Power Systems

Changing consoles

IBM

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Contents

Safety notices

Safety notices may be printed throughout this guide:

- **DANGER** notices call attention to a situation that is potentially lethal or extremely hazardous to people.
- **CAUTION** notices call attention to a situation that is potentially hazardous to people because of some existing condition.
- **Attention** notices call attention to the possibility of damage to a program, device, system, or data.

World Trade safety information

Several countries require the safety information contained in product publications to be presented in their national languages. If this requirement applies to your country, safety information documentation is included in the publications package (such as in printed documentation, on DVD, or as part of the product) shipped with the product. The documentation contains the safety information in your national language with references to the U.S. English source. Before using a U.S. English publication to install, operate, or service this product, you must first become familiar with the related safety information documentation. You should also refer to the safety information documentation any time you do not clearly understand any safety information in the U.S. English publications.

Replacement or additional copies of safety information documentation can be obtained by calling the IBM Hotline at 1-800-300-8751.

German safety information

Das Produkt ist nicht für den Einsatz an Bildschirmarbeitsplätzen im Sinne § 2 der Bildschirmarbeitsverordnung geeignet.

Laser safety information

IBM® servers can use I/O cards or features that are fiber-optic based and that utilize lasers or LEDs.

Laser compliance

IBM servers may be installed inside or outside of an IT equipment rack.

DANGER

> **When working on or around the system, observe the following precautions:**
>
> **Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:**
> - **Connect power to this unit only with the IBM provided power cord. Do not use the IBM provided power cord for any other product.**
> - **Do not open or service any power supply assembly.**
> - **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
> - **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
> - **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
> - **Connect any equipment that will be attached to this product to properly wired outlets.**
> - **When possible, use one hand only to connect or disconnect signal cables.**
> - **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
> - **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
> - **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**
>
> **To Disconnect:**
> 1. **Turn off everything (unless instructed otherwise).**
> 2. **Remove the power cords from the outlets.**
> 3. **Remove the signal cables from the connectors.**
> 4. **Remove all cables from the devices.**
>
> **To Connect:**
> 1. **Turn off everything (unless instructed otherwise).**
> 2. **Attach all cables to the devices.**
> 3. **Attach the signal cables to the connectors.**
> 4. **Attach the power cords to the outlets.**
> 5. **Turn on the devices.**
>
> **(D005)**

DANGER

Observe the following precautions when working on or around your IT rack system:

- Heavy equipment–personal injury or equipment damage might result if mishandled.
- Always lower the leveling pads on the rack cabinet.
- Always install stabilizer brackets on the rack cabinet.
- To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.
- Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.

- Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.
- Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.
- An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

CAUTION

- Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.
- Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.
- Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.
- *(For sliding drawers.)* Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.
- *(For fixed drawers.)* This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.

(R001)

CAUTION:
Removing components from the upper positions in the rack cabinet improves rack stability during relocation. Follow these general guidelines whenever you relocate a populated rack cabinet within a room or building:

- **Reduce the weight of the rack cabinet by removing equipment starting at the top of the rack cabinet. When possible, restore the rack cabinet to the configuration of the rack cabinet as you received it. If this configuration is not known, you must observe the following precautions:**
  - **Remove all devices in the 32U position and above.**
  - **Ensure that the heaviest devices are installed in the bottom of the rack cabinet.**
  - **Ensure that there are no empty U-levels between devices installed in the rack cabinet below the 32U level.**
- **If the rack cabinet you are relocating is part of a suite of rack cabinets, detach the rack cabinet from the suite.**
- **Inspect the route that you plan to take to eliminate potential hazards.**
- **Verify that the route that you choose can support the weight of the loaded rack cabinet. Refer to the documentation that comes with your rack cabinet for the weight of a loaded rack cabinet.**
- **Verify that all door openings are at least 760 x 230 mm (30 x 80 in.).**
- **Ensure that all devices, shelves, drawers, doors, and cables are secure.**
- **Ensure that the four leveling pads are raised to their highest position.**
- **Ensure that there is no stabilizer bracket installed on the rack cabinet during movement.**
- **Do not use a ramp inclined at more than 10 degrees.**
- **When the rack cabinet is in the new location, complete the following steps:**
  - **Lower the four leveling pads.**
  - **Install stabilizer brackets on the rack cabinet.**
  - **If you removed any devices from the rack cabinet, repopulate the rack cabinet from the lowest position to the highest position.**
- **If a long-distance relocation is required, restore the rack cabinet to the configuration of the rack cabinet as you received it. Pack the rack cabinet in the original packaging material, or equivalent. Also lower the leveling pads to raise the casters off of the pallet and bolt the rack cabinet to the pallet.**

(R002)

(L001)

DANGER: Hazardous voltage, current, or energy levels are present inside any component that has this label attached. Do not open any cover or barrier that contains this label. (L001)

(L002)

DANGER: Rack-mounted devices are not to be used as shelves or work spaces. (L002)

(L003)
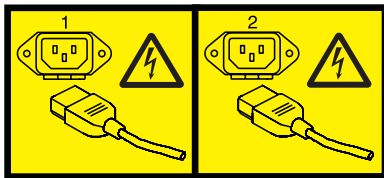
or
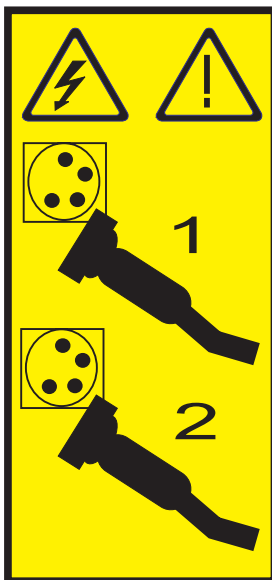
or

DANGER: Multiple power cords. The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords. (L003)

(L007)

CAUTION: A hot surface nearby. (L007)

(L008)

CAUTION: Hazardous moving parts nearby. (L008)

All lasers are certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for class 1 laser products. Outside the U.S., they are certified to be in compliance with IEC 60825 as a class 1 laser product. Consult the label on each part for laser certification numbers and approval information.

CAUTION:
This product might contain one or more of the following devices: CD-ROM drive, DVD-ROM drive, DVD-RAM drive, or laser module, which are Class 1 laser products. Note the following information:
- **Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.**
- **Use of the controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.**

(C026)

CAUTION:
**Data processing environments can contain equipment transmitting on system links with laser modules that operate at greater than Class 1 power levels. For this reason, never look into the end of an optical fiber cable or open receptacle. (C027)**

CAUTION:
This product contains a Class 1M laser. Do not view directly with optical instruments. (C028)

CAUTION:
Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following information: laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam. (C030)

CAUTION:
The battery contains lithium. To avoid possible explosion, do not burn or charge the battery.

Do Not:
- ___ **Throw or immerse into water**
- ___ **Heat to more than 100°C (212°F)**
- ___ **Repair or disassemble**

Exchange only with the IBM-approved part. Recycle or discard the battery as instructed by local regulations. In the United States, IBM has a process for the collection of this battery. For information, call 1-800-426-4333. Have the IBM part number for the battery unit available when you call. (C003)

Power and cabling information for NEBS (Network Equipment-Building System) GR-1089-CORE

The following comments apply to the IBM servers that have been designated as conforming to NEBS (Network Equipment-Building System) GR-1089-CORE:

The equipment is suitable for installation in the following:
- Network telecommunications facilities
- Locations where the NEC (National Electrical Code) applies

The intrabuilding ports of this equipment are suitable for connection to intrabuilding or unexposed wiring or cabling only. The intrabuilding ports of this equipment *must not* be metallically connected to the interfaces that connect to the OSP (outside plant) or its wiring. These interfaces are designed for use as intrabuilding interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metallically to OSP wiring.

Note: All Ethernet cables must be shielded and grounded at both ends.

The ac-powered system does not require the use of an external surge protection device (SPD).

The dc-powered system employs an isolated DC return (DC-I) design. The DC battery return terminal *shall not* be connected to the chassis or frame ground.

The dc-powered system is intended to be installed in a common bonding network (CBN) as described in GR-1089-CORE.

Changing consoles

You can change the console that you are using to manage the IBM i operating system, if required for certain systems management functions.

Note: You might need to perform an initial program load (IPL) on your system or logical partition, and possibly even manually delete your existing IBM i console device and controller resource for the following changes:

- When changing a 24x80 display model to a 27x132 display model.
- If you change your system or logical partition from a single byte to a double-byte or from a double-byte to a single byte

Changing consoles requires careful attention to the procedures to avoid unwanted results. The procedure you need to follow depends on whether your managed system is powered off or on.

What's new in Changing consoles

Read about new or significantly changed information in Changing consoles since the previous update of this topic collection.

June 2015

- Updated information about HMC Classic, HMC Enhanced, HMC Enhanced + Tech Preview (Pre-GA), and HMC Enhanced+ interfaces.

Concepts for changing your console configuration

If your business demands require capabilities that your current console does not provide, you can change your console.

Changing consoles can provide greater control over the management of your system or systems. Console options for your IBM model include the Hardware Management Console (HMC) and Operations Console (LAN). You might want to change your console if you are performing the following tasks:

Upgrading to a processor-based system
If you are upgrading a POWER6® or POWER7® processor-based system to a POWER8™ processor-based system, you must update the HMC machine code level to work with a POWER8 processor-based system. After the update, the HMC can continue to manage the POWER7 or POWER6 processor-based systems.

Adding management features
You can have multiple consoles connected to your systems. This can increase the management control over systems.

Servicing the system
You must connect a console to your system so that a service provider can access service functions to repair a problem.

Changing the console by powering off the managed system

You can change the console that manages the IBM i operating system by powering off the managed system.

To perform this procedure, you must have a working console or another workstation that can use system service tools (SST). If you have a failed console and want to make a console change, you will need to use the service functions (65+21) in Operations Console. For details on using the service functions (65+21), see "Accessing Operations Console information in the IBM i Knowledge Center" on page 11.

Before you begin, you will need to deallocate the LAN adapter if you will not be using a local console on a network (LAN) configuration, even as a backup, or if you will not be using the service tools server. After the LAN adapter is deallocated, you can move it or use it for another purpose. You must use a workstation other than a local console on a network (LAN) because the steps to deallocate the adapter will cause the console to disconnect.

Important: You must change the console tag to a value other than Operations Console (LAN). Otherwise, the adapter is reallocated the next time that you start the server.

To deallocate the LAN adapter currently associated with a local console on a network (LAN), use the system service tools (SST).
1. Access service tools using SST.
2. Select **Work with service tools user IDs and devices**.
3. Select **Configure service tools LAN adapter**.
4. Press F6 to clear the old values, and then F7 to store the new values.
5. Press F3 or F12 to exit.

To change the console, complete the following steps:
1. Using the current console or another workstation, shut down the IBM i logical partition.
2. Choose *one* of the following:
   - If the current console is Operations Console, disconnect the connection:
     a. Select the configuration name (under **System i® Connection**). This is the name that Operations Console uses to refer to a specific server.
     b. From the **Connections** menu, select **Disconnect**. The connection status displays `Disconnecting`.
     c. Wait for the status to display `Disconnected`.
3. Remove any hardware or cables associated with the previous console, and add or move any hardware or cables needed for the new console. For details on setting up Operations Console, refer to "Accessing Operations Console information in the IBM i Knowledge Center" on page 11.
4. Select the option that best fits your situation. More than one option might apply.
   - If the new console is *not* Operations Console, power on the console device and start a connection at this time.
   - If you are changing the current console to Operations Console, create an Operations Console connection by following the instructions in Setting up Operations Console.
   - If you currently have a configured connection for Operations Console and you will not be using it as a backup console, complete the following steps to delete the configuration:
     a. Select the configuration name (under System i Connection).
     b. Click **Delete** on the Connection menu.
     c. Click **Yes** to confirm the deletion.
5. Using the HMC, change the console device setting for the IBM i logical partition profile.
   a. In the contents area, select the logical partition that you are working with.
   b. Use one of the following navigation options depending on the interface type of the HMC:
      - If you are using an HMC Classic or HMC Enhanced interface, select **Tasks** > **Configuration** > **Manage Profiles**.
      - If you are using an HMC Enhanced + Tech Preview (Pre-GA) or HMC Enhanced+ interface, select **Actions** > **Profiles** > **Manage Profiles**.

    c. Select the logical partition profile that you want to change.

    d. Select **Actions** > **Edit**.

    e. Click **Tagged I/O**, and then click **Select** under the console heading.

    f. Select the resource if it is an input/output adapter (IOA), or change from I/O device to logical port to use the host Ethernet adapter.

    g. Click **OK** > **OK** > **Close**.

6. Using the HMC, activate the IBM i logical partition profile to allow the new profile setting to take effect.

    a. In the contents area, select the logical partition you are working with.

    b. Use one of the following navigation options depending on the interface type of the HMC:

      • If you are using an HMC Classic or HMC Enhanced interface, select **Tasks** > **Operations** > **Activate**.

      • If you are using an HMC Enhanced + Tech Preview (Pre-GA) or HMC Enhanced+ interface, select **Actions** > **Activate**.

    c. Select the logical partition profile that you want to activate and click **OK**.

The new console becomes available when the initial program load (IPL) of the logical partition is complete, or the console activation method completes. If you experience problems, see Troubleshooting the new console when the system is managed by an HMC.

Related concepts:

"Troubleshooting the new console when the system is managed by an HMC" on page 9
If you experience problems changing consoles when your system is managed by a Hardware Management Console (HMC), there are several things you can check.

Changing the console with the managed system powered on

You can use the system service tools to change the console that manages IBM i while the managed system is powered on.

Note: If you have a failed console and want to change a console, you need to use the console service functions (65+21). The instructions for using service functions (65+21) are in the IBM i Knowledge Center (http://www-01.ibm.com/support/knowledgecenter/ssw_ibm_i/welcome). You can navigate to the specific version of the IBM i operating system from this page.

Related concepts:

"Accessing Operations Console information in the IBM i Knowledge Center" on page 11
Learn how to access information about the Operations Console information for IBM i version 7.1 and 7.2, in the IBM i Knowledge Center.

Changing the console with the logical partition powered on

After making all of the necessary hardware changes, complete the console change with the logical partition powered on. You can use either the command line or the Hardware Management Console user interface to change the console. This procedure does not require an IPL.

Before you begin, ensure that the current configuration meets the following requirements:

• You have satisfied the hardware requirements for the new console. For details on setting up Operations Console, see "Accessing Operations Console information in the IBM i Knowledge Center" on page 11.

• The Hardware Management Console (HMC) is set up and configured. For HMC setup instructions, see Installing and configuring the Hardware Management Console(http://www.ibm.com/support/knowledgecenter/POWER8/p8hai/p8hai_kickoff.htm).

• An IBM i logical partition is configured, installed, and activated.

- You have a current backup of the system or logical partition (including operating systems, licensed programs, and data). For information about backing up the system or logical partition, seeManaging logical partitions that use IBM i resources(http://www.ibm.com/support/knowledgecenter/POWER8/p8hat/p8hat_manlparclients.htm).

Changing the console using the command line with the logical partition powered on

After making all of the necessary hardware changes, use this information to complete the console change using the command line, with the logical partition powered on. This procedure does not require an IPL.

Before you begin, ensure that the current configuration meets the following requirements:
- The QAUTOCFG system value is set to On. Use the WRKSYSVAL QAUTOCFG (Work with System Value command) to verify this.
- If you want to access the HMC command line by using a local terminal connection, start an xterm shell on the HMC. To do this, open a terminal by right-clicking the background and selecting **Terminals** > **rshterm**.
- If you want to access the HMC command line by using a remote terminal connection such as PuTTy, first set up secure script processing between SSH clients and the HMC. Then start your remote terminal by specifying the name of the HMC that is managing the logical partition with which you want to work.

The following procedure contains examples within the steps to help you complete a console change. In these examples, the system named *sysname* with logical partition identification number *1* is changing from the HMC to Operations Console (LAN) using an embedded Ethernet port. These are variables for your actual system name and logical partition ID number. In the following instructions, replace *sysname* with your system name and replace *1* with your logical partition identification number.

To make a console change using the command line and without powering off the logical partition, complete the following steps:
1. List the current I/O configuration for the logical partition and locate the device that you want to make the system console device. If you do not know the resource that is being used for the console, continue with step 1a. If you already know which resource is being used for the console, continue with step 1c. Otherwise, complete step 1b to list the currently tagged resource for the console.
   a. Type the following on the HMC command line:

      ```
      lssyscfg -r sys -F name
      ```

      This command returns a list of managed systems. Select the system for which you want to change the console and use the system name as the *sysname* value in the next steps.
   b. Type the following on the HMC command line:

      ```
      lshwres -m sysname -r io --rsubtype taggedio --filter lpar_ids=1 -F console_slot
      ```

      This command returns `none`, `hmc`, or an 8-character hexadecimal string that represents the dynamic reconfiguration connector (DRC) index of the current console adapter.
   c. Complete either of the following steps to determine the resource ID. The step you select depends on whether you have an input/output adapter (IOA) or are using a host Ethernet adapter (also referred to as the Integrated Virtual Ethernet) logical port.
      - To list the IOAs that are owned by the logical partition, type the following on the HMC command line:

         ```
         lshwres -m sysname -r io --rsubtype slot --filter lpar_ids=1 -F drc_index,drc_name,description
         ```

         The system returns data in the following format:

```
21010003,U1234.001.123456A-P1-T12,PCI RAID Controller ...

21010004,U1234.001.123456A-P1-C2,PCI 10/100/1000Mbps Ethernet UTP 2-port

21010005,U1234.001.123456A-P1-C3,PCI 2-Line WAN w/Modem
```

The location of resource DRC 21030003 is listed as P1-T12 and not P1-C*n* (where *n* is a slot number). The T*n* designation represents embedded resources. If you designate an actual adapter, the location is a value similar to P1-C2. This enables you to get the DRC index of the IOA, which becomes the new console device.

- To list the logical ports that are owned by the logical partition, type the following on the HMC command line:

```
lshwres -m sysname -r hea --rsubtype logical --level port --filter lpar_ids=1 -F drc_index,drc_name
```

The system returns data in the following format:

```
23e01000,Port 17

23e01100,Port 18

23e00000,Port 1

23e00100,Port 2
```

d. Identify the DRC index of the console IOA or host Ethernet adapter logical port that you want. In the previous output example, the first entry is a host Ethernet adapter logical port with a DRC index of 23e01000. This is the first logical port for physical port T1 (top connector).

2. Change the **console** tag of the logical partition to the device that you want to become the next console device.

   a. Complete one of the following steps to change the console type:
      - **Change your console to the HMC**. To set the new **console** tag to the HMC 5250 console, type the following:

        ```
        chhwres -m sysname -r io --rsubtype taggedio --id 1 -o s -a console_slot=hmc
        ```
      - **Change your console to Operations Console (LAN)**.

        To set the new **console** tag to an IOA with a DRC index of 21010004 (the DRC index can be found in step 1c on page 4), type the following:

        ```
        chhwres -m sysname -r io --rsubtype taggedio --id 1 -o s -a console_slot=21010004
        ```
      - **Change your console to Operations Console (LAN) using a host Ethernet adapter logical port**. To set the new **console** tag to a host Ethernet adapter logical port with a DRC index of 23e01000 (the DRC index can be found in step 1c on page 4), type the following:

        ```
        chhwres -m sysname -r io --rsubtype taggedio --id 1 -o s -a console_slot=23e01000
        ```

   b. To verify your changes, repeat step 1c on page 4.

      Notes:
      - To clear the **console** tag, type the following:

        ```
        chhwres -m sysname -r io --rsubtype taggedio --id 1 -o s -a console_slot=none
        ```
      - To clear the **Operations Console** tag, type the following:

        ```
        chhwres -m sysname -r io --rsubtype taggedio --id 1 -o s -a op_console_slot=none
        ```
      - If entering none in the previous command results in an error message, try entering eight zeros (00000000) instead.

3. Search for the console device by doing the following sequence of console service functions against the logical partition: **65+21+21**. Do this sequence of three console service functions within 45 seconds for each function to start a new search for the console device.

   a. To perform function **65** (remote DST off), type the following:

      ```
      chsysstate -m sysname -r lpar --id 1 -o remotedstoff
      ```

b. To perform function **21** (force DST), type the following:

      `chsysstate -m sysname -r lpar --id 1 -o dston`

   c. Repeat step 3b.
4. Try to connect with the newly selected console device, and monitor the system reference codes (SRCs) for the logical partition. It can take up to 3 minutes for the console adapter change to be completed.

   Note: To monitor the SRCs for the logical partition, type the following to list the last 10 SRCs:

   `lsrefcode -m sysname -r lpar -n 10 --filter "lpar_ids=1"`

   SRCs are listed in order from newest to oldest. To list a different number, replace 10 in the command with the number of SRCs that you want returned.
5. Update the logical partition profile on the HMC to match the dynamic console change:
   a. In the navigation area, click **Systems Management** > **Servers**.
   b. In the navigation area, select the managed system.
   c. In the contents area, select the logical partition that you want to change.
   d. Use one of the following navigation options depending on the version of HMC:
      - If you are using an HMC Classic or HMC Enhanced interface, click **Tasks** > **Configuration** > **Manage Profiles**.
      - If you are using an HMC Enhanced + Tech Preview (Pre-GA) or HMC Enhanced+ interface, click **Actions** > **Profiles** > **Manage Profiles**.
   e. Select the logical partition profile that you want to change.
   f. Click **Actions** > **Edit**.
   g. Click **Tagged I/O**, and then click **Select** in the **Console** area.
   h. Select the resource if it is an IOA, or switch from **I/O device** to **Logical Port** to use a host Ethernet adapter logical port.
   i. Click **OK**.
   j. Click **OK** > **Close**.

Changing the console by using the HMC with the logical partition powered on

After making all of the necessary hardware changes, use this information to change the console with the logical partition powered on. This procedure does not require an initial program load (IPL).

The following procedure contains examples within the steps to help you change a console. In these examples, the system named *sysname* with logical partition identification number *1* is changing from the HMC to Operations Console (LAN) using an embedded Ethernet port. These are variables for your actual system name and logical partition ID number. In the following instructions, replace *sysname* with your system name and replace *1* with your logical partition identification number.

To change a console without powering off the logical partition, complete the following steps:
1. Select one of the following navigation options depending on the interface type of the HMC :
   - If you are using an HMC Classic or HMC Enhanced interface, complete the following steps:
      a. In the navigation area, click **Systems Management** > **Servers**.
      b. Select the managed system.
      c. In the contents area, select the logical partition for which you want to change the console and click **Manage** in the tasks pane. The Manage window for the partition opens.
   - If you are using an HMC Enhanced + Tech Preview (Pre-GA) or HMC Enhanced+ interface, complete the following steps:

a. In the navigation area, click the **Resources** icon , and then click **All Servers**.

b. Select the managed system.

c. Select the logical partition for which you want to change the console.

d. Click **Actions** > **View Partition Properties**.

2. In the Properties pane, click **Advanced**.

3. Click **Tagged I/O Settings**. The Tagged I/O Device Details window opens.

4. From the **Consoles** list, select the console that you want to change to.

5. Search for the console device by doing the following sequence of console service functions against the logical partition: **65+21+21**. Do this sequence of three console service functions within 45 seconds for each function to start a new search for the console device.

   a. To perform function **65** (remote DST off), type the following:

   `chsysstate -m sysname -r lpar --id 1 -o remotedstoff`

   b. To perform function **21** (force DST), type the following:

   `chsysstate -m sysname -r lpar --id 1 -o dston`

   c. Complete step 5b again.

6. Try to connect with the newly selected console device, and monitor the system reference codes (SRCs) for the logical partition. It can take up to 3 minutes for the console adapter change to be completed.

   Note: To monitor the SRCs for the logical partition, type the following to list the last 10 SRCs:

   `lsrefcode -m sysname -r lpar -n 10 --filter "lpar_ids=1"`

   SRCs are listed in order from newest to oldest. To list a different number, replace 10 in the command with the number of SRCs that you want returned.

7. Update the logical partition profile on the HMC to match the dynamic console change:

   a. In the navigation area, click **Systems Management** > **Servers**.

   b. In the navigation area, select the managed system.

   c. In the contents area, select the logical partition that you want to change.

   d. Use one of the following navigation options depending on the version of HMC:

   - If you are using an HMC Classic or HMC Enhanced interface, click **Tasks** > **Configuration** > **Manage Profiles**.
   - If you are using an HMC Enhanced + Tech Preview (Pre-GA) or HMC Enhanced+ interface, click **Actions** > **Profiles** > **Manage Profiles**.

   e. Select the logical partition profile that you want to change.

   f. Click **Actions** > **Edit**.

   g. Click **Tagged I/O**, and then click **Select** in the **Console** area.

   h. Select the resource if it is an IOA, or switch from **I/O device** to **Logical Port** to use a host Ethernet adapter logical port.

   i. Click **OK**.

   j. Click **OK** > **Close**.

Changing hardware for one or more consoles

Learn how to change multiple hardware consoles, such as moving two or more adapters, while the logical partition and managed system remain powered on.

This procedure requires a workstation other than the current console device to make a console change. If you do not have another workstation available, you must shut down the IBM i logical partition.

You must also use the Hardware Management Console (HMC) to install, add, or remove the console resource unless you plan to power off the managed system. If you must power off the managed system, complete the steps in the "Changing the console by powering off the managed system" on page 1 topic.

Before you begin, plan to deallocate the LAN adapter if you will not be using a local console on a network (LAN) configuration, even as a backup, or if you will not be using the service tools server. After the LAN adapter is deallocated, you can move it or use it for another purpose. You must also use a workstation other than a local console on a network (LAN) because the steps to deallocate the adapter cause the console to disconnect.

Important: You must change the console tag to a value other than Operations Console (LAN). Otherwise, the adapter is reallocated the next time that you start the server.

To deallocate the LAN adapter that is currently associated with a local console on a network (LAN), use the system service tools (SST).

To unlock the SST option, perform the following steps:
1. Access service tools using SST.
2. Select **Work with service tools user IDs and devices**.
3. Select **Configure service tools LAN adapter**.
4. Press F6 to clear the old values, and then F7 to store the new values.
5. Press F3 to exit.

Related concepts:
"Accessing Operations Console information in the IBM i Knowledge Center" on page 11
Learn how to access information about the Operations Console information for IBM i version 7.1 and 7.2, in the IBM i Knowledge Center.

Changing hardware for one or more consoles by using an HMC Classic or HMC Enhanced interface

Learn how to change multiple hardware consoles, such as moving two or more adapters, while the logical partition and managed system remain powered on while using tan HMC Classic or HMC Enhanced interface.

To exchange adapters by using an HMC Classic or HMC Enhanced interface, complete the following steps:
1. Select the managed system and logical partition where you want to exchange adapters:
   a. In the navigation area, click **Systems Management** > **Servers**.
   b. In the contents area, select the managed system with which you want to work.
   c. In the contents area, select the logical partition that you want to change.
2. To remove an adapter, complete the following steps:
   a. Click **Tasks** > **Dynamic Logical Partitioning** > **Physical Adapters** > **Move or Remove** to display a list of adapters that can be removed dynamically. If your adapter is not listed, you might have to power off the logical partition and the managed system to change the adapter.
   b. Select the adapter to remove dynamically, and then click **OK**.
   c. Follow any additional instructions until you have removed the appropriate adapter.
3. To add a new adapter after you have removed one, complete the following steps:
   a. Click **Tasks** > **Dynamic Logical Partitioning** > **Physical Adapters** > **Add** to display a list of adapters that can be removed dynamically. If your adapter is not listed, you might have to power off the logical partition and the managed system to change the adapter.
   b. Select the adapter to be added, and then click **OK**.

c. Follow additional instructions, if any.
4. Attach any necessary cables to the adapter.

Changing hardware for one or more consoles by using an HMC Enhanced + Tech Preview (Pre-GA) or HMC Enhanced+ interface

Learn how to change multiple hardware consoles, such as moving two or more adapters, while the logical partition and managed system remain powered on by using an HMC Enhanced + Tech Preview (Pre-GA) or HMC Enhanced+ interface.

To exchange adapters by using an HMC Enhanced + Tech Preview (Pre-GA) or HMC Enhanced+ interface, complete the following steps:

1. Select the managed system and logical partition where you want to exchange adapters:

   a. In the navigation area, click the **Resources** icon , and then click **All Servers**.
   b. Select the managed system.
   c. Select the logical partition for which you want to change the hardware.
2. To remove an adapter, complete the following steps:
   a. Click **Actions** > **View Partition Properties**.
   b. Select **Physical I/O Adapters**.
   c. Right click the adapter and select **Remove Adapter** to remove dynamically, and then click **OK**.
   d. Click **Apply**.
3. To add a new adapter after you have removed one, complete the following steps:
   a. Click **Actions** > **View Partition Properties**.
   b. Select **Physical I/O Adapters**.
   c. Right click the adapter and select **Add** to remove dynamically, and then click **OK**.
   d. Click **Apply**.
4. Attach any necessary cables to the adapter.

Troubleshooting the new console

Learn how to troubleshoot the new console when the system is managed and not managed by an HMC.

Troubleshooting the new console when the system is managed by an HMC

If you experience problems changing consoles when your system is managed by a Hardware Management Console (HMC), there are several things you can check.

Attempt to resolve the problem using the following options:
* Verify that the console adapter is correctly tagged in the partition profile, or specified if you used the HMC command prompt, to dynamically change the tag.
* Verify that the console device is powered on and connected correctly.
* For Operations Console (LAN), verify that the PC is active on the network. If you did not configure the service host name using your previous console, BOOTP is used to configure the system. For more information, see Operations Console networking.
  - Verify that you entered the system serial number correctly.
  - Verify that you specified the correct partition ID.

Important: Systems running the IBM i operating system start counting logical partitions with number 1 (even if it is the only logical partition) instead of with 0. For the console to connect correctly, your client configuration must match the logical partition number. This is important if you rely on the BOOTP process to configure the server with its network data.

– Ensure that your network passes BOOTP requests.

Related concepts:

"Accessing Operations Console information in the IBM i Knowledge Center" on page 11
Learn how to access information about the Operations Console information for IBM i version 7.1 and 7.2, in the IBM i Knowledge Center.

Related information:

↪ Operations Console hardware requirements

↪ Operations Console networking

Troubleshooting the new console when the system is not managed by an HMC

If you experience problems changing consoles when your system is not managed by a Hardware Management Console (HMC), there are several things you can check.

Attempt to resolve the problem using the following options:

- Verify that the adapter used by the console is located correctly. The adapter that is used for the console must be located in a particular location based on the model. For more information, see Operations Console hardware requirements.
- Verify that the console device is powered on and connected correctly.
- For Operations Console (LAN), verify that the PC is active on the network. If you did not configure the service host name using your previous console, BOOTP is used to configure the system. For more information, see Operations Console networking.
  - Verify that you entered the system serial number correctly.
  - Verify that you specified the correct partition ID.

    Important: Systems running the IBM i operating system start counting logical partitions with number 1 (even if it is the only logical partition) instead of with 0. For the console to connect correctly, your client configuration must match the logical partition number. This is important if you rely on the BOOTP process to configure the server with its network data.

  - Ensure that your network infrastructure passes BOOTP requests.

Related concepts:

"Accessing Operations Console information in the IBM i Knowledge Center" on page 11
Learn how to access information about the Operations Console information for IBM i version 7.1 and 7.2, in the IBM i Knowledge Center.

Related information:

↪ Operations Console hardware requirements

↪ Operations Console networking

Related information for Changing consoles

Find related information for Changing consoles.

Accessing Operations Console information in the IBM i Knowledge Center

Learn how to access information about the Operations Console information for IBM i version 7.1 and 7.2, in the IBM i Knowledge Center.

Accessing Operations Console information in the IBM i 7.2 Knowledge Center

To access the Operations Console information in the IBM i 7.2 Knowledge Center, complete the following steps:

1. Go to the IBM i Knowledge Center (http://www-01.ibm.com/support/knowledgecenter/ssw_ibm_i/welcome).
2. Click **IBM i 7.2**.
3. Expand **Connecting to your system** > **IBM i Access** > **IBM i Access Client Solutions** > **Console Advanced Topics**.
4. Navigate to the information depending on the task that you want to perform. For information about the navigation path, see Table 1.

Table 1. Operations Console menu options in the IBM i 7.2 Knowledge Center

Operations Console task	Menu options
To set up Operations Console	Select **Planning considerations for your Operations Console installation or upgrade**.
To use service functions (65+21)	Select **Managing Operations Console** > **Managing your local console on a network** > **Using the console service functions (65+21)**.
To troubleshoot Operations Console	Select **Troubleshooting Operations Console connection**.
To access dedicated service tools (DST) and system service tools (SST) **Note:** The information for DST and SST is located under the Security topic in the IBM i Knowledge Center.	Select **Security** > **Service tools** > **Managing service tools** > **Accessing service tools**.
To unlock SST **Note:** The information for locking and unlocking service tools is located under the Systems management topic in the IBM i Knowledge Center.	Select **Systems management** > **System values** > **Managing system values** > **Locking and unlocking security-related system values**.

Accessing Operations Console information in the IBM i 7.1 Knowledge Center

To access the Operations Console information in the IBM i 7.1 Knowledge Center, complete the following steps

1. Go to the IBM i Knowledge Center (http://www-01.ibm.com/support/knowledgecenter/ssw_ibm_i/welcome).
2. Click **IBM i 7.1**.
3. Expand **Connecting to your system** > **IBM i Access** > **IBM i Access for Windows** > **Operations Console**.
4. Navigate to the information depending on the task that you want to perform. For information about the navigation path, see Table 2 on page 12.

Table 2. Operations Console menu options in the IBM i 7.1 Knowledge Center

Operations Console task	Menu options
To set up Operations Console	Select **PC preparations for Operations Console**.
To use service functions (65+21)	Select **Managing Operations Console** > **Managing your local console on a network** > **Using the console service functions (65+21)**
To troubleshoot Operations Console	Select **Troubleshooting Operations Console**.
To access dedicated service tools (DST) and system service tools (SST) **Note:** The information for DST and SST is located under the Security topic in the IBM i Knowledge Center.	Select **Security** > **Service tools** > **Managing service tools** > **Accessing service tools**.
To unlock SST **Note:** The information for locking and unlocking service tools is located under the Systems management topic in the IBM i Knowledge Center.	Select **Systems management** > **System values** > **Managing system values** > **Locking and unlocking security-related system values**.

Accessing Operations Console information in the IBM i 7.1 Knowledge Center

To access the Operations Console information in the IBM i 7.1 Knowledge Center, complete the following steps

1. Go to the IBM i Knowledge Center (http://www-01.ibm.com/support/knowledgecenter/ssw_ibm_i/welcome).
2. Click **IBM i 7.1**.
3. Expand **Connecting to your system** > **IBM i Access** > **IBM i Access for Windows** > **Operations Console**.
4. Navigate to the information depending on the task that you want to perform. For information about the navigation path, see Table 3.

Table 3. Operations Console menu options in the IBM i 7.1 Knowledge Center

Operations Console task	Menu options
To set up Operations Console	Select **PC preparations for Operations Console**.
To use service functions (65+21)	Select **Managing Operations Console** > **Managing your local console on a network** > **Using the console service functions (65+21)**
To troubleshoot Operations Console	Select **Troubleshooting Operations Console**.
To access dedicated service tools (DST) and system service tools (SST) **Note:** The information for DST and SST is located under the Security topic in the IBM i Knowledge Center.	Select **Security** > **Service tools** > **Managing service tools** > **Accessing service tools**.
To unlock SST **Note:** The information for locking and unlocking service tools is located under the Systems management topic in the IBM i Knowledge Center.	Select **Systems management** > **System values** > **Managing system values** > **Locking and unlocking security-related system values**.

Accessing Operations Console information in the IBM i 7.2 Knowledge Center

To access the Operations Console information in the IBM i 7.2 Knowledge Center, complete the following steps:

1. Go to the IBM i Knowledge Center (http://www-01.ibm.com/support/knowledgecenter/ssw_ibm_i/welcome).
2. Click **IBM i 7.2**.

3. Expand **Connecting to your system** > **IBM i Access** > **IBM i Access Client Solutions** > **Console Advanced Topics**.
4. Navigate to the information depending on the task that you want to perform. For information about the navigation path, see Table 4.

Table 4. Operations Console menu options in the IBM i 7.2 Knowledge Center

Operations Console task	Menu options
To set up Operations Console	Select **Planning considerations for your Operations Console installation or upgrade**.
To use service functions (65+21)	Select **Managing Operations Console** > **Managing your local console on a network** > **Using the console service functions (65+21)**.
To troubleshoot Operations Console	Select **Troubleshooting Operations Console connection**.
To access dedicated service tools (DST) and system service tools (SST) **Note:** The information for DST and SST is located under the Security topic in the IBM i Knowledge Center.	Select **Security** > **Service tools** > **Managing service tools** > **Accessing service tools**.
To unlock SST **Note:** The information for locking and unlocking service tools is located under the Systems management topic in the IBM i Knowledge Center.	Select **Systems management** > **System values** > **Managing system values** > **Locking and unlocking security-related system values**.

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Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

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声　　明

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IBM Taiwan Contact Information:

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If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM-authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM-authorized dealers. IBM is not responsible for any radio or television interference caused by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication equipment.

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VCCI Statement - Japan

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Japanese Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guideline (products less than or equal to 20 A per phase)

高調波ガイドライン適合品

Japanese Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guideline with Modifications (products greater than 20 A per phase)

高調波ガイドライン準用品

IBM Taiwan Contact Information

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Deutschsprachiger EU Hinweis: Hinweis für Geräte der Klasse B EU-Richtlinie zur Elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse B ein.

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Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

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Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse B

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

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Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse B.

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