



Infor LX and Infor BPCS Licensing Modification Administration Guide

v8.4

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About this guide

This guide describes the user licensing modifications for BPCS and Infor LX and details how to implement them.

Intended audience

- System Administrators
- Security Administrators and Personnel

Related documents

You can find the documents in the product documentation section of the Infor Xtreme Support portal, as described in "Contacting Infor" on page 5.

Contacting Infor

If you have questions about Infor products, go to the Infor Xtreme Support portal.

If we update this document after the product release, we will post the new version on this website. We recommend that you check this website periodically for updated documentation.

If you have comments about Infor documentation, contact documentation@infor.com.

Chapter 1 Preparation and Installation

Read this chapter for important information before you install the licensing modifications for Infor BPCS or Infor LX using the MR.

If you are installing new licensing via the LX installation program and ISO image or CD, you may need to follow the special instructions for LX in section "LX special instructions" in this chapter. You will need to update any pre-existing environments with the new copies of certain programs, or users will not be able to enter the pre-existing LX environments.

You do not need the information in this chapter if you already installed the enhanced licensing program previously, or if it has been installed during the regular BPCS or LX installation process and you have no older pre-existing environments to update.

Determine the license model to use

When using a release of BPCS or LX you can use only one license model on a particular IBM i server – Named Users or Concurrent Users.

Before you install, you must know which license model your company has purchased for use with BPCS or LX for the server you will use.

You can find this information on the sales contract that was used to purchase BPCS or LX or from your Infor sales representative or the Infor customer care team. The contract should also indicate the number of user licenses which were purchased for your server.

Obtain license key

Before you install your BPCS or LX license program, you will need a valid User License Key. You can obtain the key from Infor Customer Care or your Infor representative. Even if you had previously installed 8.x BPCS or LX with a valid user license key, this version of the licensing will require you to obtain a new key for the updated license programs.

Ensure that you know the serial number of your server before you place your call. Your key will be cut and e-mailed to you. The email will specify the license model, the number of users, and the expiration date, if applicable.

After you have obtained your license key, you can proceed with the steps to install the License Program.

If you install the license program before you obtain your key, BPCS or LX environments will not allow more than the default number of users to enter the product.

Back up existing licensing

If your software is BPCS version 8.0, 8.1 or 8.2 or LX 8.3, you should back up your old license program product before you install the new one. Do this as a precaution only, in case you need to go back to the previous version of licensing for any reason.

Execute the IBM commands shown below to back up your license program product to either tape media or to save files that you create in advance. You will need to prompt the commands using F4 and fill in the information for your save media. Follow the set of commands below for your release of BPCS or LX.

If you are on a BPCS 6.x release or BPCS CD, you can skip this section.

LX 8.0

```
SAVLIB SSAGTLIC80
SAVLICPGM 1BPCS80
SAVLICPGM LICPGM(1BPCS80) OPTION(1)
```

LX 8.1

```
SAVLIB SSAGTLIC81
SAVLICPGM 1BPCS81
SAVLICPGM LICPGM(1BPCS81) OPTION(1)
```

LX 8.2

```
SAVLIB SSAGTLIC82
SAVLICPGM 1BPCS82
SAVLICPGM LICPGM(1BPCS82) OPTION(1)
```

LX 8.3

```
SAVLIB SSAGTLIC83
```

```
SAVLICPGM 1BPCS83
```

```
SAVLICPGM LICPGM(1BPCS83) OPTION(1)
```

LX 8.4

```
SAVLIB INFORLIC84
```

```
SAVLICPGM 1BPCS84
```

```
SAVLICPGM LICPGM(1BPCS84) OPTION(1)
```

Install the modified licensing

This section describes how to install the modified licensing system.

Follow the READM73684 and apply MR 73684

When MR 73684 is delivered to you, each release of BPCS or LX comes with a READM73684 in the QTXTSRC file which explains the detailed steps for restoring the new licensing to your system, and placing other important changed objects into your environment to ensure that licensing works properly.

NOTE: Certain Client/Server or WebTop runtime changes are optional, but without them the license names taken by Client/Server or WebTop jobs will not be the same name as those taken by green screen jobs. This will result in multiple licenses being used for the same user ID.

If you need to restore your license program from the original MR SAVFs prior to doing the initial installation, the restore commands are found in Chapter 2 under Disaster Recovery.

Ensure proper program ownership

After your updated licensing has been installed, verify that two important service programs are now owned by QSECOFR. Depending upon the method you chose to install the new licensing, these may need to be updated manually. These programs require this authority in order to use certain IBM APIs which change the owner of the job to the logged-in user (for Webtop) or which create objects

for licensing to work properly. If these objects are not updated, licensing will fail and users will not be able to access the product.

You must be logged on with a user profile having *ALLOBJ authority. Perform the following commands.

All releases:

```
DSPSRVPGM SSAGTLIC83/SYS657C
```

LX only:

```
DSPSRVPGM SSAGTLIC83/SYS696C
```

If the owner listed on the previous two commands is anything other than QSECOFR, issue the following two commands to correct the issue before attempting to use the new licensing product:

All releases (substitute your library name for MYLIB):

```
CHGOBJOWN OBJ(MYLIB/SYS657C)
```

```
    OBJTYPE(*SRVPGM)
```

```
    NEWOWN(QSECOFR)
```

```
    CUROWNAUT(*SAME)
```

LX only:

```
CHGOBJOWN OBJ(SSAGTLIC83/SYS696C)
```

```
    OBJTYPE(*SRVPGM)
```

```
    NEWOWN(QSECOFR)
```

```
    CUROWNAUT(*SAME)
```

LX special instructions

Follow these special instructions ONLY if all of the following are true:

- You installed new licensing as part of a new environment created by installation from media (CD or ISO image) where you specified "Y" to replace your old licensing with the modified license management software as part of the install process.
- You have a valid license key for the new license management software and it has been successfully applied.
- You had pre-existing environments of LX on the same server and these environments were using the older licensing software (feature code 5001). These environments now must be updated so that they work with the new license management software (feature code 8301 for LX 8.3* or 8401 for LX 8.4).

Perform the following steps to update all of your environments on the server to use the correct copies of certain programs to match the newly installed licensing. If the latest copies of these

programs are not installed in all environments, users will be denied access to the product from any environments which are not updated.

Important: Always consult Infor Xtreme support to obtain the latest MR for user licensing. The copy of licensing that was provided on your installation CD or ISO image may have had MRs created against it since the ISO image was cut. Therefore, it is strongly recommended that you order the latest copy of user licensing and install it by following the MR Readme before you proceed to update all the other LX environments on your system.

- 1 Enter the following command:

```
WRKOBJ OBJ(*ALL/SYS900B) OBJTYPE(*PGM)
```

Make note of all copies of SYS900B used in your 8.3 environments.

- 2 Enter the following command:

```
WRKOBJ OBJ(*ALL/SYS500C) OBJTYPE(*PGM)
```

Make note of all copies of SYS500C used in your 8.3 environments.

- 3 Enter the following command:

```
WRKOBJ OBJ(*ALL/ALAUNCH) OBJTYPE(*PGM)
```

Make note of all copies of ALAUNCH used in your 8.3 environments. Note that this program is only used with one business process, OLM Upload. If you do not use OLM Upload, you can skip any instructions relating to ALAUNCH or DFS Runtime.

Update SYS900B

Update all copies of SYS900B.

- 1 Use the command WRKLIBPDM and enter the SSAGTLIC83 library for LX 8.3 or INFORLIC84 for LX 8.4, using option 12.
- 2 Use option 3 to copy the new SYS900B program provided in SSAGTLIC83 for LX 8.3 or INFORLIC84 for LX 8.4 to replace all old copies of the program.

Note that you can choose to move the new copy of the program to a library higher in the library list than your old copies, you can replace the old copies completely, or you can rename the old copies first, and then copy the new program into the same library.

Update SYS500C

Update all copies of SYS500C.

In your newly installed environment (the one which you installed from media, and which included the option to install the new licensing), find the most recent copy of the SYS500C program from the new installation and copy this version of the program into **ALL** environments that contain the older copy of SYS500C.

You can either restore the new copy of SYS500C into a library higher in the library list of each environment, or you can first rename or delete the old copy of SYS500C before you install the new copy.

You should now be able to get into green screen for all your 8.3 or 8.4 environments.

Update DFS Runtime (if applicable)

Find the copy of the **ALAUNCH** program and **TCLAYER** programs used in your newly installed environment EC library. Copy these two programs into **ALL** environments which currently contain a copy of ALAUNCH and TCLAYER (this is normally the EC Environment Control Library).

You can either rename or delete the old copy of ALAUNCH and TCLAYER before you copy in the new object.

NOTE: The recompiled full contents of the EC library provided on the installation media need to be copied to all your other 8.3 EC libraries if you are upgrading to i5/OS V6R1M0 or higher. You can restore these objects into all libraries which contain the Fat Client runtime code to replace existing objects of the same name.

Use the new SYS550W

The newly updated SYS550W *PGM or SYS550W *SRVPGM provided in library SSAGTLIC83 for LX 8.3 or INFORLIC84 for LX 8.4 should be used before you start an LX job running outside of LX if you want Concurrent licenses to be released when your job ends.

You can also use this program if you have installed Named licensing and want proper setup of your environment *LDA, printer values and other setup that is normally performed in the BPCSMENU system before the system issues calls to LX programs, for example, from a job scheduler outside of the normal menu system.

Chapter 2 Administration

This chapter provides you with setup and verification information for use of the enhanced licensing product.

Check the installation key and current license usage

Use the IBM i commands **CHKPRDOPT** or **WRKLICINF** to check the installation of the License Program and view the License Key and current license usage. You must log on as **QSECOFR** or with a profile that has enough authority to use these commands to view your license product.

- Use the **CHKPRDOPT** command license program to ensure that the license program is properly installed on your system. Display the joblog after issuing this command to review the BPCS or LX licensing feature codes which have been installed for your product.

The following list indicates the product ID to use on the **CHKPRDOPT** command for your release of BPCS or LX.

- Infor LX 8.4 is **1BPCS84**
- Infor LX 8.3 is **1BPCS83**
- Infor BPCS 8.2 is **1BPCS82**
- Infor BPCS 8.1 is **1BPCS81**
- Infor BPCS 8.0 is **1BPCS80**
- Infor BPCS 6.1 is **1BPCS61**
- Infor BPCS 6.04 is **1BPCS64**
- Infor BPCS 6.02 is **1BPCS62**
- Infor BPCS 4.05 CD is **1BPCS45**
- You can also use the IBM command **DSPSFWRSC** to show which BPCS licensing options are installed. Ensure that only Named or Concurrent, not both, have been restored.
- Use the **WRKLICINF** command to view information provided by your license product, such as peak license usage, current license limits and expiration, and current license holders.

Only one Infor License Program per release of BPCS can be installed per IBM i server, regardless of the number of environments you configure for that release of BPCS. You may install two different releases of BPCS on the same server (4.05 CD and LX for example) and install two different BPCS license programs. The user licenses are counted separately for each BPCS release.

Your user license key is a global server key that covers all BPCS or LX environments on the server. In other words, if you have five environments of BPCS 8.2 on one LPAR, and two environments on another LPAR for the same IBM i physical server, the license seats are counted across LPARs.

If you also have more than one BPCS release installed, such as 8.0, 8.1, or 8.2, any additional license program for a new release of BPCS is separate from the previously installed license programs and requires a new key.

Licenses are counted separately for each BPCS and LX full release if any or all product releases are installed on the same server.

Updates to licensing

If you received your new licensing through an installation program, such as for LX, please be sure to check Infor Xtreme Support for any updated MR which has been completed for the licensing programs since the install image was built and apply the latest licensing updates before you use the product.

The SAVFs for licensing are best obtained by ordering the latest MR for licensing. To do this, use the MR object search on Infor Xtreme Support for an MR that contains the object VnnLICENSE, where 'nn' represents your version of BPCS or LX, and order that MR.

Note for LX only: If for any reason you want to retrieve the licensing SAVF which was on the 8.3 or 8.4 install media, rather than waiting for an MR, you can install the original license SAVFs from your 8.3 or 8.4 installation CDs. See the following section. This procedure is not recommended, because you will miss MR updates to the license management software that were released after the installation media was packaged.

Restoring LX licensing management software from original media

The following steps are provided only in case of an emergency need to recover your licensing management software from original media. It is recommended that as soon as possible after recovering your licensing software in this manner, you order the latest licensing MR from Infor365 support and apply it to your system.

- 1 Depends of LX release you want to install, mount iso image -
ERPLX_8_3_0_Server_iSeries_4_of_4.iso or ERPLX_8_4_0_Server_iSeries_4_of_4.iso
- 2 Use the RTSLIB command to restore library ERPLXLIC off the DISK 4 iso image:

```
RSTLIB SAVLIB(ERPLXLIC) DEV(OPTVRT01) MBROPT(*ALL) ALWOBJDIF(*ALL)
```

You should see this message:

```
4 objects restored from ERPLXLIC to ERPLXLIC.
```

Your License SAVFs V833LICB, V833LIC1 and V833LIC2 for LX 8.3 or V840LICB, V840LIC1, V840LIC2, V840LIC3, V840LIC4 now exist in library ERPLXLIC on your system.

Updating licensing from MRs

If you ordered an MR to receive your licensing, the latest code release containing all MRs available as of the date you order the licensing are always included and are delivered in the VnnLICENSE SAVF, where 'nn' represents your release of BPCS or LX.

Generally, you apply updates to your licensing using the **RSTLICPGM** command for the *BASE option, unless you are instructed otherwise in MR README QXTSRC files.

Issue the command **RSTLICPGM** only after all users have exited the product and all batch server jobs (including integration jobs and Webtop pooled jobs in LX) have finished processing or have been manually ended, if appropriate.

Re-installing from media - BPCS 8.0, 8.1, 8.2, LX

The install CDs for 8.x releases of these products contain older copies of licensing or potentially outdated copies of licensing.

If you are re-running the install of BPCS or LX from CDs to install a new environment on a server where BPCS or LX have already been installed with updated licensing, SKIP the install of user licensing when you are prompted with a message such as "The library SSAGTLICxx (or INFORLIC84 for LX 8.4) already exists on your system. Do you want to overwrite this library?" Always reply to this message so that you DO NOT re-run the user licensing install.

If you accidentally re-run the install of user licensing from install media, you risk re-installing older licensing or outdated copies of the modified licensing programs, either of which will likely cause your already updated and pre-existing BPCS environments to fail.

Should older copies of licensing programs become installed by mistake, simply follow the steps to re-apply the latest licensing MR SAVF. Alternatively, reapply it from a recent backup of your licensing done with **SAVLICPGM** by using the **DLTLICPGM** commands as appropriate to remove the outdated licensing, then re-running the **RSTLICPGM** commands listed in the MR README QXTSRC file or as required by the way you ran your **SAVLICPGM** backup command.

Additionally, remember to replace the SYS500C and SYS900B programs which were delivered on the base install media of BPCS or LX with the newer copies of these programs as delivered with your modified licensing MRs in the new environment's BPCSPTF or ERPLXPTF library. If you do not do this, license calls may fail.

Use the copies of OMS (NEWI) and DFS (ALANCH) provided on your licensing MRs, not the copies on the original install media, when configuring your new environment. This ensures that license names are formed correctly from the IP address rather than the job name.

Re-installing from media - BPCS 6.x, BPCS CD

The install CDs for the releases of these products contain older copies of SYS900B and SYS500C. For 6.x releases, they also contain old copies of the NEWI and ALAUNCH runtime.

Remember to replace the SYS500C and SYS900B programs which were delivered on the base install media of BPCS with the newer copies of these programs as delivered with your modified licensing MRs in the new environment's BPCSPTF library or license calls may fail.

Use the copies of OMS (NEWI) and DFS (ALAUNCH) provided on your licensing MRs, not the copies on the original install media, when configuring your new environment. This ensures that license names are formed correctly from the IP address rather than the job name.

Changing your licensing model

If you mistakenly installed the wrong licensing model, the problem can be corrected easily by deleting the incorrect option and restoring the correct option from the provided SAVFs.

Ask all users to exit the ERP system before you execute the following commands to avoid program hard-halts and errors.

- Use the IBM command **DLTLICPGM** to remove your incorrect BPCS license program Option 1, Option 2 for BPCS, or Option 1, Option 2, Option 3, or Option 4 for LX 8.3 and LX 8.4.
- Use the IBM **RSTLICPGM** command for either Option 1 or Option 2 for BPCS, or Option 1, Option 2, Option 3, or Option 4 for LX 8.3 and LX 8.4 to restore the correct licensing option. Deleting the *BASE option is neither necessary nor recommended unless you are directed to do so by Infor support.

A list of the save file's names provided for each license model and release of BPCS or LX is found in the section on Disaster recovery.

If you received your licensing through an updated installation program, such as for LX, please be sure to check with Infor365 support for any updated MR which has been completed for the licensing programs since the install was built and apply the latest licensing updates before you use the product. The SAVFs for licensing can be best obtained by ordering the latest MR for licensing. To do this, use the MR object search on Infor365 for an MR that contains the object V83LICENSE for LX 8.3 or V84LICENSE for LX 8.4 and order that MR.

Note that any license names which were held in the previous license model at the time that incorrect license model was deleted will continue to be visible on the system if these licenses were not released before you deleted the option using **DLTLICPGM**. The fact that these names will show on **WRKLICINF** screens for the BPCS or LX license option which is no longer installed has absolutely no impact on your license count for the newly installed license option. In other words, license counting is only done per single license model: it is not counted over a combination of both license models.

For example, in a scenario where named licensing was previously installed and was subsequently deleted while ten license names were still held, these ten named licenses will still

show in WRKLICINF even after the named license model has been deleted. When the concurrent model has been installed, these 10 named licenses become irrelevant and do not figure into the count of the concurrent license model's available licenses.

This behavior is as per design of the IBM license manager and cannot be altered.

Setting up e-mail notification of warning and expiration messages

The license product for each release of BPCS or LX enables you to configure your system to receive e-mail notification of concurrent or named user key expiration and to display warning messages when users exceed the maximum for which you are licensed, or when the number of users reaches the pre-defined threshold.

NOTE: Your BPCS user license product does not warn or notify you if the Infor LX or BPCS Product Key is going to expire.

To enable e-mail notification, perform the following steps:

- 1 Determine the name of the SMTP mail server on your internal network, and ensure you can use the IBM **PING** command to find either the SMTP server name or IP address from a command line on the IBM i where Infor ERP LX or BPCS is installed.
- 2 Determine the e-mail address of the person or persons to which to send the key expiration messages.

This user could receive many messages (one message is sent per job where access is denied when locked-out users attempt to log into the product) on a day when the key limit is exceeded.

- 3 Use **WRKLIBPDM** to access the correct license library for your release of BPCS or LX:
 - BPCSLIC610
 - BPCSLIC604
 - BPCSLIC602
 - BPCSLIC4CD
 - SSAGTLIC83
 - SSAGTLIC82
 - SSAGTLIC81
 - SSAGTLIC80
 - INFORLIC84
- 4 Use option **12** to work with the library.
- 5 Page down to the LICMAIL *FILE object and use option **12** to work with the file. If the member does not exist, create it as follows before proceeding:

Press **F6** to begin creating the member. Fill in the fields as shown in the screen shot below, then press **Enter**:

```

                                START SOURCE ENTRY UTILITY (STRSEU) TYPE

CHOICES, PRESS ENTER.

SOURCE FILE . . . . . > LICMAIL                                NAME, *PRV
LIBRARY . . . . . > SSAGTLIC83                                NAME, *LIBL, *CURLIB, *PRV
SOURCE MEMBER . . . . . LICMAIL                                NAME, *PRV, *SELECT
SOURCE TYPE . . . . . *SAME                                    NAME, *SAME, BAS, BASP...
TEXT 'DESCRIPTION' . . . . . Mail Names File

```

Figure 2-1: Start Source Entry Utility (STRSEU)

After you create the member, you can page down to it and use option 12 to work with the file.

6 Use option 2 to Edit the LICMAIL member.

```

                                START SOURCE ENTRY UTILITY (STRSEU) TYPE

CHOICES, PRESS ENTER.

SOURCE FILE . . . . . > MAILGATE                                NAME, *PRV
LIBRARY . . . . . > SSAGTLIC83                                NAME, *LIBL, *CURLIB, *PRV
                               MAILGATE                                NAME, *PRV, *SELECT
SOURCE MEMBER . . . . . *SAME                                    NAME, *SAME, BAS, BASP...
SOURCE TYPE . . . . .
TEXT 'DESCRIPTION' . . . . . Mail Names File

```

- 7 Enter one line that contains the e-mail address of the person who will receive the e-mails. Ensure that this address is valid. If more than one user will receive mail, enter those names on separate lines in the file.

Note: A space, hex 40, is a valid character in the LICMAIL file. The system interprets the space as an entry and attempts to send an e-mail to this 'blank' address. Do not add spaces by mistake if you open the file in edit mode and do not add an actual e-mail address.

- 8 Exit editing and save your changes.
- 9 Use option **12** to work with the MAILGATE file. If the member does not exist, create it as follows before you proceed:

Press **F6** to begin creating the member. Fill in the fields then press **Enter**:

After you create the member, you can page down to it and use option **12** to work with the file.

- 10 Use option 2 to Edit the MAILGATE member.
- 11 Enter one line that contains either the name or IP address of the mail server identified in step 1.

NOTE: It is recommended that you test this configuration by intentionally exceeding your license with the default user key (included with the product) before you apply a key that allows many users. Infor LX and BPCS releases are shipped with an allowed default of three users, with a grace period of 150 days. If more than three users attempt to sign on before a key is applied during this time period, an error message is sent, and this will test the e-mail configuration.

When a message from the operating system is sent to the QSYSOPR message queue to report that the 1BPCSnn product has a Warning or Expiration of your user key, a similar message will be sent via e-mail to the address you specified.

View the job log of an Infor LX or BPCS job that has received a warning or expiration message if an e-mail is not received. The job log will list any failures encountered by the SENDMAILSV service program that processes the e-mail, such as inability to find the mail server or an invalid e-mail address.

The e-mails are sent automatically from your IBM i server, but the 'from' address is a non-existent address. Do not reply to these messages. Contact your Infor representative or your local support center advising of the warning message and a request for a new key.

If your license is for an unlimited number of users and has no expiration date, you do not need to configure the e-mail options, as no messages will ever be sent.

Note that the IBM License Program management screens in WRKLICINF option 2 allow you to set up a message queue other than QSYSOPR to receive IBM i messages about licensing problems for the BPCS or LX product if you desire.

The ERPLX licensing allows you to enable e-mail notification, when the number of users reaches the pre-defined threshold. The warning e-mail will be sent notifying the recipients that the number of users is approaching the LX 8.4 licensing usage limit.

To activate this warning e-mail notification, you have to create a data area LXLICDTA in the LX 8.4 licensing library INFORLIC84 using command:

```
CRTDTAARA DTAARA(INFORLIC84/LXLICDTA) TYPE(*CHAR) LEN(120) VALUE('Y')
TEXT('LX 8.4 Licensing')
```

If the data area LXLICDTA does not exist in the library INFORLIC84, then e-mail notifications will not be sent upon reaching the threshold limit.

You can stop this warning e-mail notification by changing the first position in data area LXLICDTA to blanks or any value other than 'Y'.

In order to change Licensing Threshold limit, you have to run command WRKLICINF (Work with License Information) and take option 2=Change for installed Infor LX 8.4 model. Press F9 and change the threshold value:

```

Change License Information (CHGLICINF)

Type choices, press Enter.

Product identifier . . . . . > 1BPCS84      Identifier
License term . . . . . > V8                Vx, VxRy, VxRyMz, *ONLY
Feature . . . . . > 8402                  5001-9999
Usage limit . . . . . 3                   0-999999, *SAME, *NOMAX...
Alternate usage limit:
  Identified usage . . . . . 0             0-999999, *SAME
  Unidentified usage . . . . . 0          0-999999, *SAME
Threshold . . . . . 2                     0-999999, *SAME, *CALC...
Message queue . . . . . *NONE             Name, *SAME, *NONE, *OPSYS
Library . . . . .                          Name, *LIBL, *CURLIB
      + for more values

Log . . . . . *NO                         *SAME, *NO, *YES

```

Disaster recovery

This section describes how to change your backup and recovery plans to ensure the BPCS license program is saved and restore properly in the case of system failure and recovery.

Save/Restore commands

You must always use the IBM Save/Restore commands **SAVLICPGM** and **RSTLICPGM** to move the licensing software from IBM i server to IBM i server, and you must use them for your system recovery strategy. Save both the *BASE option and Option 1 or Option 2 (Concurrent or Named) for BPCS licensing and Option 1 - Concurrent by system, Option 2- Named by system, Option 3 - Concurrent by partition, Option 4 - Named by partition for LX 8.3 and 8.4, depending upon which license model you have installed.

Use the RSTLICPGM commands to restore the BPCS license programs back to your system in a disaster recovery, or to move licensing to a new server.

Do not use SAVLIB and RSTLIB against the BPCS or LX license library to move licensing to another system or to use in a disaster recovery. This will cause licensing to fail, as the license program will not be registered to the operating system.

Each time you apply any fixes to the license program product library, you should back up your copy of the license program using the command SAVLICPGM for the *BASE option and Option 1 or Option 2 (Concurrent or Named) for BPCS licensing and Option 1 - Concurrent by system, Option 2- Named by system, Option 3 - Concurrent by partition, Option 4 - Named by partition for LX 8.3 and 8.4, depending upon which license model you have installed. These commands to save the BPCS license program should be incorporated into your normal backup routine.

Recovery of your license program product

Follow the instructions on the READM73684 to install the license program product for the first time. Use this section only when recovering your system from backups or if manually restoring a corrupted pre-existing license program installation. These commands will not work to replace the old licensing on the 8.x releases of BPCS.

If you still have your original BMR 73684 SAVF objects, this chapter serves as a reference for the Save File names and the commands to use to install each type of licensing, for example, in the case of a disaster recovery from backup tapes. You can also recover the license program from your own backups, and the commands will vary depending upon the media and method used to save the license programs.

Replace the library name 'MYLIB' with the library where you previously restored your save files during the MR install process.

LX 8.4

Restore Base option

```
RSTLICPGM LICPGM(1BPCS84)
          DEV(*SAVF)
          OPTION(*BASE)
          SAVF(MYLIB/V840LICB)
```

Concurrent by system User Model

```
RSTLICPGM LICPGM(1BPCS84)
    DEV(*SAVF) OPTION(1)
    SAVF(MYLIB/V840LIC1)
```

Infor LX 8.4 Named by system User Model

```
RSTLICPGM LICPGM(1BPCS84)
    DEV(*SAVF) OPTION(2)
    SAVF(MYLIB/V840LIC2)
```

Infor LX 8.4 Concurrent by partition User Model

```
RSTLICPGM LICPGM(1BPCS84)
    DEV(*SAVF) OPTION(3)
    SAVF(MYLIB/V840LIC3)
```

Infor LX 8.4 Named by partition User Model

```
RSTLICPGM LICPGM(1BPCS84)
    DEV(*SAVF) OPTION(4)
    SAVF(MYLIB/V840LIC4)
```

LX 8.3

```
RSTLICPGM LICPGM(1BPCS83)
    DEV(*SAVF)
    OPTION(*BASE)
    SAVF(MYLIB/V833LICB)
```

Concurrent User Model:

```
RSTLICPGM LICPGM(1BPCS83)
RSTLICPGM LICPGM(1BPCS83)
    DEV(*SAVF)
    OPTION(1)
    SAVF(MYLIB/V833LIC1)
```

Named User Model:

8.2

```
RSTLICPGM LICPGM(1BPCS82)
    DEV(*SAVF)
    OPTION(*BASE)
    SAVF(MYLIB/V82LICB)
```

```
RSTLICPGM LICPGM(1BPCS82)
    DEV(*SAVF)
    OPTION(1)
    SAVF(MYLIB/V82LIC1)
```

Concurrent User Model:

Named User Model:

```
RSTLICPGM LICPGM(1BPCS82)
    DEV(*SAVF)
    OPTION(2)
    SAVF(MYLIB/V82LIC2)
```

8.1

```
RSTLICPGM LICPGM(1BPCS81)
    DEV(*SAVF)
    OPTION(*BASE)
    SAVF(MYLIB/V81LICB)
```

```
RSTLICPGM LICPGM(1BPCS82)
    DEV(*SAVF)
    OPTION(1)
    SAVF(MYLIB/V82LIC1)
```

Concurrent User Model:

Named User Model:

```
RSTLICPGM LICPGM(1BPCS81)
    DEV(*SAVF)
    OPTION(2)
    SAVF(MYLIB/V81LIC2)
```

8.0

```
RSTLICPGM LICPGM(1BPCS80)
    DEV(*SAVF)
    OPTION(*BASE)
    SAVF(MYLIB/V80LICB)
```

Concurrent User Model:

```
RSTLICPGM LICPGM(1BPCS80)
    DEV(*SAVF)
    OPTION(1)
    SAVF(MYLIB/V80LIC1)
```

Named User Model:

```
RSTLICPGM LICPGM(1BPCS80)
    DEV(*SAVF)
    OPTION(2)
    SAVF(MYLIB/V80LIC2)
```

6.1

```
RSTLICPGM LICPGM(1BPCS61)
    DEV(*SAVF)
    OPTION(*BASE)
    SAVF(MYLIB/V61LICB)
```

Concurrent User Model:

```
RSTLICPGM LICPGM(1BPCS62)
    DEV(*SAVF)
    OPTION(1)
    SAVF(MYLIB/V61LIC1)
```

Named User Model:

```
RSTLICPGM LICPGM(1BPCS61)
      DEV(*SAVF)
      OPTION(2)
      SAVF(MYLIB/V61LIC2)
```

6.04

```
RSTLICPGM LICPGM(1BPCS64)
      DEV(*SAVF)
      OPTION(*BASE)
      SAVF(MYLIB/V64LICB)
```

Concurrent User Model:

```
RSTLICPGM LICPGM(1BPCS64)
      DEV(*SAVF)
      OPTION(1)
      SAVF(MYLIB/V64LIC1)
```

Named User Model:

```
RSTLICPGM LICPGM(1BPCS64)
      DEV(*SAVF)
      OPTION(2)
      SAVF(MYLIB/V64LIC2)
```

6.02

```
RSTLICPGM LICPGM(1BPCS62)
      DEV(*SAVF)
      OPTION(*BASE)
      SAVF(MYLIB/V62LICB)
```

Concurrent User Model:


```
RSTLICPGM LICPGM(1BPCS62)
      DEV(*SAVF)
      OPTION(1)
      SAVF(MYLIB/V62LIC1)
```

Named User Model:

```
RSTLICPGM LICPGM(1BPCS62)
      DEV(*SAVF)
      OPTION(2)
      SAVF(MYLIB/V62LIC2)
```

4.05 CD

```
RSTLICPGM LICPGM(1BPCS45)
      DEV(*SAVF)
      OPTION(*BASE)
      SAVF(MYLIB/V45LICB)
```

Concurrent User Model:

```
RSTLICPGM LICPGM(1BPCS45)
      DEV(*SAVF)
      OPTION(1)
      SAVF(MYLIB/V45LIC1)
```

Named User Model:

```
RSTLICPGM LICPGM(1BPCS45)
      DEV(*SAVF)
      OPTION(2)
      SAVF(MYLIB/V45LIC2)
```

Named license release

Use the SYS060D program to release Named licenses. You can only remove a Named license when that BPCS or LX user has been removed from the BPCS or LX security files in all BPCS or LX environments for that release of BPCS or LX.

The SYS060D program provides two types of reports which list the environments that contain the user name. Use these reports to assist you in removal of the user from BPCS or LX prior to license release.

Note: Marking the user as 'Inactive' in BPCS or LX is not sufficient. The user must be purged from the product. In 8.2 and LX, this can be accomplished in SYS600D using the 10=Pure command. In older releases, the ZSC and ZXU files must be manually cleared of that user's name before license release can be done.

To access SYS060D, you must be a user with QSECOFR or SECADM authority on the IBM i. From outside the BPCS or LX environment, add the license library to your library list. Invoke the command RLSLXLIC, and enter a valid USR, UST or EC library name of a library that contains the INLIBL data area for your release of BPCS or LX. If you have multiple environments on the system, pick any single environment (the license release mechanism runs across the server, not just across a single BPCS or LX environment).

The SYS060D screen appears if named licensing is installed. From here you can choose option 2 to run a report on a single user license or use F9 to run a report that lists all environments where every license user is enrolled into BPCS or LX.

Use option 1 to release a license for a user who has been removed from BPCS or LX security.

```
Select action and press Enter. 1=Release 2=Report 8=Position To

Act      License User Name

          ANGHELR
          BESENHB
          CHENGB
          COLIVEIR
          CZHANG
          DEHONDG
          DEMCHEV
          ENGD
          FOLEYC
          GUZMANF
          HAYNESJ
          HENRICL
          HOSTELM1

          +

F1=Help F3=Exit F5=Refresh F7=Backward F8=Forward F9=Report for all Users
```

Figure 2-3: Release Named User Licenses (SYS060D)

Concurrent license cleanup

Under normal conditions you should not need to run program SYS062B, which cleans up stranded concurrent licenses. If you find you need to run this program regularly, you should contact Infor Xtreme Portal enter a problem log to determine the problem.

If jobs are ended without a user exiting BPCS or LX, such as by the system administrator, or when the subsystem ends, the license for that user should still be released if it is the last job holding the license.

However, if the system ends abnormally or if the job ends in an abnormal way not anticipated in our coding, some licenses may be left in a 'held' state even if that user has no active jobs on the server. In such a case, you can submit the SYS062B program to batch to clean up any unused concurrent licenses. The program produces a report that indicates which licenses were released and which are considered still in use.

To access SYS062D, you must be a user with QSECOFR or SECADM authority on the IBM i. From outside the BPCS or LX environment, add the license library to your library list. Invoke the command RLSLXLIC, and enter a valid USR, UST or EC library name that contains the INLIBL data area for your release of BPCS or LX, then press Enter. If you have multiple environments on the system, pick any single environment (the license release mechanism runs across the server and not the BPCS or LX environment).

```
Release LX Licenses (RLSLXLIC)

TYPE CHOICES, PRESS ENTER.

Environment Control Library . . > V83TLXEC      Name, *LIBL

                                                                 BOTTOM
F3=EXIT  F4=PROMPT  F5=REFRESH  F12=CANCEL  F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS
```

Figure 2-4: Release LX Licenses (RLSLXLIC)

The SYS062D screen will appear if concurrent licensing is installed. Enter the option of your choice for batch or interactive processing, and press **Enter**.



Figure 2-5: Release Concurrent Licenses (SYS062D-01)

View your spooled files when the job completes to see a list of released and retained licenses

If a certain license you expected to be released still shows as 'held', view the entries in Chapter 3 in the FAQ section to see if this describes your situation. If this does not resolve your issue, contact the Infor Xtreme Portal and log a support issue

Chapter 3 FAQs and Troubleshooting

This chapter answers frequently asked questions about the enhanced licensing and offers troubleshooting suggestions if you encounter problems.

Problems with upgrading to enhanced licensing

This section applies only to 8.x releases of BPCS and LX.

If you exactly followed all the instructions in the README for the MR, you should have no issues when accessing the product. If you skipped a step or forgot to update some of the objects, you will be unable to enter that BPCS or LX environment.

If you attempt to go into 8.x BPCS or LX with SYS500Cor SYS900B when you are not updated to new licensing levels, you will see the following error message:

```
Type reply (if required), press Enter.  
From . . . : NOVAKG1      14/05/08   08:49:58  
EITHER NUMBER OF BPCS LICENSE USERS IS EXCEEDED OR A PROBLEM EXISTS IN  
BPCS SET UP -- SEE JOBLLOG OR QSYSOPR MESSAGE QUEUE FOR DETAILS. USERS  
NOT ALLOWED INTO BPCS AT THIS TIME.
```

or the user will receive a message:

```
SYS900B is not at the correct level
```

Look in the joblog of the failed job to determine if additional messages were sent – for example, maybe licenses were really exceeded because no key was applied or because the licensing is not properly installed. Another cause might be that both license models were restored rather than just one license model.

*NOTE: You must use the RSTLICPGM command to install the enhanced licensing. The *BASE option of your license program and either Option 1 or Option 2 must be installed in this manner. If both options are installed, licensing will not allow users access to the product.*

Licensed job types

This section describes which jobs will take a license in BPCS or LX.

When a BPCS or LX program submits a batch job to do additional work or reporting, this job is not subject to User Licensing.

All BPCS or LX jobs that require a user interface to run and all integration interfaces will take a user license, based upon the license model installed and the formation of the license name.

If a user license is not available, the user will be denied access to the product until enough license seats are released that the user can enter and obtain a license, or until a new key with additional license seats is applied.

How are concurrent license names formed?

The license name consists of the User ID and the location. The location is determined when the job in BPCS starts, based on a 'best attempt' runtime determination of where the connection originated. The IP address which is resolved for your PC could vary depending upon your network configuration and firewall set up.

To find the location of the user, the licensing program first attempts to determine the IP address from which any connection into BPCS or LX originates. This Client IP address (also known as Peer IP address) is then used to form the license name.

If you use TELNET to go from another server to the IBM i where BPCS is installed, the IP address of the Peer will be the originating server where the TELNET command was performed, and it will not reflect the IP address of the user's own PC.

If the connection is done via APPC rather than TCP/IP, then the job's device name is used to create the license name. Device names are unique. APPC connections will cause multiple license seats to be held for a single user, because it is not possible to determine the physical location of each APPC device at runtime.

If the IP address is not available and the APPC device name does not exist, then the Job Name is used to form the license name.

Enhancements were required in DFS (Fat Client) runtime, which is used by all releases of BPCS, the OMS runtime (Newi), which is used in Client/Server BPCS, and in WebTop, which is used by LX, to provide the Peer IP address at job startup for licensing. Therefore, if the latest copies of these runtimes are not applied, your Client/Server or Web jobs will be unable to determine the Peer IP address, and the job name will be used to create the license name.

In the screen shown below, there is an example of how a single user could take four licenses. The explanation in red explains the reasons each name was formed.

```

Work with License Users                USCHI003                13/05/08 17:19:25

Product ID . . . . . : 1BPCS83
License Term . . . . . : V8
Feature . . . . . : 8302
Description . . . . . : ERPLX V8.3 (c) Infor Inc 2008 Concurrent
Usage type . . . . . : *REGISTERED

Type options, press Enter.
  5=Display Detail

      License                Number  -----Request-----
Opt  User                    Uses    Date      Time      User

Webtop uses job name if latest Webtop fixes are not applied.
NOVAKG1 QPADEV0007          1,00  13/05/08  17:18:06  NOVAKG1 <--
APPC connection will always use Device name.
NOVAKG1 10.33.130.          1,00  13/05/08  17:19:21  NOVAKG1 <--
Direct connection from user's own PC Client/Access has correct IP address.
NOVAKG1 10.40.40.5         1,00  13/05/08  17:18:42  NOVAKG1 <--
TELNET from another server to the System i uses IP address of the originating
server, not user's PC.

Bottom

Parameters or command
===>
F3=Exit  F5=Refresh  F12=Cancel  F15=Sort by date/time  F17=Position to
F21=Nondisplay data/keys

```

Figure 3-1: Example Of Multiple Licenses Used For A Single User

Concurrent license model FAQ

This section provides solutions for various concurrent licensing questions that an administrator may have.

WebTop jobs not released

If Connection Pooling is turned on in WebTop, the LX job for each user remains active, even after the user has closed his web browser windows and logged out. This allows for a faster restart of the product, because these active jobs are re-used when the user initiates a new connection and various files and program activations pre-exist in the Activation Group for that job.

The jobs eventually end when their time out value expires. The time out is set in Websphere administration. See your WebTop install and configuration guides.

The Concurrent license held for a WebTop pooled job is released when the last job for the user holding that license name has ended. It may be advisable to set a reasonably short time out period, such as 1-3 hours, on your pooled jobs to avoid having licenses held for long periods of time after the user has logged out for the day.

You can also end any unused WebTop pooled jobs using Option 4 from WRKACTJOB. The license will be released if the job you end is the last job for the user's license name.

WebTop uses the job name

WebTop version 4.3.2 must be applied in order for WebTop to pass the user's PC IP address to the LX job at startup time. If this version of WebTop runtime is not applied, the job name is used to form the license name.

As long as your WebTop is set to re-use the same workstation ID for a user, the user can start many WebTop jobs and take only a single license name. However, a green screen connection and a WebTop connection for the same user would result in two license names being held if you use the Concurrent License model.

Client/Server Newi uses the job name

MR 73959 must be applied to allow Newi to pass the user's PC IP address to the BPCS job at startup time. If the latest version of the Newi runtime is not applied, the job name is used to form the license name. This MR delivers a recompiled Newi for BPCS versions 6004-8.2 and a recompiled subset of Newi programs for BPCS version 6002 PLF. Follow the instructions in the README for MR 73959 to apply the MR.

The DFS runtime update must be applied to all your DFS Runtime libraries (the library may be known as the TCP/IP library, UST, USR or EC library) that are used to connect users to BPCS. This update was supplied with the Licensing MR 73684. Follow the instructions in the README for MR 73684 to apply the DFS runtime updates.

The user can start many thin client jobs and take only a single license name. However, a fat client connection and a thin client connection for the same user would result in two license names being held if you use the Concurrent License model.

WRKUSRJOB shows no active jobs for license

If a concurrent license appears to remain held even when the user seems to have no active jobs, this is normally working as per design.

Note that the logged in user name or 'current user name', which is not always the name visible from **WRKACTJOB**, is used to form the license name. The user who started the job and the 'current user' that logged into BPCS or LX may differ. This can happen if a daemon or pre-start job is started by one user, and a different user logs into the BPCS or LX session using a login API, for example, in certain types of Client/Server or integration jobs.

Jobs in BPCS or LX which do not appear under the user name in **WRKUSRJOB** would include Fat Client jobs (started by the user who runs the ALAUNCH daemon), QZRCSRVS jobs started by the JDBC interface to many integration programs such as the ESB Adapter, and QZDASOINIT jobs.

If a concurrent license is held, and the WRKUSRJOB command does not reveal active jobs for that user, and the SYS062D program does not clean up the license, you can execute the IBM command **WRKOBJLCK OBJ(USERNAME) OBJTYPE(*USRPRF)** where 'USERNAME' is the name used to form the license. The display will show any active jobs that have a lock on that user profile.

Display the joblog of suspect jobs to determine whether the job was used to start a BPCS or LX session. Only end jobs which you are certain have finished processing. Many of the QZRCSRVS jobs are used in integrations between BPCS or LX and another product. After all the jobs for that license user name are ended, the concurrent license will be released.

Two licenses taken at the same location

When you view the WRKLICINF screen for your product, it can appear that the same user has taken two or more licenses from the same exact IP address.

Often this is a false impression because the full license name is not displayed on the first screen. You must use option 5 and view the full license name to see that the user logged in from two separate locations.

Most networks will use the same first three dotted number sets, and only the last three numbers will differ. The WRKLICINF screen often shows only three of the four dotted numbers in the IP address.

```

                                WORK WITH LICENSE USERS                                ACADIA
                                                                                   06/20/08 10:57:21
PRODUCT ID . . . . . : 1BPCS45
LICENSE TERM . . . . . : V4
FEATURE . . . . . : 5452
DESCRIPTION . . . . . : BPCS 4.0.05 (c) Infor Inc 2008 Concurrent
USAGE TYPE . . . . . : *REGISTERED

TYPE OPTIONS, PRESS ENTER.
  5=DISPLAY DETAIL

      LICENSE                NUMBER  -----REQUEST-----
OPT  USER                   USES   DATE       TIME       USER
-----
      CHENGB 192.168.80        1.00  06/20/08   10:50:30  CHENGB
      TESTER 192.168.80        1.00  06/20/08   10:48:05  TESTER
      LINK   192.168.80        1.00  06/20/08   10:47:21  LINK
  5  MAKC   192.168.80        1.00  06/20/08   10:47:40  MAKC
      MAKC   192.168.80        1.00  06/20/08   10:54:01  MAKC

                                                                                   BOTTOM

PARAMETERS OR COMMAND
====>
    
```

Figure 3-2: Initial WORK WITH LICENSE USERS screen

The first screen appears to show multiple licenses for the same user/location combination.

When you use option 5 (Display Details) on both licenses for User 'MAKC', however, you can see that two different IP addresses were used to connect to the product, thus two licenses were used.

```

                DISPLAY DETAIL FOR LICENSE USER                ACADIA
                                                                06/20/08 11:13:12
PRODUCT ID . . . . . : 1BPCS45
LICENSE TERM . . . . . : V4
FEATURE . . . . . : 5452
DESCRIPTION . . . . . : BPCS 4.0.05 (c) Infor Inc 2008 Concurrent
USAGE TYPE . . . . . : *REGISTERED

LICENSE USER . . . . . : MAKC      192.168.80.38

REQUEST INFORMATION:
DATE . . . . . : 06/20/08
TIME . . . . . : 10:47:40
USER . . . . . : MAKC
NUMBER OF USES HELD . . . : 1.00
    
```

Figure 3-3: Detail screen shows full IP 192.168.80.38 for the first MAKC entry

```

                DISPLAY DETAIL FOR LICENSE USER                ACADIA
                                                                06/20/08 11:13:12
PRODUCT ID . . . . . : 1BPCS45
LICENSE TERM . . . . . : V4
FEATURE . . . . . : 5452
DESCRIPTION . . . . . : BPCS 4.0.05 (c) Infor Inc 2008 Concurrent
USAGE TYPE . . . . . : *REGISTERED

LICENSE USER . . . . . : MAKC      192.168.80.51

REQUEST INFORMATION:
DATE . . . . . : 06/20/08
TIME . . . . . : 10:54:01
USER . . . . . : MAKC
NUMBER OF USES HELD . . . : 1.00
    
```

Figure 3-4: Detail screen shows full IP 192.168.80.51 for the second MAKC entry