



Installation Guide

Note:

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 39.

First Edition (March 2005)

This edition of this book applies to version 5.6 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:

<http://www.ibm.com/software/webservers/commerce/rcf.html>

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, 2005. All rights reserved.

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

Contents

Preface	v
About this book	v
Update History	v
Conventions used in this book	v
Terminology used in this book	vi
Path variables.	vi
Chapter 1. Product editions	1
WebSphere Commerce editions supported by this fix pack	1
Chapter 2. New and changed.	3
WebSphere Commerce Updates	3
Chapter 3. Prerequisites	11
Master Technote	11
WebSphere Application Server prerequisites	11
Compiler synchronization needed when using largebranch	11
Encoded JSP parameter needs to be parsed.	12
Solution to "Internal Server Error" with CacheMonitor	12
Solution to "code too large" error compiling JSP	12
iSeries prerequisites	12
Red Hat Linux prerequisites.	12
WebSphere Commerce – Express prerequisites.	13
Remote DB2/390 Version 8 prerequisites.	13
Solution for failure to execute DELETE SQL statement in staging DB	13
Chapter 4. Installing the fix pack	15
Before applying the fix pack.	15
Multinode environments	15
Installing new components	15
Exporting instances.	15
Preinstallation	16
Silent install	17
Applying the fix pack to WebSphere Commerce	17
Applying the fix pack to existing WebSphere Commerce and Payments instances	18
Graphical user interface install	20
Applying the fix pack to WebSphere Commerce	20
Applying the fix pack to existing WebSphere Commerce and Payments instances	21
Post installation steps	23
Advisory	23
Updating Channel Manager access control policies	23
Running the fixDeploy tool	25
Implementing changes for WebSphere Commerce Performance Monitor	25
Implementing changes for WebSphere Commerce Accelerator	25

Updating the triggers in the staging server's database	26
Creating 64-bit stored procedures on a remote DB2 database.	26
WebSphere Commerce on OS/400 and i5/OS with a remote staging server database	28
Precompiling JSPs on OS/400 or i5/OS	28
Updating the WebSphere Commerce Help files	28
Updating the WebSphere Commerce documentation	28
Chapter 5. Uninstalling the fix pack	31
Before removing the fix pack	31
Before you uninstall	31
Silent uninstall	31
Removing the fix pack from WebSphere Commerce.	31
Removing the fix pack from existing WebSphere Commerce and Payments instances	32
Graphical user interface uninstall	33
Removing the fix pack from WebSphere Commerce.	33
Removing the fix pack from existing WebSphere Commerce and Payments instances	33
Chapter 6. Troubleshooting	35
Error running acpload.cmd - The input line is too long	35
Problems with WebSphere Commerce Payments after migration	35
Store pages do not display completely; parts of pages are missing	35
Config-Manager fails to create QIBM_HTTP_SERVER_ in Digital Certificate Manager (iSeries only).	36
Troubleshooting for Linux	36
Problem installing WebSphere Application Server Version 5.0.2 Cumulative Fix 3 on Red Hat Enterprise Linux AS or ES, Version 3.0 for Linux on Intel based systems.	36
Database users do not have authority to perform operations on objects when using remote DB2/390 Version 8 server.	36
Failure to execute DELETE SQL statement in staging DB when using a remote DB2/390 Version 8 server	37
Deadlocks when purchasing orders with many users in a B2B store.	37
Notices	39
Trademarks	40

Preface

About this book

This document describes the steps required to apply the IBM® WebSphere® Commerce 5.6.0.4 fix pack to version 5.6 of the following editions of WebSphere Commerce:

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

The WebSphere Commerce 5.6.0.4 fix pack can be applied to the base level (5.6.0.0) and existing fix pack levels (5.6.0.1, 5.6.0.2 and 5.6.0.3).

Update History

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


Edition	Date	Updates
First edition	March 30 2005	<ul style="list-style-type: none">• 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 specific to WebSphere Commerce Business Edition

 **Professional** indicates information specific to WebSphere Commerce Professional Edition.

 **Express** indicates information specific to WebSphere Commerce – Express Edition.

 **AIX** indicates information that is specific to WebSphere Commerce for AIX®.

 **Linux** indicates information that is specific to WebSphere Commerce for Linux™ for iSeries™, WebSphere Commerce for Linux for pSeries®, WebSphere Commerce for Linux for xSeries®, and WebSphere Commerce for Linux for zSeries® and S/390®.

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

▶ **390** indicates information that is specific to OS/390®.

▶ **Solaris** indicates information that is specific to WebSphere Commerce for the Solaris Operating System.

▶ **Windows** indicates information that is specific to WebSphere Commerce for Windows® 2000 and Windows 2003.

▶ **z/OS** indicates information that is specific to z/OS®.

Terminology used in this book

cell_name

This variable represents 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

This variable represents 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.

Path variables

HttpServer_installdir

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

▶ **AIX** /usr/IBMHttpServer

▶ **Solaris** ▶ **Linux** /opt/IBMHttpServer

▶ **Windows** c:\Program Files\WebSphere\IBMHttpServer

WAS_installdir

The installation path for WebSphere Application Server 5. The default installation directory is:

▶ **AIX** /usr/WebSphere/AppServer

▶ **iSeries** /QIBM/ProdData/WebAS5/Base

▶ **Solaris** ▶ **Linux** /opt/WebSphere/AppServer

▶ **Windows** c:\Program Files\WebSphere\AppServer

WAS_userdir

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

 /QIBM/UserData/WebAS5/Base/WAS_instance_name

WC_installdir

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

 /usr/WebSphere/CommerceServer56

 /QIBM/ProdData/CommerceServer56

  /opt/WebSphere/CommerceServer56

 c:\Program Files\WebSphere\CommerceServer56




WC_userdir

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

 /QIBM/UserData/CommerceServer56

Instance_dir

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




   WAS_installdir/installedApps/cell_name/
WC_instance_name.ear

 WAS_userdir/installedApps/cell_name/WC_instance_name.ear

 WAS_installdir\installedApps\cell_name\WC_instance_name.ear

Pay_instance_dir

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

   WAS_installdir/installedApps/cell_name/
pay_instance_name_Commerce_Payments_App.ear

 WAS_userdir/installedApps/cell_name/
pay_instance_name_Commerce_Payments_App.ear

 WAS_installdir\installedApps\cell_name\
pay_instance_name_Commerce_Payments_App.ear

Chapter 1. Product editions

WebSphere Commerce editions supported by this fix pack

This fix pack supports WebSphere Commerce Version 5.6 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 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 "Prerequisite software" in the *IBM WebSphere Commerce Version 5.6 Installation Guide* or *IBM WebSphere Commerce — Express Version 5.6 Installation Guide*.

Chapter 2. New and changed

WebSphere Commerce Updates

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

Interim fix #	Description
IY55990	Corrected issue with PriceRefreshFlag 2.
IY59639	Corrected null pointer exception when PMI turn on.
IY60615	Corrected issue where broadcast job causing deadlocks running with clones.
IY63462	Taxware integration updates
IY63839	Corrected improper evaluation of multiple free gift adjustment.
IY63842	Corrected averaging in PMI.
IY63844	DBCLeant improvements.
IY63922	Corrected SAXParse exception when running Migratedb script.
IY64362	Corrected Javascript error in the PMT.
IY64844	Corrected webservice issue on Solaris.
IY64965	Corrected pagination issue when controller command returns an exception.
IY65363	Corrected price display issue Advanced B2B Store order flow.
IY65640	Corrected error for discounts greater than 999.99.
IY65828	Corrected JavaScript truncation error creating promotions with very large user ID numbers.
IY65983	Corrected null pointer exception on update order quantity.
IY66071	Corrected Javascript error in the Design Sales Catalog tool with Windows XP SP2
IY66296	Correct issue if hidden products not appearing in contract catalog tree.
IY66301	Update ContractTCDeployCmdImpl.doUobUpdateFailed() for better error handling.
IY66516	Corrected promotion list null pointer exception.
IY66647	Corrected issue with creating a payment instance in federated environment.
IY66710	Allow special characters during customer segment creation.
IY66896	Corrected interface issue when discount value is greater than order item amount.
IY66897	Corrected products screen interface for improperly formatted numbers.
IY66983	Corrected issue with displaying Japanese characters.
IY68952	Corrected order process approvals issue in Organizational Admin Console.
JR20010	Corrected CurrencyFormatGenerator JavaScript errors.
JR20153	Corrected OrderCreateXML.jsp to handle guest orders.

JR20189	Corrected metadata directory issue when checking out the workspace checkout from CVS.
JR20260	Corrected issue where EMLUSRREC.RECEIVEEML is not updated with the correct store ID.
JR20307	Corrected default billing address issue during checkout in ConsumerDirect sample store.
JR20338	Updated Jurisdictions.jsp to use the FFMC selected during Accelerator logon.
JR20450	Corrected issue with Taxware external audit.
JR20464	SQL update to improve performance.
JR20469	Massloader update to correct SAXParser exception on Oracle versions above version 9.2.0.1.
JR20495	Corrected issue when legacy messages processed through parallel listener.
JR20543	Added support for null value parameters with URL mapper.
JR20544	Update to support Turkish locale with Cloudscape.
JR20565	Corrected error in payInfo.setApprovedDate(payment.getApproveTime()).
JR20572	Updates to support WAS 5.1.1.
JR20585	Corrected migration issue when DN values contain apostrophes.
JR20595	Corrected OrderItemUpdate to retrieve price for multiple catentry with the same parent catentry_id.
JR20634	Corrected campaign migration error.
JR20659	Correct issue where file adapter does not release first file handle.
JR20698	Provide setter and getter methods for SendXMLOrderCmdImpl.
JR20701	Corrected exception when inserting NULL into BLOB through ETillArchive.
JR20769	Correct cassette load error with Turkish locale.
JR20794	Improved performance when user has many roles.
JR20809	Support member profile validation when displaying any promotion on store front page.
JR20834	Corrected issues placing order from Accelerator.
JR20842	Corrected contract migration error.
JR20868	Corrected sales catalog creation through 'Add Product' to create item-category association.
JR20874	Corrected error when deleting bundle or kit.
JR20874	Corrected issue with reseller ability to assign merchandising association to a manufacture owned catentry.
JR20882	Allow mapping of one promotion code to multiple promotions.
JR20944	Corrected issue with RFQBuyersForOrg.
JR20958	Corrected policy load issue in WC demo package.
JR20996	Corrected free gift deletion from shopping cart issue.
JR21004	Correct error with same item under different price break in one cart.
JR21161	Added finder method to CatalogEntry EJB.
LI70477	Correct Product Attribute issue in Accelerator.

LI70488	Updated SQL files for UNIX machines.
LI70496	Corrected SQL exception.
LI70503	Parameterization of SQL to improve performance.
LI70544	Remote 64-bit database support on Power5.
LI70545	Remote 64-bit database support on zLinux.
LI70595	Corrected error when requesting password reset after too many attempts.
SE17660	Corrected issue with items not being retained in shopping cart when URL Rewriting & Dynamic Caching enabled.
SE17890	Support for special characters in Promotions.
SE18574	Improve Configuration Manager performance when changing parameters on OS/400.
SE18818	Corrected null pointer exception in PromotionCodeDataBean.
SE18893	Use BaseJDBCHelper.useDB2_400(), to determine OS/400 database.
SI16235	Corrected issue where cannot view category list if category does not have parent.

In addition, the following is a list of updates or improvements:

- Update to Channel Manager access control ³
- Improvements to Migration^{1,2}
- Correction of Staging Server defects ^{1,2}
- Enhanced B2C store models ease of use ¹
- Java™ doc updates ^{1,2,4}
- Support for 64 bit DB2® Database on AIX and Solaris ¹
- Performance enhancements ^{1,2}
- Improvements to Staging Server ²
- Improvements to security ^{2,4}
- Improvements to DBClean ⁴
- Approvals
 - Corrected issue where ActiveOrganization in commandcontext was not updated upon registration ²
 - Removed unnecessary approval JSP files on Stores.war\tools\approvals directory ²
- B2B Models
 - Resolved issue where migrated B2B users were not able to signon to ToolTech store ¹
 - Resolved issue where "Order Status" button gives blank page ²
 - Corrected display of text ad copy ²
 - Resolved issue where subcategory images were hard coded in JSP ²
 - Corrected errors with MultipleShipping[Address/Method] view ²
 - Corrected Euro currency symbol display on order status page ²
 - Corrected issue where HTML tags showed on Select Shipping Method page ²
 - Added back mechanism from item info page to order summary ²
 - Order Summary page fails to display some currency symbols ²
 - Resolved issue where OrderDetail is empty ²

- Resolved issue where shopping cart tried to modify completed order, not new order ²
- Updated the ConsumerDirect to work with the preview tooling ²
- B2C Models
 - Resolved issue where quick checkout fails in Consumer Direct store ¹
 - Corrected JSP pages for preview tools ¹
 - Corrected issue when publishing SAR 2nd time with the same catalog ⁴
- Campaigns
 - Corrected display issue with category list ¹
 - Resolved issue where campaign runtime command may return results from other stores ¹
 - Corrected issue where catalog tree in campaign may return duplicate entries ²
 - Corrected promotion content filtering issue for Category promotion ²
 - Corrected issue in showing cross-sell product based on shopcart's contents. ⁴
- Catalog
 - Corrected problem where product long description cannot exceed 4k on and Oracle database ¹
 - Allow product weight to be set to non-integer value ¹
 - Resolved issue where catalog filter could not update a product if there are missing columns ²
 - Corrected issue where sales catalog browsing fails if catalog filter inclusion used ²
- Configuration Manager
 - Resolved issue where instance creation fails in oracle/2 node/remote web server configuration ¹
 - Resolved SUN/Oracle/2Node/Remote web server instance start error ¹
 - Added "successful" message at the end of WCIM running ¹
 - Corrected issue where redundant datasource was created when change usr/pwd in Configuration Manager ²
 - Corrected error when click WebSphere Commerce Analyzer in Configuration Manager ²
 - Removed hard coding of WebSphere Application Server install paths on iSeries ²
 - Corrected java.lang.NoClassDefFoundError when clicking security tab in Configuration Manager ²
- Contracts
 - Resolved CommandContext - allowed setting non entitled contracts ²
 - Resolved StoreCreationWizard failure with Sales Catalog in CPS Store ²
 - Resolved issue where unsynchronized inclusion/exclusion t&c; caused blankcatalog displayed in hosted B2B store ²
- Developer
 - Added 'FOR FETCH ONLY' support for Cloudscape[®] ¹
 - Corrected CSA reports to work on Cloudscape ¹
 - Corrected issue where idresgen and massload don't handle spaces in directory names ¹
 - Resolved issue where JSPInvokerConnection.java throws errors when compiled in JDK 1.4 ¹

- Corrected java.sql.DataTruncation when sending email ²
- Added new version of WCA reports for lite environment ²
- Revised JSP Preview Tool setup documentation ⁴
- Corrected path for toolsgeneralconfig datasource.properties ⁴
- E-mail Activity
 - Corrected issue where marketing manager had no authority for command ¹
 - "CheckForBouncedEmail" ¹
 - Made the campaignId parameter optional ²
- Messaging
 - Corrected error with sample OrderStatus.wsdl ¹
 - Resolved issue where order status updated even though expired SupplierCookie used ¹
 - Corrected issue where NPE appeared between server restarts if ME commands are used ¹
 - Corrected Portal Alert messaging missing JSP file ¹
- Model Hosting
 - Added dependency IDs for DC_contract (storePath) ²
 - Removed redundant cacheable commands cache entry specification ²
- Massload
 - Corrected issue where updatedb.sh fails on subsequent executions ⁴
- Orders
 - Corrected issue where PreProcessOrderCmdImpl does not update promised availability times ¹
 - Corrected issue where OrderItemMove does not move coupon attachments and pattributes ¹
 - Resolved ExtendOrderItemProcessCmdImpl API compatibility issue ²
 - Corrected number format exception ²
 - Resolved issue where OrderListDB.setFetchCurrentPendingOrder(boolean) was not working ²
 - Resolved OrderNotifyCmdImpl exception if langid was null ²
 - Corrected OutOfStockOrderItems null pointer exception ²
 - Corrected issue where no eligible trading agreements can be found for user ⁴
 - Corrected error when invoking OrderPrepare command ⁴
 - Updated OrderProcess command to change backorder status from "B" to "M" ⁴
- Payments
 - Resolved issue where a payments instance could not be created through configuration manager ¹
 - Corrected issue where wrong WebSphere node parameter creates difficult-to-trace exception ¹
 - Corrected issue when creating Payments DB without "encoding Unicode" ¹
 - Corrected issue of Payments instance creation reported successful if wrong Oracle DB name specified ²
 - Corrected Create Payments with Toolbox failure for remote iSeries DB with IASP ²
 - Corrected createPaymentsVirtualHost script on iSeries ²

- Resolved issue where iSeries Express configuration manager fails on remote Payments²
- Added pop-up error for wrong site administrator ID in WPM instance²
- Corrected issue where wrong WebSphere node parameter creates difficult to trace exception²
- Pricing
 - Check in item/product offer correction¹
- Promotions
 - Corrected description in free gift promotion¹
 - Resolved failure to create a promotion in Original Store targeting to the Customer Segment created in the Asset Store²
 - Removed unnecessary messages in SystemOut created when listing Promotions in Accelerator⁴
- Returns
 - Resolved issue where a user had no authority to display return records¹
 - Corrected issue where receiver see "%= comm.endDlistTable() %>" on return page¹
 - Corrected issue where the user had no authority to display return records¹
 - Resolved issue where returns could not be created in B2B hosted stores¹
- Runtime
 - ECTrace performance improvements¹
 - Resolved issue where Logon command did not respect PasswordInvalidation flag¹
 - Corrected problems redirecting from Commerce to external system²
 - Resolved issue where ProductINfo gets version from wrong location²
 - Corrected servlet initialization failed exception in SystemOut.log²
 - Resolved issue where SSLAcceleratorOption and tools did not work²
 - Resolved issue where loop in error notification if msgtype not properly assigned²
 - Filtered out the explicitly excluded member groups from calls to the MemberGroupMemberAccessBean²
 - Corrected null pointer exceptions in ConverterKey²
 - Resolved issue where add new address form didn't verify user input properly²
 - Corrected confused Roles button in Users List Panel in OAC²
 - Resolved issue where OrgEntityDataBean did not sync org with LDAP on refresh²
 - Update to cookie handling with dynamic caching⁴
 - Resolved issuing a close on a null connection object⁴
- Shipping
 - Corrected JSP compile error¹
- Store Creation
 - Corrected store creation problems in hosting eSites¹
- Taxation
 - Made user interface more consistent²
 - Corrected issue where returning an item from the catalog did not work with Taxware²

- Tools
 - Resolved issue not creating products in Hosting Catalog Asset Store ¹
 - Corrected Guided Sell sorting issue ⁴

¹ Indicates updates or improvements introduced in fix pack 5.6.0.1.

² Indicates updates or improvements introduced in fix pack 5.6.0.2.

³ Indicates updates or improvements introduced in fix pack 5.6.0.3.

⁴ Indicates updates or improvements introduced in fix pack 5.6.0.4.

Chapter 3. 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 Support maintains a web page that links to several fix pack related documents. This page, known as the 'WebSphere Commerce 5.6 fix pack master technote', is a central resource for information related to WebSphere Commerce v5.6 fix packs. 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 5.6 Master Technote is:

<http://www.ibm.com/support/docview.wss?uid=swg21173312>

WebSphere Application Server prerequisites

Compiler synchronization needed when using largebranch

Note: If you are installing from existing fix pack level (5.6.0.3 or lower), then the interim fix is already applied. Move on to the next section and complete any applicable steps.



If you have WebSphere Application Server Version 5.0.2.3, download and install the WebSphere Application Server interim fix PQ86604. The link to PQ86604: <http://www.ibm.com/support/docview.wss?uid=swg24007050>



If you are using an iSeries machine or have WebSphere Application Server Version 5.0.2.6 and above, you do not need to download the PQ86604 fix. However, you still need to follow the instructions below to enable the largebranch option.

After installing the interim fix PQ86604, the largebranch option in the JSP compiler must be enabled. To enable the largebranch option complete the following steps:

1. Start the WebSphere Application Server server1.
2. Launch the WebSphere Application Server administration console.
3. Enter your user ID.
4. In the left window pane expand **Servers** and click on **Application Servers**.
5. In the right window pane, under the heading **Name**, click on **WC_instance_name**.
6. Under the heading **Additional Properties** click on **Process Definition**.
7. Under the heading **Additional Properties** click on **Java Virtual Machine**.
8. Under the heading **Additional Properties** click on **Custom Properties**.
9. Click **New**.

10. Under the heading **General Properties**, in the **Name** field enter:
`com.sun.tools.javac.main.largebranch`

in the **Value** field enter:
`true`
11. Click **OK**.
12. Click **Save**.
13. When asked to save to master configuration, click **Save** again.
14. Logout of the WebSphere Application Server administration console.

For instructions on how to stop and start a WebSphere Application Server, refer to the *IBM WebSphere Commerce Version 5.6 Installation Guide*.

Encoded JSP parameter needs to be parsed

For WebSphere Application Server versions 5.0.2.5 to 5.0.2.7, 5.1.1 or 5.1.1.1 an additional fix is required. Download and install the WebSphere Application Server interim fix PQ93388. The link to PQ93388 is:
<http://www.ibm.com/support/docview.wss?uid=swg24007848>

Solution to "Internal Server Error" with CacheMonitor

For WebSphere Application Server version 5.0.2.9 and 5.1.1.3 an additional fix is required. Download and install the WebSphere Application Server interim fix PQ99045. The link to PQ99045 is:
<http://www.ibm.com/support/docview.wss?uid=swg24008836>

Solution to "code too large" error compiling JSP

For WebSphere Application Server version 5.1.1.1 and 5.1.1.2 an additional fix is required. Download and install the WebSphere Application Server interim fix PQ96576. The link to PQ96576 is:
<http://www.ibm.com/support/docview.wss?uid=swg24008289>

iSeries prerequisites



iSeries customers must ensure that they have applied the required Program Temporary Fixes (PTFs). For a list of the PTFs, go to:
<ftp://ftp.software.ibm.com/software/websphere/commerce/56/en/v56ptf.html>.
Before applying the PTF, view the PTF cover letter for additional instructions.

Red Hat Linux prerequisites

 If you have Red Hat Enterprise Linux AS Version 3.0 or ES Version 3.0, please do the following.

Before you run the updatedb or updatedbGUI, as well as the acpload script, run the following commands as the non-root user:

```
export LD_ASSUME_KERNEL=2.4.19
export RPM_FORCE_NPTL=1
```

WebSphere Commerce – Express prerequisites

Express

If you are using WebSphere Commerce – Express and have a WebSphere Commerce instance created then do the following:

iSeries Copy the `WAS_installdir/properties/version/EXPRESS.product` file to the `WAS_userdir/installedApps/cell_name/WC_instance_name.ear/properties/version` directory.

Linux Windows Copy the `WC_installdir/properties/version/EXPRESS.product` file to the `WAS_installdir/installedApps/cell_name/WC_instance_name.ear/properties/version` directory.

Remote DB2/390 Version 8 prerequisites

Solution for failure to execute DELETE SQL statement in staging DB

DB2 for 390

When you issue a DELETE SQL statement in a WebSphere Commerce staging database using a remote DB2/390 Version 8 server, an additional fix is required on the DB2/390 server side. Contact your DB2/390 administrator to download and apply the DB2/390 PTF Q86276/UQ86546. Please download the fixes from this link:

<http://techsupport.services.ibm.com/server/390.ShopCart?add=true&ptfs=UQ86546>.
For more information about this fix, review interim fix PQ86276 at the following link: <http://www.ibm.com/support/docview.wss?uid=swg1PQ86276>

Chapter 4. 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. If you apply a fix pack to WebSphere Commerce, apply the same level of fix pack to WebSphere Commerce Developer. WebSphere Commerce fix packs apply to both WebSphere Commerce Developer and WebSphere Commerce.

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 would be 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)

You must run the updatedb script on the node where the database is managed.

iSeries iSeries customers will be required to 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 install method or the graphical user interface install 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 (5.6.0.0) CDs the fix pack must be reapplied to that component in order to bring it up to the 5.6.0.4 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.

Exporting instances




Any instances exported after the fix pack is applied will no longer be at the fix pack level. The fix pack must be applied to the instance again after exporting it.

Preinstallation


1. Create a temporary directory to download the fix pack into. This temporary directory will be denoted by *fp_installdir* in the remaining sections of this guide.
2. Download the fix pack from the WebSphere Commerce 5.6.0.4 fix pack Web site (<http://www.ibm.com/support/docview.wss?uid=swg24009104>) into *fp_installdir* directory. The file you download will be denoted by *WC_5604_file_name* in the remaining sections of this guide.

 Before moving on to the next step, enter the QShell by typing QSH at the OS/400 or i5/OS command prompt.

3. Navigate to the *fp_installdir* and then extract the files in the *WC_5604_file_name* archive by running the following command:

   `WAS_installdir/java/bin/jar -xvf WC_5604_file_name`

 `jar -xvf WC_5604_file_name`

 `WAS_installdir\java\bin\jar -xvf WC_5604_file_name`

For example, if your temporary directory, *fp_installdir*, is /5604 and the JAR file you have downloaded, *WC_5604_file_name*, is WC_5604_AIX_BE.jar then you would run the following commands:

```
cd /5604
```




```
/usr/WebSphere/AppServer/java/bin/jar -xvf WC_5604_AIX_BE.jar
```


4.    Run the following command:


```
chmod -R 775 fp_installdir
```

For example,

```
chmod -R 775 /5604
```


5.    Ensure that you are logged in as the root user.




 Ensure that you are logged in as a user that has QSECOFR authority.

 Ensure that you are logged in with a Windows user ID that is a member of the Administrator group.

6. Stop the following:
 - 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.

For instructions on how to stop and start these components, refer to the *IBM WebSphere Commerce Version 5.6 Installation Guide* or *IBM WebSphere Commerce — Express Version 5.6 Installation Guide*

7.  Open a new Command Prompt window for each section of the fix pack install process. For example, after completing the section "Updating WebSphere Commerce" close the Command Prompt window and open a new one in order to complete the section "Running the config_ant script". This will ensure that your PATH and CLASSPATH variables are reset.

8.    Before continuing for the installation, run the following command:

```
. WAS_installdir/bin/setupCmdLine.sh
```

There are two ways to install this fix pack depending on your operating system.

▶ iSeries

▶ DB2 for ▶ 390 ▶ z/OS Only the silent installation is available.

▶ AIX ▶ Linux ▶ Solaris ▶ Windows Either the silent installation or the graphical user interface installation may be used.

Silent install

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 will update the WebSphere Commerce product.

1. Ensure you have reviewed and completed all the necessary steps in Chapter 3, “Prerequisites,” on page 11
2. ▶ AIX ▶ Linux ▶ Solaris ▶ Windows Using the command line, navigate to the *fp_installdir* directory.
▶ iSeries 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 where appropriate, options specific to your WebSphere Commerce installation.

▶ AIX ▶ iSeries ▶ Linux ▶ Solaris `./updateSilent.sh fixpack install WC_installdir fixpackID fp_installdir`

▶ Windows `updateSilent.bat 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 vii.
- *fixpackID*: The name of the fix pack to be installed. For example, `wc56BE_fp4_os400`.
- *fp_installdir*: The temporary directory where the fix pack was downloaded into.

For example,

▶ AIX `./updateSilent.sh fixpack install /usr/WebSphere/CommerceServer56 wc56BE_fp4_aix /5604`

▶ iSeries `./updateSilent.sh fixpack install /QIBM/ProdData/CommerceServer56 wc56BE_fp4_os400 /QIBM/5604`

▶ Linux `./updateSilent.sh fixpack install /opt/WebSphere/CommerceServer56 wc56PRO_fp4_linux /5604`

▶ Solaris `./updateSilent.sh fixpack install /opt/WebSphere/CommerceServer56 wc56PRO_fp4_sun /5604`

▶ Windows `updateSilent.bat fixpack install c:\WebSphere\CommerceServer56 wc56EXPRESS_fp4_win c:\5604`

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.

Running the wcnonroot script

▶ AIX ▶ Linux ▶ Solaris

This section will update file ownership and permissions on UNIX[®] systems.

1. Switch to the root user.
2. Navigate to the *WC_installdir/bin* directory.
3. Run the following command:

```
./wcnonroot.sh
```

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 23 and complete any applicable steps. If you have existing WebSphere Commerce instances or Payments instances, move on to the next section.

Applying the fix pack to existing WebSphere Commerce and Payments instances

Running the config_ant script

This section will update all existing WebSphere Commerce instance XML files. It is not required if only WebSphere Payments instance exists and no WebSphere Commerce instance has been created.

1. ▶ AIX ▶ Linux ▶ Solaris Switch to the WebSphere Commerce non-root user ID. This ID was created before installing WebSphere Commerce.
2. Navigate to the *WC_installdir/bin* directory.
3. Run the following command:

```
▶ AIX ▶ iSeries ▶ Linux ▶ Solaris ./config_ant.sh -buildfile
WC_installdir/xml/config/updateInstances.xml -DupdateCEP=no
[-DinstName=instanceName]
▶ Windows config_ant.bat -buildfile
WC_installdir\xml\config\updateInstances.xml -DupdateCEP=no
```

To verify that the script was successfully completed, look at the *updateInstance.log* file located in the *WC_installdir/logs* directory. For iSeries machines, the log file is located in the *WC_userdir/logs* directory.

Running the updatedb script

This section will update the WebSphere Commerce instance database. Repeat these steps for each WebSphere Commerce instance you have configured on your machine.

1. ▶ AIX ▶ Linux ▶ Solaris Switch to the WebSphere Commerce non-root user ID. This ID was created before installing WebSphere Commerce.
2. Navigate to the *WC_installdir/bin* directory.
3. Run the following command:

```
▶ AIX ▶ iSeries ▶ Linux ▶ Solaris ./updatedb.sh dbname userId password
instance_name dbtype dbhost staging platform locale earPath
```

► Windows updatedb.bat *dbname userId password instance_name dbtype dbhost staging locale earPath*

► DB2 for ► 390 ► z/OS ./updatedb.sh *dbname userId password instance_name DB2390 dbhost staging ws locale earPath schemaowner*

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.
 - iSeries This is the database name as found in the relational database directory.
- *userId*: The user ID of the user who owns the database.
 - iSeries The owner of the WebSphere Commerce instance.
- *password*: The password of the user who owns the database.
 - iSeries The password of the owner of the WebSphere Commerce instance.
- *instance_name*: The name of a previously created WebSphere Commerce instance.
- *dbtype*: Either DB2 or Oracle.
- *dbhost*: The fully qualified host name of the machine where the database resides.
- *staging*: Either Y or N if your database is for the staging server.
- *platform*: The platform of the database is ws or iSeries.
- *locale*: The default locale of this instance, and 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 of the previously created WebSphere Commerce instance.
- *schemaowner*:: The schema owner of the database.

For example,

► AIX ► iSeries ► Linux ► Solaris ./updatedb.sh mall db2inst1 db2inst1 demo DB2 myHost N ws en_US /usr/WebSphere/AppServer/installedApps/myNode/WC_demo.ear DB2INST1

To verify that the script was successfully completed, look at the `schemacreation_fp4_<dbtype>_<time_stamp>.log` file located in the `WC_installdir/logs` directory. For iSeries machines, the log file is located in the `WC_userdir/logs` directory.

Updating existing WebSphere Commerce and Payments instances

This section will update your WebSphere Commerce instance or Payments instance. Repeat these steps for each WebSphere Commerce instance or Payments instance or both you have configured on your system.

1. ► AIX ► Linux ► Solaris ► Windows Using the command line, navigate to the `fp_installdir` directory.
 - iSeries Enter the QShell by typing QSH at the OS/400 or i5/OS and command prompt. Navigate to the `fp_installdir` directory.
2. Run the following command, replacing where appropriate, options specific to your WebSphere Commerce installation.

```

▶ AIX ▶ iSeries ▶ Linux ▶ Solaris ./updateSilent.sh fixpack install [
Instance_dir | Pay_instance_dir ] fixpackID fp_installdir
▶ Windows updateSilent.bat fixpack install [ Instance_dir |
Pay_instance_dir ] fixpackID fp_installdir

```

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 vii.
- *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 vii.
- *fixpackID*: The name of the fix pack to be installed. For example, wc56BE_fp4_os400.
- *fp_installdir*: The temporary directory where the fix pack was downloaded into.

For example, to apply the fix pack to the WebSphere Commerce instance:

```

▶ AIX ./updateSilent.sh fixpack install
/usr/WebSphere/AppServer/installedApps/myhost/
WC_demo.ear wc56BE_fp4_aix /5604

```

```

▶ iSeries ./updateSilent.sh fixpack install
/QIBM/UserData/WebAS5/Base/default/installedApps/MYHOST/WC_demo.ear
wc56EXPRESS_fp4_os400 /QIBM/5604

```

```

▶ Linux ./updateSilent.sh fixpack install
/opt/WebSphere/AppServer/installedApps/myhost/
WC_demo.ear wc56PRO_fp4_linux /5604

```

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

```

▶ iSeries ./updateSilent.sh fixpack install
/QIBM/UserData/WebAS5/Base/default/installedApps/MYHOST/
wpm_Commerce_Payments_App.ear wc56BE_fp4_os400 /QIBM/5604

```

```

▶ Windows updateSilent.bat fixpack install
c:\WebSphere\AppServer\installedApps\myhost\
wpm_Commerce_Payments_App.ear wc56BE_fp4_win c:\5604

```

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” on page 23 and complete any applicable steps.

Graphical user interface install

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 will update the WebSphere Commerce product.

1. Ensure you have reviewed and completed all the necessary steps in Chapter 3, “Prerequisites,” on page 11

- Using the command line, navigate to the *fp_installdir* directory and type the following command based on your operating system:

▶ AIX ▶ Linux ▶ Solaris `./updateWizard.sh`

▶ Windows `updateWizard.bat`

- Select a language and then click **OK**.
- Click **Next** to continue.
- Click **Next** to accept the WebSphere Commerce product found on your computer.
- Select **Install fix packs**. Click **Next**.
- Under Fix Pack Directory, type in the following:

▶ AIX ▶ Linux ▶ Solaris `fp_installdir`

▶ Windows `fp_installdir`

Click **Next**.

- Click **Next** to accept the fix pack found.
- Click **Next** to begin installing.
- Ensure that the installer displays the message The following fix pack was successfully installed. If you do not get this message the installer will indicate which log files to check. Click **Finish**.

Running the wcnonroot script

▶ AIX ▶ Linux ▶ Solaris

This section will update file ownership and permissions on UNIX systems.

- Switch to the root user.
- Navigate to the *WC_installdir/bin* directory.
- Run the following command:

```
./wcnonroot.sh
```

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 23 and complete any applicable steps. If you have existing WebSphere Commerce instances or Payments instances, move on to the next section.

Applying the fix pack to existing WebSphere Commerce and Payments instances

Update the WebSphere Commerce instance database and configuration

This section will update the WebSphere Commerce instance database and configuration files to fix pack 5.6.0.4 level. Repeat these steps for each WebSphere Commerce instance you have configured on your system.

- ▶ AIX ▶ Linux ▶ Solaris Switch to the WebSphere Commerce non-root user ID. This ID was created before installing WebSphere Commerce.
- Navigate to the *WC_installdir/bin* directory.
- Run the following command:

▶ AIX ▶ Solaris ▶ Linux `./updatedbGUI.sh`

▶ Windows `preinstall.bat`

4. After the GUI window appears, select the commerce instance you wish to upgrade.
5. Check the staging field if the database is a staging database.
6. Select the instance local
7. Enter the instance ear path or the *Instance_dir*.

For example,

```
Windows C:\WebSphere\AppServer\installedApps\mycell\WC_demo.ear
```

8. Click "update" button to trigger the update.




Note: This step updates the database and may take a long time to process. While the database is being updated, the GUI window may look frozen. However, this appearance is intended for the duration of the update and operation will return to normal after the process is complete.

9. When finished, click "cancel" to close the program

To verify that the script was successfully completed, look at the `schemacreation_fp4_<dbtype>_<time_stamp>.log` and the `updateInstance.log` files located in the `WC_installdir/logs` directory.

Updating existing WebSphere Commerce and Payments instances

This section will update your WebSphere Commerce instance or Payments instance. Repeat these steps for each WebSphere Commerce instance or Payments instance or both you have configured on your system. These steps are not needed if only WebSphere Commerce Payments instance exists and no WebSphere Commerce instance has been created.

1.    Ensure that you are logged in as the root user.
2. Using the command line, navigate to the `fp_installdir` directory and enter the following commands based on your operating system:

```
AIX Linux Solaris ./updateWizard.sh
```

```
Windows updateWizard.bat
```

3. Select a language and then click **OK**
4. Click **Next** to continue.
5. Check the **Specify product information** check box, then click **Browse**.
6. Navigate to the `WAS_installdir/installedApps/cell_name` directory and do one of the following:

If you are applying the fix pack to a WebSphere Commerce instance:

- a. Click once on the `WC_instance_name.ear` folder.
- b. Click **Open**.
- c. Click **Next** to continue.

If you are applying the fix pack to a WebSphere Commerce Payments instance:

- a. Click once on the `pay_instance_name_Commerce_Payments_App.ear` folder.
- b. Click **Open**.
- c. Click **Next** to continue.

7. Select **Install fix packs**. Click **Next**.
8. Under Fix Pack Directory, type in the following:

```
AIX Linux Solaris fp_installdir
```

```
Windows fp_installdir
```

- Click **Next**.
9. Click **Next** to accept the fix pack found.
 10. Click **Next** to begin installing.
 11. Ensure that the installer displays the message The following fix pack was successfully installed. If you do not get this message the installer will indicate which log files to check.
 12. Click **Finish**. The fix pack installation is complete; move on to “Post installation steps” and complete any applicable steps.

Post installation steps

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

Advisory

Note: New step required when creating new WebSphere Commerce instance.

You must manually update the Channel Manager access control policies any time you create a new WebSphere Commerce instance after WebSphere Commerce 5.6 fix pack 4 is installed.

Anytime you create a new WebSphere Commerce at 5604 level, please ensure that you complete the steps described in the “Updating Channel Manager access control policies.”

Updating Channel Manager access control policies









Note: you must update the access control policies if you have any existing instance or every time you create a new instance. However, if you have WebSphere Commerce fix pack 3 applied, then you do not need to update the access control policies on the existing instances again.

Before loading the specified access control policy file, please ensure that you have not customized the specified policy below. Otherwise, please contact WebSphere Commerce Support for assistance.

1. There are scripts provided to update the Channel Manager access control policies. You must check that your database does not have any customization before running the scripts. Otherwise your customization would be overwritten. Please execute the following SQL commands and compare the output. The commands may be too long for your environment. Please add them to .sql script files if that is the case.
 - a. Connect to the server database
 - b. Ensure that the existing policies have not changed by running the following SQL queries:
 - 1) select mbrgrpname, groupname, grpname from acpolicy p, mbrgrp m, aactgrp a, acresgrp r where policyname in ('ChannelManagersExecuteStoreStateChangeCommandsOnStoreResource') and p.member_id = -2001 and p.mbrgrp_id = m.mbrgrp_id and p.aactgrp_id = a.aactgrp_id and p.acresgrp_id = r.acresgrp_id
If there is no customization then this command will return the following:
 - MBRGRPNAME is 'ChannelManagers'
 - GROUPNAME is 'StoreStateChangeCmdActionGroup'

- GRPNAME is 'StoreDataResourceGroup'
- 2) select mbrgrpname, groupname, grpname from acpolicy p, mbrgrp m, aactgrp a, acresgrp r where policyname in ('ChannelManagersExecuteOrgEntityLockCommandsOnOrgResource') and p.member_id = -2001 and p.mbrgrp_id = m.mbrgrp_id and p.aactgrp_id = a.aactgrp_id and p.acresgrp_id = r.acresgrp_id
If there is no customization then this command will return the following:
 - MBRGRPNAME is 'ChannelManagers'
 - GROUPNAME is 'OrgEntityLockActionGroup'
 - GRPNAME is 'OrganizationDataResourceGroup'
 - 3) select mbrgrpname, groupname, grpname from acpolicy p, mbrgrp m, aactgrp a, acresgrp r where policyname in ('ChannelManagersExecuteStoreCategoryUpdateCommandsOnStoreDataResourceGroup') and p.member_id = -2001 and p.mbrgrp_id = m.mbrgrp_id and p.aactgrp_id = a.aactgrp_id and p.acresgrp_id = r.acresgrp_id
If there is no customization then this command will return the following:
 - MBRGRPNAME is 'ChannelManagers'
 - GROUPNAME is 'StoreCategoryUpdateCommands'
 - GRPNAME is 'StoreEntityDataResourceGroup'

If all of the SQL results are as shown, please continue with step 2, otherwise please contact WebSphere Commerce Support for assistance.

2. To load policy updates to the database, complete the following steps:
 - a. Ensure that the d88838ChMgrAccessControlPolicies.xml file is in the following location:
`WC_installdir/xml/policies/xml`
 - b.    Switch to the WebSphere Commerce non-root user ID. This ID was created before installing WebSphere Commerce.
 - c. Run the following command:
    `WC_installdir/bin/acpload.sh dbname userID password d88838ChMgrAccessControlPolicies.xml [schema_name]`
 `WC_installdir\bin\acpload.cmd dbname userID password d88838ChMgrAccessControlPolicies.xml [schema_name]`




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.
 - *userId*: The user ID of the user who owns the database.
 - *password*: The password of the user who owns the database.
 - *schema_name*: The name of your database schema.
- d. Ensure that the script was successfully completed, do the following:
 - Ensure that no errors are found in `WC_installdir/logs/acpload.log` file. For iSeries machines, the file is `WC_userdir/instances/acpload.log`.
 - Ensure that there is no generated file with the word "error" in the file name located in the `WC_installdir/xml/policies/xml` directory. For iSeries machines, the log file is located in the `WC_userdir/instances/instance_name/xml/policies/xml` directory.

- e. Restart the WebSphere Commerce Server for changes to come into effect.

Running the fixDeploy tool


Please follow these steps to update Enterprise Java Beans for each existing WebSphere Commerce instance. Repeat the steps for each 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 window
3.    Switch to the WebSphere Commerce non-root user ID. This ID was created before installing WebSphere Commerce.
4. Switch to the `WC_installdir/bin` directory
5. Run the following command:

-    `./fixDeploy.sh temp_dir fullpathToEar WC_instance_name`


For example,

```
./fixDeploy.sh /tmp/workspace  
/usr/WebSphere/AppServer/installedApps/myNode WC_demo
```

-  `./fixDeploy temp_dir fullpathToEar WC_instance_name WAS_installdir`

For example,

```
./fixDeploy /QIBM/tmp/workspace  
/QIBM/UserData/WebAS51/Base/default/installedApps/myNode WC_demo  
/QIBM/UserData/WebAS51/Base/default/Base/default
```

-  `fixDeploy.bat temp_dir fullpathToEar WC_instance_name`

For example,

```
fixDeploy.bat c:\temp\workspace  
C:\WebSphere\AppServer\installedApps\myNode WC_demo
```

To verify that the script was successfully completed, look at the `fixDeploy.log` file located in the `WC_installdir/logs` directory.

Implementing changes for WebSphere Commerce Performance Monitor

To implement all of the changes to the WebSphere commerce Performance Monitor, please do the following:

1. Copy the `WC_installdir/lib/wcspmi.jar` file to the `WAS_installdir/classes`
2. Copy the `WC_installdir/xml/pmi/pmijmxMapperExtension.xml` file to the `WAS_installdir/properties` directory.
3. Restart the WebSphere Commerce Performance Monitor

Implementing changes for WebSphere Commerce Accelerator

Recompile these two JSPs for WebSphere Commerce Accelerator:

- `CommerceAccelerator/Web Content/tools/catalog/ItemUpdateDetail.jsp`
- `CommerceAccelerator/Web Content/tools/catalog/ProductUpdateDetail.jsp`

To recompile the JSPs, please do the following:

- ▶ AIX
 - ▶ Solaris
 - ▶ Linux
 - ▶ Windows

Delete the `WAS_installdir/temp/cell_name/WC_instance_name/WC_instance_name/CommerceAccelerator.war` directory

 - ▶ iSeries

Delete the `WAS_userdir/temp/cell_name/WC_instance_name/WC_instance_name/CommerceAccelerator.war` directory
- Navigate to the `WAS_installdir/bin` directory
- Run the following command:
 - ▶ AIX
 - ▶ Solaris
 - ▶ Linux

```
./JspBatchCompiler.sh -enterpriseapp.name WC_instance_name -cell.name cell_name -node.name node_name -webmodule.name CommerceAccelerator.war -server.name WC_instance_name
```
 - ▶ iSeries

```
JspBatchCompiler -enterpriseapp.name WC_instance_name -node.name cell_name -webmodule.name module_name -instance WAS_instance_name -server.name WC_instance_name
```
 - ▶ Windows

```
JspBatchCompiler.bat enterpriseapp.name WC_instance_name -cell.name cell_name -node.name node_name -webmodule.name CommerceAccelerator.war -server.name WC_instance_name
```

For example,

```
JspBatchCompiler.bat -enterpriseapp.name WC_demo -cell.name MyCell -node.name MyNode -webmodule.name CommerceAccelerator.war -server.name WC_demo
```

Updating the triggers in the staging server's database

▶ DB2 ▶ Oracle

If you have an existing DB2 or Oracle staging server database, then complete the following steps to update the triggers.

- Connect to the staging server database.
- Run the following commands against your staging server database:

▶ DB2

- `db2 -td# -vf WC_installdir/schema/db2/wcs.d81146.sql`
- `db2 -td# -vf WC_installdir/schema/db2/wcs.d81041.sql`
- `db2 -td# -vf WC_installdir/schema/db2/wcs.d82610.sql`

▶ Oracle

- `@WC_installdir/schema/oracle/wcs.d81146.sql;`
- `@WC_installdir/schema/oracle/wcs.d82610.sql ;`

Creating 64-bit stored procedures on a remote DB2 database

▶ Business ▶ Professional

▶ DB2

▶ AIX ▶ Solaris

This section is optional. If you are using a remote DB2 64-bit database on AIX or Solaris you can now create 64-bit stored procedures. There are two scenarios where 64-bit stored procedures can be used. You have a remote DB2 64-bit database and

have not yet created a WebSphere Commerce instance or, you have a remote DB2 32-bit database and have an existing WebSphere Commerce instance.

If you have a remote DB2 64-bit database and have not yet created a WebSphere Commerce instance complete the following steps to use the 64-bit stored procedures.

1. On your WebSphere Commerce node, do the following:
 - a. Switch to the non-root user.
 - b. Copy all the files in the `WC_installdir/schema/db2/storedprocedure/64bit` directory to the `WC_installdir/schema/db2/storedprocedure` directory.
 - c. **Solaris** Ensure that the DB2 instance owner is part of the fenced user's primary group.
 - d. Create the WebSphere Commerce instance.
 - e. Check the stored procedure creation logs located in the `WC_installdir/instances/instance_name/logs` to see if the stored procedure creation was successful.

If you have a remote DB2 32-bit database and have an existing WebSphere Commerce instance complete the following steps to use the 64-bit stored procedures.

1. On your WebSphere Commerce node, stop the WebSphere Commerce instance.
2. On your database node, migrate the 32-bit instance to a 64-bit instance. Refer to your DB2 documentation for instructions.
3. On your WebSphere Commerce node, drop the current stored procedures.
 - a. Switch to the non-root user.
 - b. Navigate to `WC_installdir/bin`.
 - c. Run the following command:

```
./drofsp.db2.sh db_name db_user db_password
```

Where `db_name` is your database name, `db_user` is the database user name and `db_password` is the database user name password.
4. On the database node, run the following command to set the permissions for stored procedure creation:

```
chmod -R 777 instance_home/sql1lib/function
```

Where `instance_home` is the home directory of the instance owner. For example,

```
chmod -R 777 /home/db2inst1/sql1lib/function
```
5. On the WebSphere Commerce node, re-create 64-bit stored procedures.
 - a. Switch to the non-root user.
 - b. Copy all the files in the `WC_installdir/schema/db2/storedprocedure/64bit` directory to the `WC_installdir/schema/db2/storedprocedure` directory.
 - c. Navigate to `WC_installdir/bin`.
 - d. Run the following command:

```
./createsp.db2.sh db_name db_user db_password db_schema
```

Where `db_name` is your database name, `db_user` is the database user name, `db_password` is the database user name password and `db_schema` is your database schema.
 - e. Check the stored procedure creation logs located in the `WC_installdir/instances/instance_name/logs` to see if the stored procedure creation was successful.

6. On the database node, run the following command to reset the correct permissions on the function directory

```
chmod -R 7775 instance_home/sqllib/function
```

Where *instance_home* is the home directory of the instance owner. For example,

```
chmod -R 7775 /home/db2inst1/sqllib/function
```

For instructions on how to create a WebSphere Commerce instance, start a WebSphere Commerce instance or stop a WebSphere Commerce instance refer to the instructions in the *IBM WebSphere Commerce Version 5.6 Installation Guide*.

WebSphere Commerce on OS/400 and i5/OS with a remote staging server database

iSeries

When running WebSphere Commerce on OS/400 or i5/OS with a remote staging server database, you must use the toolbox JDBC driver. Three parameters for the staging commands `stagingcopy.sh`, `stagingprop.sh` and `stagingcheck.sh` have been expanded to support the toolbox JDBC provider. Please see the Information Center for the new values for the parameters: `sourcedb`, `destdb` and `dbtype`.

Precompiling JSPs on OS/400 or i5/OS

iSeries

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

1. Backup and delete the
`WAS_userdir/Base/default/temp/cell_name/WC_instance_name/WC_instance_name/Stores.war` directory.
2. Navigate to the `WAS_installdir/bin` directory.
3. Run the following command:

```
JspBatchCompiler -enterpriseapp.name WC_instance_name -node.name cell_name  
-webmodule.name module_name -instance WAS_instance_name  
-server.name WC_instance_name
```

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
```

Updating the WebSphere Commerce Help files

This fix pack updates your WebSphere Commerce help files. To enable this update, you must restart the WebSphere Commerce Information Center. For detail instructions, refer to the Online WebSphere Commerce Information Center (<http://publib.boulder.ibm.com/infocenter/wc56help/index.jsp?topic=/com.ibm.commerce.admin.doc/tasks/tsrwcic.htm>).

Updating the WebSphere Commerce documentation

For updated information go to the WebSphere Commerce Library page (<http://www.ibm.com/software/genservers/commerce/library/>); select the edition of WebSphere Commerce that you are using. On the Edition-specific

Library page select **Version 5.6** under the Technical Documents section. On the page that displays, select **Information center** (Download a local copy); then follow the installation directions.






Chapter 5. Uninstalling the fix pack

Before removing the fix pack

Uninstalling the fix pack will restore the WebSphere Commerce product back to the level it was at before the fix pack installation was completed. These instructions below 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.

WebSphere Commerce instances or WebSphere Commerce Payments instances that were created after the installation of the fix pack, will remain at the current fix pack level. Following these 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.

Before you uninstall

-    Ensure that you are logged in as the root user for WebSphere Commerce.
 Ensure that you are logged in as a user that has QSECOFR authority.
 Ensure that you are logged in with a Windows user ID that is a member of the Administrator group.
- Stop the following:
 - 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.

For the specific requirements on each of the supported operating systems, refer to "Prerequisite software" in the *IBM WebSphere Commerce Version 5.6 Installation Guide* or *IBM WebSphere Commerce – Express Version 5.6 Installation Guide*






There are two ways to uninstall this fix pack, depending on your operating system.

 Only the silent uninstall is available.

    Either the silent uninstall or the graphical user interface uninstall may be used.

Silent uninstall

Removing the fix pack from WebSphere Commerce

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

```
▶ AIX ▶ iSeries ▶ Linux ▶ Solaris ./updateSilent.sh fixpack uninstall
WC_installdir fixpackID
```

```
▶ Windows updateSilent.bat fixpack uninstall WC_installdir fixpackID
```

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 5.6. The default installation directory is defined in the Preface under the section Path variables on page vii.
- *fixpackID*: The name of fix pack to be uninstalled. For example, wc56BE_fp4_aix.

For example, to remove the fix pack from WebSphere Commerce:

```
▶ iSeries ./updateSilent.sh fixpack uninstall
/QIBM/ProdData/CommerceServer56 wc56BE_fp4_os400
```

```
▶ Windows updateSilent.bat fixpack uninstall
c:\WebSphere\CommerceServer56 wc56EXPRESS_fp4_win
```

3. Ensure that the installer displays the message Fix pack uninstillation completed. 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, the fix pack uninstillation is complete. If you have existing WebSphere Commerce instances or Payments instances on which the fix pack has been applied, move on to the next section.

Removing the fix pack from existing WebSphere Commerce and Payments instances

This section will remove the fix pack from your existing WebSphere Commerce instance or Payments instance. Repeat these steps for each WebSphere Commerce instance or Payments instance or both you have configured on you system.

1. ▶ AIX ▶ Linux ▶ Solaris ▶ Windows Using the command line, navigate to the *fp_installdir* directory.

```
▶ iSeries 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 where appropriate, options specific to your WebSphere Commerce installation.

```
▶ AIX ▶ Linux ▶ Solaris ./updateSilent.sh fixpack uninstall [
Instance_dir | Pay_instance_dir ] fixpackID
```

```
▶ iSeries ./updateSilent.sh fixpack uninstall Instance_dir fixpackID
```

```
▶ Windows updateSilent.bat fixpack uninstall [ Instance_dir |
Pay_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 vii.
- *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 vii.

- *fixpackID*: The name of fix pack to be uninstalled. For example, wc56BE_fp4_aix.

For example, to remove the fix pack from the WebSphere Commerce instance:

```
iSeries ./updateSilent.sh fixpack uninstall
/QIBM/UserData/WebAS5/Base/WAS_myserver/installedApps/myhost/WC_demo.ear
wc56BE_fp4_os400
```

```
Windows updateSilent.bat fixpack uninstall
c:\WebSphere\AppServer\installedApps\myhost\
my_payments_Commerce_Payments_App.ear wc56EXPRESS_fp4_win
```

For example, to remove the fix pack from the Payments instance:

```
AIX ./updateSilent.sh fixpack uninstall
/usr/WebSphere/CommerceServer56/installedApps/myhost/
my_payments_Commerce_Payments_App.ear wc56BE_fp4_aix
```

3. Ensure that the installer displays the message *Fix pack uninstillation completed*. If you do not get this message the installer will indicate which log files to check. Uninstallation of the fix pack is complete.

Graphical user interface uninstall

Removing the fix pack from WebSphere Commerce

1. Using the command line, navigate to the *fp_installdir* directory and type the following commands based on your operating system:

```
AIX Linux Solaris ./updateWizard.sh
```

```
Windows updateWizard.bat
```

2. Select a language and then click **OK**.
3. Click **Next** to continue.
4. Click **Next** to accept the WebSphere Commerce product found on your computer.
5. Select **Uninstall fix packs**. Click **Next**.
6. Select the fix pack to be uninstalled. Click **Next** to continue
7. Click **Next** to uninstall the fix pack.
8. Ensure that the installer displays the message *The following fix pack was successfully uninstalled*. If you do not get this message the installer will indicate which log files to check. Click **Finish** to exit.


Note: If you do not have existing WebSphere Commerce instances or Payments instances the fix pack uninstillation is complete. If you have existing WebSphere Commerce instances or Payments instances on which the fix pack has been applied, move on to the next section.

Removing the fix pack from existing WebSphere Commerce and Payments instances

This section will remove the fix pack from your existing WebSphere Commerce instance or Payments instance. Repeat these steps for each WebSphere Commerce instance or Payments instance or both you have configured on you system.

1. Using the command line, navigate to the *fp_installdir* directory and type the following commands based on your operating system:

```
AIX Linux Solaris ./updateWizard.sh
```

 updateWizard.bat

2. Select a language and then click **OK**.
3. Click **Next** to continue.
4. Check the **Specify product information** check box, then click **Browse**.
5. Navigate to the *WAS_installdir/installedApps/cell_name* directory and do one of the following:
 - If you are removing the fix pack from a WebSphere Commerce instance:
 - a. Click once on the *WC_instance_name.ear* folder.
 - b. Click **Open**.
 - c. Click **Next** to continue.
 - If you are removing the fix pack from a WebSphere Commerce Payments instance:
 - a. Click once on the *pay_instance_name_Commerce_Payments_App.ear* folder.
 - b. Click **Open**.
 - c. Click **Next** to continue.
6. Select **Uninstall fix packs**. Click **Next**. If the installer is unable to locate the installed fix pack, exit the installer and return to step 1 on page 33.
7. Select the fix pack to be uninstalled. Click **Next** to continue.
8. Click **Next** to uninstall the fix pack.
9. Ensure that the installer displays the message The following fix pack was successfully uninstalled. If you do not get this message the installer will indicate which log files to check.
10. Click **Finish**. Uninstallation of the fix pack is complete.

Chapter 6. Troubleshooting

Error running acpload.cmd - The input line is too long

You may encounter an error claiming "The input line is too long" when executing the acpload.cmd post-installation step. The commands called in the acpload.cmd script are too long for the Windows command line because of large variables used. This is usually caused by a large CLASSPATH variable.

To resolve the problem, you must redefine the CLASSPATH variable in your command (DOS) environment to reduce its size. Ensure that you do not remove entries for your database software. In your command window, you can reset the CLASSPATH variable with the set command.

For example:

```
C:\WebSphere\CommerceServer\bin\>set CLASSPATH='...'
```

Where '...' represents the path entries you choose to use in your class path. After the CLASSPATH variable is redefined, run the acpload.cmd again as documented in the post-installation section of the document.

Problems with WebSphere Commerce Payments after migration

If you install WebSphere Commerce 5.6 with WebSphere Commerce Payments, and you want to change the payment method during migration, you might run into the following problem:

```
Error: File C:\WEBSPH~1\COMMER~1\xml/migration/backupwcim.xml does not exist.  
Terminate WCIM.
```

To resolve the problem apply the interim fix JR20173 which can be found on the WebSphere Commerce 5.6.0.1 download page.

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
<ul style="list-style-type: none">JAVAC MESSAGE FILE IS BROKEN: key=javac.err.branch.too.big, arguments=null, null, null	Download the WebSphere Application Server interim fix PQ86604. For details on how to install the interim fix, please refer to Chapter 3, "Prerequisites," on page 11 of this installation guide.

<ul style="list-style-type: none"> • Illegal target of jump or branch javax.servlet.ServletException 	<p>Workaround</p> <ol style="list-style-type: none"> 1. Clear the cached/compiled jsp classes out of /opt/WebSphere/AppServer/temp/ %node%/instance_name/instance_name/ Stores.war 2. Navigate to WAS_installdir/bin 3. Precompile the JSPs ./JspBatchCompiler.sh -enterpriseapp.name instance_name -cell.name %CELL% -node.name %NODE% -server.name instance_name
---	---

Config-Manager fails to create QIBM_HTTP_SERVER_ in Digital Certificate Manager (iSeries only)

The cause of this problem is due to having an user profile to start config_server.sh with parameter "hold on job queue" set to "Yes", therefore the payment HTTP creation job is being held. To solve this problem, do the following:

1. Run command WRKJOB, put your user profile to 'Job Description' field when asked and hit enter
2. type 5 beside your userprofile and hit enter
3. Change the value for "hold on job queue" parameter from "yes" to "no"
4. Restart config_server.sh
5. Create new payment instance

Troubleshooting for Linux

Problem installing WebSphere Application Server Version 5.0.2 Cumulative Fix 3 on Red Hat Enterprise Linux AS or ES, Version 3.0 for Linux on Intel based systems

To resolve the problems installing WebSphere Application Server Version 5.0.2 Cumulative Fix 3 on Red Hat Enterprise Linux AS or ES, Version 3.0 for Linux on Intel® based systems, refer to *Appendix A. Installing WebSphere Commerce on Red Hat Enterprise Linux, Version 3.0* in the most recent edition of *WebSphere Commerce Version 5.6 Installation Guide for Linux*.

Database users do not have authority to perform operations on objects when using remote DB2/390 Version 8 server

When you purchase orders in a B2B direct store using remote DB2/390 Version 8 server, you will see a 'Generic Error' web page and receive the following error message in the SystemOut.log file.

```
COM.ibm.db2.jdbc.DB2Exception: [IBM][CLI Driver][DB2] SQL0551N "TUSERXX"
does not have the privilege to perform operation "DELETE" on object
"TGUSERXX.TMPRCTLIST". SQLSTATE=42501
```

To resolve the problem, please contact your DB2/390 administrator. DB2/390 SYSADM privilege should be granted to database users with following command:

```
GRANT SYSADM TO TUSERxx in the DB2I
```

Where TUSERXX means the database user to be granted SYSADM privilege

Failure to execute DELETE SQL statement in staging DB when using a remote DB2/390 Version 8 server

When you execute a DELETE SQL statement in staging database using a remote DB2/390 Version 8 server, the statement will fail and you will receive the following error message:

```
DB21034E The command was processed as an SQL statement because it was not a
valid Command Line Processor command. During SQL processing it returned:
SQL0723N An error occurred in a triggered SQL statement in trigger
"XXXX.STAGXXXX". Information returned for the error includes SQLCODE
"42895", SQLSTATE "001," and message tokens "3". SQLSTATE=09000
```

To resolve the problem, PQ86276/UQ86546 should be applied to the DB2/390 server. For more information about how to apply the PTF, please contact your DB2/390 administrator. Please download the PTF from this link: <http://techsupport.services.ibm.com/server/390.ShopCart?add=true&ptfs=UQ86546>. For more information about this fix, review interim fix PQ86276 at the following URL: <http://www.ibm.com/support/docview.wss?uid=swg1PQ86276>

Deadlocks when purchasing orders with many users in a B2B store

If you install WebSphere Commerce 5.6 on zLinux and use remote DB2/390 version 8 server, you might run into deadlocks on tables such as TMPBOLIST, TMPCMLIST, TMPFFCLIST, TMPRADTL, TMPRCTLIST, SUBORDADJ, ORDADJUST, ORDADJDSC. This usually happens when you purchase orders with many users in a B2B store.

To resolve the problem, apply the APAR LI70683 and follow the readme file to apply it. Please download the fix from this link: ftp://ftp.software.ibm.com/software/websphere/commerce/56/interimfix/LI70683_5604_Linux.zip

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.

Licenses 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

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

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

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

Intel is a trademark of Intel 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 both.

UNIX is a trademark of The Open Group in the United States, other countries, or both.

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



Printed in USA