

IBM

Version 5.6.1.3



Installation Guide OS/400 and i5/OS



IBM

Version 5.6.1.3



Installation Guide OS/400 and i5/OS

Note:

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 29.

Edition Notice

This edition of this book applies to Version 5.6.1 of the following editions of WebSphere Commerce and to all subsequent releases and modifications until otherwise indicated in new editions:

- IBM WebSphere Commerce Business Edition (5724-i38)
- IBM WebSphere Commerce Professional Edition (5724-i40)
- IBM WebSphere Commerce Express (5724-i36)

Make sure you are using the correct edition for the level of the product.

Order publications through your IBM representative or the IBM branch office serving your locality.

IBM welcomes your comments. You can send your comments by using the online IBM WebSphere Commerce documentation feedback form, available at the following URL: https://www14.software.ibm.com/webapp/iwm/web/signup.do?lang=en_US&source=swgmail-rcf

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© Copyright International Business Machines Corporation 1996, 2007. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Preface v	Upgrading Taxware Sales and Use Tax Solution
About this book v	to 3.5.2 or higher
Update history v	
Conventions used in this book v	Uninstalling the fix pack 13
Variables	Before removing the fix pack
	Before you uninstall
Product editions 1	Next step
WebSphere Commerce editions supported by this fix	Silent uninstall
pack	Removing the fix pack from existing WebSphere
pued a contract of the contrac	Commerce and Payments instances
Draraquisitas 3	Removing the fix pack from WebSphere
Prerequisites	Commerce
Master Technote	
WebSphere Application Server information 3	Appendix A. Troubleshooting 17
iSeries	Error updating EJB isolation levels
In a tallian also financials	Store pages do not display completely; parts of
Installing the fix pack 5	pages are missing
Before applying the fix pack 5	WebSphere Commerce Payments instance creation
Multinode environments 5	fails to create an entry in the Digital Certificate
Installing new components 6	Manager
Preparing your system to run the fix pack installer . 6	Precompiling JSP files on OS/400 or i5/OS 18
Next step	Treesing hand girl mee on ee, not or ie, ee.
Silent installation	Appendix B. New and changed 21
Applying the fix pack to WebSphere Commerce . 7	
Applying the fix pack to existing WebSphere	WebSphere Commerce updates
Commerce and WebSphere Payments instances 8	N. I.
Post installation steps	Notices 29
Running the fixDeploy tool	Trademarks
Updating file permissions for i5/OS 10	
Updating the WebSphere Commerce Information	
Contar 11	

Preface

About this book

This document describes the steps required to apply the IBM® WebSphere® Commerce Version 5.6.1.3 fix pack to the following editions of WebSphere Commerce:

- IBM WebSphere Commerce Business Edition
- IBM WebSphere Commerce Professional Edition
- IBM WebSphere Commerce Express

Note: The IBM WebSphere Commerce server fix pack cannot be applied to IBM WebSphere Commerce Developer.

Update history

This section provides an outline of the history of changes to this book:

Edition	Updates
Second edition	• Removed support for S/390® and z/OS®.
First edition	Original publication of this document

Conventions used in this book

This book uses the following highlighting conventions:

- **Boldface type** indicates commands or graphical user interface (GUI) controls such as names of fields, icons, or menu choices.
- Monospace type indicates examples of text you enter exactly as shown, file names, and directory paths and names.
- *Italic type* is used to emphasize words. Italics also indicate names for which you must substitute the appropriate values for your system.

Business indicates information that is specific to WebSphere Commerce Business Edition.

Professional indicates information that is specific to WebSphere Commerce Professional Edition.

Express indicates information that is specific to WebSphere Commerce – Express Edition.

indicates information that is specific to WebSphere Commerce for OS/400[®] or i5/OS[®] for iSeries[®].

Variables

cell name

The name of the WebSphere Application Server cell.

host_name

The fully qualified host name of your WebSphere Commerce machine. For example, server.mydomain.ibm.com is fully qualified.

instance_name

The name of a previously created WebSphere Commerce instance.

pay_instance_name

The name of a previously created WebSphere Commerce payments instance.

fp_installdir

The temporary directory where the fix pack has been extracted.

WAS_instance_name

The name of the WebSphere Application Server instance under which you create your WebSphere Commerce instance. This variable applies to OS/400 and i5/OS only.

HttpServer installdir

The installation path for the IBM HTTP Server. The default installation directory is:

WAS installdir

The installation path for WebSphere Application Server. The default installation directory is:

WAS 5.1

/QIBM/ProdData/WebAS51/Base

> WAS 6.0

/QIBM/ProdData/WebSphere/AppServer/V6/edition/

WAS_userdir

The directory for all the data that is used by WebSphere Application Server that can be modified or needs to be configured by the user:

WAS 5.1

/QIBM/UserData/WebAS51/Base/WAS_instance_name

WAS 6.0

/QIBM/UserData/WebSphere/AppServer/V6/edition/WAS_profilename

WC_installdir

The installation path for WebSphere Commerce. The default installation directory is:

/QIBM/ProdData/CommerceServer561

WC_userdir

The directory for all the data that is used by WebSphere Commerce that can be modified or needs to be configured by the user:

/QIBM/UserData/CommerceServer561

Instance_dir

The path for your WebSphere Commerce instance. The default installation directory is:

WAS_userdir/installedApps/cell_name/WC_instance_name.ear

Pay_instance_dir

The path for your WebSphere Commerce Payments instance. The default installation directory is:

WAS_userdir/installedApps/cell_name/
pay_instance_name_Commerce_Payments_App.ear

Product editions

WebSphere Commerce editions supported by this fix pack

This fix pack supports WebSphere Commerce Version 5.6.1 on the following operating systems:

- AIX[®]
- OS/400
- i5/OS
- Linux® for iSeries
- Linux for pSeries®
- Linux for xSeries®
- Linux for zSeries®
- Solaris
- Windows® 2000 and Windows 2003

This fix pack supports WebSphere Commerce — Express Version 5.6.1 on the following operating systems:

- OS/400
- i5/OS
- · Linux for xSeries
- · Windows 2000 and Windows 2003

For the specific requirements on each of the supported operating systems, refer to the following URL:

http://www-1.ibm.com/support/docview.wss?uid=swg21223706

Prerequisites

Read over this chapter and complete any of the following sections that are applicable to your WebSphere Commerce installation.

Master Technote

IBM WebSphere Commerce maintains a web page that links to several fix pack related documents. This page, known as the 'WebSphere Commerce Version 5.6.1 fix pack master technote', is a central resource for information related to WebSphere Commerce Version 5.6.1 fix pack. The master technote summarizes the known fix pack issues, and which version of the fix packs they apply to. It provides information on how to sign up for automatic notification of new fix packs and flashes. Technotes can be found by using the technote number to search the IBM Web site (www.ibm.com). The link to the WebSphere Commerce Version 5.6.1 Master Technote ishttp://www.ibm.com/support/docview.wss?uid=swg21221326

WebSphere Application Server information

If you are planning to use WebSphere Application Server 6.0 refer to the following information:

- If you are installing WebSphere Commerce and want to use WebSphere Application Server 6.0 as your application server, see the most recent *IBM WebSphere Commerce Installation Guide*.
- If you have created a WebSphere Commerce instance based on WebSphere
 Application Server 5.1.1.3 you can migrate that instance to WebSphere
 Application Server 6.0. For information on migrating WebSphere Application
 Server 5.1.1.3 to WebSphere Application Server 6.0, see the most recent IBM
 WebSphere Commerce Migration Guide, Version 5.6.1 Migrating WebSphere
 Application Sever 5.1.1.3 to WebSphere Application Server 6.0 using WCIM

Note: The WebSphere Commerce plug-in for IBM Support Assistant does not support log collection when running on WebSphere Application Server Version 6.0.

iSeries

Apply the required Program Temporary Fixes (PTFs). For a list of the PTFs available, open the following Web page:

http://www-1.ibm.com/support/docview.wss?uid=swg21232335

Before applying the PTF, view the PTF cover letter for additional instructions.

Installing the fix pack

Before applying the fix pack

Important:

If you also use WebSphere Commerce Developer, ensure that WebSphere Commerce and WebSphere Commerce Developer are at the same fix pack level.

When you have installed the fix pack to update your existing WebSphere Commerce instance configuration files and database, you will not be able to revert to previous configurations. Ensure that you back up your instance configuration files, and your database before applying this fix pack.

Multinode environments

If you have the various WebSphere Commerce components distributed in a multinode installation, the fix pack must be applied to each node that has a WebSphere Commerce component. For example, for a custom 5–node installation that has a Web server node, a WebSphere Commerce Payments server node, a Configuration Manager client node, a WebSphere Commerce Server node, and a Database server node, the fix pack is applied to the Payments node, the Configuration Manager client node and the WebSphere Commerce Server node. The fix pack would not be applied to the Web server node or the database node.

If you are working in a clustered environment, the fix pack must be applied to each WebSphere Commerce Server node in the cluster. However, you do not need to run the updatedb script on a given node if all of the following is true:

- The WebSphere Commerce instance's database is remote
- The WebSphere Commerce instance's database is managed on another cluster member (node)

Installing the WebSphere Commerce fix pack on a horizontal cluster

If you are installing the WebSphere Commerce fix pack on a horizontal cluster, all nodes must be stopped before you start the database update. Ensure that the fix pack level for the database and the WebSphere Commerce application match at all times. To install on a clustered environment, you must designate a *reference node* that is updated first, then the WebSphere Commerce application that resides on the WebSphere Application Server Network Deployment node is updated. Once the WebSphere Application Server Network Deployment node is updated the update is distributed to all other nodes automatically.

To install the WebSphere Commerce fix pack on the *reference node*, complete the following sections:

- 1. "Prerequisites" on page 3.
- 2. "Preparing your system to run the fix pack installer" on page 6.
- 3. Depending on the type of installation you are performing, complete one of the following installation types:
 - "Silent installation" on page 7.

- 4. "Post installation steps" on page 10.
- 5. On the *reference node* you must collapse the WebSphere Commerce instance directory into a single EAR file. Use this EAR file to update the WebSphere Commerce application that resides on the WebSphere Application Server Network Deployment. For more information on updating the EAR file, refer to the WebSphere Application Server Network Deployment information center:

http://publib.boulder.ibm.com/infocenter/wasinfo/v5r0/index.jsp?topic=/com.ibm.websphere.nd.doc/info/welcome_nd.html

Complete the following steps on the other WebSphere Commerce nodes:

- To perform a silent installation:
 - 1. "Updating WebSphere Commerce" on page 7.
 - 2. Replace the WC_installdir/instances directory on your target machine, with the WC_installdir/instances directory from your reference node.
 - 3. Use the WebSphere Application Server Network Deployment file synchronization capabilities to update the WebSphere Commerce applications on the appropriate nodes. Refer to the WebSphere Application Server Network Deployment. For more information, refer to the WebSphere Application Server Network Deployment information center:

http://publib.boulder.ibm.com/infocenter/wasinfo/v5r0/index.jsp?topic=/com.ibm.websphere.nd.doc/info/welcome_nd.html

- To perform a GUI installation:
 - Use the WebSphere Application Server Network Deployment file synchronization capabilities to update the WebSphere Commerce applications on the appropriate nodes. Refer to the WebSphere Application Server Network Deployment. For more information, refer to the WebSphere Application Server Network Deployment information center:

http://publib.boulder.ibm.com/infocenter/wasinfo/v5r0/index.jsp?topic=/com.ibm.websphere.nd.doc/info/welcome_nd.html

Download and apply the Windows fix pack to the WebSphere Commerce Configuration Manager client node. For the Windows fix pack installation on the Configuration Manager client node, you can choose to use either the silent installation method or the GUI installation method. This action is in addition to downloading and applying the OS/400 and i5/OS fix pack on the iSeries system where WebSphere Commerce is installed.

Installing new components

If any new components are installed from the base (5.6.1) CDs the fix pack must be reapplied in order to upgrade that component to the 5.6.1.3 level. For example, if the Configuration Manager client is loaded on a node using the base CDs the fix pack must be reapplied to the Configuration Manager client node.

Preparing your system to run the fix pack installer

Important:

Refer to Appendix B, "New and changed," on page 21 for information on the APARs that are included in this fix pack. If you have installed APARs that are not included in this fix pack you must reinstall them after the fix pack is installed.

- 1. Create a temporary directory. This temporary directory is denoted by fp_installdir in the remaining sections of this guide.
- 2. Open the following URL in a Web browser:

http://www.ibm.com/support/docview.wss?uid=swg24016776

- 3. Save the fix pack to the fp_installdir directory. The file you download is denoted by WC_5613_file_name in the remaining sections of this guide.
- 4. Enter the QShell by typing QSH at the OS/400 or i5/OS command prompt.
- 5. Navigate to the fp_installdir and then extract the files in the WC_5613_file_name archive by running the following command:

```
jar -xvf WC_5613_file_name
```

- 6. Ensure that you are logged in as a user that has QSECOFR authority.
- 7. Stop the following applications:
 - WebSphere Commerce Application Servers. For example, WC_instance_name. For more information refer to the following URL:

http://publib.boulder.ibm.com/infocenter/wchelp/v5r6m1/topic/ com.ibm.commerce.admin.doc/tasks/tsrwcs.htm

WebSphere Commerce Configuration Manager server. For more information refer to the following URL:

http://publib.boulder.ibm.com/infocenter/wchelp/v5r6m1/topic/ com.ibm.commerce.admin.doc/tasks/tcmopcm.htm

· Web server and its respective administration processes. For example, the IBM HTTP Server and the IBM HTTP Administration Server. For more information refer to the following URL:

http://publib.boulder.ibm.com/infocenter/wchelp/v5r6m1/topic/ com.ibm.commerce.admin.doc/tasks/tsrensureweb.htm

 WebSphere Commerce Information Center. For more information refer to the following URL:

http://publib.boulder.ibm.com/infocenter/wchelp/v5r6m1/topic/ com.ibm.commerce.admin.doc/tasks/tsrwcic.htm

Next step

Install the fix pack by completing the following section:

"Silent installation."

Silent installation

Note: Ensure that you complete all sections in the order that they appear.

Applying the fix pack to WebSphere Commerce

Updating WebSphere Commerce

This section updates the WebSphere Commerce product.

- 1. Ensure you have reviewed and completed all the necessary steps in "Prerequisites" on page 3
- Enter the QShell by typing QSH at the OS/400 or i5/OS command prompt. Navigate to the *fp_installdir* directory.

- 3. Run the following command, replacing options specific to your WebSphere Commerce installation.
 - ./updateSilent.sh fixpack install WC_installdir fixpackID fp_installdir When you see any of the following names, substitute your required option or system value as described:
 - *WC_installdir*: The installation path for WebSphere Commerce. The default installation directory is defined in the Preface under the section Path variables on page vi.
 - *fixpackID*: The name of the fix pack to be installed. For example, wc561BE_fp3_*platform*.
 - *fp_installdir*: The temporary directory where the fix pack was downloaded. For example,
 - ./updateSilent.sh fixpack install /QIBM/ProdData/CommerceServer561 wc561BE fp3 os400 /QIBM/5613
- 4. Ensure that the installer displays the message Fix pack installation completed successfully. If you do not get this message the installer will indicate which log files to check.

Note: If you do not have existing WebSphere Commerce instances or Payments instances, then the fix pack installation is complete; move on to "Post installation steps" on page 10 and complete any applicable steps. If you have existing WebSphere Commerce instances or Payments instances, refer to "Applying the fix pack to existing WebSphere Commerce and WebSphere Payments instances."

Applying the fix pack to existing WebSphere Commerce and WebSphere Payments instances

Running the updatedb script

This section updates the WebSphere Commerce instance database. Repeat these steps for each WebSphere Commerce instance you have configured on your machine. If your WebSphere Commerce instance is running in a clustered environment, ensure that the server is stopped on all nodes before continuing.

- 1. Navigate to the WC_installdir/bin directory.
- 2. Run the following command:
 - ./updatedb.sh dbname userId password instance_name dbtype dbhost staging platform locale earPath [migFrom]

When you see any of the following names, substitute your required option or system value as described:

- *dbname*: The name of the database to be updated.

 The database name as found in the relational database directory.
- userId: The user ID of the user who owns the database.
 The user profile that owns the database schema. This is normally the same as the WebSphere Commerce instance user profile.
- *password*: The password of the user who owns the database.

 The password of the owner of the WebSphere Commerce instance.
- *instance_name*: The name of a previously created WebSphere Commerce instance.
- *dbtype*: DB2.

- *dbhost*: The fully qualified host name of the machine where the database
- staging: Either Y if your database is for the staging server, or N if your database is not for the staging server.
- *platform*: The platform of the database is on of ws or iSeries.
- locale: The default locale of this instance is one of: en US, fr FR, es ES, de_DE, it_IT, pt_BR, ko_KR, ja_JP, zh_CN or zh_TW.
- earPath: Path of the EAR file of the previously created WebSphere Commerce instance.
- migFrom: This parameter must be specified only when using the updatedb tool to complete a migration from a previous version of WebSphere Commerce. If you are migrating from a previous version of WebSphere Commerce, specify 5.6.1.0 for this parameter. This value represents the current 5.6.1 fix pack version of the database; since the database migration tool only upgrades the database from the previous version to version 5.6.1.0, the value must be 5.6.1.0.

The session in which you ran the updatedb script indicates a directory to check to view the log files. The logs files are not located in this directory. Refer to the /WC installdir/logs directory for the appropriate log files.

Note: If the migFrom parameter was specified in the updatedb.sh command, additional log files are created in directory /WC installdir/logs with names of: updatedb fpX dbtype time stamp.log.

Updating existing WebSphere Commerce and WebSphere Payments instances

Repeat these steps for each WebSphere Commerce instance, or WebSphere Payments instance, or both you have configured on your system.

- 1. Enter the QShell by typing QSH at the OS/400 or i5/OS command prompt. Navigate to the *fp_installdir* directory.
- 2. Run the following command:
 - When you see any of the following names, substitute your required option or system value as described:
 - Instance_dir: The path for your WebSphere Commerce instance. The default directory is defined in the Preface under the section Path variables on page
 - Pay instance dir: The path for your WebSphere Commerce Payments instance. The default directory is defined in the Preface under the section Path variables on page vi.
 - fixpackID: The name of the fix pack to be installed. For example, wc561BE_fp3_os400.
 - *fp_installdir*: The temporary directory where the fix pack was downloaded. For example, to apply the fix pack to the WebSphere Commerce instance:
 - ./updateSilent.sh fixpack install /QIBM/UserData/WebAS5/Base/default/ installedApps/myCellName/WC_demo.ear wc561EXPRESS_fp3_os400 /QIBM/5613

For example, to apply the fix pack to the Payments instance:

./updateSilent.sh fixpack install /QIBM/UserData/WebAS5/Base/default/ installedApps/myCellName/

wpm_Commerce_Payments_App.ear wc561BE_fp3_os400 /QIBM/5613

- 3. Ensure that the installer displays the message Fix pack installation completed successfully. If you do not get this message the installer will indicate which log files to check.
- 4. The fix pack installation is complete; move on to "Post installation steps" and complete any applicable steps.

Post installation steps

Running the fixDeploy tool

Follow these steps to update Enterprise Java[™] Beans in the WebSphere Application Server repository for each WebSphere Commerce instance. If you already have a WebSphere Commerce instance complete these steps, and repeat for each additional instance:

- 1. Create a temporary directory with 100MB of free space. We will refer to this directory as *temp_dir*.
- 2. Open a command prompt.
- 3. Switch to the WC installdir/bin directory.
- 4. Run the following command:
 - ./fixDeploy.sh temp_dir WAS_dir instance_name

temp_dir

This is the temporary directory that was created earlier in this section.

WAS dir

- WAS 5.1 This is the WebSphere Application Server installation path. For example, /QIBM/UserData/WebAS51/Base/default.
- WAS 6.0 This is the WebSphere Application Server profile path where the WebSphere Commerce EAR is deployed. For example, /QIBM/UserData/WebSphere/AppServer/V6/Base/profiles/ default.

instance_name

This is the name of the WebSphere Commerce instance. For example, demo.

For example,

./fixDeploy.sh /QIBM/tmp/workspace /QIBM/UserData/WebAS51/Base/
default/ demo

Verify that the script completed successfully, by reviewing the following log file: WC installdir/logs/fixDeploy.log

Updating file permissions for i5/OS

This section updates file ownership and permissions on i5/OS systems.

- 1. Open a QSH session.
- 2. Navigate to the WC_installdir/bin directory.
- 3. Run the following command: iSeriesFileAuth.sh

Updating the WebSphere Commerce Information Center

This fix pack updates your WebSphere Commerce Information Center. To enable this update, you must restart the WebSphere Commerce Information Center:

http://publib.boulder.ibm.com/infocenter/wchelp/v5r6m1/topic/ com.ibm.commerce.admin.doc/tasks/tsrwcic.htm

Upgrading Taxware Sales and Use Tax Solution to 3.5.2 or higher

If you use Taxware you must update it after you have installed the WebSphere Commerce Version 5.6.1 fix pack. For information on updating Taxware refer to the following URL:

http://www.ibm.com/support/docview.wss?uid=swg21239266

Uninstalling the fix pack

Before removing the fix pack

Uninstalling the fix pack restores the WebSphere Commerce product files to the previous level. These instructions also remove the fix pack code from those WebSphere Commerce or WebSphere Commerce Payments instances that were updated at the same time the fix pack was applied to your system. Once the fix pack is applied to your system, you cannot revert your instance configuration files, or database configurations to their previous states.

WebSphere Commerce instances or WebSphere Commerce Payments instances that are created after the installation of the fix pack, remain at the current fix pack level. Following the uninstallation instructions will not restore these instances to the previous level. If these instances are required to be at the previous level, contact IBM Support for further assistance.

If you are uninstalling the fix pack from a WebSphere Commerce instance, the order that you perform the uninstallation is important. You must uninstall the fix pack from the instance, then run the unfixDeploy script. After the unfixDeploy script has completed successfully you can uninstall the fix pack from the product directory.

Before you uninstall

- 1. Ensure that you are logged in as a user that has QSECOFR authority.
- 2. Stop the following servers:
 - WebSphere Commerce Application Servers. For example, WC_instance_name.
 - WebSphere Commerce Configuration Manager server.
 - Web server and its respective administration processes. For example, the IBM HTTP Server and the IBM HTTP Administration Server.

Next step

Uninstall the fix pack by completing the following section:

• "Silent uninstall."

Silent uninstall

Removing the fix pack from existing WebSphere Commerce and Payments instances

Repeat these steps for each WebSphere Commerce and WebSphere Commerce Payments instance that you have configured on your system.

- 1. Enter the QShell by typing QSH at the OS/400 or i5/OS command prompt. Navigate to the *fp_installdir* directory.
- 2. Run the following command, replacing options specific to your WebSphere Commerce installation.
 - ./updateSilent.sh fixpack uninstall Instance_dir fixpackID

When you see any of the following names, substitute your required option or system value as described:

Instance_dir

The path for your WebSphere Commerce instance. The default directory is defined in the Preface under the section Path variables on page vi.

Pay_instance_dir

The path for your WebSphere Commerce Payments instance. The default directory is defined in the Preface under the section Path variables on page vi.

fixpackID

The name of fix pack to be uninstalled. For example, wc561BE_fp3_aix. For example, to remove the fix pack from the WebSphere Commerce instance: ./updateSilent.sh fixpack uninstall /QIBM/UserData/WebAS51/Base/WAS_myserver/installedApps/cell_name/ WC_demo.ear wc561BE_fp3_os400

3. Ensure that the installer displays the following message:
Fix pack uninstallation completed, please check /WC_installdir/logs/update/timestamp_wc56ledition_fp1_operating_system_uninstall.log

The message contains the location of the log file created during uninstall.

Running the unfixdeploy tool

Follow these steps to revert changes to Enterprise Java Beans in the WebSphere Application Server repository for each WebSphere Commerce instance. If you already have a WebSphere Commerce instance complete these steps, and repeat for each additional instance:

- 1. Open a command prompt.
- 2. Switch to the WC_installdir/bin directory.
- 3. Run the following command:
 - ./fixDeploy.sh WAS_dir instance_name

WAS_dir

- WAS 5.1 This is the WebSphere Application Server installation path. For example, /QIBM/UserData/WebAS51/Base/default.
- WAS 6.0 This is the WebSphere Application Server profile path where the WebSphere Commerce EAR is deployed. For example, /QIBM/UserData/WebSphere/AppServer/V6/Base/profiles/ default.

instance_name

This is the name of the WebSphere Commerce instance. For example, demo.

For example,

./unfixDeploy.sh /QIBM/UserData/WebAS51/Base/default/ demo

Verify that the script completed successfully, by reviewing the following log file: WC installdir/logs/unfixDeploy.log

Removing the fix pack from WebSphere Commerce

- 1. Enter the QShell by typing QSH at the OS/400 or i5/OS command prompt. Navigate to the *fp_installdir* directory.
- 2. Run the following command, replacing options specific to your WebSphere Commerce installation.

- ./updateSilent.sh fixpack uninstall $\mbox{WC_installdir fixpackID}$
- 3. Ensure that the installer displays the following message: Fix pack uninstallation completed, please check /WC_installdir/logs/update/ timestamp_wc561edition_fp1_operating_system_uninstall.log
 - The message contains the location of the log file created during uninstall. Uninstallation of the fix pack is complete.
- 4. If you do not have existing WebSphere Commerce instances or Payments instances, the fix pack uninstallation is complete. If you have existing WebSphere Commerce instances or Payments instances on which the fix pack has been applied, refer to the next section.

Appendix A. Troubleshooting

Error updating EJB isolation levels

You receive an error when updating EJB isolation levels using the fixDeploy tool. The exception is similar to the following example:

parsing ejbJarXmlFile : /opt/WebSphere/AppServer/config/cells/redbud/applications /WC_demo.ear/deployments/WC_demo/Catalog-ProductManagementData.jar/META-INF/ejb-jar.xml java.net.ConnectException: Connection timed out

When parsing the ejb-jar.xml file, the fixDeploy tool needs to refer to the DTD file that is located on the Sun Microsystems Web site. If the machine cannot connect to this external site, the process fails. To work around this problem, make sure that the machine is able to make connection to external sites.

Store pages do not display completely; parts of pages are missing

If you see one of the following error messages in the SystemOut.log file, follow the instructions for the corresponding solution.

Error/Exception	Solution
Illegal target of jump or	Workaround
branchjavax.servlet.ServletException	1. Clear the cached or compiled JSP file classes out of /opt/WebSphere/ AppServer/temp/ %node%/instance_name/instance_name/ Stores.war.
	2. Navigate to WAS_installdir/bin.
	3. Precompile the JSP pages.
	<pre>./JspBatchCompiler.sh -enterpriseapp.name instance_name -cell.name %CELL% -node.name %NODE% -server.name instance_name</pre>

WebSphere Commerce Payments instance creation fails to create an entry in the Digital Certificate Manager

During WebSphere Commerce Payments instance creation, the QIBM_HTTP_SERVER_pay_instance entry might not be created within Digital Certificate Manager. This problem is experienced when SSL is configured for the WebSphere Commerce Payments instance. To correct the problem, review the information contained in this section.

- The cause of this problem might originate in the QBATCH subsystem. On the machine where you have installed WebSphere Commerce Payments, check the settings in the QBATCH subsystem:
 - Ensure that the QBATCH subsystem is running. To ensure that the subsystem is running, use the following command: WRKACTJOB

2. The Configuration Manager submits a job to the QBATCH subsystem in order to add an entry into Digital Certificate Manager. The job might be held or might not be able to run. Use the following OS/400 commands to increase the entries:

WRKJOBQ *ALL

Search for the QBATCH job queue. This job queue shows waiting job queue entries. Working with the QBATCH job queue shows additional information on the jobs that are waiting to be scheduled. Look for a job that will add an entry into the Digital Certificate Manager.

The OS/400 command DSPSBSD QBATCH presents a menu of options. The **Job queue entries** option shows the number of jobs that can be active in the subsystem at any given time. If the MAX ACTIVE is set to 0 or 1, increase this using the following command:

CHGJOBQE QBATCH

This command allows you to alter the MAXACT parameter.

- The cause of the problem originates in the user profile settings. On the machine where you have installed WebSphere Commerce Payments, complete the following steps:
 - 1. Run the following command:

DSPUSRPRF <F4>

- 2. In the User Profile field, enter the profile ID that starts the Configuration Manager server.
- 3. Record the value of the Job Description and Library fields and return to the command line.
- 4. Run the following command:

CHGJOBD <F4>

- 5. Enter the Job Description and Library values. These values were recorded in an earlier step.
- 6. Press the F9 and F10 keys to display additional parameters.
- 7. Change the HOLD field to *NO.
- 8. Ensure that the user profile that starts the Configuration Manager logs off and then logs back onto the system.
- 9. If needed, restart the Configuration Manager server and create a new WebSphere Commerce Payments instance.

Precompiling JSP files on OS/400 or i5/OS

If you are running WebSphere Commerce on OS/400 or i5/OS, precompile your JSP files before launching your store by completing the following steps:

- Back up and delete the WAS_userdir/Base/WAS_instance_name/temp/cell_name/ WC_instance_name /WC instance_name/Stores.war directory.
- 2. Start a QShell session (STRQSH) and navigate to the WAS_installdir/bin directory.
- 3. Run the following command:

```
\label{lem:continuous} \begin{tabular}{lll} JspBatchCompiler -enterprise app.name $WC\_instance\_name -node.name $cell\_name -webmodule.name $module\_name -instance $WAS\_instance\_name -server.name $WC\_instance\_name $WC\_instance\_na
```

For example,

JspBatchCompiler -enterpriseapp.name WC_demo -node.name HOSTNAME1
-webmodule.name Stores.war -instance default
-server.name WC_demo 1> /qibm/pre_compile.log 2>&1

Appendix B. New and changed

WebSphere Commerce updates

WebSphere Commerce fix packs include all fixes included in the previous fix pack. This fix pack contains the interim fixes (APARs) in the following table:

Interim fix #	Description
IY71174	Optimization of MemberGroup SQLs
IY71854	Set CardVerifyCode to null after the order is approved
IY71854	Synchronous AutoApprove does not work with 'CVV remove APAR'
IY73830	Pagination not working on Category List page for Promotions
IY73888	Address Dynamic kit under productbehavior
IY73928	Payment amount greater than order amount
IY74025	Targeting Profile not evaluated correctly for Promotions
IY74361	Product Set publish fails with 400+ categories
IY74382	setMessage(byte newMessage[]) catches java.lang exception
IY74837	ContractImportApprovedVersion fails with ampersand '&' symbol
IY75363	Shopping carts do not merge after creating 2nd FFM Center
IY76176	Address SQL issue
IY76507	Address SQL performance issue
IY76589	Subtotal is \$0 when using Ad Copy
IY76834	Fixed access intents for product.getChildCatalogEntries()
IY69062	Provide recycling fee functionality to tax integration kit
IY76886	WebSphere Commerce Accelerator hangs when searching by a catgroup name
IY77045	Select statements used by dynacache invalidation to be modified
IY77725	Filter behavior when refer to deleted category
IY77789	Inclusion tc with Filter tc
IY77798	OrderItemMove calls MiscCmdLockItemSpecs when ATP is not enable
IY78564	Flag to enable SKU in PMT from Catalog Management
IY78613	Modify Search Code to use the correct Standard Price definition
IY78928	PD_COMMHOSTNAME null and throws null pointer exception
IY79680	Free Gift set as Nonbuyable creates NullPointer and Generic Error
IY79858	Profile Type incorrectly set to 'C' when logging in via LDAP
IY79886	Error in WebSphere Commerce Accelerator when finding product not in catalog filter
IY80068	Add flush() in the sendToTrashCan() method
IY80223	JMSReplyTo was not set for SendTransactedMsg
IY80583	Cannot add product to a category if it belongs to many catalogs
IY80585	For Business Direct, cannot create or delete e-spots from WebSphere Commerce Accelerator

IY80667	wcep:imglink does not resolve non-standard ports
IY80849	Cannot add product with vertical line to campaign using Browse
IY81200	Massloader fails when large CLOB is loaded with Oracle Thin driver
IY81419	In WebSphere Commerce Accelerator, under file management, users are unable to delete individual files
IY81965	Hitting 4K clob limit with AttachmentJDBCHelperBean-Oracle
IY82039	Add a configurable rounding system into promotion engine
IY82080	IdResGen does not use open cursors efficiently
IY82308	Makes 'cursor hold' parameter optional
IY82589	Contracts and filtering differences in Master and Sales Catalogs
IY82628	OrderPrepareCmd handles the free gift item like OrderCalculate
IY82844	Cannot find user organization with consecutive spaces in LDAP
IY82949	Cannot rename files from ManageFiles GUI in WebSphere Commerce Accelerator
IY82972	Need to trim trailing space on Ad Copy Name
IY83337	FileUploadAccessBean fires update to FILEUPLOAD table during read
IY83748	Unable to delete template that is assigned to a category in WebSphere Commerce Accelerator
IY83823	PricingDataBean using commitCopyHelper()
IY83995	Domain Name should be able to handle
IY84081	Performance fix to have promotion engine use the information already saved in the context object
IY84098	Cannot delete shared requisition list
IY84389	PCI enablement
IY85022	User search from WebSphere Commerce Accelerator locks up the whole table
JR22058	Contract excluded Category appearing on external pages
JR22078	After a hang, jobs still in 'R' state in schactive table
JR22093	Correct republish synced product sets issue
JR22113	Corrected view order summary when the SKU for the gift is deleted issue
JR22223	getSKUName in EProUtil returns null, when CATENTDESC.NAME for an item is empty
JR22330	Log on issue when cookie acceptance test is enabled
JR22108	CSA order item discount is not calculated properly is some cases
JR22412	Catalog filter base contract adjustment
JR22418	Marketing Initiative not working properly with Customer Profile
JR22442	Long catentry_id gets truncated in WebSphere Commerce Accelerator
JR22475	langId param. in URL requires browser refresh to affect language
JR22511	Product Name and Description showing -9999 in WebSphere Commerce Accelerator reports
JR22514	Improve interface to allow customization for contract selection
JR22536	Password required for startup cannot be cleared in Configuration Manager

ID22F72	P P 1 1
JR22573	ProcessBackorders messes up order information in ORDPAYINFO
JR22574	MassExtract utility extracts passwords incorrectly from Oracle
JR22594	SupplierHub reset password fails if no challengeAnswer given
JR22701	Do not store contract XML in the database for buyer contracts
JR22728	Solaris 9 with an Oracle 10g database: Instance creation fails when attempting to create it on WebSphere Commerce Version 5.6.1.1 and WebSphere Application Server Version 6.0.2
JR22762	$In\ com. ibm. commerce. order. commands. Order Process Cmd Impl. reverse$
JR22773	Order Place in WebSphere Commerce Accelerator fails if Quantity > Inventory
JR22782	$French\ characters\ get\ corrupted\ in\ WCMSRecord. compuse MimeMessage$
JR22786	getParentProductDataBean() method in ItemDataBean does not work
JR22868	resultOrder of ESPOT_RESULT_ORDER_ORIGINAL not functioning
JR22882	Can add item to cart if no inventory, and backorderable='N'
JR22892	Change Tax page of WebSphere Commerce Accelerator does not load
JR22893	Lowest Contracted Price incorrect
JR22898	New bid and autobid in auctions gives JavaScript [™] error
JR22913	MemoryLeak: free memory exhaust in JVM
JR22920	Non-US format in WebSphere Commerce Accelerator causes error in Edit of Orders
JR22942	Original store promotion will not work if segment is from related store
JR22988	Dialog boxes in WebSphere Commerce Accelerator (WC Tools) are empty
JR23005	fixDeploy not able to execute when there are spaces in the path
JR23109	StoreID is lost when administrator logs into the WebSphere Commerce Accelerator
JR23125	Need to show massload completion status as 1 or 0 when complete
JR23139	TAXAUDIT file record gets written before Payment approval
JR23150	Resolve SKU method is not returning the correct SKUfor the promotion
JR23155	Wrong sets of master prices lists are returned
JR23243	Free shipping promotion fails with multiskufilter with only one SKU
JR23244	Billing Address sometimes missing from ORDERS table
JR23466	Need to make customization of category create cmd possible.
JR23543	Unable to display more than 20 users in included customer
JR23657	Catalog search tool should support items and products that cannot be bought
JR23688	Cannnot assign shipping codes to products, only items
JR23692	SQLSTATE=22001 while publishing FashionFlow in WC561
JR24013	NoClassDefFound error when enabling VisaNet Cassette.
LI70916	notifyOrderSubmitted e-mail not sent when using DoPaymentSimple
LI70922	CodeDrivenAgendaBuilder for promotions
LI70934	Product description field length does not comply with TF standard
LI70965	Deadlock on store creation for organization using Payment Manager
LI70967	Add ability to disable database call to SUBORDERS table

LI71087	Username and password un-specified with SMTP/e-mail setup
LI71090	Deleting a shippingmode in WebSphere Commerce Accelerator deletes related orderitems
LI71096	Estimated shipping date does not show the actual date
LI71098	Shipping charge of \$0 not allowed at JSP level
LI71173	User should not be able to register to a rejected Organization
LI71188	Cannot give 100% of discounts for a coupon
LI71201	UTF codeset checking does not work on Linux
LI71252	When e-mail notification is enabled for a guest shopper, two order cancellation e-mails are sent to shoppers
LI71372	Improvements to the staging propagation tooling
SE22167	OrdersMgpPersistListener is disabled but code runs regardless
SE23533	Payments user roles cannot be assigned for many merchants
SE25158	SQL Statement exceeds maximum size in AS/400® DB2® (SQLException)
SI18855	Custom Promotion is working, but order calculation is not as expected
SI21283	User traffic data is not captured with dynacache enabled
SI23299	Inventory table is out of sync with orders on i5/OS
JR26360	ProductSetTCInclusion Entity Bean missing some methods as READ.
IY96151	UrlMapperImpl which violates the servlet specification by returning incorrect values for the URI
SE29051	No eligible trading agreements can be found for the user
IZ03004	Changed the behavior of updating zero records though the stage propagate utility. The behavior has been modified to cause the stage propagate utility to throw an error if zero records are detected.
IY97562	Allow stagingprop to use the following commands: -retry, -batch, -transaction -destdb_timeout.
LI71680	Updated version of fixdeploy tool
JR24966	Corrected the generic error that is displayed when an order is placed and there is insufficient inventory.
JR25423	Fixed an exception that is thrown when creating an unattended start-up WebSphere Payments instance.
SI23469	When customer creates a new promotion using discount ranges, final page showing discount range does not show up.
LI71730	Fixed an error to allow capture order correlation for Ad copy content
IY91989	Fixed the cache organization finder results.
IY79531	DynaCacheInvalidationCmd broadcast job does not work across cluster nodes.
IY79948	Feature implementation so that OrderAddressValidateCmdImpl validates organization shipping address instead of user's shipping address
IY81348	Double Click Handler StackOverFlowError
IY84162	The Manage Files page in WebSphere Commerce Accelerator takes very long time to load when there is a large number of directories or files in the directory structure it displays
IY84567	Available Languages for a store contains a "selected" entry
IY85929	The promotion engine has protected context
	•

IY86215	A fix for Memory leak in nc_crypt and additional tracing added
IY86483	OrderLevel Free Gift promotion is evaluated against OrderTotal (including taxes and shipping) instead of subTotal (only the accumulated prices of all)
IY86715	Blank page is returned when using double quotes on catalog search.
IY86769	Duplicate category when browsing catalog during promotion creation
IY86836	Slow ProductDisplay command with 13 million rows in PRESETCEREL
IY86854	Generic application error when using browser's back button
IY87038	Valid offer does not get picked up for a pending order
IY87190	WebSphere Commerce Analyzer - Custom contract not display discount correctly from base
IY88656	Allow future invalidation via cacheivl table.
IY88772	Created a scheduler command to clear trash can order
IY88874	SchedCouponCmdImpl consumes a large amount of memory
IY89101	Performance problems with shipping/tax calculations
IY89202	Incorrect associations between users and customer segments
IY89295	CPPMN table locks with updates when updates are not happening.
IY90216	Unnecessary encoding of XML within xsite scripting protection
IY90774	Marketing -> Promotions -> Segment summary not working
IY90899	E-mail Marketing Campaigns performance fixes
IY90929	Corrected the flow of placing a guest order
IY90973	Promotion name should allow numeric chars
IY91279	Corrected an issue where instance creation failed on Unix system
IY91383	Blank page occur while the same user logon multiple time
IY91475	Deleted orders inside 'Trash can' appear in search output
IY91476	E-mail Activity Performance improved
IY91515	Performance problems with a contract with many adjustments
IY91515	removed the unwanted problem determination logs
IY91860	dbconnect was compiled with wrong version of Oracle JDBC driver
IY92177	"Bad or missing parameter: DynamicKitPricingTCId" error
IY93118	Logon adminconsole failed after configuring WebSphere Commerce to use an LDAP server.
IY93284	Correct a general issue reported by customers.
IY93304	Corrected two problems with ApplyCalculationUsageTIKBaseCmdImpl
IY93347	Provide the ability to disable Junk Order feature
IY93384	Add "Select Distinct" in DynaCacheInvalidation to improve performance
IY93510	PromotionEngineDiscountCalculationCodeCombine handle empty cart
IY93739	Currency formats appending, not refreshing
IY93769	UnitManager throws NullPointerException
IY93997	CatalogGroupPageAccessBean does not provide the proper information
IY94001	Dynamic kits do not copy over configuration information
IY94002	Return getAttribute() output should be cast as String

D/045/5	T 1d 1 ded e 1 3 de
IY94767	Improved the search so that the custom class can have their own package
IY94955	Leftover CALCODEMGP when removing all customer segments from a promotion
IY95221	Reduced the deadlocks on ReleaseExpiredAllocation
IY95279	AbstractECTargetableCommand.reset() does not call super.reset()
IY95484	Updates to contract IDs needed when migrating shopping carts
IY95698	The order status is C, but without payment records
IY95698	Inconsistent order information during deadlock
IY95711	Inventory is checked even if the TRACKINVENTORY is set to N
IY96920	The ORDERS.TOTALADJUSTMENT was being reset to 0.
IY97875	Completed a requirement that adds interest items
IY98301	Mark 2 methods of ReleaseExpiredAllocationsCmdImpl as protected
IY98306	OrderItemShippingModeListDataBean doesn't apply order proms.
IY99039	Add extension point to order command when retrieving trading id
IY99221	Attrbts with prohibited values-remove before forward error view
IY99669	ShopcartDrivenAgendaBuilder got NPE when you modify the shopcart
IY99777	Cannot return an order with 24 or more different orderitems
IY99844	Free gifts are given when singleitems in a bundle are purchased
IZ00003	Wrong defaultCommandClassName for OrganizationSetInSessionCmd
JR22395	OrderDatabean checks orderitem status not inventory status
JR23816	MessageAccessBean returns null Pointer exception
JR24015	Importing an exported hosting contract fails
JR24116	java.lang.NumberFormatException when changing flow
JR24147	Requisition List requires User's Organization
JR24205	Null Pointer Exception when enabling persistent sessions
JR24243	Guest shopping cart does not merge with registered user's cart.
JR24312	Defect for trading agreement
JR24336	List of Files displayed should be sorted by alphabetical order
JR24386	Product recommendation campaigns filtering on category is broken.
JR24465	RememberMe functionality fails due to Null LangId
JR24495	Allow DBUpdateTool to re-encrypt data custom tables
JR24498	Specific Products not showing product after assigning the Shipping Code
JR24536	StaleConnectionException occurs with large number of orderitems
JR24537	startdate and endate in offer table are not updated in the database
JR24552	With two or more web activities, only one web activity shows up
JR24574	URL Mapper on WebSphere Commerce Version 5.6.1.1 and WebSphere Application Server 6.0.2.5 fails
JR24580	SQLParser.replaceFunction does not handle multiple nestings
JR24621	Errors when displaying the information for an Ad Copy in WebSphere Accelerator
JR24721	DuplicateKeyException passed over in SetOrderPaymentInfoCmdImpl
	·

JR24757	getEntitledSubCatalogGroupsByStore throws NullPointerExceptions
JR24814	Promotions bucket, order checkout fails, null pointer
JR24822	Unable to automatically approve buyer organizations
JR24848	Price adjustment does not refresh after applying IY87190
	7 11.0
JR24860	Cannot logon to WebSphere Payments UI in 5612 Toolkit
JR24969	Search filter on CATENTRY_TYPEs and published status
JR24970	Cannot do promotion for dynamic kit
JR24993	top_category variable not declared in CategoriesDisplay.jsp
JR25015	CVV2 values not deleted for automatic deposit payments
JR25024	Discount price of item not reflected in DB during order flow.
JR25025	Unable to approve second order since previous order is cached
JR25039	Promotion engine not applying the promotion offering the best practices
JR25085	x-data/xact-error is wrongly treated as unsupported
JR25134	Avoid literals in SQL to improve performance.
JR25163	Oracle does not accept " as empty string
JR25189	Cannot add item to cart if item is added to more than 1 product
JR25211	Merge error causing migrated pending orders failure
JR25363	Unable to specify category for product promotion when category
JR25364	No warning when WebSphere Commerce Analyzer failed to save long promotion long description
JR25504	User was remembered in not remember case
JR25504	Corrected AbstractMethodError
JR25553	Large CatalogIDs prevents accelerator from modifying the price
JR25726	Add new shipping mode from UI, miss entry in policy table
JR25838	E-spot overwriting other e-spots after migration from 56 to 5606
JR25878	Correct typo in BreadCrumbTrailDisplay.jspf
JR25931	Hide the 'Default' sales tax code & enable "set as default" button
JR25931	UpdateTax01CmdImpl gives a Finder Exception
JR25931	Support multiple fulfillment center for Tax configuration UI
JR26082	Activate or deactivate promotion fails if checked on multiple pages
JR26161	Do not fail on propagating a row delete, because it is already deleted
JR26212	OrderSearchBean.findOrdersForStoreAdvanced() fails for Oracle
JR26327	PolicyManager.refreshRegistry slow on PolGpSubscriptionRegistry
JR26594	Improve performance of GetContractUnitPriceCmdImpl.
JR26594	Slow performance with GetContractUnitPrice.
JR26594	Trace Improvement in GetContractUnitPrice and RetrievePrice
LI71288	Deadlock in INVENTORY in repeated Scheduled Orders.
LI71315	Display the sales catalog instead of the master catalog
LI71336	Orderitems status did not rollback properly
LI71583	Uploaded image does not show in the store front of WebSphere Commerce Accelerator
LI71714	Add to Shopping Cart fails for Content click action

LI72130	Unable to delete jurisdiction in WebSphere Commerce Accelerator
SE27129	MigrateUserEntriesCmdImpl.migrateInterestItems() does not merge
SE27273	Cache Access Control queries executed during bean.activate
SE28250	WebSphere Commerce should pre-validate before inserting to ORDPAYINFO
SE28721	Advanced order search statement need to optimize
SI23474	Store DN as uppercase to avoid multiple toUpper calls
SI23527	Unable to setup cross-site scripting protection
SI25946	The payment application cannot find library QPYMWEB.

Note: If you have installed other APARs that are not listed above, you will need to reinstall them after applying this fix pack.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

Any reference to an IBM licensed program in this publication is not intended to state or imply that only IBM's licensed program may be used. Any functionally equivalent product, program, or service that does not infringe any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, is the user's responsibility.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing IBM Corporation
North Castle Drive
Armonk, NY 10504–1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation Licensing 2-31 Roppongi 3-chome, Minato-ku Tokyo 106, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be

incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Canada Ltd.
Office of the Lab Director
8200 Warden Avenue
Markham, Ontario
L6G 1C7
Canada

Such information may be available, subject to appropriate terms and conditions, including in some cases payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

Trademarks

IBM, the IBM logo and the following terms are trademarks or registered trademarks of International Business Machines Corporation in the United States or other countries or both:

AIX

- DB2
- iSeries
- i5/OS
- pSeries
- xSeries
- zSeries
- OS/400
- S/390
- WebSphere
- z/OS

Windows is a trademark of Microsoft Corporation in the United States, other countries, or both.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Linux is a trademark of Linus Torvalds in the United States, other countries, or

Other company, product or service names may be the trademarks or service marks of others.

IBM

Printed in USA