

SF99720

C0114720 Cumulative PTF Package Instructions

This PSP consists of:

Short Version of Installation Instructions,
and Detailed Installation Instructions.

IBM i PTF Shipping Information Letter

IBM i CUMULATIVE PTF PACKAGE

INSTALLATION INSTRUCTIONS (SHORT VERSION)

SF99720 Level 20114

PACKAGE ID: C0114720

VERSION 7 RELEASE 2.0

Cumulative PTF Package Instructions Last Updated: 05/15/2020

Note: Online copy of this document is the master. Any printed copy should be assumed to be obsolete and not used unless the date of last update is verified to match that shown on the online master copy.

The information contained in this document was current at the time this cumulative PTF package was made available. We recommend you get the most current information (including a more detailed installation instructions version if desired) which can be found via the following URL:

<https://www.ibm.com/support/pages/node/667567>

PSP SF98720 lists HIPER PTFs not included in this cumulative PTF package and any defective PTFs identified since this package was released.

You will receive the cumulative PTF package in one of three different formats:

- * Electronically downloaded as individual PTF save files
- * Electronically downloaded as optical image files
- * Physical optical media (when it cannot be downloaded electronically)

The installation instructions contained in this document will guide you through the install steps needed for each format.

REVIEW PTF COVER LETTERS

As with any PTF order, before you install the PTFs you should

review the cover letter of each delivered PTF for any special instructions that may need to be followed. When you ordered your cumulative PTF package, you were automatically sent the latest HIPER and Database PTF groups along with the cumulative PTF package. You should review the cover letters for the PTFs in these groups that are applicable to your system. The commands needed for copying and printing (or displaying) the PTF cover letter(s) are included below.

1. COPYING PTF COVER LETTERS:

- * Mount the PTF media and sign on using a security officer user profile such as QSECOFR.
- * To copy all cover letters from media onto the system for PTFs that are not already applied to your system, enter the following command:

```
CPYPTFCVR DEV(device_name) LICPGM(*ALL) SELECT(*NOTAPY)
```

- * To copy a specific cover letter from media onto the system, enter the following command:

```
CPYPTFCVR DEV(device_name) LICPGM(product_id) SELECT(ptf_id)
```

2. DISPLAYING OR PRINTING PTF COVER LETTERS:

- * The PTF cover letters must be copied from the media first before they can be displayed or printed.
- * To display or print cover letters for all PTFs that are currently not applied on your system, enter one of the following commands:

```
DSPPTFCVR LICPGM(*ALL) SELECT(*NOTAPY)  
DSPPTFCVR LICPGM(*ALL) SELECT(*NOTAPY) OUTPUT(*PRINT)
```

Note: You can also specify CVRATR(*SPCINST) on the DSPPTFCVR command to view all cover letters that have special instructions.

- * To display or print a specific cover letter, enter one of the following commands:

```
DSPPTFCVR LICPGM(product_id) SELECT(ptf_id)  
DSPPTFCVR LICPGM(product_id) SELECT(ptf_id) OUTPUT(*PRINT)
```

- * PTF TC20114 is the Cumulative PTF package cover letter and contains a list of all PTFs contained in this cumulative PTF package. To display the Cumulative PTF package cover letter, enter one of the following commands:

```
DSPPTFCVR LICPGM(5770SS1) SELECT(TC20114)
DSPPTFCVR LICPGM(5770SS1) SELECT(TC20114) OUTPUT(*PRINT)
```

3. NEW - You can also review the special instructions for PTFs in the cumulative package or groups in a convenient format online:

- * Cumulative package:
<https://www.ibm.com/support/pages/uid/nas4C0114720>
- * HIPER PTF group:
https://www.ibm.com/support/pages/uid/nas4SF99719_SI
- * Database PTF group:
https://www.ibm.com/support/pages/uid/nas4SF99702_SI

READ THIS FIRST

1. Failure to follow these instructions may result in failure of your system to operate. Follow the directions carefully every time you install a cumulative PTF package.
2. Cumulative PTF packages must be installed delayed for proper PTF installation. Do NOT use any immediate apply install options to install this package; otherwise, unpredictable results may occur.
3. Vital PTF information: Application of PTFs within this cumulative PTF package may disable or render ineffective programs that use system memory addresses not generated by the IBM® translator, including programs that circumvent control technology designed to limit interactive capacity to purchased levels. These PTFs may be prerequisites for future PTFs. By applying these PTFs you authorize and agree to the foregoing.
4. Each of these PTFs is subject to the terms of the license agreement which accompanied, or was contained in, the Program for which you are obtaining such PTF. You are not authorized to install or use any such PTF except as part of the Program for which you have a valid Proof of Entitlement.

SUBJECT TO ANY WARRANTIES WHICH CAN NOT BE EXCLUDED OR EXCEPT AS EXPLICITLY AGREED TO IN THE APPLICABLE LICENSE AGREEMENT OR AN APPLICABLE SUPPORT AGREEMENT, IBM MAKES NO WARRANTIES OR CONDITIONS EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON INFRINGEMENT, REGARDING EACH PTF.

The applicable license agreement may have been provided to you

in printed form and/or may be viewed using the Work with Software Agreements (WRKSWAGR) CL command.

5. Please review the special instructions for the following PTFs which are included in this package if you have the product installed and the PTF (or its Superseded-by PTF) is not already applied. NOTE: PTF cover letters are available at <https://www.ibm.com/support/pages/ptf/PPPPPPP> where PPPPPP is the PTF number.

5761DP4-SI36668

5770HAS-SI57302

6. Attention Content Manager OnDemand - 5770RD1 - Users. If you have Content Manager OnDemand - 5770RD1 - installed, please see <https://www.ibm.com/support/pages/node/404923> for any important special instructions.
7. IMPORTANT - To prevent a PTF load failure from optical media, PTF MF58615 must be active BEFORE installing this cumulative PTF package. Enter the following command to determine if PTF MF58615 is active: DSPPTF LICPGM(5770999) SELECT(MF58615). If the status is Temporarily applied or Permanently applied, the PTF is active. If the status is Superseded, verify that the superseding PTF is Temporarily applied or Permanently applied. If PTF MF58615 is not found or not active, electronically download MF58615 as a save file (via SNDPTFORD or Fix Central "Download individual fixes" option) and install it from Device *SERVICE BEFORE installing this cumulative PTF package. MF58615 is an immediate PTF and has no requisites.
8. All systems with EXP24S SFF Gen2-bay Drawer (Feature #5887) attached PLEASE READ!
<https://www.ibm.com/support/pages/node/645641>
9. If you received this cumulative PTF package as physical optical media, it is strongly recommended that you create an image catalog from the media and perform the PTF install from a virtual optical device. This may avoid multiple IPLs during the PTF installation.
10. The approximate install time for this cumulative PTF package is one to two hours depending on your hardware configuration
.
11. You should have a current backup of your system before applying this package. If you have backed up your system since the last time you applied PTFs, that backup is acceptable.
12. If you are running on the A storage area, perform a normal

IPL from the B IPL source. To determine the storage area you are running from, type DSPPTF 5770999 and press Enter. On the Display PTF Status display, the storage area is identified in the IPL source field. ##MACH#A is the A storage area and ##MACH#B is the B storage area.

13. Be sure the IPL mode is set at Normal on the control panel and sign on using a security officer user profile such as QSECOFR.
14. DO NOT cancel any of the steps once they are started. Allow each step to complete normally.
15. Select the appropriate INSTALL steps below based on the format in which you received the cumulative PTF package.
16. WARNING - 5770JV1 Option 16 (JDK 8.0 32-bit) and 5770JV1 Option 17 (JDK 8.0 64-bit) are required to be installed before installing this package if you use Electronic Service Agent (ESA) or Management Central (MGTC). For information on how to obtain these options and Java PTF group (SF99716) requirements, see <https://www.ibm.com/support/pages/node/646227>
17. The PTF install processing will automatically pre-apply the following PTFs when applicable: 5770999-MF64784, 5770999-MF64476, 5770999-MF64228, 5770SS1-SI65024, 5770SS1-SI69871 and 5770SS1-SI69061. NOTE: PTFs that need to be manually pre-applied are listed earlier in this READ THIS FIRST section.
18. If you have changed defaults to any IBM commands using the CHGCMDDFT command, application of this PTF package will change the command defaults back to the shipped values for any commands included in this PTF package. This can cause commands to behave differently after applying PTFs. IBM recommends that any time you change a command default for a command in an IBM library, you keep the CHGCMDDFT commands in a CL program, and run that program after you apply PTFs to reapply your customized command defaults.

INSTALL FROM *SERVICE

If you received the cumulative PTF package electronically as individual PTF save files, refer to the INSTALL FROM *SERVICE section in the detailed installation instructions.

INSTALL FROM OPTICAL IMAGE FILES

Use these steps when you ordered and received the cumulative PTF package electronically as optical image files:

1. Create your image catalog and add the image files to the

catalog. For information on how to create an image catalog refer to the IBM Knowledge Center:
http://www.ibm.com/support/knowledgecenter/ssw_ibm_i_72/rzam8/rzam8fixinstallimage.htm
(IBM i 7.2>IBM i and related software>Maintaining and managing IBM i and related software>Using software fixes>Installing fixes>Step 3: Choosing your fix installation scenario>Installing IBM i fixes from an image catalog).

2. Load the image catalog into the virtual optical device using the following command:

```
LODIMGCLG IMGCLG(ptfcatalog) DEV(OPTVRTxx) OPTION(*LOAD)
```

3. Type GO PTF and press the Enter key.
4. Take menu option 8 and press the Enter key.
5. If the Continue PTF Install display is shown, press the Enter key.
6. Review the appropriate options and notes which follow, below, then complete the Install Options for Program Temporary Fixes screen and press the Enter key.

```
Device . . . . . OPTVRTxx (for example, OPTVRT01)
Automatic IPL . . Y = Yes or N = No
Prompt for media . 1 or 3
Restart type . . . *SYS
Other options . . Y = Yes
```

Note: If you have received individual and/or PTF groups as save files that you want to install at the same time as the cumulative PTF package, type 3 in the Prompt for media field.

7. Review the appropriate options and notes which follow, below, then complete the Other Install Options screen and press the Enter key.

```
Omit PTFs . . . N = No or Y = Yes
Apply type . . 1 = Set all PTFs delayed
PTF type . . . 1 = All PTFs
Copy PTFs . . N = No or Y = Yes
```

Note: Depending on the previous options specified, some fields above may not be shown.

Note: If you have PTFs to omit, type Y in the Other Options

field and follow the directions on the displays which follow.
Refer to Appendix A in the detailed installation instructions
section on omitting PTFs.

8. The display shows the licensed programs for which PTFs are
being loaded. All volumes that are loaded in the image catalog
are automatically processed.

9. Continue with the COMPLETE THE INSTALL PROCESS section.

INSTALL FROM OPTICAL MEDIA

Use these steps when you ordered and received the cumulative PTF
package as physical optical media:

1. Enter the following command and press the Enter key.

```
CHGMSGQ QSYSOPR *BREAK SEV(70)
```

This step ensures a break message will appear if the system
determines you should mount the next volume. IMPORTANT—If
there are no PTFs on the other volumes that are applicable to
your system, the system will not prompt you for the other
volumes.

2. Ensure volume one of the cumulative PTF package media, labeled
C0114720_01, is loaded in the appropriate drive for the media
you are using.

3. Type GO PTF and press the Enter key.

4. Take menu option 8 and press the Enter key.

5. If the Continue PTF Install display is shown, press the Enter
key.

6. Review the appropriate options and notes which follow, below,
then complete the Install Options for Program Temporary Fixes
screen and press the Enter key.

```
Device . . . . . OPTxx (for example, OPT01)
Automatic IPL . . Y = Yes or N = No
Prompt for media . 2 or 3
Restart type . . . *SYS
Other options . . Y = Yes
```

Note: Enter a 2 in the Prompt for media field in order to
install the HIPER and Database PTF groups along with your
cumulative PTF package.

If you have received individual and/or PTF groups as save files that you want to install at the same time as the cumulative PTF package, type 3 in the Prompt for media field.

7. Review the appropriate options and notes which follow, below, then complete the Other Install Options screen and press the Enter key.

Omit PTFs . . N = No or Y = Yes
Apply type . . 1 = Set all PTFs delayed
PTF type . . . 1 = All PTFs
Copy PTFs . . N = No or Y = Yes

Note: Depending on the previous options specified, some fields above may not be shown.

Note: If you have PTFs to omit, type Y in the Other Options field and follow the directions on the displays which follow. Refer to Appendix A in the detailed installation instructions section on omitting PTFs.

8. The display shows the licensed programs for which PTFs are being loaded.
 - 8.a. After each volume is processed, you will receive a message to mount the next volume. Load the volume indicated and use the G option to continue.
 - 8.b. After all the applicable volumes for the cumulative PTF package have been processed, you will automatically be prompted to mount the first volume of the next media set in order to install the HIPER and Database PTF groups. Mount the first volume in the set and use the G option to continue.
 - 8.c. Continue mounting any additional volumes. When all your volume sets have been processed, use the X option to complete the PTF installation.

Note: If there are volumes that contain PTFs that are not applicable to your system, the system will not prompt you to mount those volumes.

9. Continue with the COMPLETE THE INSTALL PROCESS section.

COMPLETE THE INSTALL PROCESS

Use these steps to complete the install process.

1. If the Confirm IPL to Complete PTF Install display is shown:

- 1.a. End all jobs on the system and perform a normal mode IPL to the B IPL source. If you are installing from optical image files, do not delete the image catalog until after the next normal IPL completes.
- 1.b. When the Sign On display is shown, continue with step 4.

2. If the Confirm IPL for Technology Refresh PTFs display is shown:

- 2.a. Press F10 to end all jobs on the system and IPL the system. Note: If an IPL cannot be performed right away, press F12 to Cancel the process. Schedule to IPL the system at the earliest convenience.
- 2.b. When the Sign On display is shown, go back and start the installation of this cumulative PTF package again. (The next time through these instructions, you will not get this display.) If you are installing from optical media, start again with STEP 1 of INSTALL FROM OPTICAL MEDIA section.

3. If you entered a Y (Yes) for the Automatic IPL option, the system will be IPLed automatically. If you entered N (No) for the Automatic IPL field, you must use the following command when you are ready to activate the fixes:

```
PWRDWN SYS OPTION(*IMMED) RESTART(*YES) IPLSRC(B)
```

4. After the IPL completes, use the following procedure to verify the cumulative PTF package was properly installed:

- 4.a. Sign on using a security officer user profile such as QSECOFR.
- 4.b. Type WRKPTFGRP SF99720 on any command line.
- 4.c. If the Status field is "Installed" and the Level field is "20114", continue with step 5, otherwise, continue with step 4.d.
- 4.d. Type GO LICPGM on any command line.
- 4.e. Press the Enter key. The Work with Licensed Programs display is shown.
- 4.f. Select option 50.
- 4.g. Press the Enter key. The Install History display is shown.
- 4.h. Press the Enter key. The Display History Log Contents display appears.

* If the cumulative PTF package was installed successfully, you will see messages indicating the applying of PTFs completed. Continue with step 5.

- * If the cumulative PTF package was not installed successfully, you will see messages indicating the applying of PTFs failed. Contact your provider of software service for assistance.
- * If the previous IPL was abnormal, only PTFs for the Licensed Internal Code will be applied (5770999). You can check if the previous IPL was abnormal by typing the following command:

DSPPSYVAL SYSVAL(QABNORMSW)

If the IPL was abnormal and you are installing this package immediately after a system install, perform the IPL again to apply the remaining PTFs.

5. You can resume normal system operation at this time. You should back up your system again at your earliest convenience.

If you have comments or concerns with cumulative PTF packages, contact your provider of software service.

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IBM i PTF Shipping Information Letter

IBM i CUMULATIVE PTF PACKAGE
INSTALLATION INSTRUCTIONS (DETAILED VERSION)
SF99720 Level 20114
PACKAGE ID: C0114720
VERSION 7 RELEASE 2.0

Cumulative PTF Package Instructions Last Updated: 05/15/2020

Note: Online copy of this document is the master. Any printed copy should be assumed to be obsolete and not used unless the date of last update is verified to match that shown on the online master copy.

This PTF package replaces the following PTF packages for Version 7 Release 2.0. If you have any of the packages listed below, do not spend time installing them. All PTFs from the earlier packages are contained in this package.

C4101720 C4276720 C5135720 C5310720 C5311720 C6127720 C6306720
C7068720 C7290720 C8032720 C8249720 C9123720 C9297720

You will receive the cumulative PTF package in one of three

different formats:

- * Electronically downloaded as individual PTF save files
- * Electronically downloaded as optical image files
- * Physical optical media (when it cannot be downloaded electronically)

The installation instructions contained in this document will guide you through the install steps needed for each format.

REVIEW PTF COVER LETTERS

As with any PTF order, before you install the PTFs you should review the cover letter of each delivered PTF for any special instructions that may need to be followed. When you ordered your cumulative PTF package, you were automatically sent the latest HIPER and Database PTF groups along with the cumulative PTF package. You should review the cover letters for the PTFs in these groups that are applicable to your system. The commands needed for copying and printing (or displaying) the PTF cover letter(s) are included below.

1. COPYING PTF COVER LETTERS:

- * Mount the PTF media and sign on using a security officer user profile such as QSECOFR.
- * To copy all cover letters from media onto the system for PTFs that are not already applied to your system, enter the following command:

```
CPYPTFCVR DEV(device_name) LICPGM(*ALL) SELECT(*NOTAPY)
```

- * To copy a specific cover letter from media onto the system, enter the following command:

```
CPYPTFCVR DEV(device_name) LICPGM(product_id) SELECT(ptf_id)
```

2. DISPLAYING OR PRINTING PTF COVER LETTERS:

- * The PTF cover letters must be copied from the media first before they can be displayed or printed.
- * To display or print cover letters for all PTFs that are currently not applied on your system, enter one of the following commands:

```
DSPPTFCVR LICPGM(*ALL) SELECT(*NOTAPY)
```

```
DSPPTFCVR LICPGM(*ALL) SELECT(*NOTAPY) OUTPUT(*PRINT)
```

Note: You can also specify CVRATR(*SPCINST) on the DSPPTFCVR command to view all cover letters that have special instructions.

- * To display or print a specific cover letter, enter one of the following commands:

```
DSPPTFCVR LICPGM(product_id) SELECT(ptf_id)
DSPPTFCVR LICPGM(product_id) SELECT(ptf_id) OUTPUT(*PRINT)
```

- * PTF TC20114 is the Cumulative PTF package cover letter and contains a list of all PTFs contained in this cumulative PTF package. To display the Cumulative PTF package cover letter, enter one of the following commands:

```
DSPPTFCVR LICPGM(5770SS1) SELECT(TC20114)
DSPPTFCVR LICPGM(5770SS1) SELECT(TC20114) OUTPUT(*PRINT)
```

3. NEW - You can also review the special instructions for PTFs in the cumulative package or groups in a convenient format online:

- * Cumulative package:
<https://www.ibm.com/support/pages/uid/nas4C0114720>
- * HIPER PTF group:
https://www.ibm.com/support/pages/uid/nas4SF99719_SI
- * Database PTF group:
https://www.ibm.com/support/pages/uid/nas4SF99702_SI

READ THIS FIRST

1. Failure to follow these instructions may result in failure of your system to operate. Follow the directions carefully every time you install a cumulative PTF package.
2. Cumulative PTF packages must be installed delayed for proper PTF installation. Do NOT use any immediate apply install options to install this package; otherwise, unpredictable results may occur.
3. Vital PTF information: Application of PTFs within this cumulative PTF package may disable or render ineffective programs that use system memory addresses not generated by the IBM® translator, including programs that circumvent control technology designed to limit interactive capacity to purchased levels. These PTFs may be prerequisites for future PTFs. By

applying these PTFs you authorize and agree to the foregoing.

4. Each of these PTFs is subject to the terms of the license agreement which accompanied, or was contained in, the Program for which you are obtaining such PTF. You are not authorized to install or use any such PTF except as part of the Program for which you have a valid Proof of Entitlement.

SUBJECT TO ANY WARRANTIES WHICH CAN NOT BE EXCLUDED OR EXCEPT AS EXPLICITLY AGREED TO IN THE APPLICABLE LICENSE AGREEMENT OR AN APPLICABLE SUPPORT AGREEMENT, IBM MAKES NO WARRANTIES OR CONDITIONS EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON INFRINGEMENT, REGARDING EACH PTF.

The applicable license agreement may have been provided to you in printed form and/or may be viewed using the Work with Software Agreements (WRKSFWAGR) CL command.

5. Please review the special instructions for the following PTFs which are included in this package if you have the product installed and the PTF (or its Superseded-by PTF) is not already applied. NOTE: PTF cover letters are available at <https://www.ibm.com/support/pages/ptf/PPPPPPP> where PPPPPP is the PTF number.

* 5761DP4-SI36668

* 5770HAS-SI57302

6. Attention Content Manager OnDemand - 5770RD1 - Users. If you have Content Manager OnDemand - 5770RD1 - installed, please see <https://www.ibm.com/support/pages/node/404923> for any important special instructions.
7. IMPORTANT - To prevent a PTF load failure from optical media, PTF MF58615 must be active BEFORE installing this cumulative PTF package. Enter the following command to determine if PTF MF58615 is active: DSPPTF LICPGM(5770999) SELECT(MF58615). If the status is Temporarily applied or Permanently applied, the PTF is active. If the status is Superseded, verify that the superseding PTF is Temporarily applied or Permanently applied. If PTF MF58615 is not found or not active, electronically download MF58615 as a save file (via SNDPTFORD or Fix Central "Download individual fixes" option) and install it from Device *SERVICE BEFORE installing this cumulative PTF package. MF58615 is an immediate PTF and has no requisites.
8. All systems with EXP24S SFF Gen2-bay Drawer (Feature #5887) attached PLEASE READ!
<https://www.ibm.com/support/pages/node/645641>

9. If you received this cumulative PTF package as physical optical media, it is strongly recommended that you create an image catalog from the media and perform the PTF install from a virtual optical device. This may avoid multiple IPLs during the PTF installation.
10. WARNING - 5770JV1 Option 16 (JDK 8.0 32-bit) and 5770JV1 Option 17 (JDK 8.0 64-bit) are required to be installed before installing this package if you use Electronic Service Agent (ESA) or Management Central (MGTC). For information on how to obtain these options and Java PTF group (SF99716) requirements, see <https://www.ibm.com/support/pages/node/646227>
11. The PTF install processing will automatically pre-apply the following PTFs when applicable: 5770999-MF64784, 5770999-MF64476, 5770999-MF64228, 5770SS1-SI65024, 5770SS1-SI69871 and 5770SS1-SI69061. NOTE: PTFs that need to be manually pre-applied are listed earlier in this READ THIS FIRST section.
12. If you have changed defaults to any IBM commands using the CHGCMDDFT command, application of this PTF package will change the command defaults back to the shipped values for any commands included in this PTF package. This can cause commands to behave differently after applying PTFs. IBM recommends that any time you change a command default for a command in an IBM library, you keep the CHGCMDDFT commands in a CL program, and run that program after you apply PTFs to reapply your customized command defaults.

BEFORE YOU BEGIN

1. After reading this section, you should continue with the IBM i PTF INSTALLATION INSTRUCTIONS section.
2. If any problems have been discovered with the PTFs in this package since it was released, they will be documented in the Preventive Service Planning (PSP) information. The PSP information can be viewed via the Internet at the following URL:

<https://www.ibm.com/support/pages/node/667567>

The PSP information can also be ordered from Electronic Customer Support (ECS) using the following command:

SNDPTFORD SF98720

The PSP information can also be obtained by calling your provider of software service and asking for the IBM i Version 7 Release 2.0 PSP information for installing this cumulative PTF package (C0114720).

The PSP information contains information about any high impact or pervasive problems that have been identified since this package was released. It is recommended that you order and install the PTFs for these problems if the USERS AFFECTED area pertains to you.

If any PTFs in this package were found to be in error since this package was released, this information is also included in the PSP information. Users who will be affected by the error in a PTF should follow the RECOMMENDATION provided in the PSP.

3. You should have a current backup of your system before applying this package. If you have backed up your system since the last time you applied PTFs, that backup is acceptable.

Note: If you are installing this PTF package as a part of the Version 7 Release 2.0 installation process, you do not need to back up your system before you install this package.

4. If you specify automatic IPL option "N" to install this package, you must use the following command when you desire to activate the fixes:

```
PWRDWN SYS OPTION(*IMMED) RESTART(*YES) IPLSRC(B)
```

5. The approximate install time for this cumulative PTF package is one to two hours depending on your hardware configuration.

The actual time required for your system may vary based on the following:

- * Length of time typically required to IPL your system
- * Frequency of cumulative PTF package updates to your system
- * Performance associated with your specific model
- * Number of licensed programs installed on your system

6. If you have any problems applying these PTFs, contact your provider of software service.
7. It is recommended that you permanently apply the PTFs in this package after you are comfortable that your system has been operating successfully with these PTFs.

This will free up disk space otherwise used by temporary copies of modules in the PTF. The amount of disk space taken up by a cumulative package installation depends on the number of Licensed Programs installed and the frequency with which you install and permanently apply the cumulative PTFs.

8. The QALWOBJRST system value determines whether security-sensitive objects may be restored to your system. If it is currently set to a value other than *ALL, this package may fail to install with message identifiers CPD373F or CPD3740. Use the command DSPSYSVAL QALWOBJRST to determine its value. If the value is *ALL, you may proceed with the package installation. If the value is not *ALL, write down the value displayed, and issue the command CHGSYSVAL QALWOBJRST *ALL prior to the package installation. This system value can be changed without an IPL. After the package installation is complete, similarly change the system value back to the initial value you wrote down.
9. Appendix B contains some basic troubleshooting information that may help if you experience a failure installing this cumulative PTF package.

IBM i PTF INSTALLATION INSTRUCTIONS

Notify all users to sign off the system prior to any system IPL in these instructions. If you plan to select the option to automatically IPL the system, you should notify all users to sign off now.

DO NOT cancel any of the following steps once they are started. Allow each step to complete normally.

If you are running on the A storage area, perform a normal IPL from the B IPL source. To determine the storage area you are running from, type DSPPTF 5770999 and press ENTER. On the Display PTF Status display, the storage area is identified in the IPL source field. ##MACH#A is the A storage area and ##MACH#B is the B storage area.

Be sure the IPL mode is set at Normal on the control panel and sign on using a security officer user profile such as QSECOFR.

Select the appropriate INSTALL steps below based on the format in which you received the cumulative PTF package.

INSTALL FROM *SERVICE

Use these steps when you ordered and received the cumulative PTF package electronically as PTF save files:

1. Type GO PTF and press the Enter key.

2. Take menu option 8 and press the Enter key.
3. If the Continue PTF Install display is shown, press the Enter key.
4. Review the appropriate options and notes which follow, below, then complete the Install Options for Program Temporary Fixes screen and press the Enter key.

```
Device . . . . . *SERVICE
Automatic IPL . . Y = Yes or N = No
Prompt for media . 1
Restart type . . . *SYS
Other options . . Y = Yes
```

5. Review the appropriate options and notes which follow, below, then complete the Other Install Options screen and press the Enter key.

```
Omit PTFs . . N = No or Y = Yes
Apply type . . 1 = Set all PTFs delayed
PTF type . . . 1 = All PTFs
```

Note: Depending on the previous options specified, some fields above may not be shown.

Note: If you have PTFs to omit, type Y in the Other Options field and follow the directions on the displays which follow. Refer to Appendix A in the detailed installation instructions section on omitting PTFs.

6. The display shows the licensed programs for which PTFs are being loaded.
7. Continue with the COMPLETE THE INSTALL PROCESS section.

INSTALL FROM OPTICAL IMAGE FILES

Use these steps when you ordered and received the cumulative PTF package as optical image files:

1. Create your image catalog and add the image files to the catalog. For information on how to create an image catalog refer to the IBM Knowledge Center:
http://www.ibm.com/support/knowledgecenter/ssw_ibm_i_72/rzam8/rzam8fixinstallimage.htm

(IBM i 7.2>IBM i and related software>Maintaining and managing IBM i and related software>Using software fixes>Installing fixes>Step 3: Choosing your fix installation

scenario>Installing IBM i fixes from an image catalog).

2. Load the image catalog into the virtual optical device using the following command:

```
LODIMGCLG IMGCLG(ptfcatalog) DEV(OPTVRTxx) OPTION(*LOAD)
```

3. Read this entire step carefully, as you may be asked to select an option to omit certain PTFs. To install the cumulative package:

- 3.a. Type GO PTF on any command line and press the Enter key.

- 3.b. On the Program Temporary Fix (PTF) display, select option 8 (Install program temporary fix package) and press the Enter key. Using this option allows you to install all of the PTFs that are applicable to your system.

- 3.c. If the Continue PTF Install display is shown, press the Enter key.

- 3.d. Type the name of the virtual optical device in the Device field on the Install Options for Program Temporary Fixes display.

- 3.e. If you do NOT want the system to automatically IPL:

- * Enter an N (No) in the Automatic IPL field. The PTFs will not be temporarily applied until after the next unattended IPL.

- 3.f. If you DO want the system to automatically IPL:

- * Enter a Y (Yes) in the Automatic IPL field.

- 3.g. Enter a 1 in the Prompt for media.

If you have received individual and/or PTF groups as save files that you want to install at the same time as the cumulative PTF package, type 3 in the Prompt for media field.

- 3.h. Enter a Y (Yes) in the Other Options field and press the Enter key.

- 3.i. Enter a 1 in the Apply type field. If you specified Y (Yes) for the Automatic IPL field, the Apply type field is not displayed.

- 3.j. Enter a 1 in the PTF type field.

- 3.k. If the PSP information lists any PTFs that need to be manually omitted, omit those PTFs. Enter a Y (Yes) in the

Omit PTFs field and follow APPENDIX A ("OMITTING A PTF FROM THE PACKAGE") to omit any indicated PTFs. Otherwise, enter an N (No) in the Omit PTFs field.

3.1. Press the Enter key.

Note: If (after pressing the Enter key) the Confirm Install of Licensed Internal Code Fixes display is shown, press F10 to automatically IPL. Wait for the system to power down and start an IPL. When the Sign On display is shown, go back to STEP 1 and start the installation of this cumulative PTF package again. (The next time through these instructions, you will not get this display.)

4. The display shows the licensed programs for which PTFs are being loaded. All volumes that are loaded in the image catalog are automatically processed.

5. Continue with the COMPLETE THE INSTALL PROCESS section.

INSTALL FROM OPTICAL MEDIA

Use these steps when you ordered and received the cumulative PTF package as physical optical media:

1. Enter the following command and press the Enter key.

```
CHGMSGQ QSYSOPR *BREAK SEV(70)
```

This step ensures a break message will appear if the system determines you should mount the next volume. IMPORTANT -- If there are no PTFs on the other volumes that are applicable to your system, the system will not prompt you for the other volumes.

2. Read this entire step carefully, as you may be asked to select an option to omit certain PTFs. To install the cumulative package:

2.a. Type GO PTF on any command line and press the Enter key.

2.b. On the Program Temporary Fix (PTF) display, select option 8 (Install program temporary fix package) and press the Enter key. Using this option allows you to install all of the PTFs that are applicable to your system.

2.c. If the Continue PTF Install display is shown, press the Enter key.

2.d. Ensure volume one of the cumulative PTF package media, labeled C0114720_01, is loaded in the appropriate drive

for the media you are using, and type the name of the drive in the Device field on the Install Options for Program Temporary Fixes display.

2.e. If you do NOT want the system to automatically IPL:

- * Enter an N (No) in the Automatic IPL field. The PTFs will not be temporarily applied until after the next unattended IPL.

2.f. If you DO want the system to automatically IPL:

- * Enter a Y (Yes) in the Automatic IPL field.

2.g. Enter a 2 in the Prompt for media field in order to install the HIPER and Database PTF groups along with your cumulative PTF Package.

If you have received individual and/or PTF groups as save files that you want to install at the same time as the cumulative PTF package, type 3 in the Prompt for media field.

2.h. Enter a Y (Yes) in the Other Options field and press the Enter key.

2.i. Enter a 1 in the Apply type field. If you specified Y (Yes) for the Automatic IPL field, the Apply type field is not displayed.

2.j. Enter a 1 in the PTF type field.

2.k. If the PSP information lists any PTFs that need to be manually omitted, omit those PTFs. Enter a Y (Yes) in the Omit PTFs field and follow APPENDIX A ("OMITTING A PTF FROM THE PACKAGE") to omit any indicated PTFs. Otherwise, enter an N (No) in the Omit PTFs field.

2.l. Press the Enter key.

Note: If (after pressing the Enter key) the Confirm Install of Licensed Internal Code Fixes display is shown, press F10 to automatically IPL. Wait for the system to power down and start an IPL. When the Sign On display is shown, go back to STEP 1 and start the installation of this cumulative PTF package again. (The next time through these instructions, you will not get this display.)

3. The display shows the licensed programs for which PTFs are being loaded.

- 3.a. After each volume is processed, you will receive a message to mount the next volume. Load the volume indicated and use the G option to continue.
- 3.b. After all the applicable volumes for the cumulative PTF package have been processed, you will automatically be prompted to mount the first volume of the next media set in order to install the HIPER and Database PTF groups. Mount the first volume in the set and use the G option to continue.
- 3.c. Continue mounting any additional volumes. When all your volume sets have been processed, use the X option to complete the PTF installation.

Note: If there are volumes that contain PTFs that are not applicable to your system, the system will not prompt you to mount those volumes.

4. Continue with the COMPLETE THE INSTALL PROCESS section.

COMPLETE THE INSTALL PROCESS

Use these steps to complete the install process.

1. If the Confirm IPL to Complete PTF Install display is shown:
 - 1.a. End all jobs on the system and perform a normal mode IPL to the B IPL source. If you are installing from optical image files, do not delete the image catalog until after the next normal IPL completes.
 - 1.b. When the Sign On display is shown, continue with step 5.
2. If the Confirm IPL for Technology Refresh PTFs display is shown:
 - 2.a. Press F10 to end all jobs on the system and IPL the system. Note: If an IPL cannot be performed right away, press F12 to Cancel the process. Schedule to IPL the system at the earliest convenience.
 - 2.b. When the Sign On display is shown, start the installation of this cumulative PTF package again. (The next time through these instructions, you will not get this display.) If you are installing from optical media, start again with INSTALL FROM OPTICAL MEDIA, STEP 1.
3. If you entered a Y (Yes) for the Automatic IPL option, the system will be IPLed automatically.

After the IPL completes, the Sign On display is shown and the new PTFs are active. Read the following NOTES, then go to STEP

5.

Note: During the power down of your service partition, system reference code D6xx430B or D6xx430A could be displayed for an extended amount of time. The "xx" should increment periodically and is a normal part of processing where server firmware code is being updated.

Note: During the IPL, system reference code C9002967 could be displayed for an extended amount of time. This is normal (assuming the processor light flashes periodically). You may also notice multiple power down sequences, with a change in the IPL side that is displayed.

Note: While applying Licensed Internal Code fixes, it may be necessary for the system to reorganize a portion of the Licensed Internal Code storage. While this reorganization is taking place, system reference codes (SRCs) C600 4400 and C600 4401 are displayed.

4. If you entered an N (No) for the Automatic IPL option, the display shows the licensed programs for which PTFs are being loaded and marked to be temporarily applied upon the next unattended IPL. When this procedure completes, the Program Temporary Fix display is shown. When you are ready to complete the installation of the package, do the following:

4.a. Notify all users to sign off the system, then enter the following command to put the system in a restricted state:

```
ENDSBS *ALL *IMMED
```

Press the Enter key. The message "ENDSBS SBS(*ALL) in progress" is shown.

4.b. Enter the following command:

```
DSPMSG QSYSOPR
```

If the message "System ended to restricted condition" is shown, continue. Otherwise, repeat the above command until the message appears.

4.c. Make sure the IPL mode is set at Normal on the control

panel.

4.d. Enter the following command to perform the IPL:

```
PWRDWN SYS OPTION(*IMMED) RESTART(*YES) IPLSRC(B)
```

Press the Enter key.

After the IPL completes, the Sign On display is shown and the new PTFs are active. Continue with STEP 5.

5. Use the following procedure to verify the cumulative package was properly installed:

- 5.a. Sign on using a security officer user profile such as QSECOFR.
- 5.b. Type WRKPTFGRP SF99720 on any command line.
- 5.c. If the Status field is "Installed" and the Level field is "20114" continue with step 6, otherwise continue with step.5.d.
- 5.d. Type GO LICPGM on any command line.
- 5.e. Press the Enter key. The Work with licensed programs display is shown.
- 5.f. Select option 50.
- 5.g. Press the Enter key. The Install History display is shown.
- 5.h. Press the Enter key. The Display History Log Contents display appears.

- * If the cumulative package was installed successfully, you will see messages indicating the applying of PTFs completed. Continue with STEP 6.

- * If the cumulative PTF package was not installed successfully, you will see messages indicating the applying of PTFs failed. Contact your provider of software service for assistance.

- * If the previous IPL was abnormal, only PTFs for the Licensed Internal Code will be applied (5770999). You can check if the previous IPL was abnormal by typing the following command:

```
DSPSYSVAL SYSVAL(QABNORMSW)
```

If the IPL was abnormal and you are installing this package immediately after a system install, perform

the IPL again to apply the remaining PTFs.

6. You can resume normal system operation at this time. You should back up your system again at your earliest convenience.

This concludes the installation of the IBM i cumulative PTF package.

If you have comments or concerns with cumulative PTF packages, contact your provider of software service.

APPENDIX A - OMITTING A PTF FROM THE PACKAGE (IBM i INSTALLED)

Use these steps when the Preventive Service Planning information directs you to omit a PTF from the package. When complete, return to the step following the one which sent you here.

1. Enter a Y (Yes) in the Other Options field. Press the Enter key.
2. If the Confirm Automatic IPL display is shown, follow the instructions on the display.
3. On the Other Install Options display, enter a Y (Yes) in the Omit PTFs field. If the Apply Type field is also shown, enter a 1 (1 = Set all PTFs delayed). Press the Enter key.
4. On the Omit Program Temporary Fixes display, select the products for which you want to omit PTFs and press the Enter key.
5. On the PTFs to Omit display, enter a 1 in the option field and the PTF ID of the PTF you want to omit in the PTF ID field and press the Enter key. The list will be updated.

Repeat this step for each PTF you want to omit for this product. Pressing the Enter key without any input on the display will take you to the PTFs to Omit display for the next product, or you will be returned to the Omit Program Temporary Fixes display once all selected products have been processed.

6. Press the Enter key at the Omit Program Temporary Fixes display to go to the Confirm to Omit PTFs display. Confirm that the list is correct and press the Enter key to continue with the package installation.

APPENDIX B - BASIC TROUBLESHOOTING INFORMATION

Q. Why is my IPL taking longer than usual?

A. If an extra IPL is required for a Technology Refresh PTF or Special Handling pre-apply PTF, the extra IPL will be performed automatically. During the next normal IPL, the Install PTF

command will be run during the "PTF Processing" IPL step in the SCPF job. Any additional LIC PTFs will be loaded from the PTF install device (virtual optical or *SERVICE), and all PTFs will be set for delayed apply. The partition will then be automatically restarted to apply all PTFs.

Q. My cumulative PTF package did not install. How do I figure out what is wrong?

A. First you need to determine whether the failure occurred during the load or apply phase of the cum package installation. If the system did not IPL, then chances are the failure occurred during the load phase. Do a help on the failure message, then press F10 to view the messages in the joblog. Look for escape messages that will indicate what the problem is. Fix these errors and then try the request again.

1. Verify that the IPL was a normal unattended IPL, OS and LPP PTFs will not be applied during an abnormal IPL or during an attended IPL.
2. Do a GO LICPGM and take option 50 to display the install history log for messages. Look for any messages that indicate that there was a failure during the install. The following messages are what you would expect to see during a successful cumulative PTF package installation:

PTF installation process started.

Loading of PTFs started.

Loading of PTFs completed successfully.

Marking of PTFs for delayed application started.

Marking of PTFs for delayed application completed successfully.

PTFs installed successfully.

Apply PTF started.

Applying of PTFs for product 5770999 completed successfully.

Applying of PTFs for product 5770SS1 completed successfully.

Applying of PTFs completed.

PTFs applied or removed during IPL.

If you find any failure messages, then you will need to go to the SCPF joblog to see the detailed messages that indicate what the problem is. To find the SCPF joblog, do the following:

1. Enter the command: WRKJOB SCPF
2. You may get a list of jobs. If you just did the IPL, enter a 1 next to the first one that is not active.
3. Enter a 10 and press enter to look at the spooled files for that job. The detailed error messages should be found in this joblog.
4. Find the error messages and try to determine what caused the error. If you can fix the problem, do so and then re-IPL the system to apply the remaining PTFs.
5. If you cannot fix the problem, have the information in the

joblog available when you call your provider of software service.