



IBM Software Group

2006 B2B Customer Conference

B2B – Catch the Next Wave

C7: WebSphere Partner Gateway Installation, Migration and Maintenance

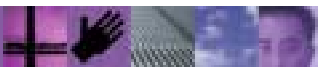
WebSphere. software

Tuan Dang



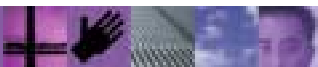
Objectives

- Discuss WPG database creation, configuration, and maintenance procedures
- Describe the database installation activities
- Identify the differences in procedures between DB2 & Oracle
- Discuss database migration considerations
- Explain the process of applying Fix Packs such that your current configuration is not impacted

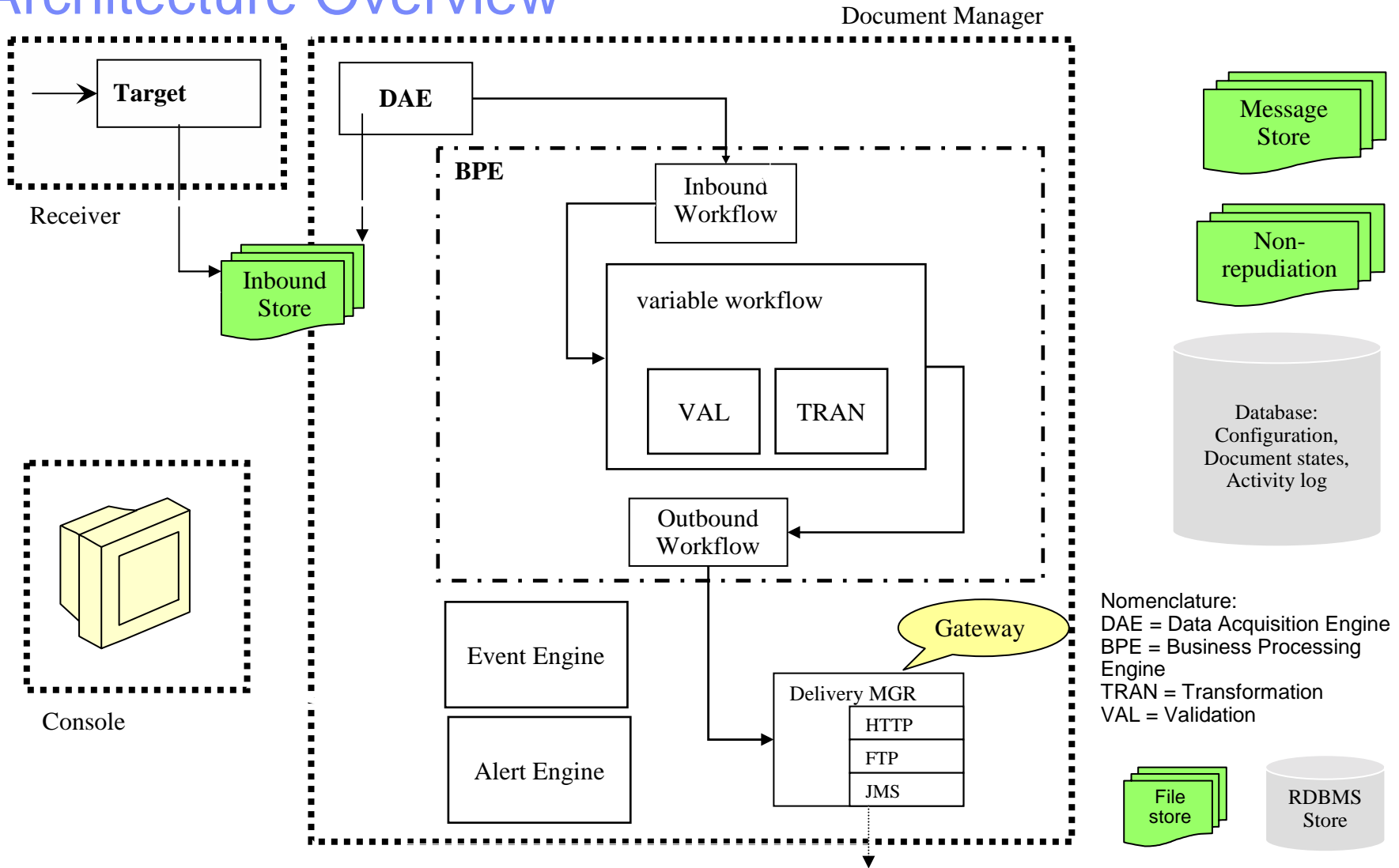


About WebSphere Partner Gateway

- Supports the exchange of business documents between an enterprise and its partners
- Supports a host of transports, protocols and data formats (AS2, RosettaNet, EDI, XML over HTTP, JMS, FTP, file system, etc ...)
- Built on WebSphere Application Server v6.0 middleware technology



Architecture Overview

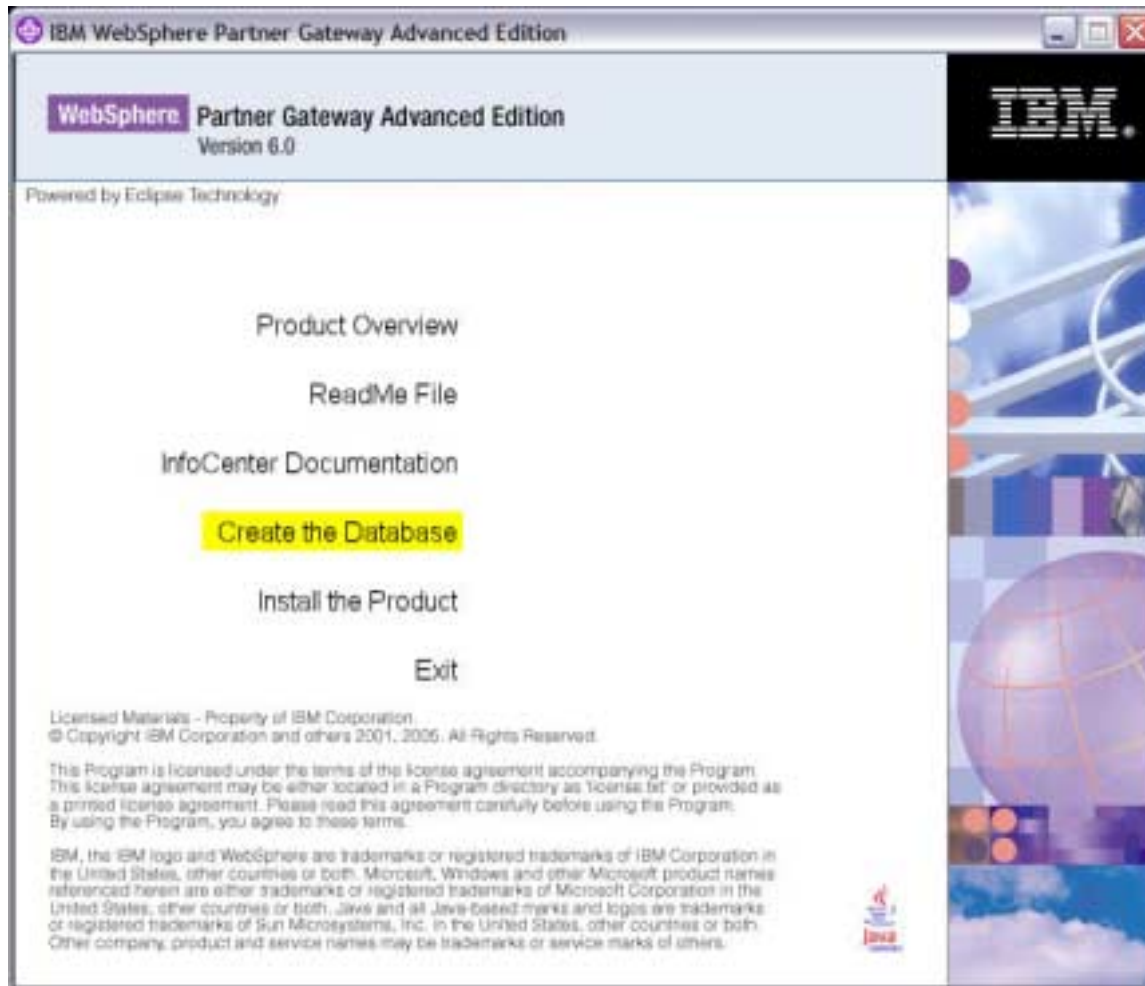


Which Databases ?

- **DB2 UDB**
 - Version 8.2 FixPack 11
- **Oracle**
 - 9i version 9.2.0.7
 - 10g version 10.1.0.4

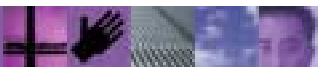


How Is The WPG Database Installed ?



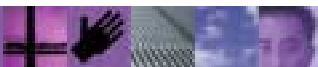
Install Directory

- Root install directory
 - C:\Program Files\IBM
 - /opt/IBM
- Subdirectory bcgdbloader under root install directory
- Under bcgdbloader
 - Scripts (utilities and db command scripts)
 - tables (tablespaces)



Tablespaces Directory

- For DB2, installer will ask for directories for use by the tablespaces created by WPG
 - C:\Program Files\IBM/bcgdbloader\tables
 - /opt/IBM/bcgdbloader/tables
- For Oracle, installer will use Oracle Home directory
 - C:\oracle\ora92



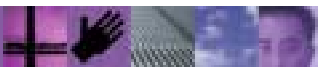
IDs And Passwords

- For DB2, installer will ask for the following
 - Database instance
 - Logical db server environment, one “instance” of db server
 - Default instance : DB2 on Win, db2inst1 on Unix
 - A userid with SYSADM authority
 - WPG connects to DB2 using this id to create all WPG database artifacts
 - On Win, DB2ADMIN or a logon id with Administrator authority
 - On Unix, db2inst1 or the instance owner
 - Database name
 - Installer will create the database



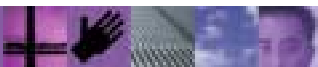
IDs And Passwords

- For Oracle, installer will ask for the following
 - SYSDBA
 - Default is to use user SYS
 - WPG will logon as SYS to create the WPG schema and users
 - The SID of the database instance
 - Userid of WPG schema owner
 - Default is bcgapps



IDs And Passwords

- WPG will use the following userids to connect to the database
 - bcgcon
Whenever WPG needs to connect from the console component
 - bcgdoc
Whenever WPG needs to connect from the DocMgr component
 - bcgrece
Whenever WPG needs to connect from the Receiver component
- For Oracle, these userids are created by WPG on the database
- For DB2, these userids (and group bcggroup) need to be created as Operating System users before install
- You can specify different userids when installing



Installing The Database

- WPG does the following
 - Create the database
 - Create database artifacts
 - ✓ Tables
 - ✓ Views
 - ✓ Indexes
 - ✓ Foreign Key constraints
 - ✓ Stored procedures
 - Populate tables with configuration data
 - Grant db privileges

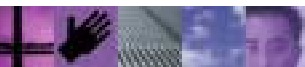
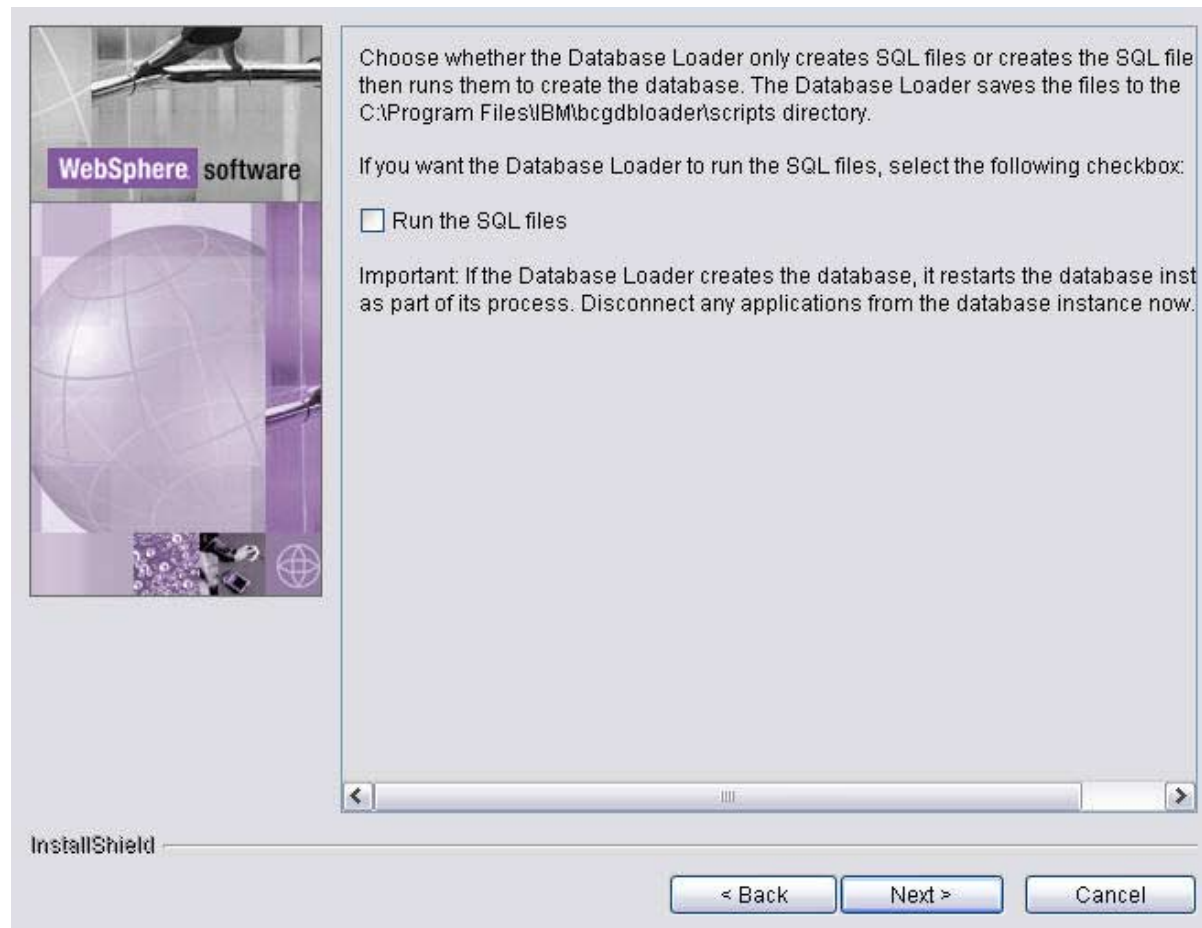


Installing The Database

- Each of these actions is done by executing a db script
 - <root install>/bcgdbloader/scripts
 - WPG modifies these scripts during install to account for any name or userid changes you made when running the installer
 - You can decide to run these scripts manually
 - File Instructions.txt

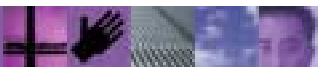


Installing The Database Manually



Creating The Database

- On DB2
 - Script Create_db2.sql
 - ✓ Database
 - ✓ Bufferpools
 - ✓ Tablespaces
 - Set configuration parms such as application heap size and sort heap



Creating The Database

■ On Oracle

➤ Tablespaces.sql

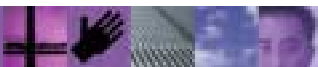
- WPG creates its own tablespaces and does not use the USERS tablespace

➤ Create_schema.sql

- Creates the userids bcgapps,bcgcon,bcgdoc,bcgrcv as well

➤ Note that an Oracle database is equivalent to a DB2 instance and an Oracle schema is equivalent to a DB2 database

- WPG requires that the Oracle database already be created with Unicode character set



Creating Database Artifacts

- Done while connected to database as schema owner

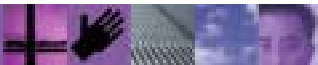
- On DB2

db2 connect to bcgapps as db2admin

db2 -td! -f script -z script.log

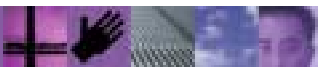
- On Oracle

sqlplus bcgapps/bcgapps@SID @script



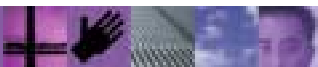
Creating Database Artifacts

- Script Build.sql creates
 - Tables and Indexes
 - Views
 - Foreign key constraints
 - Functions
 - Stored Procedures



WPG Database Tables

- Type of tables can be inferred from name prefix
 - PR_* tables deal with trading partner data
 - CF_* tables deal with WPG configuration
 - BP_* tables deal with WPG state engines
 - LG_* tables deal with logging and history
 - DB_* tables deal with internal WPG configuration



WPG Database Stored Procedures

- A stored procedure is a program that executes in the database server process
- Programming language is Oracle *PL/SQL* and DB2 *SQL Procedure Language*
 - SQL with control statements
- Each table has at least 4 stored procedures associated with it
 - Insert - *tableI*
 - Update - *tableU*
 - Query – *tableS*
 - Delete - *tableD*



Initialize WPG Tables

- Script Metadata.sql
- Populate WPG tables with default configuration values
 - Document Flow Definitions
 - Transport types
 - Table DB_SCHEMAVER contains the WPG version and build number



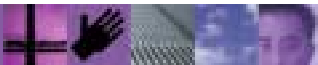
Grant Database Privileges

- On DB2, script *Set_Grants.sql*
- On Oracle, script *Grants_Syns.sql*
- Give read/write access to the WPG tables to the userids bcgcon/bcgdoc/bcgrecv
- Give execute authority to WPG stored procedures to the userids bcgcon/bcgdoc/bcgrecv



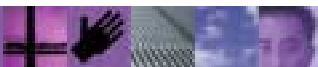
Grant Database Privileges

- If you see this error in your WPG logs
 - SQL0440N No authorized routine named *routine-name* of type *routine-type* having compatible arguments was found.
- The correct database permissions might not be set.
- Re-run script Set_Grants.sql



Uninstalling The Database

- On DB2, script Drop_db2.sql
- On Oracle, script Drop_Schema.sql.
 - Connect as SYSDBA when executing
- Installer will update the scripts with the correct values for database names and userids when it copies the scripts to your system.



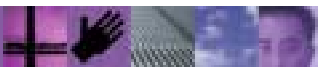
Database Migration

- When you install a new Fix Pack or a new release of WPG
 - Replacing the program code is straightforward
 - Replace old code with new executables
- How do we update the database
 - ... and not disturb your existing configuration ?
 - How do I migrate my WPG database from v4.2.2 Fix Pack 1 to v 6.0.0 Fix Pack 2 ?



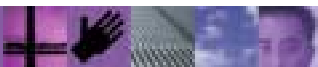
Database Migration

- Each Fix Pack includes a script for migrating from the previous fixpack
- *BCGUpgrade_OldVersion_NewVersion*
 - For example *BCGUpgrade_600_600FP1.sql*
- Migration script will
 - Do SQL ALTERs for table changes
 - Replace all stored procedures
 - Re-run database authorization script



Database Migration

- To skip a number of Fix Packs
 - For example, to go from WPG v6.0.0 to v6.0.0 Fix Pack 3
- For executable code, just replace with latest version
- For Database, run all the migration scripts in sequence
 - That is, run BCGUpgrade_600_600FP1 then BCGUpgrade_600FP1_600FP2 then BCGUpgrade_600FP2_600FP3
 - The Fix Pack installer can do this automatically



Database Migration

- Each release includes a script for migrating from the previous release
 - For example, WPG v6.0.0 has script `BCGUpgrade_422FP4_600`
 - In this case, Fix Pack 4 is the most current WPG v4.2.2 fix pack at the time WPG v6.0.0 is released
- What happens when WPG v4.2.2 Fix Pack 5 is released ?
 - No database schema changes (new or updated database tables) in subsequent Fix Packs
 - You can upgrade from WPG v4.2.2 Fix Pack 5 to WPG v6.0.0 by installing v6.0.0 and running `BCGUpgrade_422FP4_600`



Latest Fix Packs

- For WPG , Fix Pack 4
 - <http://www-306.ibm.com/software/integration/wspartnergateway/enterprise/support/>
- For WBIC 4.2.2 Advanced and Enterprise Editions, Fix Pack 7
 - <http://www-306.ibm.com/software/integration/wbiconnect/support/>



Support Pacs

- Support Pac GA02 EDI Wizards
 - A “plug in” for WBIC v4.2.2 and WPG v6.0.0
 - A GUI driven interface for defining EDI connections
 - May be incorporated into the next release of WPG



Summary

- All database creation/configuration/maintenance is done via scripts
 - Directory <install root>/bcgdbloader/scripts
 - Subdirectories DB2 or Oracle
- Customize your database by executing these scripts from the command line.

