `common.jar` and `bcgsdk.jar` are required during migration of the WebSphere Partner Gateway Business Document Objects (BDO). Take a backup of these files and keep them under the same location as `<WPGFileBackups>`.

These files can be copied from the following locations:

- `<WBIC/WPG Install root>/router/was/wbic/common.jar`
- `<WBIC/WPG Install root>/router/was/wbic/bcgsdk.jar`

✓ **Backup user exists**

Backup all the user exit jars. These jars are required to be placed manually in the target system.

✓ **Pre-requisite steps required when the WebSphere Partner Gateway database is Oracle**

The steps mentioned in this section are required when migration is performed from v6.1.1 to v6.2.0 on Oracle.

1. Before executing the automated migration, it is required to delete the invalid packages

Execute the following commands to delete the invalid packages:

- `login to sqlplus as wpg_owner`
 - `Drop package DB_General_pkg`
 - `Drop package DB_GenProc_DB2Code`
 - `Drop package DB_GenProc`
 - `Drop package body DB_Case_pkg`
 - `Drop package body DB_lengthCheck`
 - `Drop package body DB_Metadata`
 - `Drop package body VC_App`

2. Determine if there are any additional invalid packages, and then drop these packages by executing the following commands:

- `<BCGAPPS_Install_location>/scripts/Oracle/Recompile.sql`
- `Select object_name from user_objects where status = 'INVALID'`
- `Drop package <package name from above select statement>`

✓ Archiving WebSphere Partner Gateway runtime data

It is a good practice to archive and purge the WebSphere Partner Gateway runtime data, which need not be carried forward to the new v6.2 installation. This can be done using the WebSphere Partner Gateway archive.

Note: If the already accumulated runtime data is very huge, additional database scripts may be required to clean up the runtime data. The time taken to execute the Migration of business document metadata would be larger, in cases of migrating from WPG v6.0.x with huge accumulated runtime data. It is therefore recommended, to ensure that the runtime data is archived and purged before attempting the migration.

☑ Checklist – pre-migration steps

The Checklist2 – Pre-migration steps table provides the steps that can serve as a checklist during pre-migration activities. It is a good practice to have this list handy while carrying out the migration.

Checklist 2 – Pre-migration steps

Migration Phase	Checkpoint Description	References
Pre-migration	Is the WebSphere Partner Gateway application database runtime data archived?	<ul style="list-style-type: none">Refer to section on archiver
	Is the Database backup taken?	<ul style="list-style-type: none">Refer to WebSphere Partner Gateway database backup
	Are all the known issues and technical notes checked for any additional considerations?	<ul style="list-style-type: none">Refer to WebSphere Partner Gateway supportRefer to indexed WebSphere Partner Gateway technical notes
	Is the File system artifacts back up taken?	<ul style="list-style-type: none">Refer to Common File System (CFS) backupRefer to Property file backupRefer to backup of jar fileRefer to backup of user exits

4.2 Database migration

The migration of WebSphere Partner Gateway application database can be performed either manually or using the Smart (automated) migration feature of WebSphere Partner Gateway.

4.2.1 Smart migration of WebSphere Partner Gateway application database

Using the smart migration option of v6.2 installer, migrate the existing WebSphere Partner Gateway v6.0 database to WebSphere Partner Gateway v6.2 database.



Make sure to complete the pre-requisite steps for Oracle database as mentioned in the “pre-migration tasks” section of this document.

1. Launch the Database Loader V6.2.0 installer from the v6.2 Installation extraction location. The installer presents the options for Installing new instance and Migrating existing instance.
2. Choose the option of “Migrate existing instance”. With the option of Migrate Existing Instance selected, v6.2 installer internally starts the un-installation of previous version.
3. Follow the installer panel steps to complete the migration of WebSphere Partner Gateway application database.
4. Using the WebSphere Partner Gateway 6.2 Database Installer, install a new instance of WebSphere Partner Gateway MAS database.

4.2.2 Manual migration of WebSphere Partner Gateway application database

In this section, “database” refers to the WebSphere Partner Gateway application database only. The default name for this database is BCGAPPS. The following procedure describes how to update the WebSphere Partner Gateway database tables for v6.2.

✓ Executing v6.2 DB loader installer

These steps are common when using DB2 or Oracle to host WebSphere Partner Gateway application database. Perform the following steps to extract the database specific migration scripts that are executed manually later:

1. Uninstall current WebSphere Partner Gateway application database by executing DBLoader un-installation.

- o <BCGAPPS Install location>/_uninst/uninstall

Note: Do NOT select “Drop the database” option during un-installation.

2. Launch the v6.2 DBLoader installer to install a fresh WebSphere Partner Gateway application database. Ensure that the name of the application database provided in the installation panel is the same as that of the previous version. Also, ensure that the check box for “Run SQL Files automatically” is not selected. The WebSphere Partner Gateway DBLoader would then place the Database upgrade scripts to be manually executed under the location of <BCGAPPS Install location>/scripts/<DB2 | Oracle>

- o Checkpoint: Ensure the availability of these scripts.
- o Execute the scripts in the following order only.
- o You need to decide from which script to start.
 - For example, on WebSphere Partner Gateway 6.0 FP4, the scripts start from “BcgUpgrade600FP4_600FP5” and proceed sequentially till “BCGUpgrade_611FP1_62.sql”.

The list of database migration scripts

WBIC 4.2.1 to 4.2.2.0: run bcgUpgrade421FP1_422.sql
 WBIC 4.2.2.0 to 4.2.2.1: run BcgUpgrade422_422FP1
 WBIC 4.2.2.1 to 4.2.2.2: run BcgUpgrade422FP1_422FP2
 WBIC 4.2.2.2 to 4.2.2.3: run BcgUpgrade422FP2_422FP3
 WBIC 4.2.2.3 to 4.2.2.4: run BcgUpgrade422FP3_422FP4
 WBIC 4.2.2.4 or higher to WPG 6.0: run
 BCGUpgrade422FP4_600

WPG 6.0.0.0 to 6.0.0.1: run BcgUpgrade600_600FP1
 WPG 6.0.0.1 to 6.0.0.2: run BcgUpgrade600FP1_600FP2
 WPG 6.0.0.2 to 6.0.0.3: run BcgUpgrade600FP2_600FP3
 WPG 6.0.0.3 to 6.0.0.4: run BcgUpgrade600FP3_600FP4
 WPG 6.0.0.4 to 6.0.0.5: run BcgUpgrade600FP4_600FP5
 WPG 6.0.0.5 or higher to WPG 6.1.0: run
 BcgUpgrade600FP5_610

WPG 6.1.0 to 6.1.0.1: run BCGUpgrade_610_610FP1
 WPG 6.1.0.1 to 6.1.0.2: run BCGUpgrade_610FP1_610FP2
 WPG 6.1.0.2 or higher to 6.1.1: run
 BCGUpgrade_610FP2_611

WPG 6.1.1 to 6.1.1.1: run BCGUpgrade_611_611FP1.sql
 WPG 6.1.1.1 or higher to 6.2.0: run **Archive_UDF.sql** (On DB2 only)
 WPG 6.1.1.1 or higher to 6.2.0: run
 BCGUpgrade_611FP1_62.sql

✓ Performing the database upgrade

The scripts that are required for the migration of the WebSphere Partner Gateway application database are extracted, and are executed in the database command prompts. The execution of these on DB2 and Oracle are as explained in this section.

• When the database is DB2

1. Command on DB2 Command window to connect to database:

```
db2 "connect to BCGAPPS user <username> using <password>"
```

2. Execute the applicable database migration scripts from "The list of database migration scripts", mentioned in section "Execute WebSphere Partner Gateway v6.2 DB Loader installer". Ensure that the logs during execution of each of these scripts are captured. The command used to execute each of these scripts are as follows:

```
db2 -td! -f <BCGAPPS_Install_location>/scripts/DB2  
/BCGUpgradeScript> -z /tmp/bcgdbloader/logs/<BCGUpgradeScript>
```

3. After execution of all the scripts, provide the permissions for the new tables, procedures, and functions. This can be done by using the command -

```
db2 -td! -f  
<BCGAPPS_Install_location>/scripts/DB2/Set_Grants.sql
```

• When the database is Oracle

1. Reset database permissions for the user with which WebSphere Partner Gateway connects to the database. This can be performed by executing the script -

```
sqlplus -L "sys/password as sysdba" @bcgChangeSchema.sql >  
/tmp/bcgdbloader/logs/bcgChangeSchema.log
```

2. Execute the applicable database migration scripts as from "The list of database migration scripts", mentioned under section "Execute WebSphere Partner Gateway v6.2 DB Loader installer". Ensure that the logs during execution of each of these scripts are captured: The command used to execute each of these scripts.-

```
sqlplus -L "bcgapps/password" <BCGUpgradeScript> >  
/tmp/bcgdbloader/logs/<BCGUpgradeScript>.log
```

3. After execution of all the scripts, provide the permissions for the new tables, procedures, and functions. This can be done by the command:

```
Execute Grants_Syns.sql  
sqlplus -L "sys/password as sysdba" @bcgChangeSchema.sql >  
/tmp/bcgdbloader/logs/bcgChangeSchema.log
```

✓ Installing the BCGMAS database

- During migration of v6.0.x to a v6.2 in fully distributed mode or simple distributed mode, the installation of MASDB instance is mandatory.
- Execute the v6.2 DB-Loader installer, and follow the installation steps to create a fresh BCGMAS database instance.

☑ Checklist – Database migration

The below table provides the steps that can serve as a checklist during database migration activities. It is a good practice to have this list handy while carrying out the migration.

Checklist 3 – Database migration

Migration Phase	Checkpoint Description	References
Database migration	All the database upgrade procedures executed?	
	Check the WebSphere Partner Gateway version from application database table DB_SCHEMAVER	<ul style="list-style-type: none"> ▪ After connecting to v6.2.0 application database, execute the following SQL command.- select version from DB_SCHEMAVER ▪ Check if the version is 6.2.0
	Is the MAS Database instance created, as applicable?	<ul style="list-style-type: none"> ▪ If WebSphere Partner Gateway is installed in either full or simple distributed mode, an instance of MAS database is mandatory. ▪ Execute the command - db2 list db directory ▪ Check if the database instance of MASDB is listed.

4.3 Hub Migration

✓ Automated migration of WebSphere Partner Gateway applications (Hub)

1. Before starting hub migration, install the deployment manager.
Note: This step is not applicable if you are planning to use an existing cell.
2. Launch hub installation. If Installer detects a previous version of WebSphere Partner Gateway, panel information mentioning the same is displayed.
3. Continue with the Installer panel options, and complete the installation of new v6.2 applications. During smart migration of v6.0 to v6.2, the post migration steps to migrate WebSphere Partner Gateway property file values and business document metadata are internally performed by the installer.

✓ Manual migration of WebSphere Partner Gateway applications (Hub)

1. Uninstall the previous version of WebSphere Partner Gateway.
2. Install WebSphere Application Server ND using its installer. You can choose to install WebSphere Partner Gateway on an existing WebSphere Application Server ND installation.
3. During installation, do not choose to install the common file system component. The common file system location has to be the same as that of the previous installation.
4. Select the type of WebSphere Partner Gateway deployment topology that meets your requirements: simple, simple distributed, or fully distributed.
5. The database name and details for database connectivity should correspond to the migrated WebSphere Partner Gateway v6.2 database.
6. Table: Default port values to be used while accessing WebSphere Partner Gateway components

WebSphere Partner Gateway Deployment mode	WebSphere Partner Gateway Console (HTTP/HTTPS)	WebSphere Partner Gateway Receiver (HTTP / HTTPS)	WebSphere Application Server administration console (HTTP / HTTPS)
Simple	58080/58443	58080/58443	58090/58043
Simple Distributed	58080/58443	58080/58443	55090/55043
Full Distributed	58080/58443	57080/57443	55090/55043

7. Additional steps to be carried out when migrating from the existing v6.0.x using manual migration path.

7.1. Migrating property file's content

- Execute the <bcgPropMigrate.sh> | <bcgPropMigrate.bat> script, so as to move the property values from the earlier property files to WebSphere Partner Gateway application database.

<WPG install location>/bcghub/bin/<bcgPropMigrate.sh> | <bcgPropMigrate.bat>

The input parameters for this script are:

- Schema owner
- Schema owner password
- Directory where saved properties files are located.

e.g. `bcgPropMigrate <db2admin> <password> <c:\PropertiesFilesDirectory>`

- During the execution of bcgPropMigrate script on v4.2.2, there would be messages stating the files of ediconfig.properties and ediparams.properties are not found. These messages can be ignored, as these files were used only in v6.0 onwards.

7.2. Migration of business document metadata

- Execute the <bcgBDOMigrate.sh> | <bcgBDOMigrate.bat> script, so as to migrate the business document metadata to new form being used with v6.2
 - a. Create a directory say migration/lib under <WPG install location>/bcghub
 - b. Copy the backed-up earlier WebSphere Partner Gateway release files of common.jar and bcgSDK.jar from location of <WPGFileBackups>, to location of <WPG install location>/bcghub/migration/lib.
 - c. Execute the script <WPG install location>/bcghub/bin/bcgBDOMigrate

Input Parameters for this script are:

- Schema owner userid
- Schema owner password

Checklist - Hub migration

The below table provides the steps that can serve as a checklist during performing the hub migration activities. It is a good practice to have this list handy with the person carrying out the migration.

Checklist 4 – Hub migration

Migration Phase	Checkpoint Description	References
-----------------	------------------------	------------

Hub Migration	Is the WAS ND installed?	<ul style="list-style-type: none"> ▪ Execute the following command On Windows, from command prompt <WADND Installation Location>/WebSphere/AppServer/bin/versionInfo.bat On Non-Windows, from shell <WADND Installation Location>/WebSphere/AppServer/bin/versionInfo.sh ▪ The reported WASND version should be 6.1 FP21 above.
	Is the Deployment manager available for usage with WebSphere Partner Gateway?	<ul style="list-style-type: none"> ▪ For fully distributed and simple distributed installation modes, access the Deployment Manager Administration Console using browser URL: http://<hostname>:<55090>/admin ▪ The Deployment manager administration console has to be accessible.
	Are the v6.2 clusters created?	<ul style="list-style-type: none"> ▪ Access the Deployment Manager Administration console and navigate to Servers > Clusters <ul style="list-style-type: none"> ○ For clustered simple distributed mode of installation, check if the clusters of bcgmascluster and bcgservercluster are listed. ○ For clustered fully distributed mode of WebSphere Partner Gateway installation, check if the clusters of bcgreceivercluster, bcgdocmgrcluster, bcgmascluster, and bcgconsolecluster are listed.. ○ For simple mode of installation, there are no WebSphere Partner Gateway clusters.
	Are the v6.2 servers created?	<ul style="list-style-type: none"> ▪ Access the Deployment Manager Administration console and navigate to Servers > Application Servers <ul style="list-style-type: none"> ○ For simple distributed mode of installation, check if the servers of bcgmasserver and bcgserver are listed. ○ For full distributed mode of installation, check if the servers of bcgreceiver, bcgdocmgr, bcgmas, and bcgconsole, for each of the nodes, are listed. ○ For simple mode of WebSphere Partner Gateway installation, check if the server of bcgserver is listed.
	Are the v6.2 applications created?	<ul style="list-style-type: none"> ▪ Access the Deployment Manager Administration console and navigate to Applications > Enterprise Applications. <ul style="list-style-type: none"> ○ Check if the applications of BCGArchiver, BCGBPE, BCGConsole, BCGDocMgr , BCGReceiver, and EHS3.01 are listed.
	Is the bcgBDOMigrate and bcgPropMigrate migration script executed?	<ul style="list-style-type: none"> ▪ Execute the following SQL command. select propname, propvalue from DB_SYSPROPERTIES ▪ Cross verify the values in column of propvalue against the old bcg.properties file. These values should match.

4.4 Migrating other artifacts

4.4.1 Migrating WebSphere Partner Gateway Security Configurations

This section outlines the steps to be performed for migration of certificates inside the WebSphere Partner Gateway keystores and other security configurations that are required for new v6.2 installation.

✓ **keystore and truststore**

1. From the common folder backup of the WebSphere Partner Gateway installation, copy the receiver.jks and receiverTrust.jks files from location common/security/keystore to the new WebSphere Partner Gateway v6.2 <hub install directory>/common/security/keystore directory.
2. Copy the bcgSecurity.jks and bcgSecurityTrust.jks files from location common/security/keystore to the new WebSphere Partner Gateway v6.2 /common/security/keystore directory used by the WebSphere Partner Gateway v6.2.

If required, overwrite the existing files while copying receiver.jks and receiverTrust.jks.

While migrating from 6.0 to 6.2, confirm if bcgSecurity.jks and bcgSecurityTrust.jks can be overwritten.
3. Delete the existing bcgSecurity.jks and bcgSecurityTrust.jks.
4. Rename receiver.jks to bcgSecurity.jks and receiverTrust.jks to bcgSecurityTrust.jks.

✓ **Setting the Client Authentication certificates**

WebSphere Partner Gateway migration does not take care of setting the client Authentication to true if it is set in the previous installation. It has to be manually set by running the bcgClientAuth.jacl script, present in <WPG install directory>/scripts. Details on how to run the script can be found inside the script file itself.

4.4.2 Migrating XML formats

The information provided for this step is applicable during migration from WebSphere Partner Gateway v6.0 to v6.2. After executing the database migration scripts and installing WebSphere Partner Gateway v6.2, additional manual steps has to be performed on the XML format definitions that were defined in the previous configuration. These steps are necessary because of the change in

the design of XML formats so as to provide more capability. The additional capability requires configuration choices to be made for v6.2 that were not available in v6.0.

Perform the following steps for each XML format that was migrated:

1. Start the WebSphere Partner Gateway console component.
2. Open the view that shows the XML format families.
3. Select **Hub Admin > Hub Configuration/XML formats**.

The Manage XML formats view shows you a list of XML format families that were created during migration.

- In v6.0 the capability to define XML format families is not present. The XML format families are introduced from v6.1 onwards.
 - The XML format families contain within themselves the actual XML format definitions.
 - During migration, each of the XML format defined in v6.0 is migrated into its own format family and named as 'Default family'.
 - The v6.0 document protocol and format identifiers (DTD name, root tag namespace, or root tag name) are migrated as properties for each of the newly created format families.
4. It is recommended to edit the family names as it helps to organize the formats.
Note: Open each format family and notice that each family contains an XML format definition.
 5. Open each format definition and edit the XML format definitions.
 6. When a migrated XML format definition is edited, error messages are displayed whenever the information required to complete the migration is missing. For each format:
 - Select the document type for use when the format matches a document.
 - Provide the document identifier that is used to match the format with a document.
 - Provide the document version that is used to match the format with a document.
 - Save the format definition.

4.4.3 Configuring multiple internal partners in v6.2

WebSphere Partner Gateway v6.2 has a new functionality to support more than one internal partner. To make this feature available for the existing partners in the migrated data, the partner type has to be changed. Prior to v6.2, these partners would have been configured as External partners.

It is recommended to use the change of partner type immediately after the migration. The change of partner type at a later point of time during WebSphere Partner Gateway usage may result in an inconsistent configuration from which recovery would be very difficult.

This change is applicable to every initiating partner in case of outbound document flows, and every receiving partner in case of inbound document flows. The following steps are to be performed, so as to change the partner type to Internal Partner:

1. Log into WebSphere Partner Gateway administrative console as the Hub administrator.
2. Navigate to **System Administration**.
3. In the **Common Properties** page, click **Edit** icon.
4. Change the value of property **bcg.allow.partner.type.edit** to *True* (by default, the value is *False*).
5. Navigate to **Account Admin > Profiles > Partners**.
6. Search for the external partners to be changed to internal partners.
7. Edit the partner's profile and change the partner type.
8. Save the changes.
9. Repeat steps 6 to 8 for all the required partners.
10. Repeat steps 2 to 8 to change the partner from External to Internal.
11. Navigate to **Common Properties** page and change the property value of **bcg.allow.partner.type.edit** back to *False*. This would prevent editing the partner type in future.

☑ Checklist – Migrating other artifacts

The below table provides the steps that can serve as a checklist while performing the post-migration activities. It is a good practice to have this list handy during migration.

Checklist 5 – Migrating other artifacts

Migration Phase	Checkpoint Description	References
Migrating other artifacts	Are the WebSphere Partner Gateway Security settings proper?	▪ Refer section Migration of WebSphere Partner Gateway Security artifacts
	Are user exits placed in the location of < propvalue column installation>/router/lib/userexit and < propvalue column installation>/receiver/lib/userexit	
	Perform a simple AS document flow, and check if the new hub is functioning as desired.	▪ Refer to Hub Configuration guide for details on configuring partners and AS2 connections. ▪ Successful AS document flow.

5 References

- [WebSphere Partner Gateway v6.2 features and benefits](#)
- [Information Center for WebSphere Partner Gateway v6.2.0.0](#)
- [WebSphere Partner Gateway System Requirements](#)
- [Technical notes on migration](#)
- [WSTE session on migration](#)
- [WebSphere Partner Gateway Support](#)
- [WebSphere Partner Gateway Product documentation](#)
- [WebSphere Application Server Version 6.1 Information Center](#)
- [IBM DB2 Database v9.5 Information Center](#)
- [IBM DB2 Database v9.1 Information Center](#)

6 Appendix A: Terminologies

Some terminologies used in this document:

Common File System

WebSphere Partner Gateway uses a file system to store process documents, non repudiation documents, message store documents, and any intermittent temporary files created during the processing of the documents. This file system is shared by all the WebSphere Partner Gateway components and is called the Common File System.

WPGDB / BCGAPPS

WPGDB / BCGAPPS are the WebSphere Partner Gateway Application Database.

BCGCONSOLE

This is the application server that runs the WebSphere Partner Gateway console application bcgConsole.

BCGDOCMGR

This is the application server that runs the WebSphere Partner Gateway Document Manager applications; the bcgBPE and bcgDocMgr applications.

BCGMAS

BCGMAS is the WebSphere Partner Gateway Messaging Application Server.

BCGRECEIVER

This is the application server that runs the WebSphere Partner Gateway Receiver application bcgReceiver

MASDB

The Simple Distributed mode and Full Distributed mode deployment scenarios use the BCGMAS. The BCGMAS server makes use of a database for persistent storage. This database is called as the MASDB.