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iSeries

Convert expansion units for a partitioned server

Version 5 Release 2

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Contents

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When performing any of the following expansion unit conversions in a partitioned environment, it is essential that detailed planning is performed prior to beginning the expansion unit conversion.

> **Recommendations:**
> - It is highly recommended that all of the logical partition (LPAR) configuration actions be performed by an LPAR-trained services person.
> - If the expansion units are converted as a part of a server upgrade, it is recommended that the expansion unit conversions be performed and the server environment stabilized before performing a server upgrade.

This topic contains information for converting the following expansion units:
- Feature conversion 5065 to 5074
- Feature conversion 5066 to 5079
- Feature conversion 5075 to 5074

To convert these expansion units, perform the following tasks:
1. "Plan to convert the expansion unit".
2. "Prepare to convert the expansion unit" on page 3.
3. "Perform the expansion unit conversion" on page 7.
4. "Perform resource management" on page 8.

> **Attention:** There are potentially billable activities for existing features associated with converting multiple expansion units. Only the contents of an expansion unit being converted may be moved to the new expansion unit by IBM service representatives. Any other relocation or movement of features or server components is a billable service, which requires a contract for services with IBM. For example, an expansion unit conversion may present a good opportunity to consolidate the content of one or more expansion units into the converted expansion unit.
>
> Movement of features from other expansion units or from any part of the server other than the expansion unit being converted is billable, as is removing other expansion units from the server, rearranging the server within its physical environment, or any other activity not necessary to convert the expansion unit and its content.

LPAR Planning and Implementation services will provide a planning session to discuss customer requirements and provide a final hardware and software configuration and implementation plan. The LPAR services specialist can also install and configure the new LPAR configuration. For more information concerning Integrated Technology Services (ITS) LPAR Planning and Implementation services, contact your IBM marketing representative, business partner, or see Technical Support Services .

To view or download the PDF version of this topic, select Convert expansion units for a partitioned server (about 105 KB). To view or print other topics related to Upgrades, see Print this topic.

Plan to convert the expansion unit

An expansion unit conversion causes the following changes to the server resources:
- The converted expansion units report in to the system with new bus numbers. The new bus numbers are assigned to the primary partition by default and need to be assigned to the proper partition before the partition can be powered on.

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Note: A 5065 expansion unit contains only one bus. After the conversion, the 5074 expansion unit has two buses reporting in to the system. A 5066 expansion unit contains two buses. After the conversion, four buses report in to the system. The combined function I/O processors in the 5065 or 5066 expansion units are replaced with new combined function I/O processors and these are positioned as planned with the LPAR Validation Tool (LVT). Significant I/O rearrangement may occur with this conversion.

- Nonconverted 5065 and older SPD-based expansion units may have bus numbering changes if the converted expansion unit is removed. Read the "SPD cabling" information to determine if any SPD-based expansion units remaining in the configuration after the conversion obtain a new bus number.
- Some new resource names may be created. The new resource names need to be reassigned or renamed as appropriate.

Before you begin

Before you start the expansion unit conversion or resource name planning, you need to have the following required items:

- **Valid output from the Logical Partition Validation Tool (LVT).**

  Use the LVT tool with your IBM marketing representative or business partner during the order process. Print the LVT output before beginning the expansion unit conversion procedures.
- **A current backup of the data on all partitions of the server.**
  Use the GO SAVE option 21 procedure to back up all partitions of the server. This is vital for recovery should you experience errors during the expansion unit conversion.

The expansion unit conversion procedures help determine the partition to which the new bus numbers should be assigned and how to handle resource names. These procedures assume a familiarity with the iSeries server and a high level of experience with logical partitions.

SPD cabling

During a model upgrade or an expansion unit conversion of a partitioned system (moving a partition from one server to another or changing an expansion unit from a 5065 to a 5074), an SPD bus may be removed. This has serious consequences to the LPAR configuration. SPD buses are cabled in pairs and are numbered by the system on each IPL. This numbering is done by determining to which port they are connected to from the bus adapter. When there are two buses connected to a bus adapter, the numbering of the buses is determined as follows. A cable runs from the top port of the bus adapter to the top port of the SPD bus; this is the first bus number. A cable then runs from the bottom port of the SPD bus to the top port of the second SPD bus; this is the next bus number. Finally, a cable runs back to the system to complete the loop.

Due to the way these buses are cabled, they always have the same bus number on each IPL. However, if the first bus is removed, the second bus takes the bus number of the first bus. If both of these buses are in the same partition, required LPAR configuration actions are minimal. If the hardware in these buses is spread between different partitions or if there is a required resource, for instance load source or console, LPAR configuration actions must be taken before the partitions are powered on. The following step should be performed any time an SPD bus is removed from a partitioned system:

1. Determine if the bus to be removed will result in another bus being renumbered.
   a. Use the following table to determine if the bus that will be removed is cabled to the top or bottom port of the bus expansion adapter.
   b. If the bus being removed is cabled to the **bottom** port of the bus expansion adapter, then no buses are being recabled due to the conversion of this tower.

c. If the bus being removed is cabled to the **top** port of the bus expansion adapter, then determine if there is also a bus attached to the bottom port (it will be one number higher than the bus being removed). If there is a bus attached to the bottom port of the bus expansion adapter, then there will be a bus recabled during this tower conversion.

iSeries server model	Bus numbers	
	Top port	Bottom port
720/620	Odd	Even
730/740/SX0	Even	Odd
820/830/840*	Odd	Even

* Only applies to buses 5 through 22.

Example: If bus 10 is to be removed on an iSeries Model 730 server, then bus 10 is cabled to the top port (″even″ buses on an iSeries Model 730 server are attached to the top port) so the system must be checked to determine whether a bus 11 is present.

Prepare to convert the expansion unit

This topic describes how to prepare for the expansion unit conversion. Before you begin these tasks, be sure you have completed the necessary "Plan to convert the expansion unit" on page 1. Then to prepare for the expansion unit conversion, perform the following tasks:

1. "Resequence SPCN addressing"
2. "Document and prepare the server".

Now that you have finished preparing for the expansion unit conversion, your next step is to "Perform the expansion unit conversion" on page 7.

Resequence SPCN addressing

Before generating any printouts, resequence the system power control network (SPCN) addressing. This ensures that when the IBM service representative performs the SPCN address resequencing after the expansion unit conversion, minimal sequencing changes occur. To resequence the SPCN addressing, complete the following steps:

1. At an OS/400 command line, enter STRSST to start system service tools (SST) on the primary partition and sign on to SST.
   Note: To use system service tools, you need a valid service tools user ID.
2. From the SST main menu, select option 5 (Work with system partitions), and press **Enter**. The Work with System Partitions display appears.
3. Select option 2 (Work with partition status). The Work with Partition Status display appears.
4. Type 10 next to the Primary Partition (0) and press **Enter** to put the partition in manual mode.
5. From the Work with Partition Status display, type 33 next to the primary partition (0) and press **Enter** to resequence the SPCN addressing. Correct completion of the operation results in the status message `Reorder SPCN addressing was successful.`

Document and prepare the server

Ensure that the currently installed server and logical partitions are fully documented before the service representative arrives to perform the expansion unit conversion. Make sure that these documents represent the most recent configuration of the server and that no hardware changes have been made since printing the documentation. If changes are made before the service representative arrives, print the server and LPAR partition documentation again.

Complete steps 1 through 5 for the primary partition first; then repeat steps 1 through 3 and 5 for each secondary partition. Step 4 should be completed for the primary partition only.

1. "Print disk configuration status" on page 5 from each partition of the server.

2. "Print parity set configuration and status" on page 5 from each partition of the server. Be sure to mark each printout for the partition it represents.

3. "Display, verify, and print hardware resource information" on page 5 for each partition of the server.

4. On the **primary partition**, "Assign all unassigned I/O resources" on page 6 to active partitions.

5. "Remove failed or nonreporting resources" on page 6 using the Hardware Service Manager (HSM) on the partition.

6. Repeat steps 1, 2, 3, and 5 above for each secondary partition that is configured.

7. "Clear nonreporting logical partitioning resources" on page 6 on the primary partition.

8. Print the system configuration for logical partitions.

9. Use the printouts from step 8 to determine if there are load-source resources in a bus that will be changing bus numbers, for instance when a bus is converted or recabled. For each partition with a load source drive in a converted or recabled bus, count **one** drive if the partition has RAID or unprotected drives. Count **two** drives if the partition has mirrored drives. Record the total number of load source drives. Also record the serial number of the load source disk (unit 1) for each converted or recabled bus. You will need this information when you reconfigure bus or IOP ownership.
   Example: P3 has a load source redundant array of independent disks (RAID) of 1. P4 has a load source mirrored of 2. The value of P3 added to the value of P4 equals 3. Record 3 as the total number of load source drives.

10. Use the printouts from step 8 to determine the frame IDs and bus numbers associated with all hardware that is changing. This information must be given to the service representative and is required for the expansion unit conversion.

11. For each secondary partition, record the IPL System Action and then set the IPL System Action to HOLD as follows:

    a. From the primary partition, enter STRSST to start system service tools (SST) and sign on to SST.
       Note: To use system service tools, you need a valid service tools user ID.

    b. From the SST main menu, select option 5 (Work with system partitions), and press **Enter**. The Work with System Partitions display appears.

    c. Use the Work with System Partitions display to select each secondary partition. For each secondary partition, record the IPL System Action and then set the IPL System Action to HOLD.

12. "Change the system value settings" on page 7 on both the primary partition and each secondary partition.

13. Use the appropriate procedure for your environment to power down the secondary partitions.

14. The bus numbers change if buses are recabled. If you are running OS/400 V5R2 on all partitions, use the partition configuration displays to move the buses that are being converted and the buses that are being recabled into the primary partition. For more information on moving buses, see the Perform dynamic movement of resources topic.

15. Use the appropriate procedure for your environment to power down the primary partition.

16. Prepare the following documents for the service representative:

    - LPAR Validation Tool output.
      Note: This document should not change as a result of the conversion.

    - Disk configuration printouts for each partition.
      Note: These documents should not change as a result of the conversion.

    - Parity set configuration printout for each partition.
      Note: These documents should not change as a result of the conversion.

    - Description label locations printout for each partition.
      Note: These documents should not change as a result of the conversion.

- System configuration list printouts (from HSM) for each partition.
- Partition information printouts from the primary partition.

Print disk configuration status

To print the disk configuration status of your server, you need security officer authority. Complete the following steps to print the disk configuration status:

1. Enter STRSST on a command line to start system service tools (SST). Sign on to SST.

   Note: To use system service tools, you need a valid service tools user ID.
2. Select option 3 (Work with Disk Units) and press **Enter**. The Work with Disk Units display appears.
3. Select option 1 (Display Disk Configuration) and press **Enter**. The Display Disk Configuration display appears.
4. Select option 1 (Display Disk Configuration Status) and press **Enter**.
5. At the Display Disk Configuration Status display, print the disk configuration by pressing the Print Screen key on your keyboard.
6. Page down and repeat until you have printed the entire disk configuration. Ensure that all the disk configuration information is printed.
7. Record the serial number of the load-source disk unit (unit number 1) for each partition on the server.

   Note: If the server is partitioned, repeat steps 1 through 7 for each partition. Be sure to mark each printout for the partition it represents.

Print parity set configuration and status

To print the parity set configuration and status of the server, complete the following steps:

1. Enter STRSST on a command line to start system service tools (SST). Sign on to SST.
   Note: To use system service tools, you need a valid service tools user ID.
2. Select option 3 (Work with Disk Units) and press **Enter**. The Work with Disk Units display appears.
3. Select option 1 (Display Disk Configuration) and press **Enter**. The Display Disk Configuration display appears.
4. Select option 1 (Display Disk Configuration Status) and press **Enter**.
5. At the Display Disk Configuration Status display, select option 5 (Display Device Parity Status) and press **Enter**. The Display Device Parity Status display appears.
6. Print the parity set configuration by pressing the Print Screen key on your keyboard.

7. Page down and repeat until you have printed the entire parity set configuration.

Note: If the server is partitioned, repeat these steps from each partition. Be sure to mark each printout for the partition it represents.

Display, verify, and print hardware resource information

To display, verify, and print the hardware resource information, complete the following steps:

1. At the OS/400 command line, enter the Work with Hardware Products (WRKHDWPRD) command.
2. Select option 4 (Display Description Label Locations) and press **Enter** to display the label information associated with the hardware resources.
3. On the Display Description Label Locations display, verify that the label information about the hardware resources is accurate.
4. Delete the configuration descriptions (also called configuration objects) that are not associated with any physical hardware at this time.
5. Press F17 (Print) to print the description label locations. This information must be given to the service representative.
6. At the OS/400 command line, enter the following commands:

```
DSPHDWRSC TYPE(*LWS) OUTPUT(*PRINT)
DSPHDWRSC TYPE(*STG) OUTPUT(*PRINT)
DSPHDWRSC TYPE(*CMN) OUTPUT(*PRINT)
DSPHDWRSC TYPE(*PRC) OUTPUT(*PRINT)
```

This creates a report of your hardware and configuration objects.

Note: If the server is partitioned, repeat these steps from each partition. Be sure to mark the printout for the partition it represents.

Assign all unassigned I/O resources

Any hardware resources that were intended to be unassigned should be assigned to a partition in this step. These resources can then be unassigned as desired after the expansion unit conversion. To assign unassigned I/O resources, complete the following steps on the **primary partition**:

1. Enter STRSST on a command line to start system service tools (SST) on the partition. Sign on to SST.

   Note: To use system service tools, you need a valid service tools user ID.

2. Select option 5 (Work with System Partitions) and press **Enter**. The Work with System Partitions display appears.

3. Select option 3 (Work with Partition Configuration) and press **Enter**. The Work with Partition Configuration display appears.

4. Select option 3 (Add I/O resource) and press **Enter** to add any unassigned resources to an active partition. It is recommended that you add these unassigned resources to the primary partition. **Wait for the resources to become active before continuing to the next step.**
   Note: For information about how to assign resources to partitions, see the Perform dynamic movement of resources topic. Buses with the ownership type of shared are always available and thus appear on this display. No action is needed for these shared buses.

Remove failed or nonreporting resources

Any hardware resources that were intended to be unassigned should be assigned to a partition in this step. These resources can then be unassigned as desired after the expansion unit conversion. To assign unassigned I/O resources, complete the following steps on the **primary partition**:

Attention: Any hardware problems must be resolved before continuing. I/O resources that are nonreporting because they are switched between partitions and currently are not owned by the partition you are working in should not be removed by you at this time. Careful planning is required when switched I/O is involved.

1. Enter STRSST on a command line to start system service tools (SST) on the partition. Sign on to SST.
   Note: To use system service tools, you need a valid service tools user ID.

2. Select option 1 (Start a Service Tool).

3. Select option 7 (Hardware Service Manager (HSM)).

4. Select option 4 (Failed and nonreporting hardware resources), and press **Enter**. Identify and record all resources that are switched between partitions. You may need to reassign or rename these resources following the expansion unit conversion.

5. Type option 4 (remove) to remove any failed or nonreporting resources. If you receive a message saying `No failed or nonreporting logical hardware resources found`, skip to step 6.

6. Confirm removal of failed or nonreporting resources.

7. Press F6 (Print) to print the system configuration list.

Clear nonreporting logical partitioning resources

Clear nonreporting logical partitioning resources on the primary partition using the steps below for the applicable release.

Clear nonreporting logical partitioning resources - V5R1 and V5R2:

1. Enter STRSST on a command line to start system service tools (SST) on the partition. Sign on to SST.

   Note: To use system service tools, you need a valid service tools user ID.

2. From SST select option 5 (Work with System Partitions) and press **Enter**. The Work with System Partitions display appears.

3. From the primary partition's console select option 4 (Recover configuration data).

4. Select option 4 (Clear nonreporting logical partitioning resources).

5. To confirm the deletion of nonreporting resources, press F10 (Clear nonreporting resources).

Clear nonreporting logical partitioning resources - V4R5:

1. Start dedicated service tools (DST) on the primary partition with all secondary partitions active. Sign on to DST.

   Note: To use dedicated service tools, you need a valid service tools user ID. A manual IPL is not required to start DST. The following steps can be performed by accessing DST by using function 21 from the system control panel.

2. From DST select option 11 (Work with System Partitions) and press **Enter**. The Work with System Partitions display appears.

3. From the primary partition's console select option 4 (Recover configuration data).

4. Select option 4 (Clear nonreporting logical partitioning resources).

5. To confirm the deletion of nonreporting resources, press F10 (Clear nonreporting resources).

6. Select option 2 (Update).

7. Exit DST.

Change the system value settings

Change the system value settings on both the primary partition and each secondary partition by completing the following steps:

1. From a command line, type the Work with System Values (WRKSYSVAL) command for the system values QAUTOCFG, QIPLTYPE, and QPFRADJ to work with the settings.

2. Record the value for each system value setting. These values need to be restored later.
   - _____ QAUTOCFG
   - _____ QIPLTYPE
   - _____ QPFRADJ

3. Change the settings to the following values:
   - QAUTOCFG = 0
   - QIPLTYPE = 2
   - QPFRADJ = 2

For information about how to work with system values, see the OS/400 system values topic.

Perform the expansion unit conversion

The IBM service representative performs the expansion unit conversion. After the expansion unit conversion is complete, the server should be powered on at dedicated service tools (DST). You should receive the following documents back from the service representative, including the original printouts from the beginning of this procedure that have been updated by the IBM service representative and two new documents:

- LPAR Validation Tool output.
  Note: This output should not have changed as a result of the conversion.
- Disk configuration printouts for each partition.
- Parity set configuration printout for each partition.
- Description label locations printout for each partition.
- System configuration list printouts (from hardware service manager) for each partition.
- Partition information printouts from the primary partition.
- List of hardware resources that were replaced or moved during the conversion (Resource Conversions form A880 or equivalent list), provided by the IBM service representative.
- Cable migration worksheet (form A805), provided by the IBM service representative.

Use this information to assign the new bus numbers to the proper partition and to reassign or rename resources, as appropriate. Now that you have the new expansion unit, your next step is to "Perform resource management".

Perform resource management

Use the information from your preparation and from the service representative to resolve the LPAR configuration error if it appears and to reassign or rename resources, as appropriate. To complete this resource management, perform these tasks:

1. "Resolve LPAR configuration error".
2. "Reassign buses and IOPs" on page 9.
3. "Clean up the server" on page 10.
4. "Rename resources for each partition" on page 10.

Resolve LPAR configuration error

Perform the following steps if a logical partition configuration error was detected when powering on the system after the expansion unit conversion.

> **Attention:** Partition configuration errors may exist at this point in the conversion process.
>
> All converted buses will be owned with shared status by the primary partition. All recabled buses should also be owned by the primary partition. If it was determined in step 9 of the "Document and prepare the server" on page 3 topic that secondary partition load-source disk units would be in converted or recabled expansion units, the LPAR configuration errors should occur. If this is not the case, skip to the "Reassign buses and IOPs" on page 9 section of this document.
>
> Verify that the configuration error detail identifies a disk unit that is the load source for a secondary partition that owned the converted expansion unit.

1. Access dedicated service tools (DST) and sign on.
2. From the DST main menu, select option 11 (Work with system partitions) and press Enter.
3. Select option 4 (Recovery configuration data) and press Enter.
4. Select option 3 (Clear non-configured disk unit configuration data) and press Enter. This display should show the number of load-source disk units determined in step 9 of the "Document and prepare the server" on page 3 topic. If the load-source disk units are not all reporting in, clear the ones that do report, wait a few minutes, and then re-enter this display. If the number of disk units expected does not show up after 10 minutes, you may have hardware or software problems. Call IBM software support for assistance.
5. Type option 1 (Select unit to clear) next to the displayed disk unit or units and press Enter.
6. Press Enter again to confirm.
7. Return to the DST main menu.

Reassign buses and IOPs

The following steps reassign the new buses and IOPs to the desired partition or partitions, which in turn correct the partition configuration errors.

Note: For information on assigning resources to a partition, see Perform dynamic movement of resources.

1. Identify the new bus numbers for the converted or recabled expansion units. Use dedicated service tools (DST) and the Hardware Service Manager (HSM) to view the partitions' current resources and determine the new or reassigned bus numbers.

   a. Access DST and sign on.

   b. From the DST main menu, select option 7 (Start a Service Tool), and press Enter.

   c. Select option 4 (Hardware Service Manager (HSM)), and press Enter.

   d. Select option 1 (Packaging Hardware Resources), and press Enter.

   e. Find the frame ID (from the front of the converted or recabled expansion unit) and enter option 8 (Associated logical resources) beside it and press Enter.

   f. For converted expansion units, two buses are identified on the resulting display. For recabled expansion units, there will be one bus identified on the resulting display. Enter option 5 (Display detail) beside each one and press Enter to identify and record the bus numbers for these expansion units.

   g. Exit the HSM and return to the main DST menu.

   h. From DST, select option 11 (Work with System Partitions), and press Enter. The Work with System Partitions display appears.

   i. Select option 1 (Display Partition Information), and press Enter. The Display Partition Information display appears.

   j. Select option 5 (Display System I/O Resources) to view the current partition resources. This view shows old buses and IOPs as well as the new and changed buses and IOPs. Compare the IOA serial numbers on the bus identified in step 1e above to the original printout to ensure that they match.

2. Correct the bus ownership for the new buses. The old buses are still assigned to the same partitions. **Do not take any action on the old I/O resources at this time.** From the Work with Partitions display, type option 3 (Work with partition configuration), and press Enter.

   • If the new buses are to be owned by a secondary partition, type option 4 (Remove I/O resources) and remove them and all of the I/O on them from the primary partition.

   • If the buses are to be owned by the primary partition, type option 5 (Change bus ownership type) next to the primary partition to correct the bus ownership of the new buses.

3. Assign the new buses and IOPs to the correct partition using the output from the LPAR Validation Tool (LVT) and the System I/O resources printouts. Add the bus and I/O resources to the desired partition or partitions on the Work with Partition Configuration display using option 3 (Add I/O resources).

4. If a partition's load source, console, alternate IPL or Electronic Customer Support resources are installed in a expansion unit that was converted or recabled, reselect those resources for each partition affected by the expansion unit conversion. Use the Work with Partition Configuration display (options 6, 7, 8, and 9) as needed to assign the critical partition resources.

5. Power on the secondary partitions in B manual mode.

6. **Stop. Do not proceed until all secondary partitions power on successfully.**
   If a secondary partition does not power on successfully, a previous step may not have been performed properly. Verify that all hardware is assigned to the correct partition or partitions. If hardware has not been assigned to the correct partition or partitions, repeat steps 1 through 5. If a secondary partition still does not power on successfully, contact IBM software support for assistance.

7. At this time all hardware should be operational and assigned to the desired partitions. Verify all system hardware reports in correctly at this time.

Clean up the server

After the new bus numbers have been reassigned to the proper partitions and all partitions power on successfully in manual mode, remove the old I/O resources from the logical partition I/O resources.

1. Clear nonreporting logical partitioning resources by completing the following steps:

   a. Access dedicated service tools (DST) on the primary partition, with all secondary partitions active. Sign on to DST.

   b. From the DST main menu, select option 11 (Work with system partitions), and press **Enter**.

   c. From the primary partition's console, select option 4 (Recover configuration data).

   d. Select option 4 (Clear nonreporting logical partitioning resources), and press **Enter**.

   e. To confirm the deletion of nonreporting resources, press F10 (Clear nonreporting resources).

2. **Stop.** At this point the old bus numbers and IOPs should not be seen in the LPAR Configuration I/O Resource displays. If old bus numbers are still displayed, then repeat the previous step after verifying the following:

   - All OS/400 partitions are powered on and at DST or higher.
     This means that all partitions must be powered on and the IPL has stopped at a dedicated service tools (DST) or at the OS/400 sign-on display.

   - No partitions are displaying any system reference codes (SRCs) (a partition reporting a Failure/Attention SRC causes the clear nonreporting logical partitioning resources to fail).

   If old bus numbers or IOPs cannot be removed by following the procedure in step 1, contact IBM software support for assistance.

3. Change the secondary partitions from HOLD to the original state, changed in step 11 of the "Document and prepare the server" on page 3 procedure. **Do not restart the server at this time.**

4. On the primary partition and each secondary partition, remove nonreporting hardware entries using the Hardware Service Manager (HSM). Identify and record hardware resources that are switched among partitions. If you have hardware resources on the converted expansion unit that are switched among partitions, you may need to reassign or rename these resources on each partition that uses these resources.

   a. From the DST main menu, select option 7 (Start a Service Tool), and press **Enter**.

   b. Select option 4 (Hardware Service Manager (HSM)) and press **Enter**.

   c. Select option 4 (Failed and nonreporting hardware resources) and press **Enter**.

   d. Use option 4 (Remove) to remove any failed or nonreporting resources. If you receive a message saying, `No failed or nonreporting logical hardware resources found`, skip to step 4f.
      Attention: Any hardware problems must be resolved before continuing. I/O resources that are nonreporting because they are switched between partitions and currently are not owned by the partition you are working in should not be removed at this time. Careful planning is required when switched I/O is involved.

   e. Confirm removal of failed or nonreporting resources.

   f. If printing capabilities are available to you in DST, press F6 (Print) to print the system configuration list.

Rename resources for each partition

Use the following instructions to set partition resource names to previous values. For each partition, perform the following steps:

1. Access dedicated service tools (DST) and sign on.

2. From the DST main menu, select option 7 (Start a Service Tool), and press **Enter**.

3. Select option 4 (Hardware Service Manager (HSM)) and press **Enter**.

4. From the main Hardware Service Manager (HSM) display in DST, select option 2 (Logical hardware resource), and press **Enter**.

5. Select option 1 (System Bus Resources) and press **Enter**.

6. For each new bus on this partition, perform the following steps on the Logical Hardware Resource on System Bus display:

   a. Fill in the following fields:
      - **System bus(es) to work with** _____ (Enter the new bus number assigned to the partition.)
      - **In the Subset by** _____ (Enter the default value *ALL for the field.)

   b. Press **Enter**. Only the resources for the selected bus are now displayed.

   c. Type option 9 (Resources associated with IOP) next to an IOP.

   d. Determine the resource names to be changed from the CUII document **Resource conversions** (form A880) and the system configuration list printouts (from HSM) for each partition.

   e. Change the resource names by typing option 2 (Change detail) for each resource that requires renaming.

   f. Repeat step 6c through 6e for each IOP on the selected bus.

   g. Repeat all of step 6 for each new bus assigned to this partition.

7. Repeat step 6a through 6g above for each partition on the server.

8. Return the system value settings to their original values (as recorded on the "Change the system value settings" on page 7 topic) on both the primary partition and each secondary partition by completing the following steps:

   a. Ensure all partitions are in manual mode.

   b. Exit DST on the primary partition and on each secondary partition.

   c. Select option 1 (IPL) for the primary partition and each secondary partition.

   d. At the IPL options display, set the Define or Change System at IPL field to Yes.

   e. On the Define or change system display, select option 3 (System Value Commands) and press **Enter**.

   f. On the System Value Commands display, select option 2 (Change System Value) and press **Enter**.

   g. On the Change System Value display, enter the following values:
      - System Value ___QIPLTYPE_____
      - New Value __'0'_____

   h. Press F3 twice to continue the IPL.

   i. Once the IPL has completed, enter the Work With System Values (WRKSYSVAL) command on a command line for the system values QAUTOCFG and QPFRADJ to work with the settings.

   j. Restore the original setting for each of the following system values:
      - QAUTOCFG
      - QPFRADJ

      Note: For information about how to work with system values, see Compare and update system values.

Congratulations! You have successfully converted your expansion unit.

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