IBM

System i

i5/OS and related software
Data migrations

Version 6 Release 1

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> **Note**
>
> Before using this information and the product it supports, read the information in "Notices," on page 17.

Contents

Data migrations

An i5/OS® data migration is the process of moving data from one system or logical partition that is running i5/OS V5R3, V5R4, or V6R1 to another system or logical partition running V6R1. When migrating data between systems, the source system and the target system have different serial numbers.

This information does not describe how to migrate your data from an OS/400® (i5/OS) release earlier than V5R3.

If you are upgrading to a new system without changing the serial number, see Upgrades. If you are migrating data from one logical partition to another logical partition on the same system, follow the instructions in Restoring a logical partition (LPAR) to another LPAR–Checklist 22.

This information assumes that you are moving data from one system to another. If you are installing a new version of i5/OS on the same system, it is not necessary to perform an explicit data migration. See Installing, upgrading, or deleting i5/OS and related software.

To facilitate your data migration, you receive with your software order an Amendment for Temporary License of Qualified Programs for System i™. This amendment gives you a temporary license that authorizes you to continue to store and use licensed programs and certain chargeable features on both your source and target systems.

Another migration tool is feature code 0205, which you can order at no charge with the new system. This enables you to install and run the new operating system on both your source and target systems for up to 70 days. To use the feature, you must have a valid IBM® Software Maintenance subscription for the source system. Feature code 0205 authorizes you to use the new version and release on the source system for the sole purpose of migrating your data. The earlier version and release must be reinstalled on your source system after the data migration is completed.

IBM also offers a fee-based service for migrating your data. For more information, see the IBM Migration Services Web site.

Related information

Upgrades

Installing, upgrading, or deleting i5/OS and related software

IBM Migration Services

What's new for V6R1

Read about new or significantly changed information for the Data migrations topic collection.

The i5/OS Upgrades topic is not included in this topic collection. For information about how to upgrade from one IBM System i5™ or IBM System i model, hardware feature, or i5/OS release to a new or another IBM System i5 or IBM System i model, hardware feature, or i5/OS release, see the hardware Upgrades topic.

How to see what's new or changed

To help you see where technical changes have been made, the information center uses:
- The ≫ image to mark where new or changed information begins.
- The ≪ image to mark where new or changed information ends.

In PDF files, you might see revision bars (|) in the left margin of new and changed information.

To find other information about what's new or changed this release, see the Memo to users.

PDF file for Data migrations

You can view and print a PDF file of this information.

To view or download the PDF version of this document, select **Data migrations** (about 308 KB).

You can view or download these related topic PDFs:

Upgrades (about 285 KB or 86 pages)
> You can use this information if you want to upgrade your system with new hardware while retaining the same serial number.

Installing, upgrading, or deleting i5/OS and related software (about 3 MB)
> You can use this information if you are upgrading your system with a new i5/OS release.

Partitioning for i5/OS with an HMC
> If you are upgrading from or to a partitioned server, this topic describes how to use a Hardware Management Console (HMC) to create and maintain i5/OS logical partitions.

Backing up your system (about 2 MB)
> You can use this information to back up your system before performing upgrade tasks. This allows you to recover a working configuration should you experience problems during any part of the upgrade.

Saving PDF files

To save a PDF on your workstation for viewing or printing:

1. Right-click the PDF link in your browser.
2. Click the option that saves the PDF locally.
3. Navigate to the directory in which you want to save the PDF.
4. Click **Save**.

Downloading Adobe® Reader

You need Adobe Reader installed on your system to view or print these PDFs. You can download a free copy from the Adobe Web site (www.adobe.com/products/acrobat/readstep.html) .

Data migration concepts

i5/OS data migration is the movement of data from one system or logical partition to a new system or logical partition. When migrating data between systems, the source system and the target system have different serial numbers.

The data migration process includes planning, ordering, preparing for, and performing the data migration. Planning may require up to 6 weeks, depending on the complexity of your environment. Installing the i5/OS release on the source system requires at least one hour. Migrating the data from the source system to the target system (sometimes referred to as the *managed system*) can normally be accomplished in up to 3 days.

> **Related information**
>
> ⤷ IBM Migration Services

Planning the i5/OS migration

The time you spend planning for your i5/OS data migration can help minimize your downtime and make performing the migration easier.

Related tasks

"Performing the migration" on page 4
To prepare for and perform a data migration from either a source system that supports the V6R1 release of i5/OS or a source system that does not support the V6R1 release of i5/OS, follow these general procedures.

"Preparing for the migration from a System i model that does not support V6R1" on page 7
If you cannot install i5/OS V6R1 on your source system, you can still migrate your data by saving your source system and then performing a full system recovery onto the target system.

Planning your hardware for i5/OS data migration

Before you perform the actual i5/OS data migration, identify your hardware requirements and prepare your hardware.

To prepare your hardware, perform these general tasks:

1. Order the target system with feature code 0205 or prepare your target system or logical partition. If the Licensed Internal Code is not preinstalled on the target system with the i5/OS operating system, IBM recommends that you upgrade to the new release of the operating system on your source system before you migrate your data to the new system. Feature code 0205 ensures that the target system is set up for the data migration and entitles you to run the new operating system on both the source and target systems for a maximum of 70 days so that you can complete the data migration. You must reinstall the previous operating system on the source system after the data migration is complete.

   Note: The Amendment for Temporary License of Qualified Programs for System i gives you a temporary license that authorizes you to continue to store and use related i5/OS licensed programs and certain chargeable features on both your source and target systems for 15 days. The operating system is not included in this temporary license.

2. Identify the hardware requirements for your data migration. See Hardware specification sheets for more information.

3. Identify any tape incompatibilities. You must ensure that you have a tape drive that is compatible with the target system. To determine if your tape drive is compatible, see the Storage Solutions Web site or the System Handbook. To learn more about tape devices, see the Tape topic.

4. Ensure that you have a physical plan for the target system The target system is going to be set up and running beside the source system for a period of time. There are physical planning and setup implications that pertain to the target system.

   Related information

   ➡ Storage Solutions

   ➡ Upgrades

   Tape

Planning your software for i5/OS data migration

Before you perform the actual i5/OS data migration, identify your software requirements and prepare your software.

To prepare your software, perform these general tasks:

1. Evaluate disk storage space requirements. Ensure that you have enough disk storage capacity for the new operating system and for the data from the source server, as well as for any new data and software planned for the target server.

2. Identify possible upgrade paths for licensed programs. When you install the new release of i5/OS, some licensed programs might not work. Identify licensed programs that are no longer available at this release and their replacements where applicable. Additionally, to avoid losing data that depends on these licensed programs, migrate the data from your server to an accessible location before installing the new release of i5/OS.

   Related information

   Ensuring the server meets disk storage requirements for upgrades

Planning for your i5/OS console connection

If you plan to use a console after the data migration, ensure that the target console is prepared for your environment.

Perform these general tasks related to your console:

1. Choose your console. The console must be supported by both the source and target systems. If you are using a twinaxial console on the source system and using Operations Console on the target system, ensure that you have a twinaxial controller for any twinaxial devices you plan to run from the target system. When possible, use the Hardware Management Console (HMC) to manage your system. The HMC provides the easiest, most reliable method to access a console session during your data migration.

2. Ensure that the target console is set up for your environment and is operational. The target console must be operational and tested as a stand-alone server before the data migration.

   Related information

   Connecting to System i

   Managing consoles, interfaces, and terminals

Recording an i5/OS data migration plan

When you complete the planning tasks, you should have a record of the data migration plan. If you have other individuals assisting you in your data migration, this plan will not only help them understand your situations but will also assist you if problems arise during the migration.

Include these tasks in your final data migration plan:

1. Record a final hardware and software plan that includes feature code 0205 (if possible) and the Amendment for Temporary License of Qualified Programs for System i. Record your disk storage capacity and compatible tape drive information. These items in the plan might cause you to change your software or hardware order.

2. Record a physical plan for the target server.

IBM Migration Services can help you in planning and migrating your data to the latest System i models.

For information, filter by **hardware/software platform** on the Services A-Z Web site.

Performing the migration

To prepare for and perform a data migration from either a source system that supports the V6R1 release of i5/OS or a source system that does not support the V6R1 release of i5/OS, follow these general procedures.

Before you begin these tasks, be sure you have completed the necessary planning. You can migrate your data by using one of these paths:

If you can load i5/OS V6R1 on your source system, perform these procedures.
1. "Preparing for the migration with V6R1 on the source system."
2. "Completing the migration with V6R1 on the source system" on page 7.

If you cannot load i5/OS V6R1 on your source system, perform these procedures.
1. "Preparing for the migration from a System i model that does not support V6R1" on page 7
2. "Completing the migration from a System i model that does not support V6R1" on page 9

Related tasks

"Planning the i5/OS migration" on page 3
The time you spend planning for your i5/OS data migration can help minimize your downtime and make performing the migration easier.

Preparing for the migration with V6R1 on the source system

To prepare to migrate your i5/OS data to a new target system when you can load V6R1 on the source system, follow these procedures.

Before you begin this procedure, be sure you have completed these prerequisite tasks:
- Obtain and review the preventive service planning (PSP) document on the Preventive service planning - PSP Web site. The PSP document for V6R1 data migrations is SF98169. Review this document for the most current information about conditions that might affect your data migration.
- Plan the migration.

Preparing the target system
1. Ensure that your console is set up and ready for your environment. For information, see Connecting to System i.

   Note: If you are using a twinaxial console on the source system and using Operations Console on the target system, ensure that you have a twinaxial controller for any twinaxial devices you plan to run from the target system.
2. Verify that the target system is set up and is running with only the Licensed Internal Code and the i5/OS operating system installed (feature code 0205).
3. If you are configuring a system with logical partitions, create logical partitions on the target system and then install the Licensed Internal Code and i5/OS on each logical partition. Allow at least two additional hours to do this for each logical partition. For more information, refer to Configuring i5/OS logical partitions using the HMC.
4. Perform disk unit management (for example, manage disk protection and disk configuration). To do this, you can use the Work with Disk Units option from the Dedicated Service Tools display. For more information, see Configuring disks and disk protection.

Preparing the source system
1. Prepare to upgrade the i5/OS release. Refer to Preparing to upgrade or replace i5/OS software.

   Ensure that you do the following:
   - Use the Work with Line Descriptions command (WRKLIND) to view and delete unused lines and line descriptions.
   - Use the Work with Device Descriptions command (WRKDEVD) to delete unused device descriptions.

> **Note:** You can use the WRKLIND and WRKDEVD commands to view and verify that all of the descriptions listed are in use. If you are sure one is not in use, delete it. If you are not sure, keep it.

- Save the entire system so you can restore it to its original state after performing the data migration. Save the entire system using option 21 of the GO SAVE command. For more information about the GO SAVE command, see Overview of the GO SAVE command.

> **Note:** Ensure that you have two copies of the backup media.

> If the Licensed Internal Code is not preinstalled on the target system with the i5/OS operating system, feature code 0205 entitles you to run the new operating system on both the source system and target system for a maximum of 70 days so that you can complete the data migration. To take advantage of feature 0205, you must have a valid software maintenance agreement on your source system. When the data migration is complete, you must reinstall the previous operating system on the source system to restore the system to its original state. To restore the system to its original state, follow the steps in Recovering your system. Use the recovery information for the release that you want to restore.

> The Amendment for Temporary License of Qualified Programs for System i gives you a temporary license that authorizes you to continue to store and use related i5/OS licensed programs and certain chargeable features on both your source and target systems for 15 days. The operating system is not included in this temporary license.

If feature 0205 was not ordered with your target system, use the other method for data migration in the topic "Preparing for the migration from a System i model that does not support V6R1" on page 7. Otherwise, continue with the next step here.

2. Complete the upgrade of the i5/OS release. Refer to either Upgrading or replacing software using automatic installation or Upgrading or replacing software using manual installation.

3. Print your system configuration information as follows:

   a. On the i5/OS command line, enter PRTSYSINF and then print the resulting spooled file. This prints reports of the hardware resources, software resources, system values, installed fixes (program temporary fixes or PTFs), and other configuration information.

   b. Print a new system configuration list and keep this list for future reference. For instructions, see Printing the system configuration list.

   c. On the i5/OS command line, enter WRKDEVD. Use option 6 (Print) to print the device descriptions.

   d. On the i5/OS command line, enter WRKCTLD. Use option 6 (Print) to print the controller descriptions.

   e. If you have a partitioned system, print the system configuration for logical partitions using the Start System Service Tools (STRSST) command. For more information about printing the system configuration for logical partitions, see Printing system configuration for logical partitions.

Stabilizing the source system

1. Run the source system at the new release level for 2 weeks.

2. Refresh the PTF level. Check for new cumulative fix packs or high-impact pervasive (HIPER) fixes. For more information, see Using software fixes.

3. Save the entire system using option 21 of the GO SAVE command. For more information about the GO SAVE command, see Overview of the GO SAVE command. Specify the following options:

   a. `Vary off the network server...*ALL`

   b. `Unmount file systems..........Y`

> **Note:** Ensure that you have two copies of the backup media.

The next step is to complete the migration. Go to "Completing the migration with V6R1 on the source system" on page 7.

Completing the migration with V6R1 on the source system

If you can load V6R1 on your source system, perform these procedures to migrate data to the target system or logical partition.

Before you begin this task, perform the steps in "Preparing for the migration with V6R1 on the source system" on page 5.

1. Perform the steps in Recovering your system to a different system. If a controller or device no longer has a valid resource on the system, follow the steps in the topic "Fixing hardware resource names after a data migration" on page 10 to make the necessary corrections.
2. Install any new licensed programs. For more information, see Installing additional licensed programs.
3. Print your system configuration information as follows:
   a. On the i5/OS command line, enter `PRTSYSINF` (Print System Information) and then print the resulting spooled file. This prints reports of the hardware resources, software resources, system values, installed fixes (program temporary fixes or PTFs), and other configuration information.
   b. Print a new system configuration list and keep this list for future reference. For instructions, see Printing the system configuration list.
   c. On the i5/OS command line, enter `WRKDEVD` (Work with Device Descriptions) and enter option 6 to print the device descriptions.
   d. On the i5/OS command line, enter `WRKCTLD` (Work with Controller Descriptions) and enter option 6 to print the controller descriptions.
   e. If you have a partitioned system, print the system configuration for logical partitions using the Start System Service Tools (STRSST) command. See Printing system configuration for logical partitions.
4. Save the entire system using option 21 of the GO SAVE command. For more information about the GO SAVE command, see Overview of the GO SAVE command. Specify the following options:
   a. `Vary off the network server...*ALL`
   b. `Unmount file systems..........Y`

   Note: It is recommended that you have two copies of the backup media.
5. Resume normal operations and verify that all your applications run properly.
6. Tune the system performance.

   This ensures that your systems make the best use of the system resources and allows workloads to run as efficiently as possible. For details, see Tuning performance.

Preparing for the migration from a System i model that does not support V6R1

If you cannot install i5/OS V6R1 on your source system, you can still migrate your data by saving your source system and then performing a full system recovery onto the target system.

Before you begin this procedure, be sure you have completed these prerequisite tasks:

- Obtain and review the preventive service planning (PSP) information. The PSP document for V6R1 data migrations is SF98169. Review this document for the most current information about conditions that might affect your data migration.
- Plan the migration.
- Review the introductory information about previous release-to-current release support. Refer to Previous release-to-current release support.

   Related tasks

"Planning the i5/OS migration" on page 3
The time you spend planning for your i5/OS data migration can help minimize your downtime and make performing the migration easier.

Preparing target system

1. Verify that the target system is set up and is running with only the Licensed Internal Code and the i5/OS operating system installed (feature code 0205).
2. If you are configuring a system with logical partitions, create logical partitions on the target system and then install the Licensed Internal Code and i5/OS on each logical partition. Allow at least two additional hours to do this for each logical partition. For more information, refer to Configuring i5/OS logical partitions using the HMC.
3. Ensure that your console is set up and ready. For information, see Connecting to System i.

   Note: If you are using a twinaxial console on the source system and using Operations Console on the target system, ensure that you have a twinaxial controller for any twinaxial devices you plan to run from the target system.

4. Perform disk unit management (for example, manage disk protection and disk configuration). To do this, you can use the Work with Disk Units option from the Dedicated Service Tools display. For information, see Configuring disks and disk protection.
5. Make sure that you have a copy of the distribution media for the target system.

Preparing the source system

1. Clean up the source system:

   a. Use the Work with Line Descriptions command (WRKLIND) to view and delete unused lines and line descriptions.

   b. Use the Work with Device Descriptions command (WRKDEVD) to delete unused device descriptions.

      Note: You can use the WRKLIND and WRKDEVD commands to view and verify that all of the descriptions listed are in use. If you are sure one is not in use, delete it. If you are not sure, keep it.

   c. Clean up disk storage space. For more information, see Cleaning up disk storage space.

2. Ensure that you have the required fixes (also called program temporary fixes or PTFs). For more information, see Using software fixes.
3. Gather performance data. This gives you a basis for comparing performance before and after the data migration. For details, see Collecting system performance data.
4. On the i5/OS command line, enter RTVSYSINF (Retrieve System Information). When you run this command, specify the library to use. Typically, you can specify the QUPGRADE library. If this library does not exist, create it with the Create Library (CRTLIB) command.
5. Print your system configuration information:

   a. On the i5/OS command line, enter PRTSYSINF and then print the resulting spooled file. This prints reports of the hardware resources, software resources, system values, installed fixes (program temporary fixes or PTFs), and other configuration information.

   b. Print a new system configuration list and keep this list for future reference. For detailed instructions, see Printing the system configuration list.

   c. On the i5/OS command line, enter WRKDEVD and enter option 6 (Print) to print the device descriptions.

   d. On the i5/OS command line, enter WRKCTLD and enter option 6 (Print) to print the controller descriptions.

   e. If you have a partitioned system, print the system configuration for logical partitions using the Start System Service Tools (STRSST) command. For more information about printing the system configuration for logical partitions, see Printing system configuration for logical partitions.

f. If necessary, save spooled files.

   For more information, see Saving and restoring spooled files.

g. Job scheduler entries will not be restored on the target system. Use the print option on the Work with Job Scheduler Entries (WRKJOBSCDE) command to record your current job scheduler entries. Then you can manually re-create them on the target system.

6. Save the entire system using option 21 of the GO SAVE command. For more information about the GO SAVE command, see Overview of the GO SAVE command. Make sure that you specify the following options:

   a. `Vary off the network server...*ALL`

   b. `Unmount file systems..........Y`

   Note: Ensure that you have two copies of the backup media.

The next step is to complete the migration. Go to "Completing the migration from a System i model that does not support V6R1."

Completing the migration from a System i model that does not support V6R1

If you cannot load i5/OS V6R1 on your source system, perform these procedures to migrate data to the target system or logical partition.

Before you begin this task, perform the steps in "Preparing for the migration from a System i model that does not support V6R1" on page 7.

If you did not get a new system with feature code 0205, follow steps 1 through 33 in Restoring previous release user data to a new system install the Licensed Internal Code and i5/OS on the target system. When you have completed those steps, continue with step 8 on page 10 in this procedure.

If your target system is set up and is running with only the Licensed Internal Code and the i5/OS operating system installed (feature code 0205), follow these steps.

1. Sign on to the target system as user QSECOFR. You do not need to enter a password at this time.

2. At the IPL Options display, enter the correct date and time. Verify that the following values are set as follows:

   ```
   Start to system to restricted state = Y
   Define or change system at IPL = Y
   Set major system options = Y
   ```

3. On the Set Major System Options display, select **N** to not enable automatic configuration.

4. On the Define or Change the System at IPL display, do the following steps:

   a. Select option 3 (System value commands).

   b. On the System Value Commands display, select option 3 (Work with System Values).

   c. On the Work with System Values display, enter 2 to change the following system values:

   - Change QALWOBJRST to *ALL (Allow all object restore options).
   - Change QIPLTYPE to 2 (Attended IPL, console in debug mode).
   - Change QJOBMSGQFL to *PRTWRAP (Wrap the job message queue and print the messages that are being overlaid because of wrapping).
   - Change QJOBMSGQMX to a minimum of 30 (Job message queue maximum size of 30 MB).
   - Change QPFRADJ to 2 (Performance adjustment at IPL and automatic adjustment).
   - Change QVFYOBJRST to 1 (Do not verify signatures on restore. Restore all objects regardless of their signature).

d. After the system changed the system values, press F3 (Exit) twice to return to the Define or Change the System at IPL display

5. On the Define or Change the System at IPL display, press F3 to exit and continue the IPL.

6. On the Change Password display, type QSECOFR as the current password. Enter a new password. Reenter the password to verify and press Enter.

7. Perform steps 25 through 33 in the topic Restoring previous release user data to a new system.

8. If a controller or device no longer has a valid resource on the system, follow the steps in the topic "Fixing hardware resource names after a data migration" to make the necessary corrections.

9. Install any new licensed programs. For more information, see Installing additional licensed programs.

10. Follow the steps in Checklist: Completing the i5/OS upgrade or replacement.

11. Add job scheduler entries using the Add Job Schedule Entry (ADDJOBSCDE) command and the information you printed from your source system.

12. If you installed System i integration with BladeCenter® and System x™ on your system and you saved it while it was varied off, follow these steps:

   a. Add the links for the server descriptions. Enter the following for each server description:

      ADDNWSSTGL NWSSTG (*storage_name*) NWSD(*server_description*)

   b. Vary on your integrated server by entering WRKCFGSTS *NWS and selecting option 1 to vary on each server.

13. Print your system configuration information:

   a. On the i5/OS command line, enter PRTSYSINF and then print the resulting spooled file. This prints reports of the hardware resources, software resources, system values, installed fixes (program temporary fixes or PTFs), and other configuration information.

   b. Print a new system configuration list and keep this list for future reference. For instructions, see Printing the system configuration list.

   c. On the i5/OS command line, enter WRKDEVD (Work with Device Descriptions) and enter option 6 to print the device descriptions.

   d. On the i5/OS command line, enter WRKCTLD (Work with Controller Descriptions) and enter option 6 to print the controller descriptions.

   e. If you have a partitioned system, print the system configuration for logical partitions using the Start System Service Tools (STRSST) command. See Printing system configuration for logical partitions.

14. Save the entire system using option 21 of the GO SAVE command. For more information about the GO SAVE command, see Overview of the GO SAVE command. Specify the following options:

   a. Vary off the network server...*ALL

   b. Unmount file systems..........Y

   Note: It is recommended that you have two copies of the backup media.

15. Resume normal operations and verify that all your applications run properly.

16. Tune the system performance.

   This ensures that your systems make the best use of the system resources and allows workloads to run as efficiently as possible. For details, see Tuning performance.

Fixing hardware resource names after a data migration

Following a data migration, you may have hardware resources that are in different locations than they were on your source server.

To fix these hardware resource names, follow these steps:

1. At the i5/OS command line, enter WRKHDWPRD.

2. On the Work with Hardware Products display, select option 5 (Change description label locations) and press Enter.
3. Read the information about the Using Change Label Locations display and press Enter.
4. Compare the label information on the display with the source server's label locations. Label information matches if the Label column on the display matches that of the source server. Label information does not match if any one of the following is true:
   - The display has label information, but the source server did not have label information in that location.
   - The source server label information does not match the information found in the *Label* column on the display.
   - `*NONE` appears in the Label column on the display, and there is label information for the source server.

     Note: When `*NONE` appears in the Label column for a controller or device that was added or upgraded, select option 2 (Change). Then select the correct label description from the list provided. If you experience any problems, call your service provider.
   - `*INCORRECT` or `*INVALID` appears in the Label column. This means that the type and model number of the hardware resource information does not match the type and model of the configuration description that is currently associated with that resource. The server cannot vary on the configuration description.
   - `*INCORRECT` -- where the physical location is also '`**`'. This identifies a controller or device description that no longer has a valid resource on the server.
5. If there are any locations where the server label information is not the same as the (physical) label, on the Change Description Label Locations display, type 2 in the Opt column for each location that requires a label change. Press Enter. The Change Description Label display appears.

   Note: You may make more than one selection at a time, but if `More...` appears on the bottom of the display, do not press Enter. Instead, page forward to select the remaining labels.
6. A list of possible label names is shown. To select the label name (on the display) that matches the label that was on the source server, type 1 in the Opt column for each location that you want to change and press Enter.

   Note: If you cannot find the label (on the display) that matches the label on the source server, contact your service representative.
7. If you chose to change more than one label, the Change Description Label display appears for the next label. A message at the bottom of the display indicates whether the previous change was successful.
8. For all the labels that need a change, repeat the previous three steps.
9. After you change the last label, the Change Description Label Locations display appears with the updated information. A message at the bottom of the display indicates whether the last change was successful. If `More...` appears on the bottom of the display, scroll forward to view more information.
10. Press the F17 key on the Change Description Label display to request a printout of the new information for your records.

    Note: The printout will be in the default output queue for your workstation. You can print it later when you vary on your printer devices and start printer writers.
11. Verify that the labels on the printout match the labels in the Label column on your source server. If you find any errors, go back to step 5 and repeat the steps.

    Attention: Do not exchange cards for problem analysis purposes. Card and device serial numbers are tied to the server configuration.

Scenarios: Data migration

These scenarios show different migration situations for moving i5/OS data to another system.

Migrating from V5R3 on a model 620 to V6R1 on a model 520 system

> In this scenario, you have an IBM System i model 620 system, you are running V5R3, and you want to migrate your data to an IBM eServer™ i5 model 520.

> **What to do:**

> You cannot install i5/OS V6R1 on your model 620. To migrate your data, you need to save the data to a tape drive that is compatible with model 520 and then restore the data on the model 520.

> To perform this data migration, complete the steps in the following topics:
> * "Planning the i5/OS migration" on page 3
> * "Preparing for the migration from a System i model that does not support V6R1" on page 7
> * "Completing the migration from a System i model that does not support V6R1" on page 9

Migrating from V5R3 on a model 825 to V6R1 on a partitioned model 520

> In this scenario, you have an IBM System i model 825, you are running V5R3, and you want to migrate your data to an IBM eServer i5 model 520.

> **What to do:**

> To migrate your data, you need to install i5/OS V6R1 on your model 825. You then need to install i5/OS V6R1 on all logical partitions on your model 520, save the data from each logical partition to tape drives that are compatible with the model 520, and restore the data on the model 520. Configure and prepare logical partitions on the model 520 before the data migration.

> To perform this data migration, complete the steps in the following topics:
> * "Planning the i5/OS migration" on page 3
> * "Preparing for the migration with V6R1 on the source system" on page 5
> * "Completing the migration with V6R1 on the source system" on page 7

Upgrading to a new version of i5/OS on your system

> In this scenario, you are running V5R3, or V5R4 on your system and you want to upgrade to V6R1.

> **What to do:**

> If you are upgrading to a new version of i5/OS on the same system, it is not necessary to perform an explicit data migration. You can follow the steps in Checklist: i5/OS software upgrade or replacement readiness to upgrade to V6R1.

Upgrading your system to an IBM eServer model

> In this scenario, you want to upgrade to an IBM System i5 or IBM eServer i5 server.

> **What to do:**

> If you are upgrading to an IBM System i5 or IBM eServer i5 server without changing the serial number, it is not necessary to perform an explicit data migration. You can follow the directions in the Upgrades topic.

> If you are moving hardware to your new system, then your data will transfer. If your hardware is not compatible with your new system, you can perform a data migration.

> To perform this data migration, complete the steps in the following topics:
> * "Planning the i5/OS migration" on page 3
> * "Preparing for the migration with V6R1 on the source system" on page 5
> * "Completing the migration with V6R1 on the source system" on page 7

| **Migrating data from one logical partition to another**

In this scenario, you want to migrate data from one logical partition to another on your system.

What to do:

If you are migrating data from one System i logical partition to another logical partition on the same system, follow the instructions in Restoring a logical partition (LPAR) to another LPAR–Checklist 22.

Troubleshooting the data migration

| This information contains information related to specific data migration problems and how to resolve
| them.

Error messages and reference codes (also known as system reference codes or SRCs) let you know that an error occurred during the process.

Table 1. Data migration problems and resolutions

Description	Resolution
Reference code A900 2000 appears on the control panel display.	This reference code appears if the QIPLTYPE is set to 2 or if the console display has no device description. This reference code and message are normal during the data migration procedure. The reference code disappears when you perform a normal IPL. If no workstation on your system is operational when you receive reference code A900 2000, call your authorized service provider.
You see Message ID CPF3717: `File not selected. File label or file name mismatch for file` *filename.*	This type of message occurs most frequently when the incorrect tape is inserted into the tape drive or when you have incorrect parameters for the RESTORE command.
Job scheduler entries are not restored on the target system when you migrate from a system that does not support V6R1.	You must manually re-create the job scheduler entries on the target system. If you did not print these entries before you migrated your data, you can obtain them from the source system.
The target system cannot read the tapes you used to save the data from your source system.	Save the data from the source system using a tape drive that is compatible with the target system.
You cannot configure your twinaxial devices.	If you are using a twinaxial console on the source system and using Operations Console on the target system, you must have a twinaxial controller for any twinaxial devices you plan to run from the target system.

| For more information, see the preventive service planning (PSP) document on the Preventive service
| planning - PSP Web site. The PSP document for V6R1 data migrations is SF98169. This PSP document
| describes High-Impact and PERvasive (HIPER) problems.

Related information for i5/OS data migration

Product manuals, IBM Redbooks™ (in PDF format), Web sites, and other information center topic collections contain information that relates to the Data migration topic collection. You can view or print any of the PDF files.

Manuals

- **Memo to Users**

  This document provides information about software and hardware changes that can potentially affect your system operations.

- **Installing, upgrading, or deleting i5/OS and related software** (about 220 pages)

  Use this information if you are upgrading your system with a new i5/OS release. This manual is also a topic in the i5/OS Information Center. See Installing, upgrading, or deleting i5/OS and related software.

IBM Redbooks

- **IBM System i5 Handbook**

  This book provides hardware concepts and technical specifications for System i models and features.

- **IBM System i5, eServer i5, and iSeries™ System Builder**

  This book provides detailed information and configuration rules for these models and features.
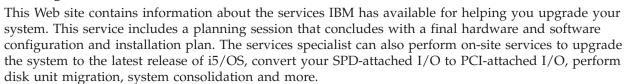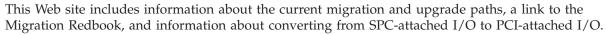
- **iSeries Server Migration**

  This book discusses the various topics that are involved in migrating to PCI technology. It also looks at other significant functions like High Speed Link (HSL) and concurrent maintenance capability. This book includes upgrade scenarios to assist with your planning. It explains such upgrade functions as load source migration and migrating to LPAR functions. And it describes the expansion unit options that preserve an investment in hardware or that migrate to new technology.

Web sites

- **IBM Migration Services**

  This Web site contains information about the services IBM has available for helping you upgrade your system. This service includes a planning session that concludes with a final hardware and software configuration and installation plan. The services specialist can also perform on-site services to upgrade the system to the latest release of i5/OS, convert your SPD-attached I/O to PCI-attached I/O, perform disk unit migration, system consolidation and more.

- **Migration**

  This Web site includes information about the current migration and upgrade paths, a link to the Migration Redbook, and information about converting from SPC-attached I/O to PCI-attached I/O.

- **IBM FACT**

  This Web site contains the Find and Compare Tools (FACT) that deal withSystem i models and upgrade paths.

- **IBM System i Support: Planning**

  This Web site provides links to a variety of planning tools and information.

- **System i Support Planning: Migration and Upgrades**

  This Web site provides information about products or features that may not be supported in future releases of the i5/OS operating system or on future models, Product Previews, and Statements of Directions.

- **IBM System Planning tool**

  The IBM System Planning tool (LPAR Validation tool) is a Web-based tool that assists users in planning for a partitioned environment.

- **Dynamic logical partitioning**

  This Web site contains an introduction to logical partitioning as well as information about planning, services, and education.

- **Performance Management for IBM System i**

This reference provides highly technical information about system performance useful for performance benchmarking, capacity planning, and planning for system performance.

- **IBM Systems Workload Estimator**

    The Workload Estimator tool is a Web-based tool that provides users with a recommended model, processor, interactive feature, memory, and disk storage necessary for a mixed set of workloads.

Other information

- **Preventive service planning (PSP) information**

    Information within the PSP describes corrections that apply to migrations. Review this information before you migrate your data between systems.

- **Upgrades**

    Use this information if are upgrading your system with new hardware while retaining its serial number.

- **Partitioning the server**

    Logical partitions allow you to distribute resources within a single system to make it function as if it were two or more independent systems. This information describes the concepts for partitioning and steps you through the logical partition process from creation to management.

Appendix. Notices

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