



Logical Partitions Managing



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Chapter 1. Managing logical partitions


When you create logical partitions, you essentially create two or more smaller logical AS/400 systems. Each logical partition has its own processors, input/output (I/O) devices, Licensed Internal Code, operating system, and optional software applications.

For these reasons most of the tasks you perform on each individual logical partition are the same as on a system without logical partitions. In other words, you should approach each logical partition as an independent system.

The following list contains the information and tasks you will need to manage a system with logical partitions:

- Control your logical partitions by using dedicated service tools (DST) or system service tools (SST).
- Display and print logical partition information.
- Restart and power down your partitioned system (initial program loads).
- Change logical partition configuration.
- Manage security on your system.
- Change processing resources to improve system performance.
- Install program temporary fixes to keep your software current.
- Troubleshoot problems on your system.

For more information on logical partitions, go to Planning for and Setting up Logical Partitions. Go to the Backup and Recovery articles for information on backing up your system.

Refer to the book, AS/400 Basic System Operation, Administration, and Problem Handling  for more information about starting and managing your system.

Chapter 2. Controlling your logical partitions with DST and SST

On a system without logical partitions, you can use the control panel to perform many tasks. However, for systems with logical partitions, secondary partitions do not have physical control panels. To control your logical partitions you can use menu options in dedicated service tools (DST) and system service tools (SST) that act as a virtual control panel.

Security considerations

You can restart and reconfigure logical partitions from the primary partition by using DST. Therefore, an unqualified person with access to DST could unintentionally cause severe damage to your system. For this reason you should limit the number of people who have the password to DST and who have access to the control panel.

DST versus SST

You control logical partitions essentially the same way in DST and SST. You can perform some logical partition configuration actions only in DST. However, since SST is easier to access than DST, you should use SST whenever possible.

To use SST or DST go to Starting SST and DST.

This table describes the capabilities that are available to logical partitions from the *Work with system partitions* display (option 11, DST) or (option 5, SST).

	Primary Partition	Secondary Partition
DST	Display logical partition information Change IPL status on primary and secondary logical partitions Change operating mode on primary and secondary logical partitions Perform main store dumps Power on or off primary and secondary logical partitions Change processing and I/O configuration of primary and secondary logical partitions Perform recovery functions for secondary partitions Create and delete secondary partitions	Display its own logical partition information Perform limited recovery functions on itself When the secondary partition is not in secure mode it can: <ul style="list-style-type: none"> • Change IPL status on itself • Change operating mode on itself • Perform main store dumps on itself • Power itself off
SST	Display partition information Change I/O configuration of primary and secondary partitions When the system is not in secure mode it can: <ul style="list-style-type: none"> • Change operating mode • Change logical partition status • Perform main store dumps • Power on and off secondary partitions • Create and delete secondary partitions • Force DST on the primary partition or secondary partitions 	Display its own logical partition information When the secondary partition is not in secure mode it can: <ul style="list-style-type: none"> • Change status on itself • Change operating mode on itself • Perform main store dumps for itself • Power itself on and off. • Force DST on itself

Starting SST and DST

Starting SST on the primary partition or a secondary partition

You can start system service tools (SST) by typing the start system service tools (STRSST) command and pressing Enter at a command line on any primary or secondary partition workstation. You must have proper authority to use this command.

Starting DST on the primary partition

When you start dedicated service tools (DST) make sure that the primary partition console is at a sign on display to prevent jobs from ending abnormally. As an alternative, you can perform the following steps on the logical partition. You only need to perform these steps once since changes are maintained across initial program loads (IPLs):

1. At a command line, type the Work with System Value (WRKSYSVAL) command.
2. Set the QDEVRCYACN system value to *ENDJOBNO LIST or *ENDJOB.
3. Set the QDSCJOBTV system value to 5 minutes.

For more information on system values, see the System Values chapter of OS/400 Work Management. 

To start DST on the primary partition use the system control panel to put the system in manual mode and select option 21. The system will prompt you for the DST user ID and password.

Starting DST on a secondary partition from DST on the primary partition

Follow these steps to start dedicated service tools (DST) on a secondary partition:

1. Start DST on the primary partition.
2. Select option 11 (Work with system partitions).
3. Select option 2 (Work with partition status).
4. Use your cursor to select the secondary partition for which you want DST.
5. Select option 10 (Mode manual) if the secondary partition is not already in manual mode.
6. Press F23 for more options.
7. Select option 21 (Force Dedicated Service Tools). On the secondary partition console, the workstation will experience a device I/O error and end abnormally. This is normal.
8. The DST display will appear on the workstation that is acting as console for the secondary partition. Sign on to DST.

Forcing DST from SST

You can force DST to start from SST if the logical partition is not in secure mode. On the primary partition, you can force DST for itself or any of the secondary partitions. On a secondary partition you can force DST to start on itself.

Forcing DST from the system control panel of the Work with Partition Status display cancels the current job on the partition console.

These steps affect how active jobs are stopped when you start DST, including the system partitions service function. You may need to wait five minutes before starting certain service functions in DST that were also active in SST at the time you entered option 21.

To force DST from SST follow these steps:

1. Use the STRSST command to start SST.
2. Select option 5 (Work with system partitions).
3. Select option 2 (Work with partition status).
4. Use the cursor to select the logical partition on which you want DST.
5. If the partition is not in manual mode, select option 10 (Mode manual).
6. Select option 21 (Force DST). If you are forcing DST from the logical partition workstation that you want DST; the workstation will experience a device I/O error and end abnormally. This is normal.
7. Sign on to DST.
8. When you exit DST, set the logical partition back to normal mode.

Chapter 3. Displaying and printing logical partition information

Use the Work with System Partitions display to find out whether or not your system has logical partitions, which partition you are on, and how many partitions your system has. To start the Work with System Partitions display, follow the procedure below to step two.

For more detailed information about your logical partitions, use the Display Partition Information display. If you are at a secondary partition workstation, you can only find information about that logical partition. To find information about the entire system, use the primary partition.

Only the Display Partition Information display on the primary partition provides the only total system hardware view. This data may at times be incomplete or obsolete. It can also reflect changes that will take effect on the next system initial program load (IPL).

To have an accurate and full view of the hardware, ensure that an IPL was performed on all secondary partitions since the last primary partition IPL. Also ensure that the Work with Partition Configuration display does not reflect a need for subsequent IPLs.

When a logical partition needs an IPL, a < flag appears in the Work with Partition Configuration display. The < appears in the field to the right of the logical partition *Name* field. If the logical partition configuration information reflects hardware no longer present in the system, you should clear non-reporting resources on the logical partition.

You can start up the Work with System Partitions display from system service tools (SST) or dedicated service tools (DST).

Follow these steps to display and print this information:

1. Start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 1 (Display partition information) and press Enter.

You can perform the following tasks from the Display Partition Information display:

- Display logical partition status.
- Display logical partition processing configuration.
- Display allocated I/O resources.
- Display available I/O resources.
- Display system I/O resources.
- Display logical partition release level.
- Display reference code history for secondary partitions.
- Print system configuration.

Displaying logical partition status

Use the Display Partition Status display to find much of the same information about logical partitions as you would on the control panel of a system without logical partitions. If you start this display from the primary partition, you get information about the primary partition and all the secondary partitions. If you start this display from a secondary partition, you get information only for that secondary partition.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST).

To find the Display Partition Status display, follow these steps:

1. Start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 1 (Display partition information) and press Enter.
4. Select option 1 (Display partition status) and press Enter.

Once you arrive at the Display Partition Status display, you can use the function keys that are listed below to display the following information:

- **F1**– This key will bring you to the *Help* display. Go here for a detailed explanation of the fields on this display.
- **F9**– This key toggles between *Exclude reference code detail* and *Include reference code detail*. This option allows you to choose whether or not you can see the details of secondary partition reference codes.
- **F10**– This key brings up the Monitor Partition Status display. This display refreshes automatically as the system updates system reference codes for secondary partitions.
- **F11**– This key brings up the Display Partition Processing Configuration display.

Displaying logical partition processing configuration

You can find out how much main storage, how many processors, and how much interactive performance you assigned to each logical partition by using the Display Partition Processing Configuration display. If you start this display from the primary partition, you get information about the primary partition and all the secondary partitions. If you start this display from a secondary partition, you get information only for that secondary partition.

You can use the Display Partition Processing Configuration display from system service tools (SST) or dedicated service tools (DST). To start the Display Partition Configuration display follow these steps:

1. Start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 1 (Display partition information).
4. Select option 2 (Display partition processing configuration).

Displaying more processing information

Once you arrive at the Display Partition Processing Configuration display, you can use the F10 function key to display the following information:

Total Processors

This field shows you:

- The current and pending (updated after the next initial program load) number of processors.
- The minimum and maximum number of processors allowed for each logical partition.
- Whether or not each logical partition is connected to virtual (inter-partition) OptiConnect.

Main Storage Size (MB)

This field shows you the current and pending amount of memory for each logical partition. It also shows you the minimum and maximum amount of memory available for each logical partition.

Interactive Performance

This field shows you the current and pending amount of interactive performance for each logical partition. It also shows you the minimum and maximum percentage of interactive performance available for each logical partition.

Processor Identifiers

This field shows you which processors are assigned to each logical partition.

Displaying allocated I/O resources

An *allocated I/O resource* is an input/output (I/O) device that is assigned to a logical partition. You allocate I/O resources at the I/O processor (IOP) level. In other words, you assign IOPs and all of their devices to a logical partition.

If you start this display from the primary partition, you get information about the primary partition and all the secondary logical partitions. If you start this display from a secondary partition, you get information only for that secondary partition.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST).

To display allocated I/O resources, follow these steps:

1. Start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 1 (Display partition information).
4. Select option 3 (Display allocated I/O resources).

Once you arrive at the Display Allocated I/O Resources display, you can choose to view either one particular logical partition or all logical partitions.

If you have restarted the primary partition, but not the secondary partition, you will only see the last buses and IOPs which reported for that secondary partition. You will not see IOAs and devices until you start that secondary partition.

You can choose to view the resources at these levels of detail:

*ALL (everything on the system or allocated to a logical partition).

*BUS (display by system I/O bus).

*IOP (display by IOP and bus).

*IOA (display by I/O adapter (IOA), IOP, and bus).

*DEV (display by device, IOA, IOP, and bus).

Displaying serial and part number and logical address

You can use the F10 function key to toggle between the *Display Serial/Part Number* field and the *Display logical address* field. You can use the F1 function key on your workstation for more information about these fields.

Displaying available I/O resources

An *available input/output (I/O) resource* is an I/O processor (IOP) or a system I/O bus that you can assign to a logical partition. You cannot assign an I/O adapter or a single device (such as a tape drive) to a partition without its IOP. When you assign an IOP to a partition, you assign all of its devices to a logical partition.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST).

To display available I/O resources, follow these steps:

1. Start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 1 (Display partition information).
4. Select option 4 (Display available I/O resources).

If you have restarted the primary partition, but not the secondary partition, you will only see the last buses and IOPs which reported for that secondary partition. You will not see IOAs and devices until you start that secondary partition.

Once you have arrived at the Display Available I/O Resources display, you can view the resources at these levels of detail:

*ALL (everything on the system or allocated to a logical partition).

*BUS (display by system I/O bus).

*IOP (display by IOP and bus).

*IOA (display by I/O adapter (IOA), IOP, and bus).

*DEV (display by device, IOA, IOP, and bus).

Displaying serial and part number and logical address

You can use the F10 function key to toggle between the *Display Serial/Part Number* field and the *Display logical address* field. You can use the F1 function key on your workstation for more information about these fields.

Displaying system I/O resources

You can display all resources (allocated and available) on the system. This display sorts the resources by address and shows resource status. It also shows the details of its logical partition characteristics.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST) on the primary partition.

To display system I/O resources, follow these steps:

1. From the primary partition start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. From the Work With System Partitions menu select option 1 (Display partition information)
4. From the Display Partition Information menu select option 5 (Display system I/O resources).

If you have restarted the primary partition, but not the secondary partition, you will only see the last buses and IOPs which reported for that secondary partition. You will not see IOAs and devices until you start that secondary partition.

Once you have arrived at the Display System I/O Resources display, you can choose to view the resources at these levels of detail:

*ALL (everything on the system or allocated to a logical partition).

*BUS (display by system I/O bus).

*IOP (display by IOP and buses).

*IOA (display by I/O adapter (IOA), IOP, and buses).

*DEV (display by device, IOA, IOP, and bus).

Displaying more system I/O information

You can use the F10 function key to display this information:

- **Display serial/part numbers**- This view shows the serial and part numbers for the displayed resources on every logical partition.
- **Display logical address**- This view shows the logical address for the displayed resources on every logical partition. For more information on logical address, use the F1 function key on your workstation.
- **Display status/ownership information**- This view shows the hardware status and ownership information.
 - **Hardware status**- This field shows the state of the bus and IOP resources. Valid status values are: *Available*, *Failed*, *Unavailable*, *Unknown*, and *Other*. Use the F1 function key on your workstation for more information on these values.

- **Ownership information**- This information consists of two fields, *Owning Par ID* and *Ownership Type*. *Owning Par ID*, shows which logical partition owns which resource. *Ownership Type* shows whether each logical partition owns the resource *Own bus dedicated* or *Own bus shared*.
- **Display using partitions**- This field shows which logical partition uses the resource (with or without ownership).

Displaying logical partition release levels

You can use the Display Partition Release Level display to see which release of the operating system each logical partition is running.

The Delta field indicates the release a secondary partition is running in relation to the primary partition. A positive value indicates a newer secondary operating system; a negative value indicates an older version.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST) on the primary partition. To use the Display Partition Release Level display, follow these steps:

1. On the primary partition, start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 1 (Display partition information).
4. Select option 6 (Display partition release level).

Once you are in Display Partition Release Level, you can see what version of the operating system each logical partition is running.

Displaying reference code history for secondary partitions

A reference code indicates a status or an error condition. The system records the reference code history (the last 200 reference codes) for secondary partitions.

You can use the Display Reference Code History display to view the reference code history for secondary partitions.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST) on the primary partition. To display logical partition reference codes, follow these steps:

1. From the primary partition start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 1 (Display partition information).
4. Select option 7 (Display secondary partition reference code history).

Once you arrive at the Display Secondary Reference Code History display, you can choose to display the information in a number of ways. At the *Secondary partition(s) to display* field, you can choose to display one secondary partition or all secondary partitions.

At the *Number of reference codes to display* field, you can choose to display any number of reference codes between one and 200. For example, if the display reports 200 reference codes, you could choose to view the last 50 or 150 reference codes.

Printing system configuration

You can perform this procedure from system service tools (SST) or dedicated service tools (DST) on the primary partition. If you print from SST, the system will print the data to a spooled file. When you finish, go to an OS/400 command line and print the spooled files. If you print from DST, you will get the Work with Printers display if you have not selected a DST printer. If this happens, select a printer, then continue with the procedure.

Follow these steps to print the system configuration:


1. From the primary partition start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. For a complete list of all the I/O resources, go to the Display System I/O Resources display. For a list of allocated I/O resources, go to the Display Allocated I/O Resources display.
4. At the *Level of detail to display* field, type *ALL to set the level of detail to ALL.
5. Press F6 to print the system I/O configuration.
6. Select option 1 (132 characters wide) and press Enter.
7. Go to the Display Partition Processing Configuration display.
8. Use the Print Screen key to print the configuration.
9. Press F10 to display *Main Storage Size (MB)* field
10. Use the Print Screen key to print the configuration.
11. Press F10 to display *Interactive Performance* field
12. Use the Print Screen key to print the configuration.

Chapter 4. Restarting and powering down a system with logical partitions

At times you will need to start (perform an initial program load (IPL)) or power down the entire system or a single partition.

It is important to remember that when you perform an IPL on the primary partition you could perform an IPL on all the secondary partitions. This depends on how you set the *Sys IPL Action* field in the Work with System Status display. For more information on starting your secondary partitions with a system IPL, see the articles “Restarting a secondary partition on system IPL” on page 19 and “Holding a partition from restarting on system IPL” on page 19.

If you power down the primary partition, you will also power down any secondary partitions that are running. Unless you power down the secondary partitions before the primary partition, any secondary partitions that are still running will have an abnormal IPL.

Refer to the Starting and Stopping the System chapter of AS/400 Basic System Operation, Administration, and Problem Handling  for more information on abnormal IPLs.

Here are the IPL tasks you can perform:


- Change a logical partition power schedule.
- Power down the system.
- Restart the system.
- Change operating mode for a logical partition.
- Change IPL source for a logical partition.
- Restart a logical partition when you perform a system IPL.
- Hold a logical partition from restarting when you perform a system IPL.

Changing logical partition power schedule

You can schedule when a secondary partition will power on and power off.

At a command line on a secondary partition workstation, use the GO POWER or Change Power Schedule (CHGPWRSCD) command to change a secondary partition power schedule.

When you schedule a secondary partition to power on, ensure that it is only during a time when the primary partition is already on. You have to power on the primary partition before you can power on any secondary partitions.

For more information see the What You Need to Know About Your AS/400 System chapter of the book, AS/400 Basic System Operation, Administration, and Problem Handling .

Powering down the system

Powering down a secondary partition

You can power down a secondary partition by using the OS/400 power down system (PWRDWNSYS) command.

From a command line at a workstation on that secondary partition type PWRDWNSYS OPTION (*CNTRLD) DELAY (600) and press Enter.

If you power down a secondary partition, you will not affect any other logical partitions. This command is the preferred way to power down a secondary partition.

Powering down the primary partition

Before you power down the primary partition, power down all of the secondary partitions. Then, use the PWRDWNSYS command to power down the primary partition.

From a command line at a workstation on the primary partition type PWRDWNSYS OPTION (*CNTRLD) DELAY (600) and press Enter.

If you do not power down the secondary partitions before the primary partition, all of the active secondary partitions will power down abnormally. If the secondary partitions power down abnormally, it may take much longer to power down and to perform an IPL of each secondary partition.

Delayed power off

Use delayed power off (option 7 on the Work with Partition Status display) only when you must power down a logical partition, and the PWRDWNSYS command does not work.

When you use the delayed power off option, the partition waits a predetermined amount of time to power down. This allows the partition time to end jobs and write data to disks. However this command will cause an abnormal initial program load (IPL) of the logical partition if the operating system was running.

Immediate power off

Use immediate power off (option 8 on the Work with Partition Status display) only when a logical partition cannot power down using PWRDWNSYS or delayed power off.

When you use the immediate power off option from the Work with Partition Status display, the system powers down without any preset delay. This will cause an abnormal IPL of the logical partition.

To power down using Delayed power off or Immediate power off, follow these steps:

1. From a dedicated service tools (DST) menu, select option 11 (Work with system partitions).
2. Select option 2 (Work with partition status).
3. Use the cursor to select the logical partition you want to power off.

4. Type 7 (Delayed power off) or 8 (Immediate power off).
5. At the confirmation display, press F10 to confirm your choice

Restarting the system

To restart the whole system (perform a power down and an initial program load (IPL)) the secondary partitions must power down with the primary partition. If you are going to restart the primary partition, first power down all of the secondary partitions.


You can restart a secondary partition without affecting the other secondary partitions. If the secondary partition is powered on, you can restart it using `PWRDWNSYS OPTION *CNTRLD DELAY (600) RESTART (*YES)` from a command line at one of its workstations. However, if a secondary partition is powered off, you can only restart it on from the primary partition.

You can perform this procedure from dedicated service tools (DST) or system service tools (SST). To restart a secondary partition, follow these steps:

1. Start DST or SST.
2. From DST select option 11 (Work with system partitions); from SST select option 5 (Work with system partitions).
3. Select option 2 (Work with partition status).
4. At the Work with System Status display, follow these steps to start a secondary partition IPL.

Secondary Partition State	Unattended IPL	Attended IPL
Running with OS/400 active.	<ol style="list-style-type: none"> 1. Use the cursor to select the logical partition you want to IPL. 2. Select option 9 (Mode normal). 3. Set the logical partition to the appropriate source (type). 4. At a command line on a workstation attached to that partition, type <code>PWRDWNSYS OPTION (*CNTRLD) DELAY (600)</code> and press Enter. 	<ol style="list-style-type: none"> 1. Use the cursor to select the logical partition you want to IPL. 2. Select option 10 (Mode manual). 3. Set the logical partition to appropriate the source (type). 4. At a command line on a workstation attached to that partition, type <code>PWRDWNSYS OPTION (*CNTRLD) DELAY (600)</code> and press Enter.
Running with OS/400 not active.	<ol style="list-style-type: none"> 1. Use the cursor to select the logical partition you want to IPL. 2. Select option 9 (Mode normal). 3. Set the logical partition to the appropriate source (type). 4. Enter a 7 (Delayed power off). 5. Use the F5 function key to refresh display; wait until IPL status is off. 6. Enter a 1 (Power on) to perform an IPL. 	<ol style="list-style-type: none"> 1. Use the cursor to select the logical partition you want to IPL. 2. Select option 10 (Mode manual). 3. Set the logical partition to the appropriate source (type). 4. Enter a 7 (Delayed power off). 5. Use the F5 function key to refresh display; wait until IPL status is off. 6. Enter a 1 (Power on) to perform an IPL.

Secondary Partition State	Unattended IPL	Attended IPL
Not Running	<ol style="list-style-type: none"> 1. Use the cursor to select the logical partition you want to IPL. 2. Select option 9 (Mode normal). 3. Set the logical partition to the appropriate source (type). 4. Enter a 1 (Power on). 	<ol style="list-style-type: none"> 1. Use the cursor to select the logical partition you want to IPL. 2. Select option 10 (Mode manual). 3. Set the logical partition to the appropriate source (type). 4. Enter a 1 (Power on).

See AS/400 Basic System Operation, Administration, and Problem Handling  for more information on performing attended or unattended IPLs.

Changing operating mode for a logical partition

The operating mode for logical partitions works just like operating mode on a system without logical partitions. For more information on how operating mode works and why you may need to change it, go to the Information Center article, [Operating Mode](#).

You can perform this procedure from dedicated service tools (DST) or system service tools (SST). To change the operating mode, follow these steps:

1. Go to DST or SST.
2. From DST select option 11 (Work with system partitions); from SST select option 5 (Work with system partitions).
3. Select option 2 (Work with partition status).
4. Use the cursor to select the logical partition you want to change.
5. Select the mode you want to change for the logical partition:
 - 9 (Mode normal)
 - 10 (Mode manual)
 - 11 (Mode auto)
 - 12 (Mode secure)

Changing the IPL source for a logical partition

You can choose a separate initial program load (IPL) source (type) for each logical partition. Each IPL source (A, B, C, or D) on a system with logical partitions works just like it would on a system without logical partitions.

Attention: Only a hardware service representative should use IPL source C. Use only under the direction of your service representative. Severe data loss can occur with improper use of this function.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST). To change IPL source on a logical partition follow these steps:

1. Start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions).
3. Select option 2 (Work with partition status).

4. At the Work with System Status display, use your cursor to select the logical partition you want to change .
5. Make sure that the logical partition is in manual mode. If not, select 10 (Mode manual) and press Enter to change the logical partition to manual mode.
6. Type the letter of the IPL source (A, B, C, or D) that you want to select.

For information on how each IPL source works and why you may need to change it, go to IPL Type.

Restarting a secondary partition on system IPL

When you select this option, you can set a secondary partition to start automatically when you perform a system (primary partition) initial program load (IPL).

You can perform this procedure from system service tools (SST) or dedicated service tools (DST). To set a logical partition to start with the system, follow these steps:

1. Start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 2 (Work with partition status).
4. Press F23 for more options.
5. Use the cursor to choose the logical partition you want to change.
6. Select option 13 (IPL partition on system IPL) and press Enter.

Holding a partition from restarting on system IPL

When you select this option the logical partition will not start when you perform a system (primary partition) initial program load (IPL).

You can perform this procedure from system service tools (SST) or dedicated service tools (DST). To prevent a logical partition from starting with the system, follow these steps:

1. Start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 2 (Work with partition status).
4. Press F23 for more options (optional).
5. Use the cursor to choose the logical partition you want to change.
6. Select option 14 (Hold partition on system IPL).

Chapter 5. Changing logical partition configuration

Changing logical partition configuration consists of these tasks:

- Changing a secondary partition name.
- Changing bus ownership type.
- Changing and switching logical partition I/O resources.
- Installing new hardware.
- Adding a new logical partition.
- Deleting a secondary partition.

Changing a secondary partition name

Each logical partition has an 8 character unique identifier called the partition name. This identifier does not have to be the same as the system name for each logical partition. When you change a secondary partition name, the following rules apply:

- You cannot change the primary partition's name.
- Secondary partitions cannot share the same name.
- Names cannot exceed eight characters.
- Names must have at least one character (no all space names)
- Legal characters are A through Z, 0 through 9, and blanks.

You can change a secondary partition's name from dedicated service tools (DST) on the primary partition. To change a secondary partition name, follow these steps:

1. Go to a DST menu.
2. From DST select option 11 (Work with system partitions) and press Enter.
3. Select option 3 (Work with partition configuration).
4. Use the cursor to choose the logical partition you want to change.
5. Select option 1 (Change partition name).
6. The Change Partition Name display appears. Type the new name for your logical partition and press Enter.
7. The Confirm Changed Partition display appears. Press Enter to confirm your changes.

Changing bus ownership type

A logical partition can own a system input/output (I/O) bus one of two ways, *own bus dedicated*, and *own bus shared*.

When a logical partition owns a bus with *own bus dedicated* status, no other logical partition can share it.

If a logical partition owns a bus with the status of *own bus shared*, the partition can share the bus with another logical partition. However, that other logical partition must add that bus with the status of *use bus shared*.

Before you change a bus ownership type to *own bus dedicated*, you must first add all of the resources under that bus to that partition. When you change a bus'

ownership type to *own bus shared*, resources under that bus can now be removed. Other logical partitions (primary partition and all secondary partitions) can now use these resources.

When you change bus ownership type, restart the entire system to activate the change.

You can change bus ownership type from dedicated service tools (DST) or system service tools (SST) from the primary partition only.

Follow these steps to change bus ownership type:

1. On the primary partition go to a DST or SST menu.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 3 (Work with partition configuration).
4. Use the cursor to select the partition with the bus you want to change ownership type.
5. Select option 5 (Change bus ownership type).
6. Use the cursor to select the bus you want to change ownership type.
7. Select option 1 (Own bus dedicated) or 2 (Own bus shared) and press Enter.
8. Restart the system to activate the change.

Changing and switching I/O resources

You can add or remove input/output (I/O) resources at the I/O processor (IOP) level. You can also add or remove I/O resources at the bus level. You can even share a system bus with another logical partition. See these topics to perform these tasks:

- Remove an I/O resource from a logical partition.
- Add an I/O resource to a logical partition.
- Switch an IOP between two logical partitions.

It may be necessary to perform an initial program load of the primary partition to activate some of these changes.

Removing I/O resources

Removing input/output (I/O) resources means removing resources from a logical partition. You can remove some types of I/O Processors (IOPs) without restarting the system. When you remove a system I/O bus, you need to restart the system to activate the change. When you remove an I/O resource, it becomes available; that is, no logical partition owns it. The system puts the resource on the available list.

Removing I/O resources consists of two phases: freeing resources from their jobs, and removing the I/O resources from the logical partitions.

Freeing resources

Before you remove an IOP or a system I/O bus, ensure that none of the controlled devices are in use. Follow these steps to free resources.

1. If the resource you are removing has disk units in an auxiliary storage pool (ASP), remove the disks units from the ASP. For information on removing disk

units from ASPs see the Working with Auxiliary Storage Pools chapter of the book, Backup and Recovery 📖 .

2. Use the Work with Configuration Status (WRKCFGSTS) command to vary off any devices that are active on the resource. For more information on varying off devices refer to the Tips for Customizing Your System chapter of the book, AS/400 Basic System Operation, Administration, and Problem Handling. 📖

Removing resources

When you remove resources you can choose between option 1 (Remove resources) and option 2 (Remove and clear hardware resource). Select option 1 (Remove resources), if you will be moving the IOP back into this logical partition again. The system saves the resource information. This resource information maps the physical hardware to the OS/400 device descriptions for the system. Select option 2 (Remove and clear hardware resource), if you will never move this IOP into this logical partition again.

When removing an IOP from a logical partition which is powered off, it is normal for the Logical Partition Error Report to appear with the message: "State of IOP is unknown." You can ignore this error message (use F10 or option 1) if you know that:

- The target IOP does not contain any configured disk units.
- The target IOP is not the partition console.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST).

Follow these steps to remove an I/O resource:

1. Start SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select menu option 3 (Work with partition configuration).
4. Use the cursor to select the logical partition from which you want to remove the I/O resource.
5. Select option 4 (Remove I/O resources). The Remove I/O Resources display will appear.
6. Use the cursor to choose the IOP or bus you want to remove.

Note: See the **Removing resources** heading, above, for the difference between option 1 (Remove resources) and option 2 (Remove and clear hardware resource).

7. Select option 1 (Remove resources) or option 2 (Remove and clear hardware resource).
8. Press Enter.
9. If the Logical Partition Error Report appears with a *Device in use* message, there are active jobs using the devices on the IOP. Although you can press F10 to take the devices from the jobs, you should end the jobs normally before proceeding. See the **Freeing resources** heading, above, for more information on ending jobs. See the article "Working with the logical partition error report" on page 46 for more information on error messages.
10. The Confirm Remove I/O Resources display appears. Press Enter to confirm your choice.

Adding I/O resources

Use this procedure to add new resources or to add resources that you removed from another logical partition.

When you add an IOP to a partition, the partition state has minimal impact. If the partition is on and the bus is already shared, the system will add the IOP dynamically in a couple of minutes. If the partition is not on, the IOP will appear during the next logical partition IPL. If the bus is not shared, the IOP will appear after the next system initial program load (IPL).

Note: If you are adding new hardware to the system, go to Installing new hardware before proceeding.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST). Follow these steps to add an I/O resource:

1. Start SST or DST.
 2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
 3. Select option 3 (Work with partition configuration).
 4. Use the cursor to select the logical partition to which you want to add the I/O resource.
 5. Select option 3 (Add I/O resources). The Add I/O Resources display will appear.
 6. Use the cursor to choose the IOP or bus you want to add.
 - If this resource is a system bus, you can select option 1 to add it with the status of *own dedicated*. No other logical partition will be able to share it.
 - If this resource is an IOP, you must use option 1 to add it with the status of *own dedicated*. A logical partition cannot share an IOP.
 - If this resource is a system bus you can type a 2 to select the bus resource with the status of *own bus shared*. This logical partition owns the bus and can share it.
 - If the resource is a system bus which is already owned shared by another logical partition, you can type a 3 to select it with the status of *use bus shared*. This logical partition does not own the bus, but can share it with the logical partition that does.
- Type a 1, 2, or 3 to select it.
7. Press Enter.
 8. The Confirm Add I/O Resources display will appear. Press Enter to confirm your choice.

Switching I/O processors

Two or more logical partitions can use the same Input/Output Processor (IOP) by switching it from one logical partition to another. However, the following rules apply:

- The IOP is on a bus that the logical partitions share.
- The IOP does not use disk units with load source data.
- The logical partitions cannot use the IOP at the same time.
- You must remove the IOP from one logical partition.
- You must add the IOP to another logical partition.

Follow these steps to share an I/O resource:

1. Go to the Display System I/O Resources display and verify that both logical partitions share the bus to which the IOP is attached. One logical partition can own the bus with *own bus shared* status, and the other use it with *use bus shared* status. Or both logical partitions can use the bus with *use bus shared* status.
2. Remove the candidate IOP from the logical partition that owns it.
3. Add the candidate IOP to the target logical partition. You do not have to restart the system to activate the change.

After you add the IOP to the logical partition, you might need to designate it as the partition alternate IPL or electronic customer support IOP. Removing an IOP marked for special function clears all such designation and leaves the partition without this special resource until you specify another.

Installing new hardware

When you install new input/output (I/O) hardware, here are some things you should be aware of:

- A new device is owned by the I/O processor (IOP) to which it is attached.
- A new IOP is owned by the System Bus to which it is attached.
- The primary partition owns a new system bus with *own bus shared* status. See *Changing and switching I/O resources* for information on adding I/O resources to your system. See *Changing bus ownership type* for information on how to change bus usage on your system.
- New processors and main storage are available (unassigned) to be assigned to a partition.
- Especially if one of them had load source data, when adding or removing new disk units to your system you may need to clear any residual logical partition configuration data.

Adding a new logical partition

This article shows you how to add a new secondary partition to a system that already has logical partitions. If you are creating a secondary partition on a system without logical partitions, go to the *Planning for and Setting Up Logical Partitions* topic.

Before you add a new logical partition, you should decide where you are going to get the resources for the new partition. You can either install new resources for the new logical partition, or you can use existing resources from logical partitions. Before you change your system to add a new logical partition, observe the following rules:

- The primary partition must have at least 256 MB of main storage. Secondary partitions must have at least 64 MB of main storage.
- Every logical partition must have at least one processor.
- Every logical partition must have a system console.
- Do not remove the load source from a secondary partition you want to keep.

To add a new logical partition follow these steps:

1. Power down all of the secondary partitions.

2. Perform an initial program load (IPL) of the entire system in manual mode to dedicated service tools (DST).
3. Remove the processing resources from the primary partition or secondary partitions for the new secondary partition.
4. Remove the I/O resources from the primary partition or secondary partitions for the new secondary partition.
5. At the Work with System Partitions display, select option 5 (Create a new partition).
6. Press F9 for a list of limits.
7. Provide the required information for:
 - *Partition name.* (A partition name can be any word (except *PRIMARY*), not exceeding 8 characters (A — Z and 0 - 9)).
 - *Number of partition processors.*
 - *Size of main storage (MB).*
 - *Partition interactive performance.*
 - *Connect to system inter-partition OptiConnect.*
8. Press Enter.

If you have entered a value that is out of range, you will receive a message to change your numbers. You can also adjust limits for the following:

 - *Processors.*
 - *Size of main storage (MB).*
 - *Partition interactive performance.*
9. If you have had to make adjustments, press Enter after you finish. The Add I/O Resources display is next.
10. At the Add I/O Resources display, type either a 1 (*Own dedicated*), 2 (*own bus shared*), or 3 (*Use bus shared*) beside your selected bus resource. Type 1 beside your selected IOP resources.
11. Press Enter to go to the Confirm Add I/O Resources display.

If the expected resources are not on the list, return to the Add I/O Resources display. Make sure that you have added the correct resources.
12. Press Enter to confirm your selection and go to the Select Load Source Resource display. Press F12 to return to the previous display if you wish to change your choices. If your selection was successful, a confirmation notice will appear at the bottom of the display.
13. At the Select Load Source Resource display, type 1 (*Select IOP*) next to the desired resource and press Enter.

If the expected resource is not on the list, return to the Add I/O Resource display. Make sure that you have added the correct resources. If the expected resource is already on the Add I/O Resource display list, consult the AS/400 Logical Partitions Planning Guide for hardware requirements.
14. At the Confirm Load Source Resource display review your selection. Press Enter again to confirm your selection, or press F12 to return to the previous display and change your choice. If your selection was successful, a confirmation notice will appear at the bottom of the display.
15. At the Select Console Resource display, select your workstation-capable IOP. Type 1 (*Select console IOP*), or 2 (*Select alternate console IOP*) .

If the expected resource is not on the list, return to the Add I/O Resource display. Make sure that you have added the correct resources. If the expected resource is already on the Add I/O Resource display list, see the AS/400

Logical Partitions Planning Guide for hardware requirements. Ensure that you have the proper hardware on your system.

If you are using Operations Console as your secondary partition's console, use the F9 option to disable automatic filtering. Select the appropriate asynchronous communications IOP as the console.

16. Press Enter to go to Confirm Console Resource display. Review your selection.
17. Press Enter again to confirm your selection and go to the Confirm New Partition display.
18. If the logical partition does not have a dedicated alternate IPL device, skip ahead to step 22.

19. Press F11 (*Select alternate IPL*).

20. Type 1 (*Select IOP*) next to the desired alternate IPL device.

If the expected resource is not on the list, return to Add I/O Resource display. Make sure that you have added the correct resources. If the expected resource is already on the Add I/O Resource display list, consult the AS/400 Logical Partitions Planning Guide for hardware requirements. You must have the proper hardware on your system before you can continue.

21. Press Enter to go to Confirm Alternate IPL Resource display.

22. Review your selections.

23. Press Enter to confirm and return to Confirm New Partition display. Review your selections.

(An asterisk will appear beside the load source IOP you have selected. Other special characters will appear identifying previously selected resources, < for the console, % for the alternate IPL).

24. Press Enter to go to Work with System Partitions display. If your selection was successful, a confirmation notice will appear at the bottom of the display.

25. Mark the console IOP as the electronic customer support IOP if you are using Operations Console on your partition. Use option 3 (Work with Partition Configuration). Select the new partition by using option 9 (Select default electronic customer support resource). Choose the appropriate IOP by entering a 1. A confirmation message should appear. Now use F12 to return to the Work with System Partitions display

26. Here you have the following options:

- a. If this is the last secondary partition you intend to create, restart the system. You must perform a system restart to activate all changes for your new partition.
- b. If you want to create additional partitions, and have removed sufficient resources, go to step 5 on page 26 of this article. After you have completed the creation of your last partition, proceed to the restart the system section, and activate all changes for your new partitions.
- c. If you want to create additional partitions, and have **not** kept sufficient resources for the creation process, see removing I/O resources for instructions. You must return to a partition (primary or secondary), with sufficient resources and change, or remove some before you can create a new partition. Once you have available resources, return to step 5 on page 26 of this article. After you have completed the creation of your last partition, restart the system and activate all changes for your new partitions.

Deleting a secondary partition

Under certain circumstances, it is possible that you will want to delete a logical partition. For example, if you need its resources, you could delete a logical partition and distribute its resources to other logical partitions. It is also possible that you could create a temporary logical partition, perform a specific function, and delete it once that function is over.

When you delete a logical partition, all of its resources automatically become available to add to other partitions.

To delete a logical partition follow these steps:

1. Before you delete a secondary partition, perform a full system save, if desired. If you do not, you could lose all data on the disk units. For information on backing up and recovering data on logical partitions read the Backing up and recovering articles.
2. Power down the secondary partition you are going to delete.
3. From the DST menu on the primary partition, select option 11 (Work with system partitions).
4. Select option 3 (Work with partition configuration).
5. Use your cursor to select the logical partition you want to delete.
6. Select option 10 (Delete partition) and press Enter.
7. The Confirm Deleted Partition display appears. Press Enter to confirm your choice.
8. Another Confirm Deleted Partition display appears. Press Enter to delete the logical partition.
9. Restart the system (primary partition and all secondary partitions) to activate the change.



Chapter 6. Managing security

The security-related tasks you perform on a partitioned system are the same as on a system without logical partitions. However, when you create logical partitions, you work with more than one independent system. Therefore you will have to perform the same tasks on each logical partition instead of just once on a system without logical partitions.

Here are some basic rules to remember when dealing with security on logical partitions:

- You add users to the system one logical partition at a time. You need to add your users to each logical partition you want them to access.
- Limit the number of people who have authority to go to dedicated service tools (DST) and system service tools (SST) on the primary partition. Refer to the table in Controlling your logical partitions with DST and SST for more information on DST and SST.
- Secondary partitions cannot see or use main storage and disk units of another logical partition.
- Secondary partitions can only see their own hardware resources.
- The primary partition can see all system hardware resources in the Work with System Partitions displays of DST and SST.
- The primary partition operating system still only sees its resources available.
- The system control panel controls the primary partition. When you set the panel mode to Secure, no actions can be performed the Work with Partition Status display from SST. To force DST from the system control panel, you must change the mode to Manual.
- When you set the operating mode of a secondary partition to secure, you restrict the usage of its Work with Partition Status display in these ways:
 - You can only use DST on the secondary partition to change partition status; you cannot use SST to change partition status.
 - You can only force DST on the secondary partition from the primary partition Work with Partition Status display using either DST or SST.
 - You can only use DST on the primary partition to change a secondary partition mode from secure to any other value.

Once a secondary partition's mode is no longer secure, you can use both DST and SST on the secondary partition to change partition status.

For more information on security on your AS/400 refer to the books OS/400 Security-Reference  and Security-Basic  .

Chapter 7. Changing logical partition processing resources

You can designate processing resources to increase or decrease the performance capabilities of your logical partitions. Processing resources include interactive performance percentage, processors, main storage, and OptiConnect.

You can adjust the configuration of a partition to fit the performance you assign to it. You can accomplish this by removing processing resources from one logical partition and adding them to another. This will optimize performance for the logical partitions that carry the most performance.

When you add or remove processing resources remember the following:

- You can only change processing resources from the primary partition.
- You can change interactive performance percentage, processors, and main storage in the Change Partition Processing Resources display.
- Activating changes to processing resources might require a system IPL.
- The sum of each of the processing resources across the logical partitions cannot exceed that of the system. In other words if you have a total of four processors, you cannot assign three to the primary partition and two to a secondary partition.
- Every logical partition must have at least one processor.
- The primary partition must have at least 256 MB of main storage. Secondary partitions must have at least 64 MB of main storage.
- When you change processing resources, you can designate upper and lower limits. In other words, you can specify that a logical partition can only have a maximum or minimum amount of main storage, processors, and interactive performance. By setting limits, you activate changes in logical partition processing resources with a logical partition IPL instead of a system IPL.

The following articles will show you how to change these resources:

- Changing logical partition interactive performance
- Changing logical partition main storage
- Changing logical partition processors
- Connecting virtual (inter-partition) OptiConnect.

Changing logical partition interactive performance

Applications that interact directly with a user through some sort of system workstation are interactive. Interactive performance is a percentage of the computer's processing cycles that are dedicated to interactive programs. You can add and remove as much interactive performance as you need from a logical partition as long as you remember these rules:

- Each logical partition must have at least 1% of interactive performance. Depending on each system, some logical partitions require more than 1% of interactive performance.
- The sum of the interactive performance for all logical partitions cannot exceed 100%.
- You cannot exceed the maximum or minimum limits for the secondary partition that are determined by its processor count.

Notes:

1. To activate changes to interactive performance on secondary partitions, you need to restart the secondary partition.
2. To activate changes to interactive performance on the primary partition, you need to restart the entire system.
3. If you are also changing logical partition processors or main storage, wait until you have made all of your changes before you perform the IPL. This will save time.

You can perform this procedure from dedicated service tools (DST). Follow these steps to change logical partition interactive performance:

1. Start DST.
2. From DST select option 11 (Work with system partitions) and press Enter.
3. Select option 3 (Work with partition configuration).
4. Use your cursor to select the logical partition you want to change.
5. Select option 2 (Change partition processing resources) and press Enter. The change Partition Processing Resources display will appear.
6. Use the cursor to select Change partition interactive performance.

Note: If you are also changing main storage or processors, do not press Enter after the next step. You can wait until you change interactive performance and main storage before pressing Enter. This will save you time.

7. Enter the percentage of interactive performance for the logical partition.
8. Press F9 to include limits and set the interactive performance maximum and minimum limits for the logical partition.
9. Press Enter to confirm your choice.

Changing logical partition main storage

This article describes how to change main storage on a logical partition. If you have not physically added more main storage to the system or have any resources available, you must remove main storage from one logical partition and add it to another. You can add and remove as much main storage from a logical partition as you need as long as you remember these rules:

- The primary partition must have at least 256 MB of main storage.
- Each secondary partition must have at least 64 MB of main storage.
- The sum of the main storage in all of the logical partitions cannot exceed system main storage. You cannot have 300 MB of main storage in the primary partition, and 200 MB in a secondary partition if your system only has 400 MB.

Notes:

1. To activate the changes to main storage on secondary partitions you need to restart the secondary partitions.
2. To activate changes to main storage on the primary partition you need to restart the system.
3. If you are also changing the logical partition's processors or interactive performance, wait until you have made all of your changes before you restart. This will save you time.

You can perform this procedure from dedicated service tools (DST) on the primary partition. To change partition main storage follow these steps:

1. From the primary partition, start DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select option 3 (Work with partition configuration).
4. Use your cursor to select the logical partition you want to change.
5. Select option 2 (Change partition processing resources) and press Enter. The Change Partition Processing Resources display will appear.
6. Use the cursor to select new size of main storage.

Note: If you are also changing processors or interactive performance, do not press Enter after the next step. You can wait until you change interactive performance and main storage before pressing Enter. This will save you time.

7. Type the new size of main storage for the logical partition and press Enter.
8. Press F9 to set limits (optional).
9. Press Enter.
10. At the confirmation display, press Enter to confirm your choice.
11. Restart the entire system to activate the changes.

Changing logical partition processors

This article describes how to add and remove processors on a logical partition. If you have not physically added more processors to the system or have processors available, you must remove processors from one logical partition then add them to another. You can add and remove as many processors from a logical partition as you need as long as you remember these rules:

- Each logical partition must have at least one processor.
- The sum of the processors in all of the logical partitions cannot exceed the number of processors in the system. For example, you cannot have three processors in the primary partition, and two processors a secondary partition if your system only has four processors.

Notes:

1. To activate the changes from adding and removing processors on secondary partitions you need to restart the partitions.
2. To activate changes to processors on the primary partition you need to restart the system.
3. If you are also changing the logical partition's main storage or interactive performance, wait until you have made all of your changes before you restart. This will save you time.

You can perform this procedure from dedicated service tools (DST).

To change partition processors follow these steps:

1. Start DST.
2. From DST select option 11 (Work with system partitions) and press Enter.
3. Select option 3 (Work with partition configuration).
4. Use your cursor to select to select the logical partition you want to change main storage.
5. Select option 2 (Change partition processing resources) and press Enter. The Change Partition Processing Resources display appears.


6. Use the cursor to select New number of processors.

Note: If you are also changing interactive performance or main storage, do not press Enter after the next step. You can wait until you change interactive performance and main storage before pressing Enter. This will save you time.

7. Type the new number of processors and press Enter.
8. Press F9 to set limits (optional).
9. At the confirmation display, press Enter to confirm your choice.

Connecting virtual OptiConnect

Virtual (inter-partition) OptiConnect allows logical partitions to communicate with each other without any hardware. To use virtual OptiConnect, purchase an OptiConnect license (option 23 OS/400 operating system) or an OptiMover license (Program Request for Price Quotation (PRPQ) 5799-FWQ).

Traditional and virtual OptiConnect have identical commands. See the book *OptiConnect for OS/400*  and the article *Understanding AS/400 hardware for logical partitions* for more information on OptiConnect commands.


If you have purchased an OptiConnect license, follow these steps to connect a logical partition to virtual OptiConnect:

1. From the DST menu on the primary logical partition, select option 11 (Work with system partitions).
2. Select option 3 (Work with partition configuration).
3. Use your cursor to select the logical partition you want to connect.
4. Select option 2 (Change) partition processing resources.
5. Use the cursor to select the *Connect partition to system inter-partition OptiConnect* field.
6. Selection option 1 (Yes).
7. Press Enter to confirm your choice.
8. Restart the system (primary partition and all secondary partitions) to activate the change.

Chapter 8. Installing program temporary fixes on a system with logical partitions

The basic steps of installing a program temporary fix (PTF) are the same on a system with logical partitions as on a system without logical partitions. However there are some precautions you should take:

- When you load PTFs to a primary partition, shut down all secondary partitions before you install the PTFs.
- When using the GO PTF command on the primary partition, change the automatic IPL parameter from the default (*YES) to (*NO) unless the secondary partitions are powered down.

Refer to the Tips for Managing your System chapter of the book AS/400 Basic System Operation, Administration, and Problem Handling  and the article Keeping your software current with Program Temporary Fixes (PTFs) for more information on installing PTFs.

Installing Partition Sensitive PTFs

Most fixes pertaining to logical partitioning are applied as mentioned above. However, there are certain partition sensitive PTFs that apply specifically to the lowest level code that controls logical partitions. Partition specific PTFs will have special instructions referring to these steps.

Attention: Failure to follow these steps exactly could result in a lengthy recovery process.

For partition sensitive PTFs you should follow these steps exactly:

1. Permanently apply any PTFs superseded by the new PTFs.
2. Perform an initial program load (IPL) of all partitions from source A.
3. Load the PTFs on all logical partitions using the OS/400 load PTF (LODPTF) command. Do not use the GO PTF command.
4. Apply the PTFs temporarily on all logical partitions using the OS/400 apply PTF (APYPTF).
5. Power down all secondary partitions.
6. Perform a power down and IPL of the primary partition from source B in normal mode.
7. Perform normal mode IPLs of all secondary partitions from source B.
8. Apply all of the PTFs permanently using APYPTF.

For more information about the LODPTF and APYPTF commands go to the Advanced PTF Topics section in the Tips for Managing your System chapter of the book AS/400 Basic System Operation, Administration, and Problem Handling .

Chapter 9. Troubleshooting logical partitions

When you encounter problems on a partitioned AS/400, first try to determine whether they are general AS/400 problems, or problems specific to logical partitions. Go to the articles under Troubleshooting on the AS/400 to determine whether or not your problem is a general AS/400 problem.

If you are dealing with a failed partition, go to Troubleshooting partition configuration data errors, under the Backup and recovery for logical partitions articles.

If you unexpectedly return to the Work with System Partitions display when performing configuration changes, check the Licensed Internal Code log for VLOGs with a major code of 0C00 and minor code of C9FF. Contact your service representative concerning these errors. For more information on the Licensed Internal Code log, see the book *AS/400 Licensed Internal Code Diagnostic Aides*.

For other partition-specific problems you can:

- Work with logical partition error messages and reports that appear on your console.
- Work with main storage dumps.
- Use remote services to get service on your system through a modem.
- Find out when you should power off and on domain.
- Find out when you need to reset a disk unit IOP.

Working with logical partition error messages and reports

If the system experiences logical partition errors, it will notify you in one of two ways:

- An error message that appears at the bottom of the display.
- The Logical Partitioning Error Report display that appears on the system console.

Working with logical partition error messages

This list contains error messages that are specific to logical partitions. These messages generally appear near the bottom of the display.

Following each message is a reason why the error occurred.

A console resource must be selected before an alternate console resource

You need to select the main console resource before you can proceed with selecting the alternate console resource. Main and alternate consoles can be the same resource.

Accept load source disk unit failed

An internal error has occurred in the logical partition configuration manager during a configuration data recovery action. Contact your service provider.

Accept load source disk unit failed - no data found

No logical partition configuration data exists. No one has altered the

system yet by removing resources from the primary partition and assigning them to new secondary partitions. The system did not perform the requested action.

Accept load source disk unit not performed - data not protected

The system does not detect a problem with the logical partition configuration data saved on this partition's load source disk unit. So there is no reason to perform the accept operation.

Activate remote service failed

The panel task has experienced a failure. Try the request again. If it still continues to fail contact your service provider.

Add I/O resource failed

An internal error occurred. The system did not find the IOP you are adding as an available resource. It is not currently allocated to the relevant partition. Contact your service provider.

Alternate console IOP selection failed

An internal error occurred. The system could not correlate the IOP with the list of allocated resources to the partition. Check the licensed internal code logs for a 0C00 C9FF entry.

Alternate IPL IOP selection failed

An internal error occurred. The system could not correlate the IOP with the list of allocated resources to the partition. Check the licensed internal code logs for a 0C00 C9FF entry.

Alternate IPL IOP selection successful, CD-ROM not supported

You have successfully selected an alternate IPL IOP for a secondary partition. Beware that CD-ROM devices are not supported by that kind of resource. A tape device may be available for use.

Alternate IPL IOP selection successful, tape not supported

You have successfully selected an alternate IPL IOP for a secondary partition. Beware that tape devices are not supported by that kind of resource. A CD-ROM device may be available for use.

Bus already allocated

The partition is already using the bus. If you want to change the ownership type of the bus, select option 5 (Change bus ownership type) from the Work with Partition Configuration display.

Bus not allocated

You cannot remove or change the bus. Or you cannot add the IOP since the partition does not currently own the bus. No other logical partition currently owns the bus.

Bus not available

Another partition already owns the bus in shared mode when you attempted to add it. You can choose to use the bus instead of own the bus.

Bus ownership type cannot be changed

The bus is a special type that prevents it from being changed to shared. The virtual OptiConnect bus or the primary bus that contains the service processor falls into this category.

Bus requires allocation

A partition must own the bus before another partition can use in shared mode. Add the bus to a partition with the status of own shared before attempting to use it in another partition.

Cannot change bus ownership while bus is in use by another partition

Cannot change the status of the bus while it is use by another partition. Remove usage of the bus before proceeding with the current requested action.

Cannot perform requested panel function at this time

The system is performing internal processing (such as an early stage secondary partition IPL) and cannot accept the requested panel function. Try the request again at a later time.

Cannot perform requested panel function while system is in secure mode

This error will occur if you attempt to use panel functions on the Work with Partition Status display on a secondary partition set to secure mode. When a secondary partition is set to secure mode, you can only perform its panel functions from the primary partition Work with Partition Status display from a DST console. When you change a secondary partition mode from secure to another mode, you can use panel functions on that secondary partition.

Clear non-configured disk unit configuration data failed

An internal error has occurred in the logical partition configuration manager during a configuration data recovery action. Contact your service provider.

Clear non-reporting logical partitioning resources failed

An internal error has occurred in the logical partition configuration manager during a configuration data recovery action. Contact your service provider.

Clear non-reporting resources not performed - data protected

The system detected logical partition configuration data problems, so the copy cannot proceed. You must perform some other recovery action first.

Configuration change successful, but partition will not be functional

The system will allow changes made to the logical partition. However, the logical partition might not restart successfully since it does not meet minimum requirements for processors, main storage, or interactive performance.

Configuration data errors detected - see Product Activity Log

The logical partition configuration data is protected and cannot be changed until you take corrective action. See the product activity log (PAL) for information. Typically an option on the Recover Configuration Data display is required to correct the problem.

Configuration data found that originated from another system

The system found logical partition configuration data on other disk units. The system has determined that the configuration data originated on another system. Clear the configuration data for the disk units which are not configured before using them.

Configuration data found that is newer

The system found logical partition configuration data on other disk units, and the data is newer than the data on this partition's load source disk unit.

Configuration data found that is older

The system found logical partition configuration data on other disk units, but the data is older than the data on this partition's load source disk unit.

Change bus ownership type failed

The system no longer thinks that the partition either owns or uses the bus and so the change ownership type has failed. Refresh the list of resources by exiting and entering the screen again. Try the request again if logical partition really owns or uses the bus. If the request fails again contact your service provider.

Clear configuration data failed

An internal error has occurred in the logical partition configuration manager during a configuration data recovery action. Contact your service provider.

Clear configuration data failed - no data found

No logical partition configuration data exists. No one has altered the system yet by removing resources from the primary and assigning them to new secondary partitions. The system did not perform the requested action.

Clear non-configured disk unit configuration data failed - no data found

No logical partition configuration data exists. No one has altered the system yet by removing resources from the primary and assigning them to new secondary partitions. The system did not perform the requested action.

Clear non-reporting resources failed - no data found

No logical partition configuration data exists. No one has altered the system yet by removing resources from the primary partition and assigning them to new secondary partitions. The system did not perform the requested action.

Console IOP selection failed

Internal error, system could not correlate the I/O processor (IOP) with the list of allocated resources to the partition. Check the Licensed internal code logs for a 0C00 C9FF entry.

Control panel task failed

The virtual service processor task has failed. Panel functions against secondary partitions may not work from the primary partition. Contact your service provider.

Control panel update failed

An internal error occurred that caused the panel request to fail. Try again and if the condition persists contact your service provider. There may be a 0C00 C9FF licensed internal code log.

Copy configuration data to other side failed

An internal error has occurred in the logical partition configuration manager during a configuration data recovery action. Contact your service provider.

Copy configuration data to other side failed - no data found

No logical partition configuration data exists. No one has altered the system yet by removing resources from the primary partition and assigning them to new secondary partitions. The system did not perform the requested action.

Copy configuration data to other side not performed - data protected

The system has detected logical partition configuration data problems, so the copy cannot proceed. Some other recovery action must be performed first.

Could not start a service tool

A service function could not be started from the Use Dedicated Service Tools menu. If attempting to work with system partitions, this error indicates that another user in the same logical partition is currently working with system partitions using SST.

CPM or MSD IPL retry failed

The panel task has experienced a failure. Try the request again. If it still continues to fail contact your service provider.

Data may be incomplete until all partitions are IPLed

The service function has checked if secondary partitions that are represented on the screen where this message appears are all powered on and able to report resources such as I/O adapters and devices. The logical partition configuration manager does not track these types of resources in general. You may only see buses and I/O processors until the partitions are activated.

Data may be incomplete until partition is IPLed

The logical partition is in a state (powered off, for example) where the logical partition configuration manager cannot know for sure what resources are attached to the bus or buses owned or used by the partition. It is possible some resources have physically moved since the last time the partition restarted successfully. This message is informational. It indicates that the system will not display I/O adapters and devices until you restart the logical partition. Bus resources may have been moved since that last restart.

Deactivate remote service failed

The panel task has experienced a failure. Try the request again. If it still continues to fail contact your service provider.

Default electronic customer support IOP selection failed

An internal error occurred. The system could not correlate the IOP with the list of allocated resources to the partition. Check the licensed internal code logs for a 0C00 C9FF entry.

Disk unit IOP reset/reload failed

The panel task has experienced a failure. Try the request again. If it still continues to fail contact your service provider.

Electronic customer support IOP selection successful, async not supported

You have successfully selected a default electronic customer support IOP for a secondary partition. Beware that the asynchronous communications protocol is not supported by that kind of resource.

Electronic customer support IOP selection successful, SDLC not supported

You have successfully selected a default electronic customer support IOP for a secondary partition. Beware that the SDLC communications protocol is not supported by that kind of resource.

Force DST failed

The panel task has experienced a failure. Try the request again. If it still continues to fail contact your service provider.

Incorrect resource type selected

Depending on the display, the request can only be made to either a bus or I/O processor (IOP) resource, or both.

IOP cannot be added or removed due to IOP type

The system cannot add or remove the I/O processor because it is:

- Attached to the virtual bus used for OptiConnect.
- Attached to a bus that is used in a clustered environment.
- The IOP that is used for the primary partition load source or console.

IOP option must match bus option specified

Due to the nature of the request, a bus and IOP attached cannot have conflicting options taken against them.

IOP selected lacks capabilities to support requested function

When resource capability is being filtered on a tagged resource selection screen this message will appear if the system determines that the resource cannot support the requested capability selection. Tagged resources are ones that have special meaning for secondary partitions, such as the load source IOP or console IOP. Press F9 on the selection displays to turn filtering off. This will allow the selection if you still want to use the resource.

IPL restart failed

The panel task has experienced a failure. Try the request again. If it still continues to fail contact your service provider.

Load source IOP selection failed

An internal error occurred. The system could not correlate the IOP with the list of allocated resources to the partition. Check the licensed internal code logs for a 0C00 C9FF entry.

Logical partitioning configuration data error detected

Logical partition configuration manager checksum failed. You cannot trust the configuration data to be valid. Contact your service provider.

Logical partitioning configuration data is not valid

Logical partition configuration management did not detect logical partition data on the current IPL source of the load source disk unit (source A or source B). Contact your service provider.

Logical partitioning configuration data not found

No logical partition configuration data exists. No one has altered the system yet by removing resources from the primary partition and assigning them to new secondary partitions. The system did not perform the requested action.

Maximum interactive performance set to xxx % for number of processors

The system has 100% interactive performance available to split between partitions. However, the allowable ranges for each partition depends on how the system processors are split. For example, if one partition has only 10% of the system processors defined, then it would not be possible for that partition to use 99% of the interactive performance available to the system. These error messages will appear when the interactive performance settings are outside of a practical range, and the system has made the adjustment for you.

New interactive performance percentage entered is greater than available

Not enough interactive performance is free to allow you to add the amount requested. Either add less interactive performance or free the interactive performance from another partition.

New number of processors entered is greater than available

Not enough processors are free to allow you to add the amount requested. Either add fewer processors or free processors from another partition.

New partition name entered is not valid

The partition name must conform to the following rules: Characters must be between A and Z and 0 - 9. Name cannot be all blanks. Name cannot be PRIMARY. Name cannot be the same as an existing secondary partition.

Not able to start Work with system partitions

This message appears in SST and indicates that another user on the system partition is currently working with logical partitions in either DST or SST.

Not enough main storage available

You requested to add more main storage than is available. Either add less main storage or remove what you need from other partitions.

Not enough processors available

You requested to add more processors than are available. Either add fewer processors or remove what you need from other partitions.

Not enough interactive performance percentage available

You requested to add more interactive performance than is available. Either add less interactive performance or remove what you need from other partitions.

New size of main storage entered is greater than available

Not enough main storage is free to allow you to add the amount requested. Either add less main storage or free the main storage needed from another partition.

Option is allowed only from primary partition

You can perform options 13 and 14 to change the System IPL Action from the primary partition. The system does not manage the displaying or changing of that value in secondary partitions. Or the secondary partition is in secure mode. You must therefore go to the primary DST console to change the mode to a value other than secure mode.

Option not allowed during system MSD IPL

When the system is performing a main storage dump (MSD), you cannot perform many of the logical partition configuration options that alter the logical partition configuration data. For example, you cannot perform recovery actions or create a new secondary partitions.

Option not allowed for primary partition

Some options do not make sense when issued against the primary partition. For example you cannot change a primary partition name, delete a primary partition, or select a tagged secondary resource like load source or console.

Partition create failed - not enough system resources available

The system already has the maximum allowed number of logical partitions defined for the release. You cannot create another one.

Power off domain failed

The panel task has experienced a failure. Try the request again. If it still continues to fail, contact your service provider.

Power on domain failed

The panel task has experienced a failure. Try the request again. If it still continues to fail contact your service provider.

Primary partition configuration data recovery failed

An internal error has occurred in the logical partition configuration manager during a configuration data recovery action. Contact your service provider.

Primary partition configuration data recovery failed - no data found

No logical partition configuration data exists. No one has altered system yet by removing resources from the primary partition and assigning them to new secondary partitions. The system did not perform the requested action.

Primary partition configuration data recovery failed - no new data found

No further action is necessary. The system did not find any logical partition configuration data on other disk units that is different than what is currently saved on this logical partition's load source disk unit.

Problem resolution failed

A problem selected to be accepted is not currently in the list of known problems for the logical partition, or another internal error occurred. Contact your service representative.

Problem resolution failed, unable to clear attention errors

A problem selected to be accepted is not currently in the list of known problems for the logical partition, or another internal error occurred. Contact your service representative.

Problem resolution failed, unable to clear informational errors

A problem selected to be accepted is not currently in the list of known problems for the logical partition, or another internal error occurred. Contact your service representative.

Problem resolution failed, unable to clear severe errors

A problem selected to be accepted is not currently in the list of known problems for the partition, or another internal error occurred. Contact your service representative.

Remove I/O resource failed

An internal error occurred. The system did not find that the IOP is currently owned by the relevant partition and is not already an available resource. Contact your service provider.

Request failed, bus not in use

The partition does not currently use the bus, so it cannot own it.

Request failed, bus not shared

The bus is in a special state that prevents it from being changed to shared (such as being used in a cluster). Or, the IOP being removed does not belong to a bus that is in shared mode.

Request failed, configuration data protected - see Product Activity Log

The logical partition configuration data is protected for some reason, and cannot be changed until corrective action is taken. See the product activity log (PAL) for information on what action to take. Typically an option on the Recover Configuration Data display is required to correct the problem.

Request failed due to the state of one or more partitions

Depending on the requested function, either all the secondary partitions must be powered off or powered on to continue.

Request failed, errors reported were not handled

An error report screen was previously displayed and either the user canceled without allowing the system to recover from the problems listed or the system failed to perform the recovery action.

Request failed, return code: xxxxxxxx

This message will appear for an error that does not have a message description associated with it. The hex return code will tell you what has happened.

0xFFFFFFFF98

The I/O configuration has changed while the current action was being performed. Depending on the display you were on resources may refresh automatically. If so just retry the request. You may have to exit and enter the display again to retry the request.

Request failed - see Product Activity Log

An internal error has occurred in the logical partition configuration manager during a configuration change request. See the product activity log (PAL) for information. Contact your service provider.

Requested panel function not currently enabled

The system has not enabled the panel function at this time. Wait and try the request again. For instance, if panel function 21 is attempted against a partition that is restarting and not quite to dedicated service tools (DST) yet, then 21 will not have been enabled until DST is reached.

Resources requested greater than is allocated to the partition

The partition may have been restarted with fewer processors, main storage, or interactive performance than requested (but within the minimum allowable limit). The attempt to remove these resources exceeds what the partition is currently using.

Smallest minimum main storage size is xxxxxxxx for maximum entered

The system must enforce a range of reasonable values for the minimum and maximum main storage values relative to each other. This is because a certain amount of fixed storage is allocated for system use based on the maximum size specified. The fixed storage required by the system cannot be larger than the minimum value specified. Adjust your minimum value to be at least as large as the value in the message. Or, adjust the maximum size to some value that is smaller.

System IPL required to activate changes

Changes have been made to the logical partition configuration that require a system restart to activate. Examples are partition create, delete, recovery, bus ownership type change, or changing the primary partition's processors, main storage, or interactive performance values.

Unknown error in service function

An unexpected condition occurred in the licensed code that either manages the logical partition configuration data or the logical partition service function. Check the licensed internal code logs for a 0C00 C9FF entry. Contact your service provider.

Update configuration data failed

An internal error has occurred in the logical partition configuration manager during a configuration data recovery action. Contact your service provider.

Update configuration data failed - no data found

No logical partition configuration data exists. The system has not been altered yet by removing resources from the primary and assigning them to new secondary partitions. The system did not perform the requested action.

Working with the logical partition error report

When the logical partitioning configuration manager must report multiple errors, the Logical Partitioning Error Report display appears. This display contains a summary of errors with details available by using option 5 on the particular error.

From this display, you may cancel the previous request and return to the previous display by selecting F3 (Exit) or F12 (Cancel). You can also accept the error and continue by selecting option 1 (Accept problem) or F10 (Accept all problems and continue). However, you should fully understand these errors before taking any actions like option 1 or F10.

The report groups error messages by category as follows:

- **Informational**- A recoverable error occurred that did not prevent the requested operation.
- **Attention**-An error occurred which prevents the requested operation. Details describe the cause of the failure but do not tell you which operation failed. See any **severe** errors to determine which operation failed.
- **Severe**- An operation could not complete successfully. See any previous **attention** messages to determine reasons for the failed operation.

The following list gives error attention and severe message summaries, why the error may have occurred, and recommended actions.

Bus not removed


A severe message indicating that a bus remove operation failed. Correct previous attention errors listed in the error report and try the operation again.


Bus ownership type change failed

A severe message indicating that a change bus ownership type operation failed. Correct previous attention errors listed in the error report and try the operation again.

Device in use

An attention message indicating that a particular resource is in use by the system, its owning IOP, or bus while someone attempted to remove it from a partition. If this resource is a disk unit, you must remove it from its current auxiliary storage pool (ASP) before removing it from the IOP or bus.

See the Working with Auxiliary Storage Pools chapter in the book, Backup and Recovery  , for information on how to remove a disk unit from an ASP. If this resource is not a disk unit use the Work with Configuration Status (WRKCFGSTS) command to vary off any devices or controllers that are active on the resource.

For more information on ending jobs refer to the Tips for Customizing Your System chapter of AS/400 Basic System Operation, Administration, and Problem Handling. 

IOP not removed

A severe message indicating that an IOP remove operation failed. Correct previous attention errors listed in the error report and try the operation again.

IOP requires reallocation

An attention message indicating that you attempted to change bus

ownership type from shared to dedicated. However the bus contains IOPs currently unassigned to any logical partition. Use the add I/O resources procedure to assign the available IOPs to the same partition as the bus owner. Then, repeat the change of bus ownership type.

I/O resource not updated

A severe message indicating that an I/O resource could not be updated in the configuration data. Correct previous attention errors listed in the error report and try the operation again.

State of IOP is unknown

An attention message indicating a particular IOP cannot be located in the partition from which it is being removed.

If the owning partition is currently powered off, you can ignore this error if you know the IOP and its resources are available. If the owning partition is currently powered on, this error may indicate that the owning IOP was recently added to the partition but is not yet active.

Wait five minutes and retry the operation. If the failure persists or if the IOP was not recently added to the owning partition, contact your service representative.

Working with system main storage dumps on systems with logical partitions

When your system performs a main storage dump, **contact your customer support representative.**

When the system has a failure it may create a main storage dump. A main storage dump copies system main storage to disk. It can be an important tool for problem analysis. On a system with logical partitions, there are two types of failures that may cause main storage dumps — system failure and secondary partition failure.

Failures in the primary partition caused by system processing storage hardware or main storage hardware will cause the entire system to fail. Software failures in a secondary partition will cause only that logical partition to fail.

A system failure may cause a system main storage dump. A secondary partition failure may cause a main storage dump only on that logical partition.

For more information on main storage dumps refer to the book, *AS/400 Basic System Operation, Administration, and Problem Handling* .

When you are directed to by customer support, you can force a main storage dump.

Forcing a main storage dump

Under the advice of your service representative, you can perform a main storage dump.

There are two kinds of main storage dumps you can perform:

- A main storage dump of the system.
- A main storage dump of a secondary partition.

Main storage dump of the system

You should only perform a system main storage dump when directed by a customer support representative


Note: When you perform a system main storage dump, every secondary partition will also perform a main storage dump. They will all then restart. This could take a long time.

To perform a system main storage dump refer to the book, AS/400 Basic System Operation, Administration, and Problem Handling 

A Work with Partition Status display will appear on the secondary partition's console unless a main storage dump was already in progress. In that case, a Main Storage Dump display will appear on the secondary partition console.

Main storage dump of a secondary partition

You should only perform a secondary partition main storage dump if under the direction of customer support. To perform a secondary partition main storage dump, follow these steps:

1. On the partition or the primary partition, go to an SST or DST display.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions).
3. Select option 2 (Work with partition status).
4. Use the cursor to select the logical partition on which you want to perform a main storage dump.
5. If logical partition is not in manual mode, select option 10 (Mode manual) to place the logical partition in manual mode.
6. Selection option 22 (Force main storage dump).
7. Use option 34 (Force CPM or MSD IPL retry) only under direction of your service representative.
8. Report and copy the current main storage dump as directed in the Handling and Reporting System Problems chapter of the book AS/400 Basic System Operation, Administration, and Problem Handling 

In the event you cannot perform option 22 (Force main storage dump) on a secondary partition, perform a system main storage dump under the direction of your service representative. When the Main Storage Dump Occurred display appears on the primary partition's console, press Enter and select option 6 (Dump all partitions).

Using remote service

Only use this procedure when directed by your service representative

Remote service is a way for a service representative to access your system through a modem.

The logical partition that is using remote service must have a communications IOP with a modem. If the communications IOP is on a shared bus and being used by another partition, switch the IOP to the partition that needs to use the modem.

It is a security risk to leave remote service enabled when not in use. Ensure that you deactivate it when your service representative has finished using remote service.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST). To use remote service, follow these steps:

1. Go to SST or DST.
2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions).
3. Select option 2 (Work with partition status).
4. Use the cursor to select the logical partition that is going to receive remote service.
5. Select option 66 (Activate remote service).
6. Press Enter.
7. When you have finished using remote service, select option 65 (Deactivate remote service).

Powering on and off domain

Only use this procedure when directed by your service representative

Power off domain and Power on domain are options that you can take when a disk unit input/output processor (IOP) fails. When a disk unit IOP fails, the disk units in the IOP could become unusable, or the system could hang.

When you, under the direction of your service representative, perform a Power off domain, the system shuts down the failed disk unit IOP. You can replace any failed disk units without restarting the logical partition or entire system.

To Power on or Power off domain, follow these steps:

1. From a dedicated service tools (DST) menu, select option 11 (Work with system partitions).
2. Select option 2 (Work with partition status).
3. Use your cursor to select the logical partition with the failed disk unit IOP.
4. Under the direction of your service representative, select option 68 (Power off domain) to power down; or select option 69 (Power on domain).

Resetting a disk unit IOP

Only use this procedure when directed by your service representative.

Use this function to initiate an I/O processor (IOP) dump and an IOP reset/reload. This function becomes enabled when certain disk unit SRCs appear and the associated IOP supports a reset/reload function.

You can perform this procedure from system service tools (SST) or dedicated service tools (DST).

To reset a disk unit IOP follow these steps:

1. Start SST or DST.

2. From SST select option 5 (Work with system partitions); from DST select option 11 (Work with system partitions) and press Enter.
3. Select menu option 3 (Work with partition configuration).
4. Use the cursor to select the logical partition that has the IOP you want to reset.
5. Select option 67 (Disk unit IOP reset/reload).
6. Press Enter.



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