IBM

IBM Systems - iSeries

iSeries Access for Windows
Operations Console

Version 5 Release 4

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> **Note**
>
> Before using this information and the product it supports, read the information in "Notices," on page 109.

Contents

Operations Console

Using iSeries™ Operations Console as a system console to access and administer your iSeries servers.

IBM® facilitates interaction with your servers by providing management consoles that can be accessed through terminals and PCs. The iSeries Operations Console is an installable component of iSeries Access for Windows®. Operations Console allows you access and control the console control panel functions either locally or remotely through one or many PCs facilitating many administrative functions.

Operations Console uses 5250 emulation provided by either iSeries Access for Windows or IBM Personal Communications to emulate a console. To emulate a server control panel, Operations Console provides a graphical remote control panel or virtual control panel. To enable communications between a server and a PC, Operations Console can use a local area network (LAN) and TCP/IP connections or direct cable attachment. It supports dial-in connections from remote PCs to PCs that are directly attached to servers. These remote PCs can then function as a console allowing for easier server management and access.

Operations Console support is available with V5R2 and later releases of the i5/OS™ operating system. IBM iSeries 270 and 8xx models support only Operations Console as their PC console.

Enhanced authentication and data encryption provide network security for console procedures. Operations Console network connections use a variety of Secured Sockets Layer (SSL), that supports device and user authentication without certificates.

If you plan to use Operations Console to manage @server hardware, see the Operations Console information in the IBM Systems eServer™ Hardware Information Center.

What's new

Overview of the changes to the Operations Console.

New server-side functions have been added in V5R4 to make it easier to manage your system using Operations Console.

The server no longer requires a password when creating a device ID. Servers now can accept console service functions in D-mode even in the event that there is an uninitialized DASD present. A server now can force an exit at C6004508 in D-mode with function 21 if needed.

The take over and recovery option takes effect immediately now. Also, take over and recovery functions are supported in D-mode now. The Console Information Status window during console take over or recovery has been changed to make it easier to see if Take over the console is **YES** or **NO**. Finally, the DST signon window associated with take over / recovery (ATTENTION: This device can become the console) no longer has any PF keys since the only function allowed is signon.

Only server models 270 and 8xx (iSeries) are supported. This means that only parallel direct attached RPC can be used. Also, in V5R4, older SPD-bus cards are no longer supported even in migration towers. The code is still in place so that users can take advantage of it, however there is no support for its usage.

Client-side functionality also has some added features for Operations Console.

Operations Console now has more functions and additions to client-side functions to make it easier to use. In V5R4 there now are more descriptive error and status messages to facilitate management and troubleshooting. The Operations Console client now no longer requires a password when specifying a device ID.

Operations Console functions more easily on your network. It allows for the user to specify the base IP address of the console connection. Operations Console no longer supports Windows NT in V5R4.

Printable PDFs

Use this to view and print a PDF of this information.

To view or download the PDF version of this document, select Operations Console (1,105 KB).

Manuals

- Twinaxial Console

  The twinaxial console uses a command line interface to access and manage your iSeries, and it does not require the use of a personal computer to act as a console. You access the iSeries through a console screen, keyboard, and twinaxial cables.

Web site

- iSeries Access Web site

  This web site includes online product information about iSeries Access and Operations Console.

Other information

- iSeries Access for Windows

  Use this information to install and configure iSeries Access for Windows on both the iSeries server and the PC. Installation and configuration is necessary on both the server and the PC.

- Control panel

  Operate the system by directly manipulating the control panel. You can use the control panel to power on or off the system, perform an initial program load (IPL), or determine processor activity.

- Logical partitions

  Logical partitions allow you to distribute resources within a single iSeries server to make it operate as if it were two or more independent servers.

- Upgrades

  Use the information in this topic to upgrade hardware features, upgrade to a different iSeries server model, or upgrade to a more current release of the i5/OS operating system. During an upgrade, the source server and the target server keep the same serial number.

- Migration

  Use the information in this topic to migrate data from one iSeries server or partition to another iSeries server or partition. When performing a data migration, the source server and the target server must have different serial numbers.

- Plan for hardware and software

  Good planning is essential for the successful setup and use of your server. It ensures that you have everything you need and meet all prerequisites. The planning information in this topic helps you place the server, plan power needs, print any special cabling or setup instructions, meet any PC requirements, and prepare for unique configurations based on how you will use the server (for example, clustering of servers, Internet connections, and rack mounting).

- Cabling instructions

  Cabling instructions are available to print for your server.

Saving PDF files

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

1. Right-click the PDF in your browser (right-click the link above).
2. Click **Save Target As...** if you are using Internet Explorer. Click **Save Link As...** if you are using Netscape Communicator.
3. Navigate to the directory in which you would like to save the PDF.
4. Click **Save**.

Downloading Adobe Acrobat Reader

You need Adobe Acrobat Reader to view or print this PDF. You can download a copy from the Adobe Web site (www.adobe.com/products/acrobat/readstep.html) .

Plan for Operations Console

Before you begin setting up, determine how to best configure your Operations Console.

After you complete the planning requirements, you can create a setup checklist that will list the Operations Console prerequisites for your system.

> **Related concepts**
>
> "Prepare the PC for Operations Console" on page 29
> Use this information to prepare your PC for the Operations Console.

Plan for your configuration

In order to plan for your configuration, you should find out the specific connectivity types allowed by the various Operations Console configurations. The scenarios included offer specific configurations examples to help you select a console configuration most suited to your needs. If you plan ahead, you can include additional features in your configuration.

Important:

- If you call a service representative to set up your new server, you must have the PC that you are going to use as a console ready to be connected to your iSeries server. This includes having all cables ready and all software installed. For example, you must already have your Windows operating system and iSeries Access for Windows installed on the PC.
- If you are configuring Operations Console for an i5/OS partition running Linux, see Configure the LAN console for a guest partition.

Console planning considerations
There are several important items to consider when planning for Operations Console for one or more of your servers.

The following information applies to all servers:
- Unlike previous versions of i5/OS, this release and subsequent releases will support only the console type that is currently configured. If no console type is specified, such as when a new logical partition is being created, the supporting hardware IOP specified during the creation process takes precedence. If the supporting hardware contains more than one console type, then the first console workstation to connect will be configured to become the console.
- There is also a special set of console options called **Allow console to be taken over by another console**. This set of functions allows Operations Console to take control from another console device. The default value of this console option is disabled.
    - When the option is enabled:

The first Operations Console device connected becomes the console. Additional LAN-connected Operations Console devices will have a special DST signon.

All other 5250-based connections will have the new `Console Information Status` window.

Console recovery without the loss of the job is available.

– When the option is disabled:

All 5250-based connections will be presented the new `Console Information Status` window.

Console recovery without the loss of the job is not available.

- Operations Console, both direct attached and network (LAN), and twinaxial workstations, can coexist as console devices if you remember these rules:

  – Only one device can be active at a time.

  – A twinaxial workstation on any twinaxial workstation controller adapter with port 0 (addressed either 0 or 1) or port 1 (addressed either 0 or 1) can become a console device if twinaxial console is the console type selected. If twinaxial console is selected as the console mode then Operations Console devices may not be started.

- Operations Console allows multiple LAN connections to a single server or logical partition, but only one 5250 session can have control of an server at a time. An active console is the command interface to a server through 5250 emulation or IBM Personal Communications that is currently interacting with the server. More than one Operations Console device may have data on the screen but only one is truly active.

- The client PC also allows multiple local console connections but allows only one local console directly attached to the server configuration (or local console directly attached to the server with remote access allowed) for a single PC.

- There is a maximum of 26 Operations Console emulator sessions available per Operations Console PC client.

- IBM recommends that you do not put your Operations Console on the same IOP as storage devices.

  – There may be configurations when this cannot be avoided.

  – During very heavy usage of storage devices the console may appear to stop working temporarily but should resume operation shortly. If the console is placed on the same IOP as storage devices it is highly recommended that you enable the new console option, **Allow console to be taken over by another console**.

The following information pertains to console takeover and recovery:

In V5R4 and later releases, there is a special set of functions known as console take over and recovery, that allows a LAN-connected Operations Console to take control from another console device. Use the following information to help determine what console devices are best for your work environment and how to deploy these devices to take advantage of the new functions.

- **Takeover** is the process used for a LAN-connected console device to take control from the current console device. The user signed on to the PC that wishes to take control requires special authority and is initiating the takeover from a new menu. This takeover function is not used for directly attached consoles.

- **Recovery** is the process of regaining control of the job running on the console after a problem with the console was encountered. The recovery process may be to the same console device or a different console device and may be facilitated by additional work to enable a device using a different connectivity. The exception is twinaxial console which does not use the same type of 5250 emulation and thus cannot recover the console without data loss.

When the takeover option is enabled and the device is properly connected, each console capable device running 5250 emulation, regardless of connectivity, will be presented a screen of data regardless of whether or not it is the active console. In V5R3 and later releases, more than one device will have data on the screen after the console has been established. There will be no more blank console screens showing

`Disconnected` when initially connecting a device. The new function now allows the job at the console to be transferred to another device without causing loss of data.

This function is accomplished by suspending the data stream to a console that loses a connection or is being taken over, save further data and then send that data to the next device to become the console, even if the device is the same former console. Recoverability is essentially taking over the console from the same or different qualified device regardless of what the former console was doing.

The following information pertains to independent and primary partitions:
- Console supporting hardware may be required to be located in specific slot locations, based on model.
- Multiple IOPs capable of supporting a console workstation can interfere with the selection of the desired LAN adapter. Consider the following:
  - Having a second IOP on the bus before your intended console adapter card, when the first IOP contains a twinaxial adapter card, may fail to provide a LAN-connected console. For example, a model 890 uses eligible card locations C04, and C06 through C10 and if an IOP were placed in C08 and a twinaxial adapter preceded this IOP on the bus then the LAN adapter card located at C09 or C10 will fail to provide a LAN-connected console. The LAN adapter card must be in a location preceding the second IOP, such as C06 or C07.
  - Typically, the card location used for Operations Console directly attached configurations, commonly referred to as the Electronic Customer Support (ECS) slot, is located close to the beginning of the bus. When the card location is a low number, for example C02, then C03 is further from the beginning of the bus than C02. When the card location is a high number, for example C07, then C06 is further from the beginning of the bus than C07. There may be exceptions to this numbering scheme based on specific models and expansion units. Contact your service representative if you have questions about the placement of the ECS.

The following information pertains to a multi-partitioned environment:
- If you plan to use Operations Console as your primary console or as a backup console, you must tag the IOP to support the primary console and Electronic Customer Support (slot), even if you do not plan to use Electronic Customer Support. For example, if you are planning to use Operations Console on a direct connection, you must tag an IOP with the console tag and the ECS tag. These steps are also necessary if you are planning to use Operations Console with a LAN connection.
- When more than one console adapter is available for a single IOP, the adapter with the lowest bus address will be chosen for use by Operations Console. For example, you tag an IOP that has two LAN adapters installed. The system will use the first adapter found on the bus. However, during an IPL the first adapter may not be ready in time and the system could select the second adapter. This could prevent the console from starting immediately or you might not be able to use that resource for your intended purposes. IBM recommends that you install only one console-capable adapter that matches your configurations for a single IOP. This situation also will affect asynchronous adapters used by a local console directly attached to the system.
- The term alternate console is referring to a twinaxial console type located in another IOP tagged as the alternate console. Operations Console and HMC type consoles do not use resources tagged as the alternate console.

  Note: Tagging the same IOP as both the primary console and the alternate console may result in the inability to select a console. If you have a twinaxial adapter in the same IOP as your primary console's adapter, consider the twinaxial adapter to be a backup console, not an alternate console. You only have to change the console mode to take advantage of the twinaxial adapter for the console.

  Related reference

  "Take over or recover an Operations Console connection" on page 59
  Use these functions to take control of another console device.

"Plan for your backup console"
Here are some suggestions if you would like to plan for a backup for your console:

Plan for your backup console

Here are some suggestions if you would like to plan for a backup for your console:

Most system plans include a level of redundancy to allow for the event of hardware failures, however many people do not consider the console in their plans. You should plan to back up your console information to recover quickly from an unexpected loss of the console.

Considerations for a backup console:

- The adapter location is fixed or at least limited for independent servers or primary partitions. Based on your server's hardware requirements you may have limited choices of console types. Try to accommodate at least one additional console type, if possible.
- Consider using the take over and recovery option as part of your backup console strategy. However, the hardware used for the new console mode must exist and be available at the time of recovery. For more information about take over and recovery see the section: Take over or recover an Operations Console connection.
- If you are working in a partitioned environment, consider:
  - In an LPAR environment, the term "alternate console" is referring to the twinaxial console type located in another IOP tagged as the alternate console. If a failure of the primary console is detected, the system will automatically try the alternate console's IOP. This function gives you another level of protection. Tagging a single IOP as both the primary console and the alternate console can result in the inability to select a console. Further isolation can be planned by placing the alternate console IOP on a different bus so that failures of the primary console's bus will not prevent a console from being available.
  - Models 270 and 8xx are tagged for a console type only at the IOP level. Placing two like console adapters, for example two 2849s or two 2771s, for the same IOP can sometimes make it difficult to determine, in advance, which adapter will be used for the console. IBM recommends only one console adapter for the IOP tagged as the primary console to support Operations Console. The lowest addressed adapter on the bus will be attempted first but if that adapter is slow reporting to the system another adapter might get selected instead.
  - Consider a shared resource environment in which you can allocate and deallocate a console supporting IOP to a partition on a part-time basis. Many work environments rarely need a console device on a full-time basis and you can reduce your initial cost of dedicated hardware by implementing this concept.
  - If the load source storage device fails and the system recovery will include the use of the IBM distribution Licensed Internal Code media instead of a customer backup, and the system is using Operations Console (LAN), you may have to use another console type for the initial portion of the system recovery.

Planning configuration types for backup consoles:

When planning the configuration of the backup console or consoles remember that recovering from the loss of the console depends on many factors. Some of these factors include, the model and series, the hardware resources available, the previous console type, and the intended console type. Recovery might consist of repairing the currently failed console or temporarily replacing it with another console type. Most changes of a console type can be performed without the need for an IPL but there may be circumstances in which an IPL will still be necessary. When using the console service functions (65+21), console-supporting hardware must be installed and available prior to performing the function. Any partition tagging of resources must also have been done already.

Important: If you plan to use Operations Console local console on a network (LAN) as a backup to another console type, the network adapter must be located in a console designated slot or

properly tagged IOP. If not previously configured, the BOOTP process will be used to configure the server. For more information about setting up Operations Console on a network (LAN), see: Prepare for your network environment.

Backup console configuration considerations:

* If you access your server remotely, consider off-site console capability or another connectivity for the console. A local console on a network can be backed up with additional local console on a network PC. If the network adapter were to fail, consider a local console directly attached to the server as a backup. By changing the console type to a local console directly attached to the server with remote access, you can add the ability for a remote PC to become the console.

* In an LPAR or multiple server environment you will most likely be using multiple local console on a network configurations on a single PC as your primary consoles. Consider additional PCs using this same type configuration. Avoid supporting too many consoles on the same PC if possible. The PC resources can be easily overwhelmed when supporting multiple consoles and remote control panels.

* Consider multiple local console on a network configurations in large environments so that each PC has a core set of console responsibilities and the overlap coverage of backup configurations with each other. For example, if you have a PC that supports 10 local consoles on a network configuration and another PC with the same number of primary consoles for another 10 partitions, instead of backing up each PC with the other's configuration, you add a third PC and spread the 20 consoles out so that two PCs back up a portion of each PC's primary console configurations. Another consideration is a dedicated PC to be the backup of a certain number of consoles, but not connected until necessary.

* When using mostly networked consoles, consider setting up a local console directly attached to the server on a PC and place it on a rollaway cart with a console cable. If you have supporting adapters, you can quickly roll the cart with the PC near the server or partition in need of the console. After connecting the cable and changing the console mode value, you have a console to replace the currently failed console. This same concept can be implemented for twinaxial workstations just as easily.

Note: If more than one local console on a network is planned, be certain to create additional service tools device IDs on the server before you start configuring the Operations Console PC. Each PC connecting to the same target server or logical partition must have a unique service tools device ID.

In summary, consider incorporating as much redundancy as possible into your console configuration. If you consider the question, "What happens if this fails?" and you have another method to provide a console in place, and if you make compromises and adjustments for the various hardware requirements necessary to overcome the various levels where a failure might occur, you will reduce your exposure to a catastrophic console failure situation.

For more information on switching between console devices, see: Managing your multiple consoles.

Related reference

"Console planning considerations" on page 3
There are several important items to consider when planning for Operations Console for one or more of your servers.

"Take over or recover an Operations Console connection" on page 59
Use these functions to take control of another console device.

"Prepare for your network environment" on page 11
To prepare for your network environment, you need to identify and comply with the minimum network configuration required to set up an Operations Console local console on a network (LAN) configuration.

"Manage your multiple consoles" on page 57
Manage multiple devices that can become consoles

"Scenario: Consoles for multiple servers or partitions" on page 10
A scenario that discusses a situation in which you want to manage multiple servers or partitions.

Scenarios: Select your configuration
Scenarios to help you decide which configuration will work best in your environment.

Use the following scenarios to help assist you in choosing your Operations console configuration. Keep in mind that these scenarios apply only to nonpartitioned systems.

Scenario: A single console directly attached to the server without remote support:

A scenario that discusses a situation in which you may want a single console attached to the server.

Your company owns an iSeries server and you want to use a PC to manage your server. You need one console directly connected to the iSeries server to physically access the console to manage your iSeries.

For this scenario, you should configure a **local console directly attached to the server**.

Advantages:
- The administrator will have access to his console in the event of a network failure. With a local console on a network configuration, a network failure will cause you to lose the ability to access your console.
- You can use this PC to become the iSeries console, to perform control panel functions, or both provided you have a control panel cable, and you set up control panel support.
- The console can be securely placed behind locked doors in the server room.

Disadvantages:
- You must be close to the server to manage or access the console.
- A console cable and a remote control panel cable is required to support their corresponding functions.
- This configuration does not support remote connections.
- This configuration does not support remote control panel function for logical partitions.
- Only one directly attached configuration is allowed per PC.

  Related concepts

  "Prepare the PC for Operations Console" on page 29
  Use this information to prepare your PC for the Operations Console.

  "Plan for your control panel" on page 24
  You can plan for using your Operations Console connection to access the iSeries control panel without being in front of the server.

  Related reference

  "Scenario: A single console directly attached to the server with remote support"
  A scenario that discusses the ability to dial-in to the console from a remote location.
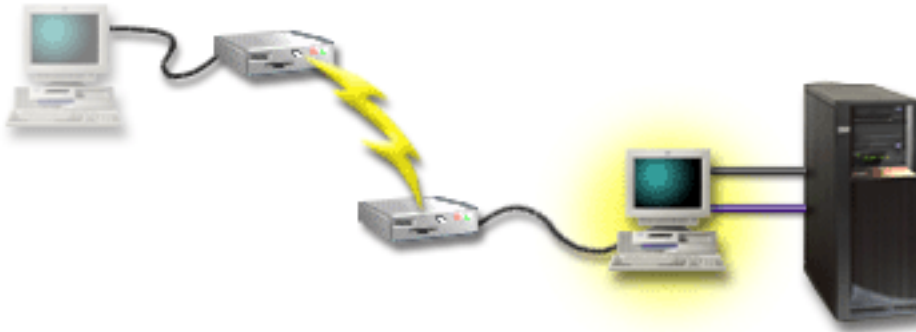
Scenario: A single console directly attached to the server with remote support:

A scenario that discusses the ability to dial-in to the console from a remote location.

Your company owns an iSeries server and you want to use a PC to manage your server. You need a console connected to this iSeries server that will allow you to manage the console from a remote location. Then you can perform an IPL from home over the weekend or check to see if the job you started has completed.

For this scenario, configure a local console **directly attached to the server with remote access allowed** on the PC attached to the server.
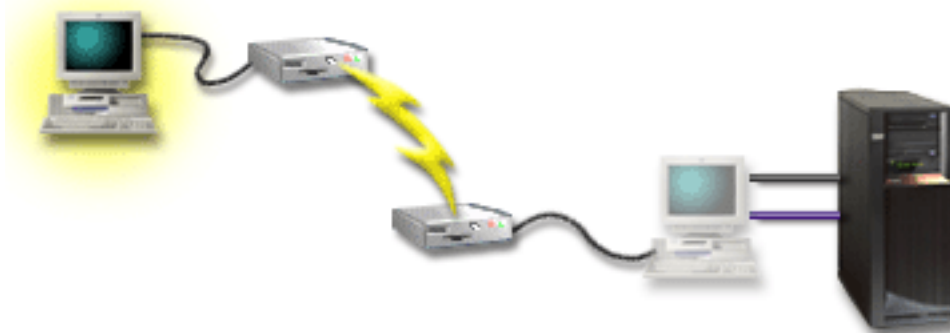
Then configure a **remote console through dial-up** on the remote PC.

Advantages:
- The administrator will not have to be near the server to perform console tasks.
- Control panel functions can be performed from a remote location provided they are set up on a local console PC.
- You can use this PC as the iSeries console, to perform control panel functions, or both.
- The remote console can gain access to the iSeries server with or without operator intervention depending on your configuration.

Disadvantages:
- Only one incoming connection is allowed at a time.
- You need a console cable and a remote control panel cable to support their corresponding functions.
- Only one directly attached configuration is allowed per PC.

  Related concepts

  "Prepare the PC for Operations Console" on page 29
  Use this information to prepare your PC for the Operations Console.

  Related reference

  "Scenario: A single console directly attached to the server without remote support" on page 8
  A scenario that discusses a situation in which you may want a single console attached to the server.

"Meet Operations Console cable requirements" on page 20
You need to meet the following cable requirements for supported servers, cables and card locations.

Scenario: Consoles for multiple servers or partitions:

A scenario that discusses a situation in which you want to manage multiple servers or partitions.

Your company owns an iSeries server and you want to use the PC to manage your server. You need to manage multiple iSeries or partitioned servers from one console. You have a secured network that you can configure your console on.

For this scenario, configure a **local console on a network**.

Advantages:

- You can configure a single PC to be the console for several different servers or partitions as long as they are connected to the service connection network. There are a maximum of 26 active consoles at a time but you may have a virtually unlimited number of configurations.
- The administrator will not need to be physically near the server to manage the console.
- Security features are available to protect your console connections.
- A local console on a network is the connectivity of choice for partitions in an LPAR environment.
- Multiple PCs can be configured as the console to a server or partition, but only one can be active at a time.

Disadvantages:

- No console is available in the event that a network failure takes place unless a backup console is available. Configure a local console directly attached to the server or a twinaxial console for backup.
- Your server will need a separate LAN card to be used by the console or other service tools.

    Related concepts
    "Prepare the PC for Operations Console" on page 29
    Use this information to prepare your PC for the Operations Console.

    Related reference
    "Meet Operations Console hardware requirements" on page 17
    You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

    "Plan for your backup console" on page 6
    Here are some suggestions if you would like to plan for a backup for your console:

    Related information
    Plan for logical partitions

Prepare for your network environment

To prepare for your network environment, you need to identify and comply with the minimum network configuration required to set up an Operations Console local console on a network (LAN) configuration.

Important: You need to install the LAN adapter for Operations Console according to your iSeries model.

If your server is new and you ordered a local console on a network configuration, the adapter should already be configured for use by the server. The LAN adapter should be dedicated for service tools. It is recommended that you restrict LAN topologies for LAN-attached local consoles to a single, physical ring, hub, switch, and router environment. In the event that the local console on a network is used in a larger network topology, broadcast (DHCP), packet filtering is always recommended. This might be as simple as connecting the PC and server using a crossover cable or using an inexpensive hub with only the PC and server attached. When you have only a single PC or small number of devices connected to the server using a hub and these devices do not connect to another network or the internet, you can then use any numeric numbers for addresses. An example would be 1.1.1.x or 10.220.215.x (where x can be 2 through 255 but avoid x.x.x.1 which might cause problems in some hubs). If however, you have a network in which many users share or the devices go to the internet then you should consult a network administrator for addresses.

Network security

IBM recommends treating the console over a LAN connection with the same physical security considerations and controls as a local console directly attached to the server or a twinaxial console. For instance, consider configuring a local console on a network in a network separate from the main network (or the company intranet) and strictly control access to the machine acting as the console.

BOOTstrap Protocol

A local Operations Console on a network uses the BOOTstrap Protocol (BOOTP) to configure the server service IP communications stack. The IP stack configuration plus server serial number and partition ID is requested in the Operations Console configuration wizard. The server broadcasts a BOOTP request. The Operations Console PC replies with the information submitted during the configuration wizard. The server then stores and uses the configuration information for the service IP communications stack.

The Operations Console PC must be placed on a network that is accessible by the server. This can be the same physical network or a network that permits broadcast packets to flow. This is an initial setup requirement; normal Operations Console operation does not require this. IBM recommends that this setup occur on the same physical network.

The BOOTP request carries the server serial number and partition ID. The server serial number is used to assign the IP configuration information. If you are having problems configuring the service IP communications stack, check that the Operations Console PC is on the same physical network and the server serial number and partition ID is correct in the configuration.

A local console on a network (LAN) uses ports 2323, 3001, and 3002. To use Operations Console in a different physical network the router and firewall must allow IP traffic on these ports.

The success of BOOTP is dependent on the network hardware used to connect the server and the PC. In some cases you may need an alternate console device to configure the connection in DST. To use BOOTP the network hardware used must be capable of AutoNegotiation of Speed and Duplex if using the 2838 Ethernet Adapter for the Operations Console connection.

Related reference

Here are some suggestions if you would like to plan for a backup for your console:

You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Secure your Operations Console configuration

Operations Console security consists of service device authentication, user authentication, data privacy, and data integrity.

Operations Console local console directly attached to the server has implicit device authentication, data privacy, and data integrity due to its point-to-point connection. User authentication security is required to sign on to the console display. For information regarding service tools user IDs and passwords refer to link to Service tools user IDs and passwords

The following figure is intended to give you an overview of your Operations Console LAN security. The access password (1), if correct, induces Operations Console to send (2) the service tools device ID (QCONSOLE) and its encrypted password to the server. The server checks the two values (3), and if they match, updates both the device and DST with a new encrypted password. The connection process then validates the service tools user ID and password before sending the system console display to the PC (4).
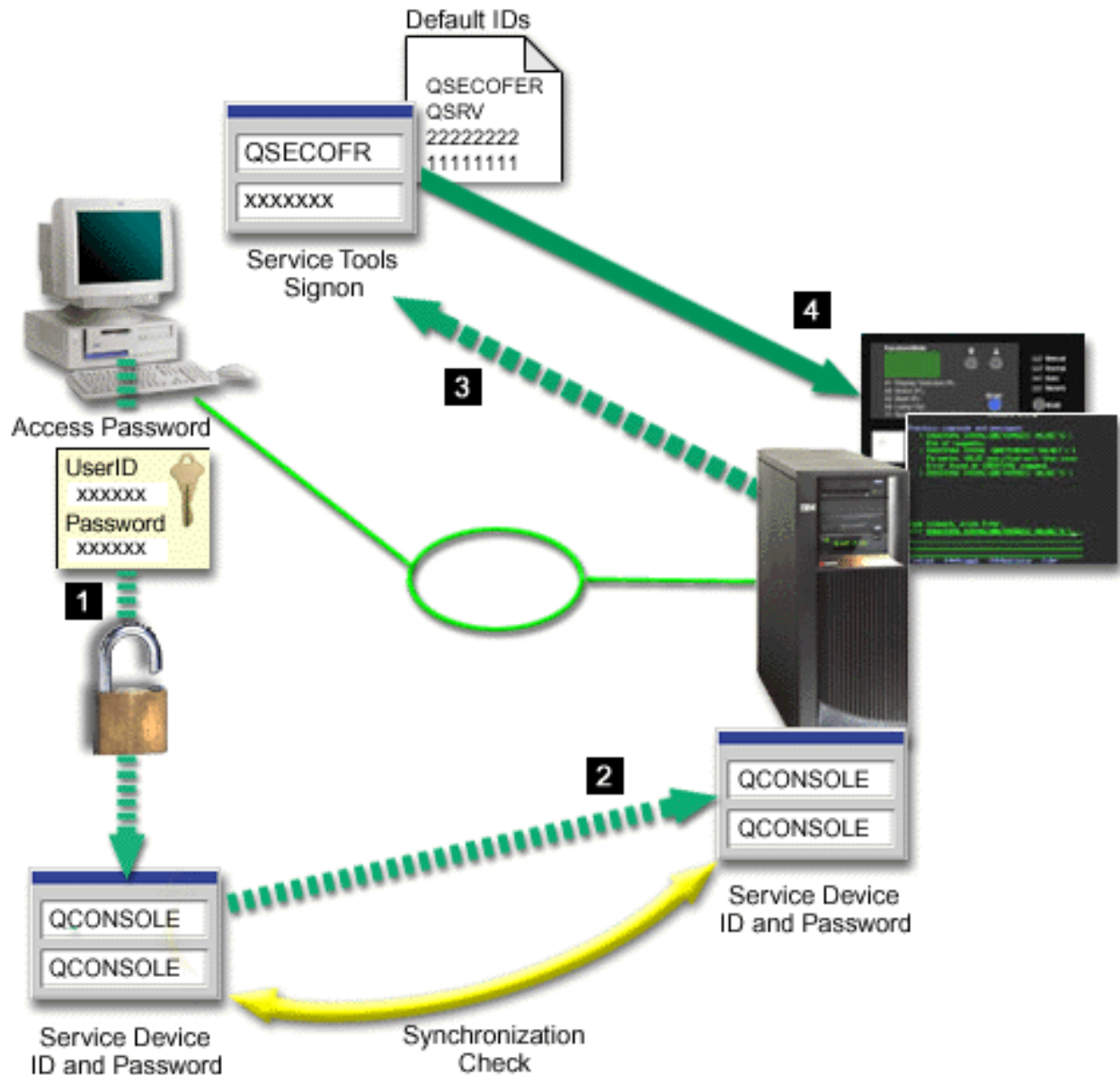
The iSeries console security consists of service device authentication, user authentication, data privacy, data integrity, and data encryption:

Service device authentication

This security assures one physical device is the console. Operations Console local console directly attached to the server is a physical connection similar to a twinaxial console. The serial cable you use for Operations Console using a direct connection may be physically secured similar to a twinaxial connection to control access to the physical console device. Operations Console local console on a network uses a version of Secured Sockets Layer (SSL) that supports device and user authentication, but without using certificates.

Device authentication

The device authentication is based on a service tools device ID. Service tools device IDs are administered in Dedicated Service Tools (DST) and System Service Tools (SST). They consist of a service tools device ID and a service tools device ID password. The iSeries is shipped with a default service tools device ID of QCONSOLE with a default password of QCONSOLE.

Operations Console local console on a network encrypts and changes the password during each successful connection. You must use the default password to initially set up your server if using a local console on a network (LAN).

> **Important:** The device authentication requires a unique service tools device ID for each PC that will be configured with a local console on a network (LAN) connection.

When using Operations Console local console on a network, the configuration wizard adds the necessary information to the PC. The configuration wizard asks for the service tools device ID, and an access password. The access password protects the service tools device ID information (service tools device ID and password) on the PC.

When establishing a network connection, the Operations Console configuration wizard prompts you for the access password to access the encrypted service tools device ID and password. The user will also be prompted for a valid service tools user ID and password.

> **Note:** When using the graphical control panel on systems with a keystick, on a logical partition, setting the mode to secure may require you to use the LPAR menu on the primary to select another mode.

User authentication

This security provides assurance as to who is using the service device. All problems related to user authentication are the same regardless of console type. For more information, see Service tools.

Data privacy

This security provides confidence that the console data can only be read by the intended recipient. Operations Console local console directly attached to the server uses a physical connection similar to a twinaxial console or secure network connection for LAN connectivity to protect console data. Operations Console using a direct connection has the same data privacy of a twinaxial connection. If the physical connection is secure as discussed under service device authentication, the console data remains protected. To protect the data, ensure only authorized people enter the computer room.

Operations Console local console on a network uses a secure network connection if the appropriate cryptographic products are installed. The console session uses the strongest encryption possible depending on the cryptographic products installed on the iSeries and the PC running Operations Console. If no cryptographic products are installed, there will be no data encryption.

Data integrity

This security provides confidence that the console data has not changed en route to the recipient. Operations Console local console directly attached to the server has the same data integrity as a twinaxial connection. If the physical connection is secure, the console data remains protected. Operations Console local console on a network uses a secure network connection if the appropriate cryptographic products are installed. The console session uses the strongest encryption possible depending on the cryptographic products installed on the iSeries and the PC running Operations Console. If no cryptographic products are installed, there will be no data encryption.

Data encryption

Enhanced authentication and data encryption provide network security for console procedures. Operations Console local console on a network uses a version of SSL which supports device and user authentication but without using certificates.

Administration

Operations Console administration allows system administrators to control access to console functions, including the remote control panel and virtual control panel. When using Operations Console local

console on a network, device and user authentication are controlled through the service tools device ID.

Important: Consider the following when administering Operations Console local console over a network:

- For more information about service tools user IDs, see Service tools.
- For the remote control panel, mode selections require security authorization for the user that authenticates the connection, such as that provided by QSECOFR. Mode selections include: Manual, Normal, Auto, Secure. Auto and Secure are only available on servers with a keystick. Also, when connecting the remote control panel using a network, the service tools device ID must have authority to the control panel data on the system or the partition the remote control panel connects to.
- When a mismatch occurs in the service tools device password between the iSeries server and the Operations Console PC, you need to resynchronize the password on both the PC and the server. To do this, see Resynchronize the PC and service tools device ID password. A mismatch will occur if, for example, your PC fails, if you decide to exchange the PC for a different one or if you upgrade it.
- Since QCONSOLE is a default service tools device ID, if you elect not to use this device ID it is **highly recommended** that you temporarily configure a connection using this ID and successfully connect. Then, delete the configuration but DO NOT reset the device ID on the server. This will prevent an unauthorized access from someone using the known default service tools device ID. Should you have a need to use this device ID later, it can be reset at that time using the control panel or menus.
- If you implement a network security tool that probes ports for intrusion protection be aware that Operations Console uses ports 449, 2300, 2301, 2323, 3001, and 3002 for normal operations. In addition, port 2301, which is used for the console on a partition running Linux is also vulnerable to probes. If your tool were to probe any of these ports it may cause loss of the console which might result in an IPL to recover. These ports should be excluded from intrusion protection tests.

Protection tips

When using Operations Console local console on a network, IBM recommends the following items:

1. Create an additional service tools device ID for each PC that will be used as a console with console and control panel attributes.
2. Add one or two additional backup device IDs for use in an emergency.
3. Install Cryptographic Access Provider programs on the iSeries server and install Client Encryption on the Operations Console PC.
4. Choose nontrivial access passwords.
5. Protect the Operations Console PC in the same manner you would protect a twinaxial console or an Operations Console with direct connectivity.
6. Change your password for the following DST user IDs: QSECOFR, 22222222, and QSRV.
7. Add backup service tools user IDs with enough authority to enable or disable user and service tools device IDs.

Prepare for your Operations Console and iSeries Navigator configuration

Before configuring your Operations Console and iSeries Navigator, familiarize yourself with this information.

Both iSeries Navigator and Operations Console can be run on a single PC. Depending on how you have Operations Console connected to your iSeries server, there are two possible network configuration options available.

iSeries Navigator is the graphical user interface for managing and administering your iSeries server from your Windows desktop. iSeries Navigator makes operation and administration of iSeries servers easier and more productive.

Operations Console allows you to use a local or remote PC to access and control an iSeries console, a control panel, or both. Operations Console has been enhanced to enable connections or console activities across a local area network (LAN), besides enabling directly cabled connections. A single PC can have multiple connections to multiple iSeries servers and can be the console for multiple iSeries servers. An example is having a logically partitioned server using the same PC as the console for all partitions. Since each partition is considered a separate iSeries server, you need a separate connection to the partition for which you want to use the console. Operations Console allows multiple connections to a single iSeries server, but only one PC can have control of an iSeries server at a time. Based on the Operation Console connectivity, you could have one of two methods of configuration.

1. The PC using Operation Console as a local console directly attached to the server will require a network connection for iSeries Navigator. In order to complete the iSeries Navigator connection, the iSeries will need to have a network adapter and configured i5/OS line description (LIND).

   Operations Console connecting over a serial cable attached to an asynchronous card on the iSeries machine. iSeries Navigator is connected through a LAN adapter on the iSeries machine. The PC will communicate to Operations Console through it's communication port while communicating with iSeries Navigator through the LAN connectivity.
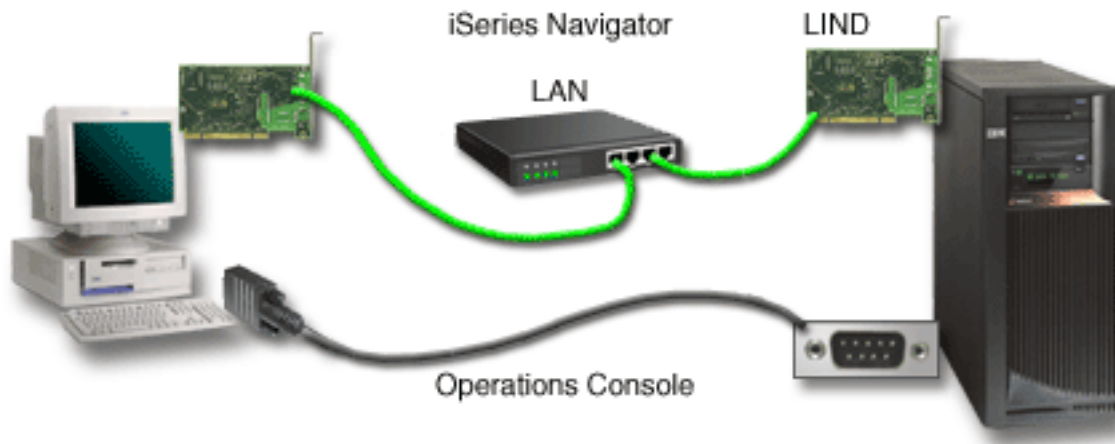
Figure 1. iSeries Navigator and Operations Console configuration over separate connectivity

2. The PC used as a local console on a network may require an additional network connection. iSeries Navigator requires a network connection to the network adapter and configured i5/OS line description (LIND). Operation Console will use the service network adapter as defined by the service host name (interface name). If the network adapter and configured i5/OS LIND and the service network adapter as defined by the service host name (interface name) are on the same network, then an additional PC LAN adapter is not needed.
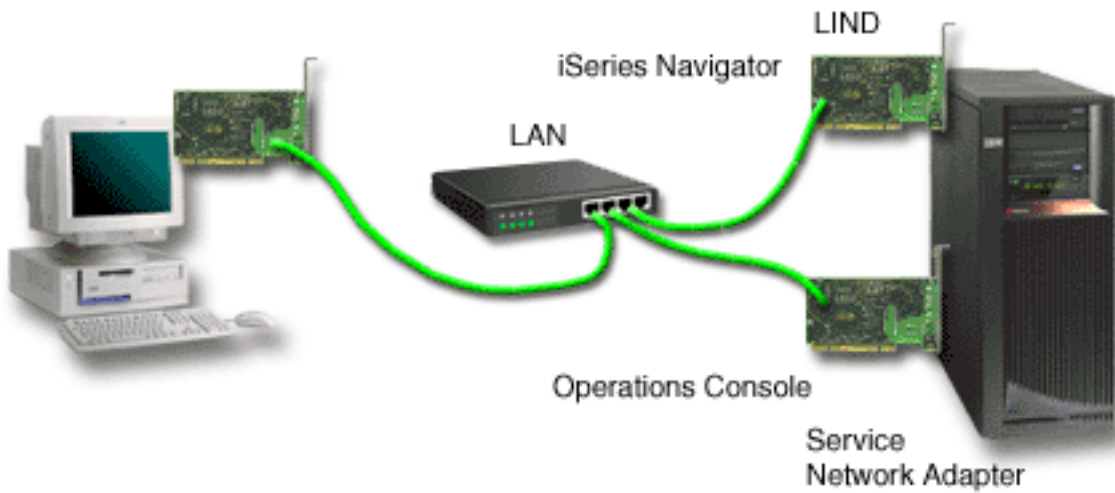
Figure 2. iSeries Navigator and Operations Console configuration on the same network

However, if the network adapter and configured i5/OS LIND and the service network adapter as defined by the service host name (interface name) are on separate networks, then an additional PC LAN adapter is required.
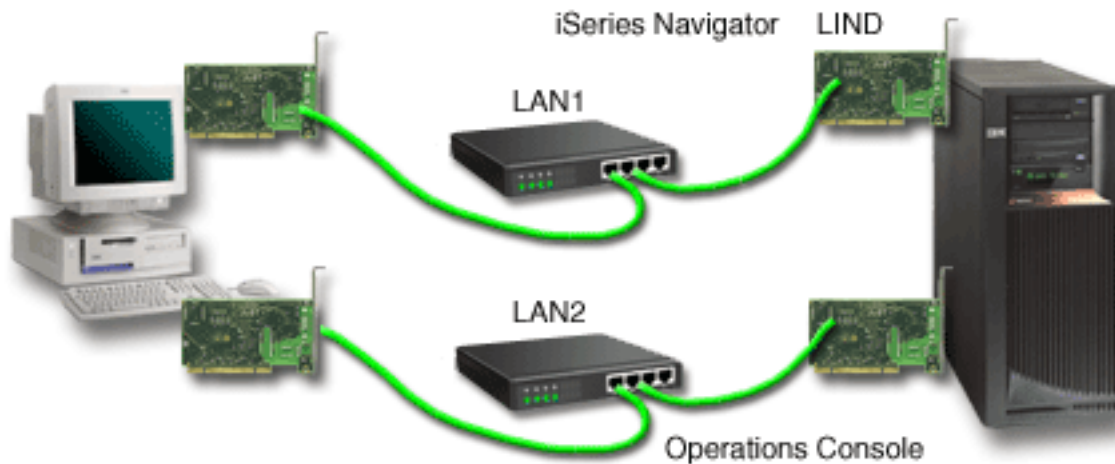
Figure 3. iSeries Navigator and Operations Console configuration on separate networks

Related information

iSeries Navigator

Verify Operations Console requirements

Use this information to verify that you have met all the hardware, software and cabling requirements for Operations Console.

Meet Operations Console hardware requirements:

You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Table 1 shows the PC requirements per operating system.

Table 1. PC requirements - processor and memory

Operating System® (1,2)	Operations Console PC
Windows 2000®	• Pentium® 500 MHz recommended • 128 MB memory minimum (256 MB recommended)
Windows XP Professional	• Pentium 500 MHz (P6 or equivalent compatible microprocessor) • 256 MB memory minimum

Note:

1. See the iSeries Access web site for any updated PC requirements.
2. If you are using iSeries Navigator, refer to the requirements for installing iSeries Navigator.
3. If your PC has power management capabilities, it could turn the PC off. The PC may reset the communications port when power management is started, which would end any connections already established. Certain types of power management on the PC and in the operating system may cause system reference code (SRC) 0000DDDD to appear in the iSeries control panel or remote control panel. This SRC data should clear when PC activity resumes.

If you want to use an Operations Console local console on a network (LAN), you need to install the LAN adapter for Operations Console according to your iSeries model. IBM supports a local console on a network (LAN) only on Models 270 and 8xx. Table 2 shows the supported cards for LAN connectivity. Table 3 shows the correct location for the LAN card.

Note: Supported cards and locations are only for non-partitioned servers or primary partitions. For logical partitions in an LPAR environment, any Operations Console supported adapter can be used.

Important: If an emergency arises where your LAN connection fails, you should configure an Operations Console local console directly attached to the server. See Planning for your backup console. Table 3 also shows the correct location for the directly cabled console.

Table 2. Supported cards for LAN connectivity

Card name or number	Description
2744	PCI 100 Mbps Token ring Adapter
2838	PCI 100/10 Mbps Ethernet IOA
2849	PCI 100/10 Mbps Ethernet IOA
Integrated Ethernet Port	PCI 100/10 Mbps Integrated LAN IOA (model 825 only)
Note: The Integrated Ethernet Port is the only LAN-connectivity for the Operations Console local console on a network option for model 825.	

Table 3. iSeries requirements - LAN card location

Model	Operations Console (LAN) console card location	Operations Console direct connection (asynchronous) location for the cable
270	C06, second C05	C07
800, 810	C06, second C05	C07
820	C04, second C03, third C11	C06

| *Table 3. iSeries requirements - LAN card location (continued)*

Model	Operations Console (LAN) console card location	Operations Console direct connection (asynchronous) location for the cable
825	Integrated Ethernet Port, (C03, C02, C01)[1]	C06
830, SB2	C04, second C06, third C10	C02
840, SB3	C04, second C06, third C10	C02
870, 890	C04, C06, C07, C08, C09	C02
Note: [1] These locations will only be available if the Integrated Ethernet Port is not operational.		

To review cable requirements, see the section: Meet Operations Console cable requirements.

Related tasks

"Change the console from a local console directly attached to a local console on a network (LAN) in a non-partitioned or primary partitioned server" on page 66
To change from an Operations Console with local console directly attached to a local console on a network (LAN), follow these steps on the server using the existing console.

"Change the console from a local console directly attached to a local console on a network in a logical partition" on page 67
To change from an Operations Console with a local console directly attached to a local console on a network (LAN), follow these steps on the server using the existing console.

"Change the console from a twinaxial console to an Operations Console in a non-partitioned or primary partitioned server" on page 72
To change from twinaxial to Operations Console, you must perform these steps on the server using the existing console.

"Change the console from a twinaxial console to an Operations Console in a logical partition" on page 73
To change from twinaxial to Operations Console, you must perform these steps on the server using the existing console prior to powering down or performing an initial program load (IPL).

Related reference

"Scenario: Consoles for multiple servers or partitions" on page 10
A scenario that discusses a situation in which you want to manage multiple servers or partitions.

"Prepare for your network environment" on page 11
To prepare for your network environment, you need to identify and comply with the minimum network configuration required to set up an Operations Console local console on a network (LAN) configuration.

"Meet Operations Console cable requirements" on page 20
You need to meet the following cable requirements for supported servers, cables and card locations.

"Meet Operations Console software requirements" on page 20
You need to meet the following software requirements for working with Operations Console.

"Change from a local console directly attached to a local console on a network (LAN)" on page 66
To change from an Operations Console with a local console directly attached to a local console on a network (LAN), you must change settings on both the PC and the server.

"Change from a twinaxial console to Operations Console" on page 72
To change from a twinaxial console to Operations Console, you a set of steps on both the PC and the server.

"Changing from an Operations Console to a twinaxial console" on page 75
To change from an Operations Console to a twinaxial console, you must perform steps on the server and, optionally, on the PC.

Meet Operations Console software requirements:

You need to meet the following software requirements for working with Operations Console.

Before you continue, make sure that you have satisfied the Operations Console hardware requirements according to your intended configuration. Operations Console is supported on Windows 2000 Professional, and Windows XP Professional.

The iSeries Access for Windows versions, for both the local console and the remote console, must be at the same level for proper operation of Operations Console.

PC5250 or IBM Personal Communications V5.8 (or V5.7 with CSD 1) needs to be installed for the console only. It is not required for remote control panel only configurations.

Note: If you run any software that enables SOCKS on your PC (the PC accesses the Internet through a firewall, such as Microsoft® Proxy Client, Hummingbird® SOCKS Client, NEC SOCKS 5, or others), you cannot route the subnet for 192.168.0.0 to the firewall. Operations Console uses addresses in the range of 192.168.0.0 to 192.168.0.255. Incorrect routing causes Operations Console to fail. Check your SOCKS configuration and make sure that the entry is:

```
Direct    192.168.0.0    255.255.255.0
```

Data encryption for a local console on a network:

To use a local console on a network, you are strongly encouraged to install cryptographic products. This support may be a separate product or it may be available from another source. Use the strongest encryption available for the best security.

Related reference

"Meet Operations Console hardware requirements" on page 17
You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Meet Operations Console cable requirements:

You need to meet the following cable requirements for supported servers, cables and card locations.

Depending on your configuration, you need to install a cable or card on the server. To connect your local console directly attached to the server you must use the correct cables. To connect a local console on a network you need a LAN adapter.

Important: Supported cards and locations are only for non-partitioned servers or primary partitions. Logical partitions may support additional adapters, especially in migration towers, based on the tower's capability.

This table lists the Operations Console cards and cables that you need to have available for your setup.

Table 4. Operations Console cards and cables

Server	Feature code (card)	Part number (cable)
9406 270, 8xx	2742, 2745, 2771, 2793	97H7557

Table 5. Remote control panel cables

Server	Part number (cable)
9406 270, 8xx	53P5704 **(1)**
Note: Use the label at each end of the cable to determine where each end should be connected.	

This table lists the adapter location for each model. You need an adapter if you are configuring a local console on a network.

Table 6. Card location

Model	Operations Console direct connection (asynchronous) card location for the cable	Operations Console (LAN) console card location
270	C07	C06, second C05
800, 810	C07	C06, second C05
820	C06	C04, second C03, third C11
825	C06	Integrated Ethernet Port, (C03, C02, C01 [(1)])
830, SB2	C02	C04, second C06, third C10
840, SB3	C02	C04, second C06, third C10
870, 890	C02	C04, C06, C07, C08, C09,
Note: [1] These locations will only be available if the Integrated Ethernet Port is not operational.		

Note:

1. For a local console directly attached to the server the console and the remote control panel functions each need a special cable.

2. If you are currently using electronic customer support (ECS), you must move the electronic customer support cabling to another communications port before trying to install Operations Console directly attached.

   Note: You may need to reassign your ECS resources.

3. The Console table only pertains to the primary or first partition. Any supported adapter might be used in a logical partition. There are cases where the Multi-function Input/Output Processor (MFIOP) may not support certain Input/Output Adapter (IOA) types in a logical partition. When in doubt, contact your service representative.

Related reference

"Scenario: A single console directly attached to the server with remote support" on page 8
A scenario that discusses the ability to dial-in to the console from a remote location.

"Meet Operations Console hardware requirements" on page 17
You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

"Install an Operations Console cable" on page 39
How to install or remove the Operations Console cable

Verify available communications port:

Make sure that you have an available communications port for your Operations Console configuration.

For the configuration wizard to configure Operations Console successfully, you need to verify that you have an available communications port. You will need a connector for a communications interface such as a serial port. Operations Console supports serial COM ports 1-9 and LPT port 1. One COM port is required for system console support and one LPT port is required for remote control panel support.

Note: Operations Console does not use any embedded serial ports located on the servers.

To check that you have an available communication port, check the documentation for your PC or with the PC manufacturer to verify you have the necessary communications port or ports. When you configure Operations Console, the wizard will search for a port for the console.

The use of a Universal Serial Bus (USB) to serial port adapter support has been added to Operations Console. The adapter will be placed at the PC end of the console serial cable and connect to the PC's USB port. When installing the USB adapter follow the manufacturer's instructions, the operating system will assign a serial port to that adapter, COM 4, for example. This adapter will be used exclusively for the console. As above, Operations Console supports serial COM ports 1-9.

Any adapter should work but IBM can not guarantee every adapter to work correctly in every PC environment. Should a failure occur, you can contact the manufacturer of the adapter, the manufacturer of the PC, your hardware service provider, or you can try another adapter.

Restrictions on use

The adapter must plug directly into a USB connector on the PC. Neither the use of a USB hub to share connections nor the use of USB extension cables is supported, however these devices may function correctly in some situations.

Plan for your Operations Console install or upgrade

In order to plan for your Operations Console install or upgrade, you need to know this information.

If you are upgrading to V5R4 and you want to replace an existing console with Operations Console, upgrade the system before migrating the console. This will prevent any conflict between the existing console and the Operations Console.

For information and instructions on upgrading i5/OS see: i5/OS Upgrades.

Prerequisite information for Operations Console users upgrading to, or installing, V5R4:

You must comply with the following before upgrading or installing your software (i5/OS, Licensed Internal Code) to V5R4:

1. If your iSeries model has a 2771 adapter card in the processing unit and you plan to use Operations Console as either your primary console or as a backup console, it must be installed in the location designated by model for cable connections based on the following table, prior to the upgrade or install. Each model has a different preferred location:

iSeries model	Operations Console asynchronous card location for the cable
270	C07
800, 810	C07
820	C06
825	C06
830, SB2	C02
840, SB3	C02
870, 890	C02

> **Remember:** You can find more information on cable connections for the server models in: Install an Operations Console cable.

2. When you receive the i5/OS release upgrade, all of the user IDs that shipped with the operating system are expired, except for 11111111 (eight 1's). For all upgrades and installs you need to establish a connection between the iSeries server and Operations Console using the service tools user ID of 11111111. This will prevent any of the expired user IDs from preventing a successful re-authentication of the client connection to the server. This is especially important for automated installations and upgrades.

3. It is recommended that you update iSeries Access for Windows to V5R4 before you upgrade the i5/OS operating system. For more information about installing iSeries Access for Windows, refer to: Install iSeries Access for Windows.

Note: Failure to comply with the above actions may prevent the console from working correctly during the upgrade or install.

Important: During a manual IPL of the server and if no console has been specified before, you will receive two additional screens to confirm the setting of the console mode. The first will require a **F10** to accept your current console type and the second will show that a value did not previously exist (a zero will be present for the old value) and the new value will be shown. Pressing **Enter** will exit and set the console mode automatically. The IPL will then continue to the IPL or Install the System screen. This condition is most likely to occur during the installation of a new partition but could happen on your first manual IPL of V5R4. For example, during the A-mode IPL following the restore of Licensed Internal Code during the upgrade or install when a console value of zero is found.

Migrating to Operations Console before your server model upgrade

Migrate to Operations Console before your Server Model Upgrade If you are migrating from a different console type to Operations Console on your new iSeries server, it is important that you configure your new Operations Console PC before beginning the server model upgrade. Because the Operations Console features matching the connectivity you plan to use should be specified as part of the order for your new iSeries server, at the point in the server model upgrade instructions where console functions are required on the new iSeries server, you will be able to perform them on your new Operations Console device.

Also, when migrating a former load source device that was used with Operations Console local console on a network configuration, and this load source device is to become a load source device in a new partition, the LAN adapter must be deallocated before removing the device from the old partition and installing it in the new partition.

For instructions on how to deallocate the LAN adapter from use by Operations Console, see: Deallocate the LAN card from use by Operations Console.

Related tasks

"Install iSeries Access for Windows" on page 33
Before you use Operations Console, you must install iSeries Access for Windows.

"Deallocate or move the LAN adapter card from use by Operations Console" on page 84
How and when to deallocate or move the LAN card

Related reference

"Install an Operations Console cable" on page 39
How to install or remove the Operations Console cable

Related information

Upgrades

Installing the i5/OS release and related software

Plan for your control panel

You can plan for using your Operations Console connection to access the iSeries control panel without being in front of the server.

To make this connection to the control panel you will need to configure a remote control panel (RCP) or a virtual control panel (VCP). Both RCP and VCP are a graphical interface to the control panel. The remote control panel allows you to perform most of the control panel functions from a local or a remote location. The virtual control panel allows you to perform most of the control panel functions from a local location only. By default, user-created user IDs will have these permissions.

The user must be granted access to a partition's remote control panel and functions to use the remote control panel or virtual control panel. If a local console on a network is being used then the service tools device ID must also be granted access to that partition's remote control panel to use this feature.

Users and service tools device IDs default values will automatically grant access to the remote control panel for the partition but can be revoked by an administrator for the user ID, device ID, or both. The user that authenticates a connection must also have authority to the respective partition's keylock to change the mode.

Use these links to review your control panel options, see comparisons of the control panels, and find setup instructions:
* To review your control panel options, see comparisons, and find setup instructions: Control Panel.
* To solve problems with the remote control panel or the virtual control panel: Troubleshoot remote control panel and virtual control panel problems.

    Related reference

    "Scenario: A single console directly attached to the server without remote support" on page 8
    A scenario that discusses a situation in which you may want a single console attached to the server.

    "iSeries control" on page 49
    Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Remote control panel (RCP)

The following information may help you determine which remote control panel configuration is best for you.
* The local console on a network will select the remote control panel by default. Use Properties to deselect the function if you do not want to use the remote control panel.
* A remote control panel that is directly connected, using parallel cable, has all available remote control panel functions.
* A virtual control panel requires the console to be directly connected via serial cable and the console must be connected to use the control panel functions. The VPC cannot power on the server unless the connection is to a primary partition and the primary partition is active. The virtual control panel also requires a service tools device ID on the server.
* LAN configurations to the primary will, by default, configure remote control panels for each logical partition to which the device ID is authorized.
    – The remote control panels for the logical partitions have the same functions available as those provided by the LPAR menu. This includes power-on, as long as the primary stays operational.
* LAN configurations to logical partitions will initially have a remote control panel but it has less function than one directly connected to the primary. For example, it would not be able to power on the logical partition.
    – To obtain the same functions as those associated to the primary, create a separate configuration for the remote control panel and specify the primary's service host name (interface name). However, this might require another service tools device ID.

- Any configuration where the device ID is not authorized will be greyed out or missing.
  - Greyed out after the first connection if it was selected but not authorized.
  - Missing after the first connection if it was not selected and was not authorized.

  Once authorized it will reappear in Properties, on the next connect.

Virtual control panel (VCP)

The virtual control panel (VCP) is one way to get remote control panel (RCP) functions on the PC.

This is accomplished by using the serial cable and connection of a directly cabled console. There is no requirement for network adapters on the PC or server with VCP. You will, however, create a configuration that uses the network path in the Operations Console install wizard. You will also be required to have an unused service tools device ID available for the VCP connection. If your console uses the network connectivity already, you should be using the remote control panel option available for that configuration rather than VCP.

The VCP allows for nearly all the same functions as the RCP. The GUI is the same for the VCP as it is for the RCP - only the connectivity is different. Due to its differences in connectivity, the VCP cannot, for example, be used to power on a system or a partition. The VCP function will work with the V5R2 or later version of Client Access Express Client communicating to a V5R2 or later release iSeries server.

The VCP uses a TCP/IP connection on the Operations Console cable. You have to have a directly-cabled console configured and connected in order to use the VCP. The VCP can not be used to replace a parallel-connected RCP-only configuration. The VCP will require an additional configuration.

Important: It is recommended that you install the latest service pack for the V5R4 client. The latest service pack can be found at:

http://www-1.ibm.com/servers/eserver/iseries/clientaccess/casp.htm

Remember: For additional information about the virtual control panel see the following: Troubleshoot remote control panel and virtual control problems.

> **Related reference**
>
> "Troubleshoot remote control panel and virtual control panel problems" on page 105
> When setting up your initial connection you may encounter problems accessing your control panels.

Limitations of the virtual control panel (VCP):

You should consider the following features and limitations before installing and using virtual control panel.
- The VCP is only available while the console is connected.
- You must remove the parallel remote control panel cable, if installed, before configuring the VCP connection.
- A unique service tools device ID must exist for each VCP configuration.

  For example, you have connected a PC named DIRECT to SERVER1 using a direct cable and you want to configure a VCP. If no Operations Console (LAN) configuration exists to this server then the service tools device ID QCONSOLE has not been used. Therefore, you can specify QCONSOLE when you configure the VCP.

  Another example would involve a cabled console called DIRECT that is a backup for LAN-connected Operations Console PCs named LAN1 and LAN2. In this example LAN1 used the service tools device ID QCONSOLE during setup and LAN2 used a user-created service tools device ID of QCONSOLE2 during its setup. For the intended VCP configuration you must create another service tools device ID, such as QCONSOLE3 to be specified when you configure the VCP.

- You cannot use or reuse an existing network name when you create the additional VCP configuration. For example, if you have a configuration named SERVER1, you cannot name the VCP SERVER1. Also, if the intended VCP-capable PC is on a network, you cannot use any name that already exists on that network.

- All VCP and remote control panels (RCPs) are active at the same time.

  If you have multiple PCs (LAN connected) that can become the console, one at a time, and those configurations also use the remote control panel functions, all active RCPs can control the server. Use care when working with control panel functions when multiple PCs have access to the functions.

- The use of a virtual control panel at a remote console is not supported.

- An alternative for powering on the system at a later time, instead of using a cabled remote control panel, can be provided using the IPL scheduling function in Operational Assistant, available in i5/OSby pressing the **Attention** key. You can also use the i5/OS command go power and select the option **Change power on and off schedule**. Also, LAN connected configurations connecting directly to a primary partition will provide the ability to power on a logical partition as long as the primary partition remains active.

- The hosts file on the PC may need manual cleanup.

  Each time you create a network configuration on the PC, data is saved in a file called hosts. This file may be used each time the PC attempts to connect to the network. Each entry is unique to any others by the connection name. Currently, if you delete a VCP configuration the corresponding hosts entry is not deleted. You must manually delete the appropriate line from this text-based file using any text editor.

- If you have a server model that uses the keystick, the mode button will work with the same functions as the physical control panel when the keystick is inserted.

- The service tools user ID used to authenticate the connection must have the **partition remote panel key** privilege to use the mode function provided by the VCP. Service tools user IDs QSECOFR, QSRV, 22222222, or 11111111 already have this permission by default.

  Note: Systems with a keystick require the keystick to be inserted before the user is eligible to use the mode button. For example, the user has the remote panel key privilege but will not have the mode function available until the keystick is present. For systems without the keystick, the user ID being used would only require the remote panel key privilege.

  Related tasks

  "Installing the virtual control panel"
  Use the procedures below to install the virtual control panel.

Installing the virtual control panel:

Use the procedures below to install the virtual control panel.

Related reference

"Limitations of the virtual control panel (VCP)" on page 25
You should consider the following features and limitations before installing and using virtual control panel.

Create a service tools device ID using an existing console:

The virtual control panel (VCP) requires an available, unused service tools device ID. If the server does not use Operations Console (LAN) for the console mode, you can use the existing service tools device ID of QCONSOLE. If you know that Operations Console (LAN) is not being used you may skip to the section below to create a service tools device ID. To check the current console mode setting, do the following:

Note: This work can also be performed using SST. Use the Work with service tools user IDs and Devices option on the System Service Tools (SST) main menu and skip the step Select **System devices**.

1. Access Dedicated Service Tools (DST).
2. Select **Work with DST environment**.
3. Select **System devices**.
4. Select **Select Console**.
5. The value in the input field is your current console mode setting. If the value is not a 3 then the QCONSOLE device ID is probably available for use with the VCP configuration.
6. Press **F3** until you are back to the DST main menu.

Create a service tools device ID:

To create a service tools device ID follow these steps:
1. Access Dedicated Service Tools (DST).
2. Select **Work with DST environment**.
3. Select **Service tools device IDs**.

   Note: By default, the Service tools device IDs option is not available from SST. If you receive the message **The user can not perform the option selected** it indicates that the option has not been made available. The unlock method can only be performed in DST.

   To unlock this option for use in SST, do the following:
   a. Access Dedicated Service Tools (DST).
   b. Select **Start a service tool**.
   c. Select **Display/Alter/Dump**.
   d. Select **Display/Alter storage**.
   e. Select **Licensed Internal Code (LIC) data**.
   f. Select **Advanced analysis**. (You will have to page down to see this option.)
   g. Page down until you find the **FLIGHTLOG** option. Then, place a 1 next to the option and press **Enter**. You should be on the Specify Advanced Analysis Options window. The command should show as FLIGHTLOG.
   h. Enter the option SEC UNLOCKDEVID.

      Note: If you want to secure this option later use the option SEC LOCKDEVID.
4. Enter a 1 next to the **Device ID** field. Then enter a name to call the VCP's device ID and press **Enter**.
5. Optionally, enter a description. Then press **Enter**.
6. You have now created a device ID for the VCP connection from one PC.
7. You can check the attributes for the device ID by selecting option 7 (Change attributes). By default, the console and partition remote panel for partition 0 (current partition) will be granted.
8. Use PF3 to go back to the DST main menu.

Check user ID for permissions:

If you are using a service tools user ID other than **QSECOFR, QSRV, 22222222,** or **11111111** for use with the VCP, you have to set the service tools user privileges for **Partition remote panel key** to allow access to the mode function. To verify or set this service tools user privilege, do the following:
1. Go to the DST main menu.
2. Select **Work with DST environment**.
3. Select **Service tools user IDs**.
4. Move the cursor to the user you want to verify or set the privileges for and place a 7 on the same line and press **Enter**.

5. You only have to verify or set the privilege for the **Partition remote panel key** entry, which would be the partition currently being used. Place a 2 on the line for the partition, and press **Enter** to grant permission to the mode functions.

   Note: Systems with a keystick require the keystick to be inserted before the user is eligible to use the mode button. For example, the user has the remote panel key privilege but will not have the mode function available until the keystick is present. For systems without the keystick, only the user ID remote panel key privilege is necessary.

6. You can now exit back to the DST main menu. Additionally, you can exit DST or IPL depending on how you entered DST.

Change the current configuration to console only:

If your current Operations Console configured connection includes the remote control panel, use the following steps to configure the connection for just the console. If the console is currently the only function being provided, skip this section and continue with next section.

1. To remove the remote control panel from the configuration the connection status must be **Disconnected**. To disconnect the configuration, follow these steps:

   a. If your local console is running in unattended mode and you have not requested control, do the following to get iSeries control:

      1) Select the configuration name (under **iSeries Connection**). This is the name that Operations Console uses to refer to a specific iSeries server.

      2) From the **Connection** menu, select **Request Control**.

   b. If the **Service Device Sign-on** window appears, select **Cancel**.

   c. Select the configuration name (under **iSeries Connection**). This is the name that Operations Console uses to refer to a specific iSeries server.

   d. From the **Connection** menu, select **Disconnect**. The connection status shows **Disconnecting** until it completes with a status of **Disconnected**.

2. Select the configuration name that you want to change.

3. From the **Connection** menu, select **Properties**.

4. Select the **Configuration** tab.

5. Remove the check from the **Remote Control Panel** option.

6. Select **OK**.

Create a new configuration for the virtual control panel (VCP):

Use the following instructions to create a new connection configuration specifically for the virtual control panel.

1. From the **Connection** menu, select **New Con\nection**.

2. Select **Next**. If the window asking about prerequisites appears, select **Yes**.

3. Leave the option **Local Area Network (LAN)** selected and click Next.

4. Enter a name to refer to your VCP connection and select the partition the VCP will control, then click **Next**.

   Note: If the PC you are working with is connected to a network, do not use a name that can be found on that network.

5. If the **Service TCP/IP Address** field contains a value, you will have to use **Back** and enter another name. The name you used was found on your network or in the **hosts** file. If no TCP/IP address is listed, enter **192.168.0.2**.

   Note: In some cases, the address **192.168.0.n** may have been previously used for something other than Operations Console. In those cases the user may have had to use a different base address

for Operations Console such as **192.168.1.n.** If so, use the base address currently assigned to Operations Console, but make the last value a **2**. For example, use **192.168.1.2**. To check the current base address, use **regedit** (or other registry editing program) and navigate to:

HKEY_LOCAL_MACHINE/Software/IBM/Client Access/CurrentVersion/AS400 Operations Console/LCS/HKEY_LOCAL_MACHINE/Software/IBM/Client Access/CurrentVersion/AS400 Operations Console/LCS/

Expand LCS and select the appropriate configuration. Check the key **IP Address**. Use the IP address reported on your PC to validate the VCP address.

6. Enter the value of **0.0.0.0** in the **Service gateway address 1** field. You are not required to enter anything in the **Service gateway address 2** field.

7. Enter a serial number in the **iSeries serial number** field. This does **not** have to be the real system serial number. Click **Next**.

8. Enter the name of the device ID you will be using for the VCP connection authentication. By default, you can use QCONSOLE if it hasn't been used. Otherwise, if you created a specific device ID, enter the name you assigned it during the creation process. Then click **Next**.

9. Enter a password and enter it a second time to confirm it. This password is only used by the PC for the VCP connection and is not known at the server. For example, if you entered **access** as the password you will use **access** later to sign on. Click **Next**.

10. Click **Finish**.

11. Select the VCP configuration and go into **Properties**. Select the **Configuration** tab and deselect the console option. Then, click **OK** to exit **Properties**.

You have completed the configuration for the VCP connection.

Start a connection for the console (your original connection). Sign on normally, if necessary, and wait for the console window to appear.

Now you can connect the VCP connection.

You will get the **LAN Service Device Sign-on** window with an extra field. The **Access password** field is where you enter the password you chose during the setup wizard. If you remember the example used earlier, the password was `access`. Enter the password you used in the **Specify Access Password** window.

Enter any service tools user ID and password, commonly referred to as the DST user ID and password. Since this is authenticating the connection and not setting up any authorities to the work, there is no difference between using **11111111** and **11111111** or **QSECOFR** and **???????**. If you have previously created additional service tools user IDs you could use any of those as well.

Prepare the PC for Operations Console

Use this information to prepare your PC for the Operations Console.

Before beginning your Operations Console setup tasks, complete the planning requirements in Plan for Operations Console. After you complete the planning requirements you will know which configuration you will be creating. You can create a setup checklist if you know which configuration you will be doing and which PC operating system you will be using.

To create your customized checklist:

Complete the setup interview
Related concepts

"Plan for Operations Console" on page 3
Before you begin setting up, determine how to best configure your Operations Console.

Related reference

"Scenario: A single console directly attached to the server without remote support" on page 8
A scenario that discusses a situation in which you may want a single console attached to the server.

"Scenario: A single console directly attached to the server with remote support" on page 8
A scenario that discusses the ability to dial-in to the console from a remote location.

"Scenario: Consoles for multiple servers or partitions" on page 10
A scenario that discusses a situation in which you want to manage multiple servers or partitions.

Complete the setup prerequisite checklist

This interview asks you two questions and then creates a customized checklist that you will use to complete your Operations Console setup.

You will need to complete the Operations Console prerequisite checklist for the configuration that you will be installing on your PC. If you are not sure which configuration you need, see Plan for Operations Console.

Note: If you are working with a printed PDF rather than using the interactive interview, the PDF includes the entire checklist and all of the setup tasks.

Select the configuration you will be installing on your PC:

Set up a local console directly attached to the server

Follow the unique setup prerequisites based on this configuration and the operating system you are using.

Select the operating system on which you are installing Operations Console:

Complete prerequisite checklist for Windows 2000: Local console directly attached to the server:

Complete the following checklist to set up a local console directly attached to the server on Windows 2000:

__   1. Meet Operations Console hardware requirements.
__   2. Meet Operations Console software requirements.
__   3. Meet Operations Console cable requirements.
__   4. Verify available communications port.
__   5. Install iSeries Access for Windows.
__   6. Apply iSeries Access for Windows service packs.
__   7. Install Operations Console Connection Modem.
__   8. Install Operations Console cables.
__   9. Configure Operations Console on the PC.

Complete prerequisite checklist for Windows XP: Local console directly attached to the server:

Complete the following checklist to set up a local console directly attached to the server on Windows XP.

__   1. Meet Operations Console hardware requirements.
__   2. Meet Operations Console software requirements.
__   3. Meet Operations Console cable requirements.
__   4. Verify available communications port.
__   5. Install iSeries Access for Windows.
__   6. Apply iSeries Access for Windows service packs.

___ 7. Install Operations Console Connection Modem.
___ 8. Install Operations Console cables.
___ 9. Configure Operations Console on the PC.

Set up a local console directly attached to the server with remote access allowed

Use these unique setup prerequisites based on this configuration and the operating system you are using.

Select the operating system on which you are installing Operations Console:

Complete prerequisite checklist for Windows 2000: Local console directly attached to the server with remote access allowed:

Complete the following checklist to set up a local console directly attached to the server with remote access allowed on Windows 2000:

___ 1. Meet Operations Console hardware requirements.
___ 2. Meet Operations Console software requirements.
___ 3. Meet Operations Console cable requirements.
___ 4. Verify available communications port.
___ 5. Install iSeries Access for Windows.
___ 6. Apply iSeries Access for Windows service packs.
___ 7. Install Operations Console Connection Modem.
___ 8. Install PC modem.
___ 9. Create and configure incoming connections.
___ 10. Grant remote access.
___ 11. Install Operations Console cables.
___ 12. Configure Operations Console on the PC.

Complete prerequisite checklist for Windows XP: Local console directly attached to the server with remote access allowed:

Complete the following checklist to set up a local console directly attached to the server with remote access allowed on Windows XP:

___ 1. Meet Operations Console hardware requirements.
___ 2. Meet Operations Console software requirements.
___ 3. Meet Operations Console cable requirements.
___ 4. Verify available communications port.
___ 5. Install iSeries Access for Windows.
___ 6. Apply iSeries Access for Windows service packs.
___ 7. Install Operations Console Connection Modem.
___ 8. Install PC modem.
___ 9. Create and configure incoming connections.
___ 10. Grant remote access.
___ 11. Install Operations Console cables.
___ 12. Configure Operations Console on the PC.

Set up a local console on a network

Follow these unique setup prerequisites based on this configuration and the operating system you are using.

Select the operating system on which you are installing Operations Console on:

Complete prerequisite checklist for Windows 2000: Local console on a network:

Complete the following checklist to set up a local console on a network on Windows 2000.

__ 1. Meet Operations Console hardware requirements.
__ 2. Meet Operations Console software requirements.
__ 3. Install iSeries Access for Windows.
__ 4. Apply iSeries Access for Windows service packs.
__ 5. Configure a service host name (interface name) on the server.
__ 6. Create service tools device IDs on the server.
__ 7. Configure Operations Console on the PC.

Complete prerequisite checklist for Windows XP: Local console on a network:

Complete the following checklist to set up a local console on a network on Windows XP.

__ 1. Meet Operations Console hardware requirements.
__ 2. Meet Operations Console software requirements.
__ 3. Install iSeries Access for Windows.
__ 4. Apply iSeries Access for Windows service packs.
__ 5. Configure a service host name (interface name) on the server.
__ 6. Create service tools device IDs on the server.
__ 7. Configure Operations Console on the PC.

Set up a remote console through dial-up support

Follow the unique setup prerequisites based on this configuration and the operating system you are using.

Select the operating system on which you are installing Operations Console:

Complete prerequisite checklist for Windows 2000: Remote console through dial-up support:

Complete the following checklist to set up a remote console through dial-up on Windows 2000.

__ 1. Meet Operations Console hardware requirements.
__ 2. Meet Operations Console software requirements.
__ 3. Install iSeries Access for Windows.
__ 4. Apply iSeries Access for Windows service packs.
__ 5. Install PC modem.
__ 6. Configure Operations Console on the PC.

Complete prerequisite checklist for Windows XP: Remote console through dial-up support:

Complete the following checklist to set up a remote console through dial-up on Windows XP.

__ 1. Meet Operations Console hardware requirements.
__ 2. Meet Operations Console software requirements.
__ 3. Install iSeries Access for Windows.
__ 4. Apply iSeries Access for Windows service packs.
__ 5. Install PC modem.
__ 6. Configure Operations Console on the PC.

Complete required prerequisite tasks

Complete each prerequisite task needed for your configuration and operating system. This reference section lists all of the required tasks that you should complete before configuring Operations Console.

Use your checklist that you created that lists the specific tasks that you need to complete. Your checklist lists only the tasks that you need based on your operating system and configuration type. If you have not created a checklist yet, see Set up Operations Console.

View the entire prerequisite checklist:

Install iSeries Access for Windows

Before you use Operations Console, you must install iSeries Access for Windows.

During the installation of iSeries Access for Windows, you are going to install a 5250 emulator or IBM Personal Communications V5.8 (V5.7 CSD 1 minimum) and Operations Console support. See the iSeries Access web site for updated PC requirements.

To check whether you have iSeries Access for Windows installed:
1. Click **Start** and select **Settings**.
2. Click **Control Panel**.
3. Double-click **Add/Remove Programs**.
4. Look for IBM iSeries Access for Windows.
5. To close Add/Remove Programs, click **Cancel**.
6. Close the Control Panel.

If you do not have iSeries Access for Windows installed, use the *iSeries Setup and Operations* CD-ROM to install it:
1. Insert the *iSeries Setup and Operations* CD-ROM in the CD-ROM drive.
2. Select the **iSeries Access for Windows** option to start the installation.
3. Wait until the **IBM iSeries Access for Windows** window appears.
4. To continue with the setup program, click **Next** and follow the prompts.

   Refer to iSeries Access for Windows for further installation assistance.
5. If you are installing iSeries Access for Windows for the first time, you have to ensure that you have at least a minimum configuration for running Operations Console. If you are only adding the Operations Console component, add only the components necessary to meet this minimum configuration.
6. To ensure the minimum configuration takes place, select **Custom** or **Full** install and select at least the following components:

   Note: The Operations Console component is not available using the **Typical** or **PC5250 User** options.
   a. **Required Programs**
   b. **5250 Display and Printer Emulator** (if IBM Personal Communications (V5.8 or V5.7 CSD 1 minimum) is not installed)

      You do not need a license to use 5250 Display Emulation just for Operations Console, even though the window says that you do.

      Important: If your Operations Console configuration is going to support only the remote control panel, you do not need to install an emulator.
   c. **Operations Console**.
7. Click **Next** and follow the prompts.
8. Apply the latest service pack (program temporary fix (PTF)) for iSeries Access for Windows.

   Related reference

   "Plan for your Operations Console install or upgrade" on page 22
   In order to plan for your Operations Console install or upgrade, you need to know this information.

Apply iSeries Access for Windows service packs:

You should have the latest Service Pack program temporary fix (PTF) for iSeries Access for Windows and the latest level of iSeries Access for Windows on your PC.

Service packs are available in a PC-executable form at the following Web sites:
- The iSeries Access for Windows Service Packs page:
  http://www.ibm.com/servers/eserver/iseries/access/casp.htm
- The IBM FTP site: ftp://ftp.software.ibm.com Navigate down to the directory path:
  as400/products/clientaccess/win32/v5r4m0/servicepack.

   Related reference

   "Troubleshoot status messages" on page 94
   If you encounter connection problems when connecting a console, Operations Console provides status messages to assist you in troubleshooting the connections.

Install Operations Console Connection Modem

Depending upon your console configuration, you may need to install the Operations Console Connection Modem.

If you are configuring a local console directly attached to the server or a local console directly attached to the server with remote access allowed, you will need to install the Operations Console Connection Modem.

Note: The Operations Console connection modem is not a physical modem but a logical device driver that comes with Operations Console and allows a local console to connect to an iSeries server. When it is present, it shows as Operations Console Connection.

Install Operations Console Connection Modem for Windows 2000:

How to install Operations Console Connection Modem on a system running Windows 2000.

You must install the Operations Console connection modem that is shipped with Operations Console in order for a local console to communicate with the server. Only use these instructions if you are configuring a local console directly attached to the server or a local console directly attached to the server with remote access allowed.

To install:
1. Click **Start → Settings → Control Panel.**
2. Double-click **Phone and Modem Options** and click on the **Modem** tab to display the **Install New Modem** panel. If you have other modems installed, the **Modems Properties** panel will display, and you need to click **Add**.
3. Click the **Modems** tab.
4. Click **Add.**
5. Select **Don't detect my modem; I will select it from a list**, and then click **Next**.
6. Click **Have Disk...**

   Note: If you know the full path to the Operations Console Connection driver (cwbopaoc.inf), enter it here. Then, go to step 8. If you do not know the path, continue with step 7.
7. Click **Browse...**

   Navigate to *drive:*\path\Client Access\Aoc\Inf\ cwbopaoc.inf where *drive:* is the drive where iSeries Access for Windows is installed.

   Note: The default installation path C:\Program Files\Ibm\Client Access\Aoc\Inf\cwbopaoc.inf).
   Click **Open**.

8. Click **OK**. **Operations Console Connection** should be listed.

9. Click **Next**.

10. Select the communications port where you are going to install the Operations Console cable (for example, COM1).

11. Click **Next**.

12. If the Digital Signature Not Found window appears, click **Yes**.

13. Click **Finish**. You should be back in the **Modems** tab of the **Phone and Modem Options** folder.

14. Click **OK**.

Install Operations Console Connection Modem for Windows XP:

Installing the Operations Console Connection Modem on a system running Windows XP

You must install the Operations Console connection modem that is shipped with Operations Console in order for a local console to communicate with the server. Only use these instructions if you are configuring a local console directly attached to the server or a local console directly attached to the server with remote access allowed.

To install:

1. Click **Start → Settings → Control Panel.**

2. Double-click **Phone and Modem Options** and click on the **Modem** tab to display the **Install New Modem** panel. If you have other modems installed, the **Modems Properties** panel will display, and you need to click **Add**.

3. Select **Don't detect my modem; I will select it from a list.**

4. Click **Next**.

5. Click **Have Disk...**

   Note: If you know the full path to the Operations Console Connection driver (cwbopaoc.inf), enter it here. Then, go to step 7. If you do not know the path, continue with step 6.

6. Click **Browse...**

   Navigate to *drive:*\path\Client Access\Aoc\Inf\ cwbopaoc.inf where *drive:* is the drive where iSeries Access for Windows is installed.

   Note: The default install path is: C:\Program Files\Ibm\Client Access\Aoc\Inf\cwbopaoc.inf

7. Click **Open**, then click **OK**.

8. Click **Next**.

9. Select the communications port where the Operations Console cable is attached, and click **Next**.

10. If prompted, select **Continue Anyway** to continue the installation.

11. Click **Finish** and then click **OK**.

Install PC modem
Your PC will require a PC modem

Install PC modem for Windows 2000:

Follow these steps to install the PC modem.

If you are installing a PC modem that requires specific drivers, use the instructions that the modem manufacturer provides. Otherwise, follow these instructions:

1. Click **Start → Settings → Control Panel → Phone and Modem Options**.

2. If you are currently in the **Modems** tab of the **Phone and Modem Options** folder, click **Add** and then click **Next**. Otherwise, if you are at the Install New Modem window, click **Next**. The PC should find the new modem and report its location.

3. When the window shows the modem it found, click **Next** to accept it. The PC will now load the driver code to support it.

4. Click **Finish** to return you to the **Phone and Modem Options** folder.

5. Close the **Phone and Modem Options** folder.

6. If you get a message that indicates that you need to restart the PC before you can use the modem, click **OK**. Then, perform a shutdown and restart your PC. Otherwise, you may be prompted to restart the PC. If that is the case, click **Yes** or **OK** to perform the shutdown.

   Note: If you were not prompted to restart the PC, restart the PC to force a rewrite of changed data.

Install PC modem for Windows XP:

Follow these steps to install the PC modem on your system running Windows XP

If you are installing a PC modem that requires specific drivers, use the instructions that the modem manufacturer provides. Otherwise, follow these steps:

1. Click **Start → Settings → Control Panel → Phone and Modem Options**.

2. If you are currently in the **Modems** tab of the **Phone and Modem Options** folder, click **Add** and then click **Next**. Otherwise, if you are at the Install New Modem window, click **Next**. The PC should find the new modem and report its location.

3. When the window shows the modem it found, click **Next** to accept it. The PC will now load the driver code to support it.

4. Click **Finish** to return you to the **Phone and Modem Options** folder.

5. Close the **Phone and Modem Options** folder.

6. If you get a message that indicates that you need to restart the PC before you can use the modem, click **OK**. Then, perform a shutdown and restart your PC. Otherwise, you may be prompted to restart the PC. If that is the case, click **Yes** or **OK** to perform the shutdown.

   Note: If you were not prompted to restart the PC, restart the PC to force a rewrite of changed data.

Grant remote access

You will need to grant remote access in order for a remote console to have access to the local console.

Select the following instructions based on your operating system:

   Related tasks

   "Grant remote access for Windows 2000"
   To grant remote access using the Windows 2000 Incoming Connections, follow these steps:

   "Create and configure incoming connections for Windows 2000" on page 37
   Complete the following steps to create and configure incoming connections for Windows 2000.

Grant remote access for Windows 2000:

To grant remote access using the Windows 2000 Incoming Connections, follow these steps:

1. Click **Start**.

2. Select **Settings**.

3. Select **Control Panel**.

4. Select **Network and Dial-up Connections**.

Note: If Incoming Connections does not exist, you have to install it. To install Incoming Connections, refer to: Create and configure incoming connections .

5. Click **Incoming Connections**.

6. Click the **Users** tab

7. In the **Users allowed to connect** field, select the check box next to the user ID for which you want to grant remote access.

   Related tasks

   "Create and configure incoming connections for Windows 2000"
   Complete the following steps to create and configure incoming connections for Windows 2000.

   Related reference

   "Grant remote access" on page 36
   You will need to grant remote access in order for a remote console to have access to the local console.

Grant remote access for Windows XP:

To grant remote access using Windows XP Incoming Connections Properties, follow these steps:

1. Click **Start**.

2. Select **Settings**.

3. Select **Control Panel**.

4. Select **Network and Dial-up Connections**.

   Note: If Incoming Connections does not exist, you have to install it. To install Incoming Connections refer to: Create and configure incoming connections.

5. Click **Incoming Connection Properties**.

6. In the **Users allowed to connect** field, select the check box next to the user ID for which you want to grant remote access.

   Related tasks

   "Create and configure incoming connections for Windows XP" on page 38
   Complete the following steps to create and configure incoming connections for Windows 2000.

Create and configure incoming connections

How to create and configure incoming connections.

Create and configure incoming connections for Windows 2000:

Complete the following steps to create and configure incoming connections for Windows 2000.

1. Click **Start** → **Settings** → **Control Panel**.

2. Select **Network and Dial-up Connections**.

3. Click **Make New Connection**. The Welcome to the Network Connection Wizard window appears.

4. Click **Next**.

5. Click **Accept incoming connections**. Then, click **Next**.

6. Select the check box for the PC modem that is going to receive the calls from the remote console.

   Make sure that the Operations Console Connection check box is not selected. If other check boxes are selected, do not change them.

   Then, click **Next**.

7. Click **Do not allow virtual private connections**. Then, click **Next**.

   Note: If you have a virtual private network (VPN), leave this check box unchecked.

8. Select or add any users to dial into the local console. Then, click **Next**.

9. Select the **Internet Protocol (TCP/IP)** check box (if needed). Then, click **Properties**.

10. Make sure that the **Allow callers to access my local area network** check box is selected.

11. If your network uses Dynamic Host Configuration Protocol (DHCP), click **Specify TCP/IP addresses automatically using DHCP**. Then, go to the next step. If your network does not use DHCP, click **Specify TCP/IP addresses**. Then, do the following to specify the addresses:

    a. In the **From** field, type the address 192.168.0.5

    b. In the **To** field, type the address 192.168.0.24

    c. The **Total** field shows 20

12. Select the **Allow calling computer to specify its own IP address** check box. Then, click **OK**.

13. Click **Next**.

14. Click **Finish** to save Incoming Connections.

    Related tasks

    "Grant remote access for Windows 2000" on page 36
    To grant remote access using the Windows 2000 Incoming Connections, follow these steps:

    Related reference

    "Grant remote access" on page 36
    You will need to grant remote access in order for a remote console to have access to the local console.

Create and configure incoming connections for Windows XP:

Complete the following steps to create and configure incoming connections for Windows 2000.

1. Click **Start** → **Settings** → **Network Connections**.

2. Click **New Connection Wizard**. The Welcome to the Network Connection Wizard window appears.

3. Click **Next**.

4. Click **Set up an advanced connection**. Then, click **Next**.

5. Click **Accept incoming connections**. Then, click **Next**.

6. Select the check box for the PC modem that is going to receive the calls from the remote console.

   Make sure that the Operations Console Connection check box is not selected. If other check boxes are selected, do not change them.

   Then, click **Next**.

7. Click **Do not allow virtual private connections**. Then, click **Next**.

   Note: If you have a virtual private network (VPN), leave this check box unchecked.

8. Select or add any users who are going to dial into the local console. Then, click **Next**.

9. Select the **Internet Protocol (TCP/IP)** check box (if needed). Then, click **Properties**.

10. Make sure that the **Allow callers to access my local area network** check box is selected.

11. If your network uses Dynamic Host Configuration Protocol (DHCP), click **Assign TCP/IP addresses automatically using DHCP**. Then, go to the next step. If your network does not use DHCP, click **Specify TCP/IP addresses**. Then, do the following to specify the addresses:

    a. In the **From** field, type the address 192.168.0.5

    b. In the **To** field, type the address 192.168.0.24

    c. The **Total** field shows 20

12. Select the **Allow calling computer to specify its own IP address** check box. Then, click **OK**.

13. Click **Next**.

14. Click **Finish** to save Incoming Connections.

    Related tasks

    "Grant remote access for Windows XP" on page 37
    To grant remote access using Windows XP Incoming Connections Properties, follow these steps:

Install an Operations Console cable

How to install or remove the Operations Console cable

A cable is only required for a local console directly attached to the server or a local console directly attached to the server with remote access allowed configurations. You may need to install or remove the Operations Console cable, the remote control panel cable, or both, according to your server and your configuration

If you are changing the console device, the server's system value QAUTOCFG must be set to **ON**. Use one of the following to verify or set this system value on the server:
- Use the WRKSYSVAL QAUTOCFG command.
- During a manual IPL, in the IPL Options window, for **Set major system options**, select **Y**. Then for **Enable automatic configuration**, select **Y**.

Before making changes to the product, be sure to read the information in the Danger Notice.

Important: It is assumed the server is powered down. Do not power on the iSeries server until you are instructed to do so.

Note: You can also use the following instructions if you are removing one or more cables from your PC, server, or both.

If you *have set up* any personal computers that will be connected to the system unit:
1. Power off all PCs.
2. Unplug all PC power cords from the electrical outlets.

If you *have not set up* the PC that will be used as your system console:
1. Place the PC not more than 6 meters (20 feet) from the system unit.
2. Follow the instructions that came with the PC to set it up.
3. Power off all PCs.
4. Unplug all PC power cords from the electrical outlets.

You need to install the Operations Console cable if you want to use the console function (5250 emulation or command interface to iSeries server). If you want to use the console function and the remote control panel function, you need to install the Operations Console cable and the remote control panel cable.

This graphic is an overview of your system unit, console (PC) and Operations Console cable. This overview is intended to show you a general setup. The port location and part numbers could be different depending on the system and configuration that you have.
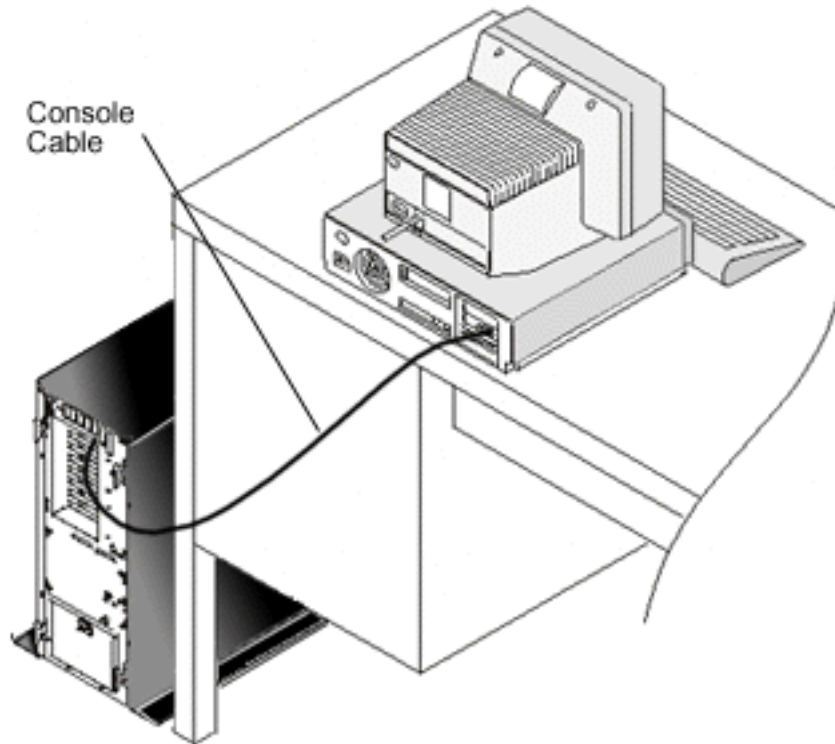
Console
Cable

Cabling information is available with instructions and graphics to install your cables for each server model. Select your server from this list:

Related reference

"Meet Operations Console cable requirements" on page 20
You need to meet the following cable requirements for supported servers, cables and card locations.

"Plan for your Operations Console install or upgrade" on page 22
In order to plan for your Operations Console install or upgrade, you need to know this information.

"Remote control panel fails to start" on page 106
If your remote control panel fails to start, verify the following:

"Local console does not detect console cable" on page 107
These are solutions to problems that occur when the local console does not detect the presence of the Operations Console cable.

Cable a Model 830 or a Model 840 Operations Console:
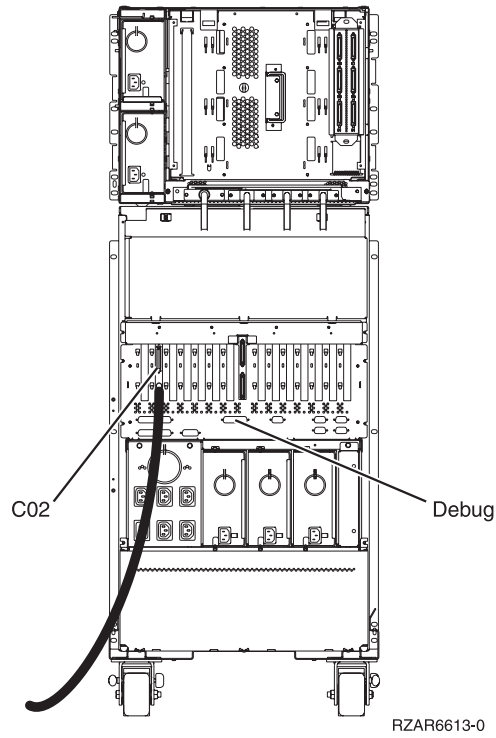
Print this topic using the print key.
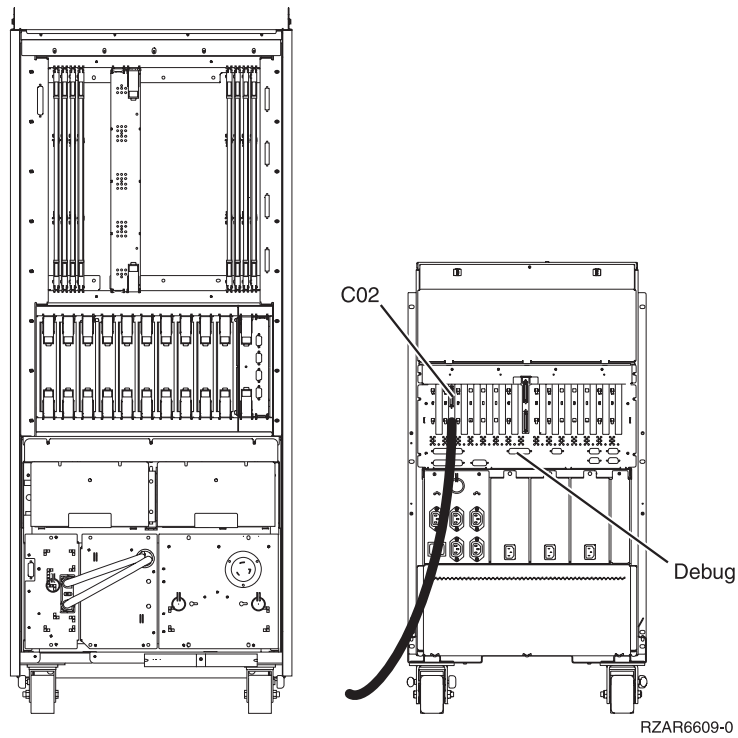
Figure 4. Model 830

Figure 5. Model 840

Configure Operations Console on the PC

Complete these steps to configure Operations Console on the PC.

When you have completed your Operations Console planning and your Set up Operations Console checklist, you are ready to begin the Operations Console configuration wizard.

Note: You must have Administrator rights to create or alter a configuration.

To access the wizard:
1. Click **Start**.
2. Select **Programs**.
3. Select **iSeries Access for Windows**.
4. Select **Operations Console**.

   Note: If Operations Console did not appear, you need to complete an iSeries Access for Windows selective setup. Click **Start** → **Programs** → **IBM iSeries Access for Windows** → **Selective Setup**.

The configuration wizard and Operations Console window starts. Follow the steps through the wizard and enter any required data. Click **Finish** to save the configuration and exit the configuration wizard. It is important that each configured connection has a unique name or unpredictable results may occur.

Note: The configuration wizard automatically configures the connection to use the console and remote control panel for some configurations. If you do not want to use one of these functions use the connection's **Properties** → **Configuration tab** to deselect the function you do not want started for this connection. You also can use **Properties** to add any of these functions.

Highlight the connection name then use one of these methods to start your connection.
1. Right-click the connection name and select **Connect**.
2. Click the connection icon in the toolbar.
3. Click the connection drop-down and select **Connect**.

Note: The server needs to be powered on for the console to connect.

View the online help associated with using Operations Console by selecting **Help** from the Operations Console window Help menu.

Manage Operations Console

Use this information as a guide to complete the tasks that you need to perform when managing your Operations Console configurations:

After you have completed your Operations Console planning and have set up your connection, you have these options available to help you manage your local and remote console connections. For additional information see the Planning and Setting up your connection.

Manage your console configuration

Manage your local and remote console configurations with the these tasks.

Change a console configuration

Changing the local or remote console for specific needs while Operations Console is in use

You may need to change an existing local console or remote console to meet your specific needs while using Operations Console.

To accomplish this, you must be a member of the Administrators group to change or create a local console. If you are changing a system name, you must delete the configuration and recreate it with the new name.

Related tasks

"Delete a console configuration"

Deleting an existing local or remote console while using Operations Console

Related reference

"iSeries control" on page 49

Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Change a local console:

To change an existing local console, follow these steps:

1. If your local console is connected to a server, disconnect as follows; otherwise, go to step 2:
   a. If the local console does not have control, do the following to request control; otherwise, go to step 1b:
      1) Select the configuration name from the Operations Console window.
      2) From the **Connection** menu, click **Request Control**.
      3) If the Service Device Sign-on window appears, click **Cancel**.
   b. Select the configuration name.
   c. From the **Connection** menu, click **Disconnect**. The connection status shows `Disconnecting`.
   d. Wait until the status shows `Disconnected` at the local console.
2. Select the configuration name.
3. From the **Connection** menu, click **Properties**.
4. Select the**Configuration** tab.
5. Make your changes and click **OK**.

Change a remote console:

To change an existing remote console, you must delete and recreate the connection configuration.

Change a local console on a network (LAN)::

Important: If network data will be changed, you need to delete and recreate the connection configuration. Also, Operations Console should be closed and restarted before attempting to connect a new configuration. This action will remove all cached values associated with any old configurations.

1. Select the configuration name.
2. Click **Disconnect**. Wait until the status shows `Disconnected` at the remote console.
3. Select the configuration name.
4. From the **Connection** menu, click **Properties**.
5. Select the **Configuration** tab.
6. Make your changes and click **OK**.

Delete a console configuration

Deleting an existing local or remote console while using Operations Console

You may need to delete an existing local console or remote console to meet your specific needs while using Operations Console. You must be a member of the Administrators group to delete a console.

Note: You may also use the Delete key on the keyboard. Just highlight the configuration you want to delete and press the Delete key.

Related tasks

"Change a console configuration" on page 42

Changing the local or remote console for specific needs while Operations Console is in use

"Release control at the remote console" on page 53

How the user at the remote console releases control of the server.

Related reference

"iSeries control" on page 49

Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Delete a local console:

To delete an existing local console, follow these steps:

1. If your local console is connected to a server, disconnect as follows; otherwise, go to step 2:
   a. If the local console does not have control, do the following to request control; otherwise, go to step 1b:
      1) Select the configuration name from the Operations Console window.
      2) From the **Connection** menu, click **Request Control**.
      3) If the Service Device Sign-on window appears, click **Cancel**.
   b. Select the configuration name from the Operations Console window.
   c. From the **Connection** menu, click **Disconnect**. The connection status shows `Disconnecting`.
   d. Wait until the connection status shows `Disconnected` at the local console.
2. Select the configuration name from the Operations Console window.
3. From the **Connection** menu, click **Delete**.
4. Click **Yes** to confirm the deletion.

Delete remote console:

To delete an existing remote console, follow these steps:

1. If your remote console is connected to a local console, disconnect as follows:
   a. If the remote console has control, release control.
   b. Select the configuration name.
   c. From the **Connection** menu, click **Disconnect**. The connection status shows `Disconnecting`.
   d. Wait until the status shows `Not connected to local console` at the remote console.
2. Select the configuration name.
3. From the **Connection** menu, click **Delete**.
4. Click **Yes** to confirm the deletion.

Windows 2000/XP users::

You may need to delete the network object each time you delete a configuration entry in Operations Console. Do the following to verify that the network object does not exist:

1. Open the **Network and Dial-up Connections** folder in the Control Panel.
2. If you deleted a local console configuration, look for an icon that has the name of the iSeries system to which the local console used to connect.

   Otherwise, if you deleted a remote console configuration, look for an icon that has the computer name of the local console that you used to connect to the iSeries system.
3. If the icon exists, you need to delete the network object as follows:
   a. Right-click the icon.
   b. Select **Delete**.

Connect a local console to a server

Follow these steps to connect your local console to a server

Connect a local console on a network to a server:

Instructions for connecting a local console on a network to an iSeries server.

Connecting a local console on a network (LAN) to a server allows you to have an active console and a functional remote control panel (if configured). An active console is a command interface to an iSeries server (5250 emulation) that is currently interacting with the server. A functional remote control panel allows you to perform most control panel functions (depending on the partition connected to) as if you were at the server.

If you have problems when performing some of these steps, see Network connection errors in the troubleshooting topic for possible solutions.

Perform these following steps to connect a local console on a network to a server:

1. Open Operations Console to start the connection:
   a. Click **Start** and select **Programs**.
   b. Select **IBM iSeries Access for Windows**.
   c. Click **Operations Console**.

   By default, Operations Console does not automatically attempt to connect a local console on a network to an iSeries server. If you selected **Start connection when Operations Console starts** in Properties, the local console connects to the iSeries server automatically. The connection status shows **Connecting** first, before changing to **Connecting Console**.

2. If you did not select **Start connection when Operations Console starts** in Properties, you need to connect to the server as follows:
   a. Select the configuration name.
   b. From the **Connection** menu, click **Connect**.

3. In the LAN Service Device Sign-on window, sign on using the access password that allows the server to access your service device information. You also have to provide your assigned service tools user ID and password.

   Operations Console needs a valid access password, service tools user ID, and service tools password to authorize the connection between the local console and server. For more information, see Service Tools. For a visual of this concept, see Secure your Operations Console configuration.

   After you sign on successfully, the connection status shows **Connected**.

4. Confirm that the console and remote control panel, if configured, appears.

If you encounter other status messages, see Troubleshoot status messages for their descriptions and possible solutions to the problems they describe.

To use your PC to access another iSeries server, you need to Connect to another server.

Connect to another server:

Assuming another connection has been created, perform these steps to connect Operations Console to another server.

When using Operations Console you can have multiple configurations and connect to several servers at the same time. Connecting to another server as a local console on a network (LAN), a local console directly attached, or a remote console using dial-up support, allows you to work with another server in your network or at a remote location. Operations Console only allows one directly attached local console configuration but it allows more than one network or remote configuration.

It is assumed that the additional connection has been created already.

Follow these steps to connect to another server:

1. On the **Operations Console Connection** window, select the configuration name that you want to connect.
2. From the **Connection** menu, click **Connect**.

Note:

   1. If you have a local console directly attached to the server and one or more remote consoles configured, you have to disconnect the currently connected local console configuration in order to make the remote connection to another server's local console directly attached with remote access allowed. Operations Console does not support the local console directly attached to the server and an outgoing remote console connection to be active at the same time.
   2. If the PC you are using has multiple remote console configurations only one can be connected at a time.
   3. All supported PC operating systems can connect multiple network configurations at the same time allowing a single PC to be the console for multiple systems or partitions.

Connect a local console directly attached to the server:

Instructions for connecting a local console directly and enabling remote consoles to connect to the server

Connecting a local console directly attached with remote access allowed to a server allows remote consoles to connect to the server. It also allows iSeries control to be automatically granted to the first requester or allows you to have control at the local console to handle incoming control requests.

Perform the following steps to connect a local console directly attached to the server (with or without remote access allowed):

1. Open Operations Console to start the connection:
   a. Click **Start** and select **Programs**.
   b. Select **IBM iSeries Access for Windows**.
   c. Click **Operations Console**.

   By default, Operations Console does not automatically try to connect a local console directly attached to an iSeries server. However, a local console directly attached with remote support running unattended mode will automatically connect. If you selected **Start connection when Operations Console starts** in Properties, the local console connects to the iSeries server automatically. The connection status shows Connecting before changing to Connecting Console.
2. If you set up your local console configuration to start in Attended mode, do the following:
   a. If you installed and configured the remote control panel, confirm that it appears. If it does not appear, see Remote control panel fails to start in the troubleshooting topic.
   b. In the Service Device Sign-on window, sign on using your assigned service tools user ID and password. Operations Console needs a valid service tools user ID and password to authorize the connection between the server and the PC. If you have problems when signing on, see Troubleshoot authentication problems. After you sign on successfully, the status changes from **Pending Authorization** to **Connected**.
   c. Confirm that the console appears. If the emulator does not appear, see Troubleshoot emulator problems.
3. If you set up your local console configuration to start in Unattended mode, do the following:
   a. Verify that the **Connecting Console** status does not remain for more than a couple of minutes. If it does not change, there is a connection problem. To find a possible solution, see Remote control panel cable fails to start.

b. Verify that the status shows **Pending Authorization** and that **SERVER** appears in the **Current User** field. Incoming control requests will be automatically granted.

If you encounter other status messages, see Troubleshoot status messages for their descriptions and possible solutions to the problems they describe.

> **Related reference**
>
> "iSeries control" on page 49
> Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.
>
> "Default user (SERVER)" on page 50
> SERVER is an identification name that Operations Console assigns when there is no user in control of a server.

Connect a remote console to a local console by modem

Instructions for connecting the remote console to the local console directly attached with remote access allowed.

Connecting a remote console to a local console with remote support allows the remote console to communicate to a server through the local console. The remote console user must have dial-in authority at the local console. You need this authority so the operating system at the local console allows the dial-in connection between the PCs.

Perform the following steps to connect the remote console to the local console directly attached with remote access allowed:

1. Open Operations Console to start the connection:
   a. Click **Start** and select **Programs**.
   b. Select **IBM iSeries Access for Windows**.
   c. Click **Operations Console**. By default, Operations Console does not automatically try to connect a remote console to the local console directly attached.
   - If you selected **Start connection when Operations Console starts** in Properties, the local console connects to the iSeries server automatically. The connection status shows Connecting before changing to Connecting Console.
   - If you selected **Start connection when Operations Console starts** when you configured the remote console, the remote console starts the connection to the local console automatically.

2. If you did not select **Start connection when Operations Console starts**, you need to start the connection to the local console as follows:
   a. Select the configuration name.
   b. From the **Connection** menu, click **Connect**.

3. If the User Logon window appears, sign on so the operating system at the local console checks whether you are a user with dial-in authority. After you sign on successfully, the connection status shows Connected.

   Note: If you do not sign on to the remote console connection in approximately a minute, Dial-up Networking ends the connection.

4. If the Service Device Sign-on window appears, sign on using your service tools user ID and password.

5. If you installed and configured the remote control panel, confirm that it appears. If it does not appear, see Remote console through dial-up fails to connect to local console in the troubleshooting topic. If it appears, the remote control panel is in read-only mode, and you do not have iSeries control at the remote console. To obtain control, you have to Request it of the local console.

If you encounter other connection problems, see Troubleshoot Operations Console connections to find a possible solution.

Related tasks

"Request control at the remote console" on page 53
How the user at the remote console requests server control from the local console.

Related reference

"iSeries control" on page 49
Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

"Display the remote control panel in read-only mode" on page 51
Displaying the remote control panel in read-only mode allows you to see the remote control panel when you do not have iSeries control.

Control tasks between users

These control tasks are only for a local console directly attached to the server with remote access allowed or a remote console through dial-up support configurations.

There is function that will allow both a directly attached local console and LAN attached local consoles to have data on the screen at the same time. This is not associated with the console option **Allow console to be taken over by another console**. Regardless of console connectivity, all console capable devices are presented with screen data. The following information covers the relationship between the local console directly attached with remote access and a remote console.

Related reference

"Take over or recover an Operations Console connection" on page 59
Use these functions to take control of another console device.

Grant or refuse control to a remote console:

Granting and refusing control requests when you have control of a console

Granting iSeries control allows another user to work with the server. Refusing control denies a requesting user access to the server and allows the current user to continue to have control. When you grant control to another user, your console session and the remote control panel window close.

Note: You remain connected, and the remote control panel, if installed and configured at the local console, is available in read-only mode.

When a remote console requests control, and the local console has control, the Operations Console Request window appears at the local console. The window shows the service tools user ID with which the requesting remote console user signed on to the operating system of the remote console (PC). The default is set to grant control.

Note: If the local console is not in control at the time the remote user requests control there is no dialog presented at the local console. The remote user is automatically granted control.

Granting control:

To grant control to a remote console, in the Operations Console Request window, click **OK**.

Refusing control::

To refuse control to a remote console, follow these steps:
1. In the Operations Console Request window, click **Reject request**.
2. In the **Message** field, you may type an explanation for the refusal.

3. Click **OK**.

iSeries control:

Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

An active console is a command interface to a server through 5250 emulation that is currently interacting with the server. A functional remote control panel allows you to perform control panel functions from the PC. Thus, the PC in control becomes the console and can perform remote control panel functions. Only one PC can have control at a time.

If your local console starts in **attended mode** you have control immediately after you Connect a local console directly attached to the server. When you have control at this local console, you need to be present to grant or refuse control to requesting remote consoles.

If your local console starts in **unattended mode**, SERVER appears in the **Current User** field after you Connect a local console directly attached to the server. Operations Console automatically grants control to the first requester (local console or remote console).

Related concepts

"Plan for your control panel" on page 24
You can plan for using your Operations Console connection to access the iSeries control panel without being in front of the server.

Related tasks

"Change a console configuration" on page 42
Changing the local or remote console for specific needs while Operations Console is in use

"Delete a console configuration" on page 43
Deleting an existing local or remote console while using Operations Console

"Connect a local console directly attached to the server" on page 46
Instructions for connecting a local console directly and enabling remote consoles to connect to the server

"Connect a remote console to a local console by modem" on page 47
Instructions for connecting the remote console to the local console directly attached with remote access allowed.

"Request and release control at the local console" on page 51
How the user at the local console requests and releases control of the server.

"Send a message to a controlling remote console" on page 52
While using Operations Console, you may need to communicate with the user who has iSeries control. Operations Console allows a local console and a remote console to exchange messages when connected. Only the user that does not have control can initiate a message.

"Request control at the remote console" on page 53
How the user at the remote console requests server control from the local console.

"Release control at the remote console" on page 53
How the user at the remote console releases control of the server.

"Send a message to a controlling local console or remote console" on page 54
While using Operations Console, you may need to communicate with the user who has control.

Related reference

"Default user (SERVER)" on page 50
SERVER is an identification name that Operations Console assigns when there is no user in control of a server.

Displaying the remote control panel in read-only mode allows you to see the remote control panel when you do not have iSeries control.

Examples of local and remote users exchanging server control.

Default user (SERVER):

SERVER is an identification name that Operations Console assigns when there is no user in control of a server.

When no user has iSeries control, SERVER appears in the **Current User** field. In addition, Operations Console automatically grants control to the first requester (local console or remote console).

Operations Console automatically grants control to the first requester in the following cases:
- Immediately after you release control at a local console with remote support.
- Immediately after connecting a local console directly attached with remote access allowed, if it started in unattended mode.
- When SERVER appears in the **Current User** field.

    Related tasks

    "Connect a local console directly attached to the server" on page 46
    Instructions for connecting a local console directly and enabling remote consoles to connect to the server

    "Request and release control at the local console" on page 51
    How the user at the local console requests and releases control of the server.

    "Request control at the remote console" on page 53
    How the user at the remote console requests server control from the local console.

    Related reference

    "iSeries control" on page 49
    Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Identify user in control of a server:

Use this information to identify the user in control of a server.

Identifying the user who has iSeries control at a given time may help you determine how to proceed when you want to obtain control. This information applies to a local console directly attached with remote support and a remote console.

Perform the following steps to identify the user who has control:
1. In the **iSeries Operations Console Connection** Window, look for the row that shows the connection details for the configuration in question.
2. Identify the **Current User/System Name** values. These values belong to the user who has control. **Current User** shows the user ID with which the user in control signed on to the operating system of the PC in control or completed the connection. **System Name** shows the PC name where the user is in control.
3. Identify the **Local Console** value. It is the name of the PC that is directly attached to the server.
4. Compare the **System Name** and **Local Console** values as follows:
    - The local console has control if the **System Name** and **Local Console** values are the same. This comparison is useful to the connected remote console user.

- A remote console has control if the **System Name** and **Local Console** values are different. This comparison is useful to the local console user.
- No user has control if SERVER appears as the **Current User/System Name** values. This is useful to either the local console or the remote console user. A request for control will automatically be granted.

Display the remote control panel in read-only mode:

Displaying the remote control panel in read-only mode allows you to see the remote control panel when you do not have iSeries control.

For example, you can see the progress of an initial program load (IPL) at a server in a remote location. The remote control panel must be installed and configured at the local console. You can display the remote control panel in read-only mode in the following cases:
- At a local console if the local console user is not in control.
- At a remote console after the remote console connects to a local console or a local console requests control.
- At a remote console after the remote console releases control to a local console.

To display the remote control panel, from the **Connection** menu, click **Remote Control Panel**.

Displaying the remote control panel in read-only mode allows you to see the remote control panel when you do not have iSeries control.

> **Related tasks**
>
> "Connect a remote console to a local console by modem" on page 47
> Instructions for connecting the remote console to the local console directly attached with remote access allowed.
>
> "Release control at the remote console" on page 53
> How the user at the remote console releases control of the server.
>
> "Request and release control at the local console"
> How the user at the local console requests and releases control of the server.
>
> **Related reference**
>
> "iSeries control" on page 49
> Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Request and release control at the local console:

How the user at the local console requests and releases control of the server.

When your local console with remote support does not have iSeries control, you must request control at the local console to work with a server. Requesting control at the local console forces control back from a remote console if the remote console has control. After finishing your work, you must release control to allow Operations Console to automatically grant control to a requester.

> **Related reference**
>
> "Default user (SERVER)" on page 50
> SERVER is an identification name that Operations Console assigns when there is no user in control of a server.
>
> "Display the remote control panel in read-only mode"
> Displaying the remote control panel in read-only mode allows you to see the remote control panel when you do not have iSeries control.

"iSeries control" on page 49
Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Requesting control at the local console::

Perform the following steps to request control at the local console:
1. Identify the user who has control.
2. If no user has control (SERVER appears in the **Current User** field), do the following:
   a. Select the configuration name.
   b. From the **Connection** menu, click **Request Control**.
   c. If you installed and configured the remote control panel, confirm that it appears. If it does not appear, see Remote control panel fails to start. After the remote control panel appears, a sign-on window may appear.
   d. If the Service Device Sign-on window appears, sign on using your service tools user ID and password. Operations Console needs a valid service tools user ID and password to authorize the connection between the server and the PC. If you have problems when signing on, see Troubleshoot authentication problems.
   e. Confirm that the console appears. If it does not appear, see remote control panel fails to start in the troubleshooting information and Local console connection problems.

   If a remote console user has control and you **do not** want to force control back from the remote console, Send a message to the remote console asking the user to release control. To request control at the local console, after the remote console releases control and control did not return to the local console, do the substeps in step 2.

   If a remote console user has control and you **do** want to force control back from the remote console, do the substeps in step 2. At the remote console, the remote control panel window and the console close, and a message appears indicating that the local console has taken control. As long as the remote console remains connected, the remote console user can Display the remote control panel in read-only mode.

Releasing control at the local console::

To release control, do the following:
1. Select the configuration name.
2. From the **Connection** menu, click **Release Control**.

At this time, SERVER appears in the **Current User** field. The remote control panel window and the console disappear. Then control is automatically granted to the first requester. The remote control panel is still available in read-only mode.

Send a message to a controlling remote console:

While using Operations Console, you may need to communicate with the user who has iSeries control. Operations Console allows a local console and a remote console to exchange messages when connected. Only the user that does not have control can initiate a message.

Perform the following steps to send a message to the user who has control:
1. Select the configuration name from the Operations Console Connection Window.
2. From the **Connection** menu, click **Send Message**.
3. Type the message.
4. Click **Send**.
   At this time, the receiver may reply as follows:

a. Type the reply.

b. Click **Reply**.

Related reference

"iSeries control" on page 49
Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Request control at the remote console:

How the user at the remote console requests server control from the local console.

Requesting iSeries control at the remote console allows you to have an active console and a functional remote control panel at the remote console. An active console is a command interface to a server (5250 emulation) that is currently interacting with the server. A functional remote control panel allows you to operate the control panel as if you were at the server.

You must have connected the remote console to a local console by modem.

Perform the following steps to request control at the remote console:

1. Identify the user who has control.
2. If SERVER appears in the **Current User** field, do the following:
   a. Select the configuration name from the Operations Console Connection Window.
   b. From the **Connection** menu, click **Request Control**. If the remote control panel is installed and configured at the local console, it becomes functional. Then, if no user has had an active console, a sign-on window may appear.
   c. If the Service Device Sign-on window appears, sign on using your service tools user ID and password. Operations Console needs a valid user ID and password to authorize the connection between the server and the PC. For problems when signing on, see Troubleshoot authentication problems. After you sign on successfully, the console appears.
3. If the local user has control, do the following:
   a. Send a message to the local console explaining why you need to have control.

      Important: It is not necessary to send a message before requesting control.
   b. From the **Connection** menu, click **Request Control**. If the local user grants control to the remote console, the remote control panel becomes functional (if installed and configured at the local console) and the console appears. If the local user refuses control to the remote console, a window appears indicating the refusal.

Related tasks

"Connect a remote console to a local console by modem" on page 47
Instructions for connecting the remote console to the local console directly attached with remote access allowed.

Related reference

"Default user (SERVER)" on page 50
SERVER is an identification name that Operations Console assigns when there is no user in control of a server.

"iSeries control" on page 49
Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Release control at the remote console:

How the user at the remote console releases control of the server.

Releasing iSeries control at the remote console allows control to go back to the state that the local console was in when the first remote console requested control.

For example, if the local console granted control to the first requesting remote console, releasing control at the remote console allows the local console to regain control. However, if control was automatically granted to the first requesting remote console, releasing control at the remote console allows the next requester to automatically be granted control.

To release control at the remote console, do the following:

1. Select the configuration name from the Operations Console Connection Window.
2. From the **Connection** menu, click **Release Control**. The remote control panel window (if present) and the console close.

   After you release control at the remote console, you can do the following:

   - Display the remote control panel in read-only mode. To display it, follow these steps:
   a. Select the configuration name.
   b. From the **Connection** menu, click **Remote Control Panel**.
   - End the remote console connection to the local console. To end the connection, follow these steps:
   a. Select the configuration name.
   b. From the **Connection** menu, click **Disconnect**. The connection status shows `Disconnecting`.
   c. Wait until the status shows `Not connected to local console`.

   Related tasks

   "Delete a console configuration" on page 43
   Deleting an existing local or remote console while using Operations Console

   Related reference

   "Display the remote control panel in read-only mode" on page 51
   Displaying the remote control panel in read-only mode allows you to see the remote control panel when you do not have iSeries control.

   "iSeries control" on page 49
   Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Send a message to a controlling local console or remote console:

While using Operations Console, you may need to communicate with the user who has control.

Operations Console allows a local console and a remote console to exchange messages when connected. Only the user that does not have control can initiate a message.

Perform the following steps to send a message to the user who has control:

1. Select the configuration name from the Operations Console Connection Window.
2. From the **Connection** menu, click **Send Message**.
3. Type the message.
4. Click **Send**.

   At this time, the receiver may reply as follows:

   a. Type the reply.
   b. Click **Reply**.

   Related reference

   "iSeries control" on page 49
   Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Transfer control between users:

Examples of local and remote users exchanging server control.

The following examples show interactions between a local console directly attached with remote access allowed and a remote console. They illustrate how iSeries control is transferred between PCs after beginning an Operations Console configuration.

Transfer control between a local console in control and a remote console

This example shows interactions between a local console directly attached with remote access allowed that has iSeries control and a remote console. It illustrates how control is transferred between the local console and the remote console when the remote console requests control.

These interactions show the expected behavior from the local console and remote console users:

1. The local console user has control of a server. At this time, the local console user must handle all incoming control requests.
2. When a remote console requests control, the local console user decides whether he grants or refuses control to the requester. If the local console user grants control, control is granted to the requester.

   If the local console user refuses control to the requester, the local console user continues to have control.

Transfer control between a local console not in control and remote consoles

This example shows interactions between a local console directly attached with remote access allowed that does not have iSeries control and remote consoles requesting control. It illustrates how control transfer occurs when no user has control and a remote console requests control.

These interactions show the expected behavior from the local console and remote console users:

- No user has control of a server. Therefore, SERVER appears in the **Current User** field and incoming control requests will be automatically granted.
- When a remote console requests control, control will be granted to the remote console.

    Related reference

    "iSeries control" on page 49
    Control of your server means to have an active console or a functional (if installed and configured at the local console), remote control panel or both, at a PC.

Using the Properties page
Verify and change information about the server and connection configurations.

On the Properties page, you will find information about the server associated with the connected configuration. This is where you make changes to an existing configuration.

If the partition number is showing **** then there is a configuration error associated with the configured connection. The error may be wrong partition ID or possibly even wrong service host name IP address.

The **General** tab contains information about the server your connection is connected to. The **Log Directory** field shows the path to the Operations Console data logs and is the only field that you are allowed to edit.

The **Configuration** tab will contain options that actually change what functions are used and how the configuration connects. Options not available for the associated configuration will be greyed out. The remote console does not have a **Configuration** tab. To make changes to the remote console, you must first delete and then recreate the remote console connection.

Answer BOOTP is the option that allows the system administrator to determine which configuration for a given PC would supply the IP data to the server. New servers or logical partitions attempting to use a local console on a network might be using BOOTP. If more than one PC or configuration is allowed to supply the data, the first PC to respond to the broadcast packet will supply this data. By controlling which PC should supply this data may allow the administrator additional flexibility. For more information regarding BOOTP, see: "Prepare for your network environment" on page 11.

An IP address may be supplied for the console when using a directly attached local console and directly attached local console with remote support. This is to provide the user with a convenient method when the default address is already in use on the PC.

Note: An initial local console on a network configuration will configure both the console and remote control panel. This is where you would turn off one of the functions if you did not want to use it.

The **Device ID** tab has been changed to allow a single button to reset the service tools device ID password on the PC. The server's service tools device ID must also be reset separately. The associated service tools device ID for the configuration cannot be changed using this page. To use a different service tools device ID you would have to delete this configuration and create a new configuration using the new device ID.

The **Access Password** tab is where you can change the access password. The access password is used, in part, to authenticate the device making the connection.

While in Properties, you can use the **?** help for more information. Click on **?**, the **?** is now attached to your cursor. Move the **?** to the field you want more information on and click again. A context sensitive help dialog window will appear containing information regarding just that field.

Customizing the Operations Console window

Use the flexibility features to customize the information displayed by Operations Console

Operations Console has been enhanced in this release to allow users more flexibility when interacting with Operations Console through its GUI. With these new features you can customize the Operations Console window, allowing you to view and interact with the information most important to you.

On the initial startup of Operations Console you may notice some small changes. The first change is that there is a new drop-down menu item available, **Options**. The changes made in V5R3 also are listed here to assist the new user with some of the capabilities of the Operations Console window.

- **Show Warnings** This option can be used to prevent many of the common dialog windows from showing. For example, the confirming a delete function dialog window will not be displayed if this is not selected.
- **Prerequisite Warning** The dialog presented during the configuration wizard concerning the requirements can be turned off using this option.
- **Use Single Sign-on** This option provides the ability to share common signon data when connecting multiple configurations at the same time. This allows the use of a single signon dialog window instead of one for each connection.
- **Double-Click** This option has two items associated with it. The first is for expanding or collapsing the tree structure, the + (plus sign) control. Instead of a single click to expand or collapse you can change the function to use a double-click. The second item requires the user to use another method for starting a connection instead of double-clicking on the configuration name.

The second button on the toolbar has changed functionality. If you are familiar with the older releases of Operations Console, you might have used the second button to change a configuration. Now, the second button takes you to the **Properties** page of the selected configuration. All changes to the configuration of Operations Console are now made through the **Properties** page.

You may notice that the icon for configured connections is different. The use of a red or a green indicator makes it easier for you to see which configurations are connected and which are not connected. Another visible change made to Operations Console is that each configured connection has a + (plus sign) to the left of the icon. The + is a standard Windows expand and collapse function. Each configured connection expands out into separate functions associated with that connection. If, for example, the connections to the first partition of an LPAR multi-partitioned system you might also see separate entries for a remote control panel for each partition. This should added functionality should make it easier to administer your connections.

When you expand the configured connection and right-click on a remote control panel configuration, you will see that a new option has been made available. The SRC history option allows you to retrieve all or part of the recorded SRCs issued by the server. This information can be very useful when debugging certain problems from IPLs to control panel activity.

Drag and Drop functions have been added to configured connections to facilitate ease of management. You now have the ability to customize the list to appear the way you want it to appear. This will allow you to group configurations together so a common function can be performed on multiple connections at the same time. In addition to drag and drop, the standard Windows tagging methods for selecting more than one connection apply here. Connections most likely to share functions can be grouped at the top of the list, for example.

Additional functions now allow you to place selected data columns in the order in which you want them to appear. Using the drag and drop method, you can place any column in the position most useful to you. You even have the ability to select which columns appear in the display. The exception to this is the iSeries Connection column which maintains its fixed position. From the **View** menu, select the **Choose Columns** pull-down menu. Then, select the columns you would like to appear and click on the column title to include it or not include it. A check next to the column title includes it on the display. Only one column can be selected or deselected each time. Repeat this procedure to add or delete additional columns.

Manage your multiple consoles

Manage multiple devices that can become consoles

If you have more than one workstation that is capable of being the console to the same server or partition, there may be more than one way of using those devices as the console, depending on your configuration and circumstances.

For example, if the console mode is set for Operations Console (LAN), which has a value of 3, a local console directly attached, value of 2, will not be able to become the console when a connection is attempted.

> **Related reference**
>
> "Plan for your backup console" on page 6
> Here are some suggestions if you would like to plan for a backup for your console:
>
> "Take over or recover an Operations Console connection" on page 59
> Use these functions to take control of another console device.

Multiple local PC consoles on a network

Set up multiple local PC consoles on the network to manage the server

When a workstation is already a console and another local console on a network attempts to become the console, the connection will be successful and the user will be presented with the Console Information Status screen.

This screen will inform the user which device is currently the console based on the last successful connection. Many connections of this type can be connected but only one can be the active console. Also,

leaving the newly connected PC in this state will not allow the console activities to be automatically transferred to this PC. In this case you have two choices.

- Disconnect the connection using the Operations Console window. To disconnect the connection, follow these steps:
  1. Select the connection name you want to disconnect.
  2. Click **Connection** → **Disconnect**.
- Disconnect the emulator session. To disconnect the emulator, follow these steps:
  1. In the emulator window, click **Communication**.
  2. Select **Disconnect**.

If no device is acting as the console the next time a connection is made, either through Operations Console or the emulator, this PC will become the console. It is up to the users to determine whether or not this method is the correct way to manage console activities.

Multiple remote consoles through dial-up support connecting to the same local console directly attached to the server

In this environment, only one remote console is allowed to connect to the local console at a time.

The users are left to work out an arrangement in which another remote console can access the local console. If this is needed on a regular basis it might be as easy as assigning a time period in which each remote console would access the local console. When the time is up for the first remote, it would release control and disconnect. The next remote would then connect at its assigned time and request control. This assumes that the local console did not have control when the first remote got control.

Switching from one console type to another when a console is currently available

If you know in advance that you will need a different console type you can use the current console to make the changes necessary for use with a different console.

If the hardware resources for the targeted console type have already been specified and configured for use as a console, making the change may be as simple as specifying the new console mode and activating the associated hardware resource. However, if hardware used for the targeted console type will require allocation or configuration, you will need to use the appropriate information in **Change from one console type to another**.

An example would be the planned loss of the network used by your LAN-connected console. You will be doing some infrastructure changes requiring more than a day. You also have the console cable already installed between the server's asynchronous communications adapter and the PC. You can use either DST or SST to change the console mode to a 2 for Operations Console direct. The asynchronous communications adapter will not be active at this time since the console mode is set for LAN so you would have to manually start the asynchronous card with a function 66 on the control panel or remote control panel. Once the communications line is active you can disconnect the LAN-connected console and create a configuration for the direct attached local console, if a configuration doesn't already exist, and start a connection. To switch back to the LAN-connected console you would only have to use the direct-attached console to enter either DST or SST and change the console mode to a 3, disconnect the existing console and restart the LAN-connected console. Since the hardware resource configuration didn't change there isn't a need for further changes. You could deactivate the asynchronous communications adapter manually or just wait until the next IPL. The IPL will not start the asynchronous communications adapter because the console mode is now set for LAN.

Note: To activate the new console without an IPL you could perform the console service function of 65+21+21. Once the console mode has been updated performing the console service function will disconnect the current console and restart the console type you just specified. See link to console service function documents.

    Related tasks

How to manually activate the asynchronous communications line for use with Operations Console.

Deactivate the asynchronous communications line on the server

Related reference

If you already have a console connection, you can change to different types of consoles in the
following ways.

Switching from one console type to another when the current console is not operational

If you develop a problem with the current console, you may be able to use one of the following methods
to change the console mode.

- If you are using a LAN-connected PC for the console and have another PC set up to be the console,
  you might be able to use the other PC for the console until the problem with the first console is fixed.
- Use SST from another workstation.
- Use the console service functions (65+21).
- Use the appropriate native macro from another workstation.

  Note: Any hardware allocations or configurations will have to be accomplished before connecting with
  another connectivity. For example, if you are using a shared IOP in an LPAR environment you
  can deallocate and allocate the resource from one partition to another, if your hardware supports
  this method. If you planned for a backup console some or all of this work may already be done.
  If you do not have a backup console in place, some tasks may require one or more IPLs to get
  the system into a state where you can use the new console.

Using the same configuration example above (LAN to direct) and assuming all hardware and
configurations have been done, you would disconnect the existing console (LAN-connected); use the
console service functions (65+21), native macro, or SST from another workstation to set the console mode
to a 2 for directly attached consoles, then connect the local console directly attached. However, if you
used the native macro or SST from another workstation, you may also have to activate the asynchronous
communications adapter. Using the console service functions (65+21) or native macro OPSCONSOLE
RESTART automatically activates the adapter.

Note: There are several console service functions (65+21) that might be needed to recover or debug an
Operations Console problem depending on the problem, connectivity used for the current console,
the target console type, and the current state of the system. If you are unsure of any function or
recovery action contact your service provider for assistance.

Related reference

The emergency console recovery functions and their uses

Take over or recover an Operations Console connection

Use these functions to take control of another console device.

A special set of functions included in i5/OS allow an Operations Console to take control from another
console device. The two main actions that you can do are:

- **Take over** is the process used for a LAN-connected console-capable device to take control from the
  current LAN-connected console device. This take over action can not be used with directly attached
  consoles.
- **Recovery** is the process of regaining control of the job running on the console after a problem with the
  console was encountered. The recovery process may be to the same console device or a different

console device and may be facilitated by additional work to enable a device using a different connectivity. The exception is twinaxial console which does not use the same type of 5250 emulation and thus cannot recover the console.

Every console-capable device running 5250 emulation, regardless of connectivity, will be presented a screen of data regardless of whether or not it is the console when it successfully connects. This means that now, more than one device will have data on the screen after the console has been established. A console device will not have a blank screen showing `Disconnected`. This action allows the job at the console to be "transferred" to another device without causing loss of data. When the console option for take over is enabled, the server also has enhanced recoverability from loss of the console.

The recovery action is accomplished by suspending the data stream to a console that loses a connection, or is being taken over, saving further data and then sending that data to the next device to become the console, even if the device is the same former console. Recoverability is essentially just taking over the console from the same or different qualified device regardless of what the former console was doing.

The default setting for the console take over and recovery function is **disabled**. If this function is disabled, all console-capable devices will display the `Console Information Status` screen whenever they are not the active console.

Benefits of these functions include convenience and redundancy. Console capable devices can be placed around a site, or multiple sites, allowing users to move around and gain control of the system from any of these devices. Whatever the previous console's activity was, the new console will be at the exact same place, even during the process of restarting the server or installing i5/OS. When the console option for takeover is enabled, the server also has enhanced recoverability from a loss of the console.

Related reference

"Console planning considerations" on page 3
There are several important items to consider when planning for Operations Console for one or more of your servers.

"Plan for your backup console" on page 6
Here are some suggestions if you would like to plan for a backup for your console:

"Control tasks between users" on page 48
These control tasks are only for a local console directly attached to the server with remote access allowed or a remote console through dial-up support configurations.

"Manage your multiple consoles" on page 57
Manage multiple devices that can become consoles

Take over details:

These are some facts you should remember concerning the console take over function.

- This function must be enabled if you want to take over the console or be protected from the loss of the console using the recovery function.
- The option **Allow console to be taken over by another console** is enabled on the Select Console screen in DST or SST.
- This function does not include support for twinaxial consoles. Only Operations Console workstations, which use 5250 emulation, can use this function.
- Since there can be only one Operations Console directly attached device, the takeover function cannot be used. However, any 5250 emulation-based device can be used to recover a loss of the console by changing the console mode. This may require a reallocation of hardware to support the new console mode.
- The DST user ID used to sign on at an eligible device must also have the user privilege of take over console, a new feature for V5R4.

- Only devices with the same attributes (for example: 24x80 or 27x132) can perform a take over. For example, if device LAN1 is running in 24x80 mode and LAN2 is running in 27x132 mode, and LAN1 is the console, LAN2 will see **NO** in the **Take over the console** field.

- Data on the Console Information Status screen does not change. Currently, there is no method to automatically refresh the data. You can manually cause a refresh of all fields except the Take over the console field by pressing Enter. The user would have to exit this screen and sign on again to see a change to that field.

- Beginning in this release, takeover is supported in a D-mode IPL. Two devices can be connected, with data, at the same time during a D-mode IPL.

- Console mode respectability is still honored when take over is enabled. However, each console-capable workstation will present either a DST signon or the Console Information Status window. If the console mode is set to LAN, for example, a local console directly attached workstation will present the `Console Information Status` window without displaying the DST signon window but the Take over the console field will show **NO** to indicate it cannot take over the existing console. However, it could be used for a recovery action.

  Related reference

  "Recovery details"
  These are some details you should refer to concerning the console recovery action.

Recovery details:

These are some details you should refer to concerning the console recovery action.

- The recovery of the console using a device with the same console connectivity is directly tied to the take over option. If you do not want take over capability but do want recovery from loss of the console, you must still enable the take over option.

- Console recovery utilizes the take over function. Recovery can be from the same device or another device of the same connectivity. For example, if you are using Operations Console LAN and have multiple PCs set up to be the console and the existing console fails you can use the take over function from the same PC, after correcting the reason for the failure, or from another PC. Regardless of what the former console was doing, the new console will be in the same job, at the same step, as the original console would have been. The job continues even though the console was not operational. Using a directly attached console to recover a loss of a LAN-connected console doesn't fit this scenario

- The recoverability of the console using a different console connectivity provides additional options for the user. If you have a backup console plan that involves the need for a change in the console mode, consider the following:

  - It is recommended that for ease of adapting recovery that you place all console supporting adapters for use by the same IOP. This reduces the number of steps necessary to accomplish a recovery.

  - The console mode change can be immediate depending on the method used to make the change. Examples would be:

    - Using DST or SST to change the console mode would allow the console to change only at the next IPL. Following this action with a force DST (function 21) using the control panel or LPAR menu may not always work either.

    - Changing tags in the LPAR environment will also require an IPL to cause a change of the console.

    - However, using the console service functions (65+21), forces the system to do this search and activates the appropriate hardware and tasks and is immediate.

  - Supporting hardware for each console type you want to use for recovery must be available at the time of recovery. For example, if you want a local console directly attached to be able to recover a local console on a network, both adapter cards must be located in their respective locations or be properly tagged for logical partitions. For this to be completed the user would also have to change the console mode, either using an available menu or using the console service functions (65+21).

    In order to accomplish a recovery using a different console mode you must set the new console mode **before** attempting the take over. This means that either the supporting hardware must already

be available, including any logical partition tagging, or you have to move supporting hardware, physically or logically, before attempting the recovery. Then, you will have to use one of the methods to change the console mode to the desired setting. You can use an existing workstation and SST, if available, the native macro, or the console service functions (65+21).

For additional information on console service functions, see the section: Using the console service functions (65+21).

– In V5R4, a D-mode IPL the take over function, one console device taking over for another, is now supported.

If you change the console mode value during a D-mode IPL, for example using 65+21, you should be able to connect another device as long as the new console mode has supporting hardware and a device.

Related reference

"Take over details" on page 60
These are some facts you should remember concerning the console take over function.

"Using the console service functions (65+21)" on page 89
The emergency console recovery functions and their uses

Enable console take over:

Procedures for enabling permissions and tools to allow console takeover

Before you can enable console take over, you must have the take over console privilege. Use the procedure below to grant take over console privilege and then continue with the next procedure to enable console take over.

To add the take over console privilege to a user, perform the following:

Note: To perform any of the following procedures using SST, select the option Work with service tools user IDs and Devices everywhere it says select Work with DST environment and skip the step Select **System Devices**.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST).
2. Select **Work with DST environment**.
3. Select **Service tools user IDs**.
4. Place a 7 on the line in front of the desired user ID and press **Enter**.
5. Scroll down until you find the option **Take over console** and place a 2 on that line to grant the user this privilege and press **Enter**.

   To repeat this procedure for additional user IDs, repeat steps 4 and 5.

   This privilege will be used the next time the user ID signs on.

   Note: When a user signs on at a device capable of taking over the console the status of the Take over the console field is updated. In order to reflect a change, such as a user being granted the take over console privilege, the user would have to exit the Console Information Status window, using **F3** or **F12** and sign on again.

   To enable the console take over and recovery, perform the following:

   a. Access Dedicated Service Tools (DST) or System Service Tools (SST).
   b. Select **Work with DST environment**.
   c. Select **System devices** (skip this step if using SST).
   d. Select **Select Console**.
   e. Place a 1 in the option **Allow console to be taken over by another console** and press **Enter**.

The console take over option will take effect immediately.

Scenarios:

The following scenarios will help you understand the take over and recovery options.

Scenario: LAN connected devices only with take over enabled:

This is a description of what happens during an IPL when console take over is enabled and more than one LAN-connected device is available.

The LAN devices will be called LAN1, LAN2, and LAN3. The IPL is being performed in unattended (Normal) mode.

At the point in an IPL when the console device is being determined, it is more or less a race condition if more than one device is connecting at a time. The first device to connect, of the type specified by the console mode setting (LAN in our example), becomes the console and will be presented with the usual console screens.

For our example let's say LAN1 is the first device connected. During the IPL this device will show the IPL status changes just like any other console and eventually the i5/OS sign on window. LAN2 and LAN3 will show a special DST signon screen with a new line of data stating `ATTENTION: This device can become the console`. The rest of the window will be the same as any other DST signon window. At LAN2 a user with the user privilege of take over console signs on. This user will now be presented the same `Console Information Status` screen and the take over the console field will show a `YES` indicating that take over is possible. At LAN3 a user without the take over console privilege signs on. The take over the console field will show as `NO` since the user does not have the correct authority for take over.

At this point only one device has met all the conditions for a console take over. At the bottom of the screen is F10=Take over console connection. Pressing F10 will present the user with the Take over Console Connection From Another User screen. This is a confirmation screen that gives the user a last chance to cancel the take over. Selecting 1 and then pressing Enter at this point will cause the take over to occur. Almost immediately, LAN1 will get the special DST signon screen and LAN2, the device that initiated the take over, will have the exact same screen LAN1 had when the transfer took place. The job, if something was running, doesn't even know this action took place. In fact, the original console could have been installing Licensed Internal Code or i5/OS or even running a complete system save in restricted state and the server would not know it. You could even disconnect the console connection and come back later, reconnect, and you will get the current job's screen data and the job would never miss a beat. If a large amount of screen data was sent by the job and could not be delivered, the data will be stored until later. When a console reconnects, by an authorized user (has the take over console privilege) from an eligible device, the user may see fast screen refreshes until all the stored data has been delivered. Actually, doing a disconnect and a reconnect is considered a recovery (not a take over).

The data present at LAN3 will not change after the take over. Currently, there is no method to automatically refresh the data. However, if the user at LAN3 pressed Enter, a manual refresh of all fields except the Take over the console field would occur. The user would have to exit this screen and sign on again to see the change to that field.

Scenario: A normal IPL and dual-connectivity configurations with take over enabled:

This is a description of what happens during an IPL when console take over is enabled and more than one Operations Console connectivity is being used. That is, a directly attached console device, of which there can only be one, is connected and three Operations Console LAN devices are connected.

The console mode is set to Operations Console LAN (3). The directly attached PC will be known as CABLED and the LAN PCs will be labeled LAN1, LAN2, and LAN3. The IPL is being performed in unattended mode.

At the point in an IPL when the console device is being determined, it is more or less a race condition if more than one device is connecting at a time. The first device to connect, of the type specified by the console mode setting (LAN in our example), becomes the console and will be presented with the usual console screens. Each additional device that connects will be presented with one of two screens.

For our example let's say LAN1 is the first device connected. During the IPL this device will show the IPL status changes just like any other console and eventually the i5/OS sign on window. LAN2 and LAN3 will present a special DST signon with a new line of data stating "ATTENTION: This device can become the console". The rest of the window will be the same as any other DST signon window. The device known as CABLED will not initially connect because it doesn't meet the console mode of LAN. If the asynchronous communications line were to be activated with a function 66 however, it would be taken directly to the new Console Information Status screen where the user can see data related to the current console. The field Take over the console will show NO since it is not of the correct type (the console mode is set to LAN). At LAN2 a user with the user privilege of take over console signs on. This user will now be presented the same Console Information Status screen but the Take over the console field will show a YES indicating that take over is possible. At LAN3, a user without the take over console privilege signs on. The Take over the console field will show as NO since the user does not have the correct authority for take over.

At this point only one device has met all the conditions for a console take over. At the bottom of the screen is F10 = Take over console connection. Pressing F10 will present the user with the Take over Console Connection From Another User screen. This is a confirmation screen that gives the user a last chance to cancel the take over. Selecting 1 and pressing Enter at this point will cause the take over to occur. Almost immediately, LAN1 will get the special DST signon screen and LAN2, the device that initiated the take over, will have the exact same screen LAN1 had when the transfer took place. The job, if something was running, does not even know this action took place. In fact the original console could have been installing Licensed Internal Code or i5/OS or even running a complete system save in restricted state and the server would not know it. You could even disconnect the console connection and come back later, reconnect, and you will get the current job's screen data and the job would never miss a beat. If a large amount of screen data was sent by the job and couldn't be delivered the data will be stored until later. When a console reconnects, by an authorized user and device, the user may see fast screen refreshes until all the stored data has been delivered. Actually, doing a disconnect and a reconnect is considered a recovery (not a take over).

Scenario: Recovery of a console requiring a new console mode setting:

There may be cases in which you may have to change the console mode in order to recover from a console error. An example of this might be the loss of your network during normal operations.

The console mode could be changed using one of several methods, which include:
- DST or SST menus (delayed)
- Native macros (delayed)
- Console Service Functions (65+21) (Immediate)

Only the console service functions (65+21) method will automatically take down the old connection and activate all the resources for the new choice. The other two methods may require manual steps to activate the appropriate resources for the new console. These changes also require that the associated resources be available in a state where they can be used. For example, you are using Operations Console LAN and the network fails, the console was in use by your logical partition and you do not have an asynchronous communications card on the IOP tagged for the console. You would have to either move a card or change the IOP tagging to allow a directly attached console to work. If the change is not required immediately, you could also wait for the change to take affect during the next IPL in which case a newly tagged IOP would allow the directly attached console to connect. In this example, however, we are attempting to change the console's connectivity and use another device right now. The recommended method for immediate change is the console service functions (65+21) method. Once that has been successfully

performed, the user must sign on again. Since this scenario is from LAN to directly attached console the new console would not get the special signon screen or the Console Information Status screen since it is the only valid console after the console mode change. When the network problem is fixed, the LAN connected devices would go directly to the Console Information Status screen and would not be able to take control as the console without changing the console mode back to LAN. Take over is not available when a device is directly connected as the console since only one connection of this type is allowed by the server.

Another consideration for choosing the method to change the console mode will be the availability of another workstation. If you are installing using the console then the only method available to you is the console service functions (65+21).

Scenario: How to recover the console during a D-mode IPL with take over enabled:

In this scenario you might be installing Licensed Internal Code as part of a system recovery action and the configured console was a local console on a network. However, the device did not become active and you have an A6005008 SRC code. The system is large and it takes a long time to get to this point and you do not want to start over.

The proper asynchronous communications adapter is available without further configuration changes so you could use the console service functions (65+21) to change the console mode. This automatically starts the communications adapter associated with the local console directly attached to the server. If you want to use the PC you were using for the network-attached console, you simply disconnect the network configuration and create (or use a previously created configuration) a local console directly attached to the server configuration. Once the console service functions (65+21) has successfully completed, you connect the directly attached configured connection. This device should become the console automatically and you will be at the step originally expected. If the network failure preceded the old console getting the language screen, the new console will present that screen. If the failure happened after you started an action the new console will either be running that action or the action may be complete, in which case you will see the results of that action.

Change from one console type to another

If you already have a console connection, you can change to different types of consoles in the following ways.

Electronic customer support

If you are currently using electronic customer support (ECS) and you need to directly attach your console, you must move the electronic customer support cabling to another communications port before trying to install an Operations Console local console directly attached to the server.

Note: This may require you to change the resource information used for electronic customer support. Also, as part of your migration, you may need to deallocate the LAN adapter from use by the Operations Console. For instructions on deallocating or moving the LAN adapter, see: Deallocating or moving the LAN adapter card.

For more information about ECS refer to the topic: Electronic customer support.

Related tasks

"Deallocate or move the LAN adapter card from use by Operations Console" on page 84
How and when to deallocate or move the LAN card

Related reference

"Switching from one console type to another when a console is currently available" on page 58
If you know in advance that you will need a different console type you can use the current console to make the changes necessary for use with a different console.

Related information

Electronic customer support

Change from a local console directly attached to a local console on a network (LAN)

To change from an Operations Console with a local console directly attached to a local console on a network (LAN), you must change settings on both the PC and the server.

Before you begin, ensure that you have satisfied all the Operations Console hardware requirements for the PC and server.

Related reference

"Meet Operations Console hardware requirements" on page 17
You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Change the console from a local console directly attached to a local console on a network (LAN) in a non-partitioned or primary partitioned server:

To change from an Operations Console with local console directly attached to a local console on a network (LAN), follow these steps on the server using the existing console.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST).
2. Select **Work with DST environment**. You must unlock the SST option **Service tools device IDs** before it is usable.
3. Select **System Devices** (skip this step if using SST).
4. Select **Select Console**.
5. Select **Operations Console (LAN)**. The Verify Operations Console Adapters window. This is the resource found by the system to be used for your LAN connection. If you get a message stating that the LAN adapter was not found, you have not satisfied the hardware requirements for Operations Console.
6. Press **F11** to configure the adapter.
7. Enter the appropriate network data.
8. Press **F7** to store the data.
9. Press **F14** to activate the adapter for use by Operations Console.
10. Press **F3** to return to the DST main menu.

The system is now configured for use by Operations Console local console on a network when an action is taken to search for a new console. This could include an IPL, the native macro, or the console service function (65+21). Do NOT take an action to switch to the new console until you have satisfied any necessary PC configurations.

The iSeries system value QAUTOCFG must be set to **ON**. Use one of the following to verify or set this system value on the iSeries server:

- Use the WRKSYSVAL QAUTOCFG command.
- During a manual IPL, in the IPL Options window, select **Y** for **Set major system options**. Then, for **Enable automatic configuration**, select **Y**.

Continue with Configure the PC to use the new console type.

Related reference

"Meet Operations Console hardware requirements" on page 17
You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Change the console from a local console directly attached to a local console on a network in a logical partition:

To change from an Operations Console with a local console directly attached to a local console on a network (LAN), follow these steps on the server using the existing console.

Note: If you need to add or move adapters to satisfy the hardware requirements for Operations Console, do this work prior to starting these steps.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST). You must unlock the SST option "Service tools device IDs" before it is usable.
2. Select **Work with System Partitions**.
3. Select **Work with partition configuration**.
4. Choose **Select Console Resource** on the logical partition.
5. Press **F9** to **Change capability filter**.
6. Select **Any Console**.
7. To select the IOP that will support your intended console, do one of the following:
   - If the adapter to be used for the intended console is under the same IOP as the previous console's adapter, the console IOP is already correctly tagged. Go to step 8.
   - If the adapter to be used for the intended console is under a different IOP than the currently configured console, place a 1 in front of the IOP to select it as the console IOP.
8. Verify an adapter for Electronic Customer Support (ECS) and an optional alternate console (twinaxial console only).

   Note: The selection of an alternate console only pertains when twinaxial workstations are to be the alternate console and the console type is also twinaxial console. The alternate console **must** be under a different IOP than the IOP tagged for use by Operations Console. Operations Console cannot be used as an alternate console.

   - To verify the console IOP for ECS, perform the following steps:

   Note: If you use Operations Console as your console type, you must also tag the same IOP used for the console as the IOP for ECS.

   a. Press **F12** until you arrive at the **Work with Partition Configuration** window.
   b. Enter a **9** in front of the partition to be tagged for ECS.
   c. Look at the symbols on the same line as the tagged console IOP (the console tag is the < symbol) for the ECS symbol, which is the + (the plus sign). If the + symbol is shown, the IOP is correctly tagged for ECS. Go to step 9.
   d. To tag the console IOP for ECS, enter a **1** in front of the IOP to be tagged for ECS.

      Note: If you will be using Operation Console as the intended console you should now see both a < and a + associated with the console IOP.
9. Press **F3** to exit to the DST main menu.
10. Select **Work with DST environment**.
11. Select **System Devices**(skip this step if using SST).
12. Select **Select Console**.
13. Select **Operations Console (LAN)**:
   a. The Verify Operations Console Adapters window appears. This is the resource found by the system to be used for your LAN connections. If you receive the message **No valid LAN adapter available** you did not satisfy the hardware requirements for Operations Console. If so, use **F3** to exit to the DST main menu, then, start this topic again at step 1.
   b. Press **F11** to configure the adapter.

c. Enter the appropriate network data.

   d. Press **F7** to store the data.

   e. Press **F14** to activate the adapter for use by Operations Console.

14. Press **F3** until you return to the DST main menu.

The system is now configured for use by Operations Console local console on a network when an action is taken to search for a new console. This could include an IPL, the native macro, or the console service function (65+21). Do NOT take an action to switch to the new console until you have satisfied any necessary PC configurations. If you do not plan to use the local console directly attached configuration as a backup console, you do not need to remove or move its adapter at this time. You may need it to debug problems.

The iSeries system value QAUTOCFG must be set to **ON**. Use one of the following to verify or set this system value on the iSeries server:

- Use the WRKSYSVAL QAUTOCFG command.
- During a manual IPL, in the IPL Options window, select **Y** for **Set major system options.** Then, for **Enable automatic configuration**, select **Y**.

Continue with Configure the PC to use the new console type when changing from a local console directly attached to a local console on a network (LAN).

> **Related reference**

> "Meet Operations Console hardware requirements" on page 17
> You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Configure the PC to use the new console type when changing from a local console directly attached to a local console on a network:

To change from an Operations Console with local console directly attached to a local console on a network (LAN), you must configure the PC to use the new console type.

Follow these steps on the PC:

1. Disconnect the current console connection. To disconnect, do the following:

   a. Select the configuration name (under iSeries Connection). This is the name that Operations Console uses to refer to a specific iSeries server.

   b. From the Connection menu, click **Disconnect**. The connection status shows **Disconnecting**.

   c. Wait for the status to show **Disconnected**.

2. To configure the new console type, see Set up Operations Console. It is recommended that you perform an initial program load (IPL) to be certain there are no errors.

   Once you are satisfied that the new console is working correctly you can proceed with any plans to move or remove any adapter or configurations.

   If you will not be using the cabled connection as a backup console, you may remove the console cable, the remote control panel cable, or both cables from the PC at this time. It is recommended that you power down the iSeries before removing or adding cables from the iSeries.

   To delete the current configuration if you will not be using the cabled connection as a backup console do the following:

   a. Select the configuration name (under iSeries Connection).

   b. From the **Connection** menu, click **Delete**.

   c. Click **Yes** to confirm the deletion.

Note: It is recommended that you power down the iSeries when removing adapter cards or cables.

Change from a local console on a network (LAN) to a local console directly attached

Use one of the procedures in this section to change from a local console on a network (LAN) to a local console directly attached to the server

Find the specific steps to configure the PC to use the new console type:

Change the console from local console on a network (LAN) to a local console directly attached for a non-partitioned server or a primary partition:

To migrate Operations Console local console on a network (LAN) to a local console directly attached, follow these steps on the server using the existing console.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST). You must unlock the SST option "Service tools device IDs" before it is usable.
2. Select **Work with DST environment**.
3. Select **System Devices** (skip this step if using SST).
4. Select**Select Console**.
5. Select **Operations console (LAN)**. The Verify Operations Console Adapters window appears. This is the resource found by the system to be used for your LAN connection.

   Note: If this resource will be used for the service tools server (iSeries Navigator connections) or you plan to use the local console on a network (LAN) as a backup console then you do not need to do the clear. If either of these choices is true, continue with step 12.
6. Press **F11** to configure the adapter.
7. Press **F6** to perform a clear.
8. Press **F7** to store the new values.
9. If you are not currently using this resource for the console connection, press **F13** to deactivate the adapter. You will be required to use another console type or resource on the next IPL.

   Note: If you are doing this work from a local console on a network connection this deactivation will cause your console connection to close and you may not be able to restart it without an IPL.
10. Press **F12** twice to exit this window. You should have returned to the **Work with System Devices** window. If you're using SST, this returns you to Work with Service Tools User IDs and Devices.
11. Select **Select Console**.
12. Select **Operations console (direct)**.

    Important: You must change the console type to something other than Operations Console (LAN) or the adapter will get reallocated on the next IPL.
13. Press **F3** to return to the DST main menu.

The system is now configured for use by your intended console type.

If you do not plan to use the local console on a network (LAN) configuration as an backup console, you do not need to remove or move the LAN adapter at this time. If you encounter a problem with your new console choice you may need this resource to debug the problem. When you get your new console choice working you can remove it from the server or move it to another location.

The iSeries system value QAUTOCFG must be set to **ON**. Use one of the following to verify or set this system value on the iSeries server:
* Use the WRKSYSVAL QAUTOCFG command.
* During a manual IPL, in the IPL Options window, select **Y** for **Set major system options.** Then, for **Enable automatic configuration**, select **Y**.

Continue with Configure the PC to use the new console type

Change the console from local console on a network (LAN) to a local console directly attached for a logical partition:

To migrate Operations Console with a local console on a network (LAN) to a local console directly attached, follow these steps on the server using the existing console.

Note: If you need to add or move adapters to satisfy the hardware requirements for Operations Console, do this work prior to starting these migration steps.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST).
2. Select **Work with System Partitions**.
3. Select **Work with partition configuration**.
4. Choose **Select Console Resource** on the logical partition.
5. Press **F9** to **Change capability filter**.
6. Select **Any Console** (option 4).
7. To select the IOP that will support your intended console, do one of the following:
   - If the adapter to be used for the intended console is under the same IOP as the previous console's adapter, the console IOP is already correctly tagged. Go to step 8.
   - If the adapter to be used for the intended console is under a different IOP than the currently configured console, place a **1** in front of the IOP to select it as the console IOP.
8. Verify an adapter for Electronic Customer Support (ECS) and an optional alternate console.
   - To verify the tagging for an alternate console, find the IOP with the twinaxial adapter that will be used for the alternate console. It is properly tagged if you see a **>** (greater than) symbol on the same line. If the **>** is not on this line, enter an option **2** in front of the IOP being selected as the alternate console.

   Note: The selection of an alternate console only pertains when twinaxial workstations are to be the alternate console and the console type is also twinaxial console. The alternate console **must** be under a different IOP than the IOP tagged for use by Operations Console. Operations Console cannot be used as an alternate console.

   - To verify the console IOP for ECS, perform the following steps:

   Note: If you use Operations Console as your console type, you must also tag the same IOP used for the console as the IOP for ECS even if you do not use ECS.
   a. Press **F12** until you arrive at the **Work with Partition Configuration** window.
   b. Enter a 9 in front of the partition to be tagged for ECS.
   c. Look at the symbols on the same line as the tagged console IOP (the console tag is the < symbol), for the ECS symbol which is the + (the plus sign). If the + symbol is shown, the IOP is correctly tagged for ECS. Go to step 9.
   d. To tag the console IOP for ECS, enter a 1 in front of the IOP to be tagged for ECS.

   Note: If you will be using Operation Console as the intended console you should now see both a < and a + associated with the console IOP.
9. Press **F3** to return to the DST main menu.
10. Select **Work with DST environment** (skip this step if using SST).
11. Select **System Devices**(skip this step if using SST).
12. Select **Select Console**.
13. Select **Operations Console (LAN)**: The Verify Operations Console Adapters window appears. This is the resource found by the system to be used for your LAN connections.

Note: If this resource will be used for the service tools server (iSeries Navigator connections) or you plan to use the local console on a network (LAN) as a backup console then you won't need to do the clear. If either of these choices is true, continue with step 17.

14. Press **F6** to perform a clear.

15. Press **F7** to store the new values.

16. If you are **not** currently using this resource for the console connection, press **F13** to deactivate the adapter. You will be required to use another console type or resource on the next IPL.

    Note: If you are doing this work from a local console on a network connection this deactivation will cause your console connection to close and you may not be able to restart it without an IPL.

17. Press **F12** twice to exit this window. You should return to the **Work with System Devices** window. If you're using SST, this returns you to Work with Service Tools User IDs and Devices.

18. Select **Select Console**.

19. Select **Operations console (direct)**.

    Important: You must change the console type to something other than Operations Console (LAN) or the adapter will get reallocated on the next IPL.

20. Press **F3** until you return to the DST main menu.

The system is now configured for use by your intended console type.

If you do not plan to use the local console on a network (LAN) configuration as a backup console, do not remove or move the LAN adapter at this time. If you encounter a problem with your new console choice you may need this resource to debug the problem. When you get your new console choice working you can remove it from the server or move it to another location.

The iSeries system value QAUTOCFG must be set to **ON**. Use one of the following to verify or set this system value on the iSeries server:

- Use the WRKSYSVAL QAUTOCFG command.
- During a manual IPL, in the IPL Options window, select **Y** for **Set major system options.** Then, for **Enable automatic configuration**, select **Y**.

Continue with Configure the PC to use the new console type when changing the console from a local console on a network (LAN) to a local console directly attached.

Configure the PC to use the new console type:

After changing from a local console on a network to a local console directly attached, you must configure the PC to use the new console type.

Perform the following steps on the PC:

Note: If you have not connected the cables for this connection type, connect the cables now.

It is recommended that you power down the iSeries when removing adapter cards or cables.

1. Disconnect the current console connection. To disconnect, do the following:
   a. Select the configuration name (under iSeries Connection). This is the name that Operations Console uses to refer to a specific iSeries server.
   b. From the Connection menu, click **Disconnect**. The connection status shows **Disconnecting**.
   c. Wait for the status to show **Disconnected**.

2. To configure the new console type, see Set up a local console directly attached to the server. It is recommended that you perform an attended initial program load (IPL) to be certain there are no errors. Also, you may not want to delete your old configuration until you have a successful connection using the new configuration.

   Once you are satisfied that the new console is working correctly you can proceed with any plans to move or remove any adapter or configurations.

   To delete the current configuration if you will not be using the cabled connection as a backup console do the following:

   a. Select the configuration name (under iSeries Connection).

   b. From the Connection menu, click **Delete**.

   c. Click **Yes** to confirm the deletion.

Change from a twinaxial console to Operations Console

To change from a twinaxial console to Operations Console, you a set of steps on both the PC and the server.

Before you begin, ensure that you have satisfied all the Operations Console hardware requirements for the PC and iSeries server.

> **Related reference**
>
> "Meet Operations Console hardware requirements" on page 17
> You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Change the console from a twinaxial console to an Operations Console in a non-partitioned or primary partitioned server:

To change from twinaxial to Operations Console, you must perform these steps on the server using the existing console.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST). You must unlock the SST option "Service tools device IDs" before it is usable.

2. Select **Work with DST environment**.

3. Select **System Devices** (skip this step if using SST).

4. Select **Select Console**.

5. Select the new console type.

   • If you selected an Operations Console (LAN), do the following:

   a. The Verify Operations Console Adapters window appears. This is the resource found by the system to be used for your LAN connection. If you receive a message stating that the LAN adapter was not found, you need to satisfy the hardware requirements for Operations Console.

   b. Press **F11** to configure the adapter.

   c. Enter the appropriate network data.

   d. Press **F7** to store the data.

   e. Press **F14** to activate the adapter for use by Operations Console.

   • If you selected an Operations Console (direct), continue with step 6.

6. Press **F3** until you return to the DST main menu.

The system is now configured for use by your intended console type.

If you do not plan to use the twinaxial device as a backup console do not remove it or its adapter at this time. You may need it to debug a problem.

The iSeries system value QAUTOCFG must be set to **ON**. Use one of the following to verify or set this system value on the iSeries server:

- Use the WRKSYSVAL QAUTOCFG command.
- During a manual IPL, in the IPL Options window, select **Y** for **Set major system options.** Then, for **Enable automatic configuration**, select **Y**.

Continue with Configure the PC.

> **Related reference**
> "Meet Operations Console hardware requirements" on page 17
> You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Change the console from a twinaxial console to an Operations Console in a logical partition:

To change from twinaxial to Operations Console, you must perform these steps on the server using the existing console prior to powering down or performing an initial program load (IPL).

Note: If you need to add or move adapters to satisfy the hardware requirements for Operations Console, do this work before starting these migration steps. Do not move or remove the twinaxial adapter from its current input and output processor (IOP) at this time.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST). You must unlock the SST option "Service tools device IDs" before it is usable.
2. Select **Work with System Partitions**.
3. Select **Work with partition configuration**.
4. Choose **Select Console Resource** on the logical partition.
5. Press **F9** to **Change capability filter.**
6. Select **Any Console**.
7. To select the IOP that will support your intended console, do one of the following:
   - If the adapter to be used for the intended console is under the same IOP as the previous console's adapter, the console IOP is already correctly tagged. Go to step 8.
   - If the adapter to be used for intended console is under a different IOP than the currently configured console, place a 1 in front of the IOP to select it as the console IOP.
8. Verify the adapter for Electronic Customer Support (ECS) and an optional alternate console (twinaxial console only).

   Note: The selection of an alternate console only pertains when twinaxial workstations are to be the alternate console and the console is also twinaxial console. The alternate console **must** be under a different IOP than the IOP tagged for use by Operations Console. Operations Console cannot be used as an alternate console.

   - To verify the console IOP for ECS, perform the following steps:

   Note: If you use Operations Console as your console type, you must also tag the same IOP used for the console as the IOP for ECS even if you do not use ECS.

   a. Press **F12** until you arrive at the **Work with Partition Configuration** window.
   b. Enter a 9 in front of the partition to be tagged for ECS.
   c. Look at the symbols on the same line as the tagged console IOP (the console tag is the < symbol) for the ECS symbol which is the + (the plus sign). If the + symbol is shown, the IOP is correctly tagged for ECS. Go to step 9.
   d. To tag the console IOP for ECS, enter a 1 in front of the IOP to be tagged for ECS.

Note: If you will be using Operation Console as the intended console you should now see both a < and a + associated with the console IOP.

9. Press **F3** to exit to the DST main menu.

10. Select **Work with DST environment**.

11. Select **System Devices** (skip this step if using SST).

12. Select **Select Console**.

13. Use one of the following console choices to select the new console type.
    - If you select Operations Console (direct), option 2, continue with step 14.
    - If you select Operations Console (LAN), option 3, do the following:

    a. The Verify Operations Console Adapters window appears. This is the resource found by the system to be used for your LAN connection. If you receive the message **No valid LAN adapter available** you did not satisfy the hardware requirements for Operations Console. If so, use **F3** to exit to the DST main menu, then, start this topic again at step 1 above.

    b. Press **F11** to configure the adapter.

    c. Enter the appropriate network data.

    d. Press **F7** to store the data.

    e. Press **F14** to activate the adapter for use by Operations Console.

14. Press **F3** until you return to the DST main menu.

The system is now configured for use by your intended console type.

If you do not plan to use the twinaxial device as an backup console do not remove it or its adapter at this time. You may need it to debug a problem.

The iSeries system value QAUTOCFG must be set to **ON**. Use one of the following to verify or set this system value on the iSeries server:
- Use the WRKSYSVAL QAUTOCFG command.
- During a manual IPL, in the IPL Options window, select **Y** for **Set major system options.** Then, for **Enable automatic configuration**, select **Y**.

Continue with Configure the PC to use the new console type after changing from a twinaxial console to an Operations Console.

> **Related reference**
>
> "Meet Operations Console hardware requirements" on page 17
> You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Configure the PC to use the new console type after changing from a twinaxial console to an Operations Console:

To change from a twinaxial console to an Operations Console, you must configure the PC to use the new console type.

To configure the new console type, see Set up Operations Console.

It is recommended that you perform an initial program load (IPL) to ensure there are no errors. Then, at a later time, remove or move any hardware you planned for.

It is recommended that you power down the iSeries when removing adapter cards or cables.

Note: If the new console fails to work in i5/OS you may need to use another workstation to manually delete the controller and device description associated with the old console device.

Changing from an Operations Console to a twinaxial console

To change from an Operations Console to a twinaxial console, you must perform steps on the server and, optionally, on the PC.

Before you begin, make sure that you have satisfied all the Operations Console hardware requirements for the PC and iSeries server.

> **Related reference**
>
> "Meet Operations Console hardware requirements" on page 17
> You need to meet the following PC and iSeries hardware requirements for an Operations Console configuration.

Change the console from an Operations Console to a twinaxial console in a non-partitioned or primary partitioned server:

To change from an Operations Console to a twinaxial console, follow these steps on the server using the existing console.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST).
2. Select **Work with DST environment**.
3. Select **System Devices** (skip this step if using SST).
4. Select **Select Console** .
5. If you are currently using Operations Console local console on a network (LAN), select Operations Console (LAN) and follow these steps to deallocate the network adapter:

   Note: If this resource will be used for the service tools server (iSeries Navigator connections) or you plan to use the local console on a network (LAN) as a backup console then you won't need to do the clear. If either of these choices is true, continue with step 5e.

   a. Select **Operations Console (LAN)**. The LAN adapter currently in use should be shown.
   b. Press **F11**.
   c. Press **F6** to clear the configuration data.
   d. Press **F7** to store this new value. **Optionally**, you can deactivate the network card by pressing **F13**.
   e. Press **F12** twice to exit this window.
   f. Select **Select Console**.
6. Select **Twinaxial**.
7. Press **F3** to return to the DST main menu.

The system is now configured for use by your intended console type.

If you do not plan to use the local console directly attached configuration as a backup console, do not remove or move it or its adapter at this time. You may need it to debug a problem.

The iSeries system value QAUTOCFG must be set to **ON**. Use one of the following to verify or set this system value on the iSeries server:

- Use the WRKSYSVAL QAUTOCFG command.
- During a manual IPL, in the IPL Options window, select **Y** for **Set major system options.** Then, for **Enable automatic configuration**, select **Y**.

Continue with Perform optional steps on the PC.

> **Related tasks**
>
> "Deallocate or move the LAN adapter card from use by Operations Console" on page 84
> How and when to deallocate or move the LAN card

Change the console from an Operations Console to a twinaxial console in a logical partition:

To change from an Operations Console to a twinaxial cable, follow these steps on the server using the existing console.

Note: If you need to add or move adapters to satisfy the hardware requirements for the twinaxial console, do this work before starting these steps. Do not move or remove the twinaxial adapter from it's current input and output processor (IOP) at this time.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST). You must unlock the SST option "Service tools device IDs" before it is usable.
2. Select **Work with System Partitions**.
3. Select **Work with partition configuration**.
4. Choose **Select Console Resource** on the logical partition.
5. Press **F9** to **Change capability filter.**
6. Select **Any Console**.
7. To select the IOP that will support your intended console, do one of the following:
   - If the adapter to be used for the intended console is under the same IOP as the previous console's adapter, the console IOP is already correctly tagged. Go to step 8.
   - If the adapter to be used for intended console is under a different IOP than the currently configured console, place a **1** in front of the IOP to select it as the console IOP.
8. Verify an adapter for use as an optional alternate console. To verify the tagging for an alternate console, find the IOP with the twinaxial adapter that will be used for the alternate console. It is properly tagged if you see a **>** (greater than) symbol on the same line. If the **>** is not on this line, enter an option 2 in front of the IOP being selected as the alternate console.

   Note: The selection of an alternate console only pertains when twinaxial workstations are to be the alternate console and the console type is also twinaxial console. The alternate console **must** be under a different IOP than the IOP tagged for use by Operations Console. Operations Console cannot be used as an alternate console. Do **not** tag the same IOP for the console and the alternate console.
9. Press **F3** to exit to the DST main menu.
10. Select **Work with DST environment**.
11. Select **System Devices** (skip this step if using SST).
12. Select **Select Console**.
13. If you are currently using Operations Console local console on a network (LAN), select Operations Console local console on a network (LAN) and follow these steps to deallocate the network adapter:

    Note: If this resource will be used for the service tools server (iSeries Navigator connections) or you plan to use the local console on a network (LAN) as a backup console then you won't need to do the clear. If either of these choices is true, continue with step 13e.
    a. Select **Operations Console (LAN)**. The LAN adapter currently in use should be shown.
    b. Press **F11**.
    c. Press **F6** to clear the configuration data.
    d. Press **F7** to store this new value.
    e. Press **F12** twice to exit this window.
    f. Select **Console**.
14. Select **Twinaxial**.
15. Press **F3** to return to the DST main menu.

The system is now configured for use by your intended console type.

If you do not plan to use Operations Console as a backup console, do not remove or move it or its adapter at this time. You may need it to debug problems.

The iSeries system value QAUTOCFG must be set to **ON**. Use one of the following to verify or set this system value on the iSeries server:

- Use the WRKSYSVAL QAUTOCFG command.
- During a manual IPL, in the IPL Options window, select **Y** for **Set major system options.** Then, for **Enable automatic configuration**, select **Y**.

Continue with Perform optional steps on the PC when changing from an Operations console to a twinaxial console.

Perform optional steps on the PC when changing from an Operations Console to a twinaxial console:

If the PC will not be used for Operations Console, follow these steps:

Important: Perform these steps only after you are sure there are no problems with the twinaxial console.

1. Disconnect the current console connection. To disconnect, do the following:
   a. Select the configuration name (under iSeries Connection). This is the name that Operations Console uses to refer to a specific server.
   b. From the Connection menu, click **Disconnect**. The connection status shows **Disconnecting**.
   c. Wait for the status to show **Disconnected**.
2. Cable the twinaxial console to the server and power on the twinaxial console and the server.
3. Perform an initial program load (IPL) to ensure there are no errors. Then, at a later time, remove or move any hardware you planned for. When you are satisfied with your new console delete the current configuration if you will not be using the cabled connection as a backup console. To delete the configuration, do the following:
   a. Select the configuration name (under iSeries Connection).
   b. From the Connection menu, click **Delete**.
   c. Click **Yes** to confirm the deletion.
   d. Uninstall iSeries Access for Windows.

Power off the PC and remove any hardware and cables no longer needed at this time. It is recommended that you power down the iSeries before removing any cables or adapters from the iSeries.

Note: If the new console fails to work in i5/OS you may need to use another workstation to manually delete the controller and device description associated with the old console device.

Manage your local console on a network

These instructions are only valid if you have a local console on a network configured.

Considerations for changing the service tools device ID passwords

Review these considerations before you reset the service tools device ID password.

Note: You must unlock the SST option before the option is usable.

- The service tools device ID password on the PC must be the same as the service tools device ID password on the server. If you change one, you have to change the other.
- Operations Console encrypts the service tools device ID password when you click **Next** in the **Access Password** window.
- If you are creating a new local console on a network configuration (you have not connected yet) and click **Cancel** after the Access Password window, you can re-create the configuration with the same service tools device ID.

- Operations Console changes and re-encrypts the service tools device ID password during each successful connection.
- If you delete the local console on a network configuration after making at least one successful connection, you need to reset the service tools device ID password on the server before you reuse the profile for a new local console on a network configuration.

   Related tasks

   "Using Service Tools Device IDs in System Service Tools (SST)" on page 93
   Change Operations Console configuration data from System Service Tools (SST) using the Work with service tools user IDs and Devices option.

   Related reference

   "Resynchronize the PC and service tools device ID password"
   Recovery steps necessary to resynchronize the service tools device id password. When a mismatch occurs in the service tools device ID password between the server and the Operations Console PC, you need to resynchronize the password by performing recovery steps on both the PC and the server.
   "Changing the service tools device ID password on the PC and server"
   There is currently no advantage to changing the service tools device ID password unless the passwords on the PC and server are out of synchronization.

Changing the service tools device ID password on the PC and server

There is currently no advantage to changing the service tools device ID password unless the passwords on the PC and server are out of synchronization.

If this is the case, use the topic Resynchronize the PC and service tools device ID password to make them both the same again. Since this password is actually changed at each successful connection, manually changing the password, except for synchronization, is not recommended.

   Related reference

   "Considerations for changing the service tools device ID passwords" on page 77
   Review these considerations before you reset the service tools device ID password.

Change the access password

How to change the access password after creating a new configuration

You can change the password used to access the service tools device ID information at any time after the creation of a new local console on a network configuration. If you are working with partitions, you can change this password for the corresponding partition.

Note: The password is case sensitive and can be a maximum of 128 characters of mixed case. It is important that you remember this password. You will use this password during the connection process to sign on through the **LAN Service Device Sign-on** window.

To use the connection properties to change the access password, follow these steps:

1. Select the connection name for which you will be changing the access password.
2. Click **Connection** → **Properties**.
3. Select the **Access Password** tab.
4. For **Current Password** enter what you currently use for the access password.
5. Enter the new password into the **New Password** and **Confirm password** fields, and then click **OK**.

Resynchronize the PC and service tools device ID password

Recovery steps necessary to resynchronize the service tools device id password. When a mismatch occurs in the service tools device ID password between the server and the Operations Console PC, you need to resynchronize the password by performing recovery steps on both the PC and the server.

When a mismatch occurs in the service tools device ID password between the server and the Operations Console PC, you need to resynchronize the password by performing recovery steps on both the PC and the server.

Note: You need to access Dedicated Service Tools (DST) or System Service Tools (SST), to perform the reset using the service tool device. If there is already a console device present, you may use it. Otherwise, you may need to temporarily attach another console such as:

- Using a different local console on a network (LAN), if available.
- Reconfigure the same local console on a network (LAN) using an unused emergency service tools device ID.
- Using an Operations Console local console directly attached to the server (if an Operations Console cable is available).
- Using a twinaxial-attached console.
- Use the control panel or remote control panel to reset QCONSOLE.

Related tasks

"Create service tools device IDs on the server" on page 82
How to setup service tools device IDs on the server if you are using a local console on a network configuration

Related reference

"Considerations for changing the service tools device ID passwords" on page 77
Review these considerations before you reset the service tools device ID password.

Reset the service tools device ID password on the server:

To reset the service tools device ID password on the server, do one of the following.

Note: To perform the following procedure using SST, select the option **Work with service tools user IDs and Devices** everywhere it says select **Work with DST environment** and skip the step Select **System devices**. You must unlock the SST option before the option is usable.

Related tasks

"Using Service Tools Device IDs in System Service Tools (SST)" on page 93
Change Operations Console configuration data from System Service Tools (SST) using the Work with service tools user IDs and Devices option.

Related information

Control panel

Using a console session with another device:

If you can obtain a console session or access SST using another device, do one of the following:

Reset the service tools device ID password. By doing this, the service tools device ID password becomes the service tools device ID name, in uppercase. To reset the service tools device ID, perform these steps:
1. Access Dedicated Service Tools (DST) or System Service Tools (SST).
2. From the DST main menu, do the following:
   a. Select **Work with DST environment**.
   b. Select **Service tools device IDs**.
3. Type 2 in front of the service tools device ID to be reset, and then press **Enter**.
4. Press **Enter** again to confirm the reset.

Note: When you reset the password in DST, the service tools device ID password becomes the service tools device ID name in uppercase. If you delete and create a device ID, you will also have to delete and create the connection on the PC.

Using unused service tools device ID:

If you do not have another device (PC or other terminal) to sign on to the system, but do have an unused service tools device ID, do the following on the PC:

1. Delete the current configuration as follows:
   a. Select the configuration name (under iSeries connection).
   b. From the **Connection** menu, click **Delete**.
   c. Click **Yes** to confirm the deletion if prompted.
2. Create a new configuration and use the unused service tools device ID during the configuration.
3. Use one of the methods above to reset the failing service tools device ID after connecting.

Using the control panel or the remote control panel to reset the QCONSOLE service device ID password:

If you cannot use another service tools device (PC or other terminal) or service tools device ID to sign on and you are using the QCONSOLE service tools device ID, you will have to use the control panel or the remote control panel to reset the service tools device ID password by following these steps:

1. Place the system in Manual mode. Systems without a keystick will show 01 B in the Function/Data display.

   Note: Systems with a keystick should show the mode as Manual and 01 B in the Function/Data display.

2. Use the following information to help determine your progress and success of the reset:

   Note: If your system uses the new double-row Function/Data display control panel, you may have to perform a function 11 in order to display the results (D1008065). Allow at least 15 seconds for the initial function 65 to complete before doing a function 11 if the display did not respond with the D1008065.

   The double-row display control panel presents data like this (models 270 and 8xx):

   xxxxxxxxxxxxxxxx
   xxxxxxxxxxxxxxxx

   Each word is 8 characters but 4 words are displayed at a time for words 12 through 19. For example, requesting word 12 will provide you:

   word__12word__13
   word__14word__15

   Requesting word 13 will provide you:

   word__16word__17
   word__18word__19

   The single-row display control panel and the remote control panel presents data like this:

   xxxxxxxx

   Each word is 8 characters only and displayed individually. If you want word 17, you have to request function 17.

The data provided in the words can be accessed using many different methods.

Important: In order to know where you are in the process the following information is provided:

- Word 17 of the SRC D1008065 will contain the the number of function 65s you have done. When it reaches a count of 7 the reset of the service tools device ID password will take place. Word 18 will then be set to 00000000.
- Word 18 will show 00000001 until you have entered the seventh function 65. When the reset has completed, this word will be set to 00000000 unless more than 5 minutes have elapsed.

Note: If you enter function 65 more than seven times, the count will start over.

3. Use one of the following methods to reset the QCONSOLE service tools device ID depending on the partition type:

- For independent systems or primary partitions use one of the following steps:

a. From the control panel, use the Up or Down buttons so that Function/Data display shows **25**. Then press the Enter button. The Function/Data display should show **25 00**.

b. Use the Up button once to increment the data to **26**. Then, press the Enter button. The system will most likely respond with **01 B** in the Function/Data display.

Note: If the system responds with **65 FF** repeat steps a and b again.

c. Using the Down button, decrement the data to **65**, and then press the Enter button. The system will respond with **65 00**. After processing the function the system will respond with a D1008065. Repeat this step so that you have entered 7 function 65s. You will have 5 minutes to complete this task. When the seventh 65 is entered and if it is found that greater than 5 minutes have elapsed, the reset will not be processed and the count will return to zero. Check WORD17 to verify that the system handled each request. Entering the 65s quickly may cause the system to miss the entries.

- For secondary partitions follow these steps using the console on the primary partition:

a. Access Dedicated Service Tools (DST) or System Service Tools (SST).

Note: You must unlock the SST option before the option is usable.

b. Select **Work with system partitions**.

c. Select **Work with partition status**.

Note: If the partition the reset will be performed on is not in manual mode, you will need to force the partition into manual mode by placing a 10 on the line for the partition selection area before continuing.

d. Enter a 65 on the line for the partition to be reset, then press Enter.

e. Repeat this step so that you have entered 7 function 65s. You will have 5 minutes to complete this task. When the seventh 65 is entered and if it is found that greater than 5 minutes have elapsed the reset will not be processed and the count will return to zero.

Proceed to Reset the service tools device ID password on the PC.

Reset the service tools device ID password on the PC:

In V5R4 (and later releases), you no longer need to manually reset a connections service tools device ID password on the client PC.

If the password was reset on the server, then the next connection made by the client will automatically try a reset version of the password in the case of a failure using the current value. If successful, the newly generated password will be saved for the next connection.

If you suspect that the automatic process failed and you want to manually reset the password, complete one of the following tasks:

Deleting the configuration and recreating it:

To delete the configuration and re-create it, follow these steps:

1. If connected, disconnect as follows:
   a. Select the configuration name (under iSeries Connection). This is the name that Operations Console uses to refer to a specific system.
   b. From the **Connection** menu, click **Disconnect**. The connection status shows `Disconnecting`.
   c. Wait for the status to show `Disconnected`.
2. Delete the configuration:
   a. Select the configuration name (under iSeries Connection) that you want to delete.
   b. From the **Connection** menu, click **Delete**.
   c. Click **Yes** to confirm the deletion if prompted.
3. Recreate the configuration with the service tools device ID you previously reset or with the new service tools device ID.

Resetting the password:

To reset the password for the same service tools device ID, follow these steps:

1. Select the connection name that you will be making the change for, and then click **Connection** → **Properties**.
2. Select the **Device ID** tab.
3. Click the **Reset** button, and then click **OK**.
4. The **Access Password** window will appear. Enter the current access password, and then click **OK**.

Create service tools device IDs on the server

How to setup service tools device IDs on the server if you are using a local console on a network configuration

You will need to set up service tools device IDs on the server for a local console on a network configuration.

Note: To perform the following procedure using SST, select the option **Work with service tools user IDs and Devices** everywhere it says select **Work with DST environment** and skip Step 3. You must unlock the SST option before the option is usable.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST).
2. Select **Work with DST environment**.
3. Select **Service tools device IDs**.
4. Use option 1 to create a new service tools device ID and enter the new service tools device ID name in the first blank name field. Press **Enter**.
5. You may enter a description. Press **Enter**. You have finished creating a service tools device ID.

   Note:
   - The device ID and the service tools user ID must have the proper authorities granted before the remote control panel and all it's functions are available for the associated partition. To verify or change the service tools device ID attributes you can press **F5** (change attributes on the "Create Service Tools Device ID" screen or enter a **7** in front of the device ID on the "Work with Service Tools Device IDs" screen.

6. To create additional service tools device IDs, repeat the steps starting at step 4.

7. Press **F3** when you finish creating your service tools device IDs.

Note:

1. If you have to reset a service tools device ID, the password becomes the name of your service tools device ID in uppercase.
2. If you have more than one PC connected to your console, you should create several service tools device IDs.
3. Sometimes the service tools device ID password has to be changed, such as when the password has to be resynchronized between the PC and the server. When a mismatch occurs in the service tools device ID password between the server and the Operations Console PC, you need to resynchronize the password by performing recovery steps on both the PC and the server.
4. QCONSOLE should not be left in a reset state on the server. This is considered a security exposure.

Related reference

"Resynchronize the PC and service tools device ID password" on page 78
Recovery steps necessary to resynchronize the service tools device id password. When a mismatch occurs in the service tools device ID password between the server and the Operations Console PC, you need to resynchronize the password by performing recovery steps on both the PC and the server.

Related information

Service tools

Configure a service host name (interface name)

iSeries service host name (interface name) is the name that identifies the iSeries service connection on your network that is used for service tools, which includes an Operations Console local console on a network (LAN) configuration.

This is assigned by your system or network administrator. You need a service host name (interface name) anytime a console or remote control panel is being connected using a network connection. One reason to be adding this function is when a server has been logically partitioned and though the primary may have a non-networked console, a remote control panel to a secondary partition may be desirable.

There are two methods to create a service host name (interface name).

- The first is during the manufacturing process for a system that has Operations Console local console on a network (LAN) configuration ordered. The LAN adapter is installed and the correct console type is specified. Then, when the user gets the system the Operations Console configuration wizard is supplied with the customer network parameters, including the service host name (interface name), and during the initial connection this data finishes the server configuration for the network. This process is also known as BOOTP. For more details about the BOOTP process, go to the section: Prepare your network environment.
- The second method to create a service host name (interface name) is by using an existing console. This method could be used during a migration or an upgrade before disconnecting your old console. When using the following procedure, you can either verify or create the configuration for the iSeries service connection. You can find the service host name (interface name) by going into Dedicated Service Tools (DST), or System Service Tools (SST) on the partition that you are configuring and use the Configure Service Tools Adapter display. Enter the same name on the PC as the existing service host name (interface name) defined in DST or SST.

  Note: You may have to temporarily change the console type to complete this work. You may also use any option pertaining to the service tools LAN adapter to verify the service host name or data.

Note: To perform the following procedure using SST, select the option **Work with service tools user IDs and Devices** everywhere it says select **Work with DST environment**. Also note that if you are using a console mode other than Operations Console (LAN) you can take the option to **Configure service tools LAN adapter** option to create or change the service host name or its data.

To create a service host name (interface name):

1. Access Dedicated Service Tools (DST) or System Service Tools (SST).
2. Select **Work with DST environment**.
3. Select **System devices** (skip this step if using SST).
4. Select **Select Console**.
5. Select **Operations Console (LAN)** and press **Enter**. This should show Verify Operations Console Adapters.
6. Press **F11** to configure.
7. The service host name (interface name) field contains the name. If you are creating a new service connection follow these steps:
   a. Enter the network data in the appropriate fields.
   b. Store your configuration by pressing **F7**.
   c. Activate the LAN adapter by pressing **F14**.
   d. Press **F3** to exit.

For more information on service tools, see the article: Service tools.

> **Related information**
>
> Service tools

Deallocate or move the LAN adapter card from use by Operations Console

How and when to deallocate or move the LAN card

During a migration you may need to deallocate the LAN card from use by Operations Console. You should deallocate the LAN card if you are not planning on using an Operations Console local console on a network configuration or the service tools server.

Once the LAN card is deallocated you can move it or use it for another purpose. You must also be using a console type other than an Operations Console local console on a network (LAN) or the steps below will cause the console to disconnect. Follow these steps to deallocate the LAN adapter currently associated with an Operations Console local console on a network (LAN):

Note: To perform the following procedure using SST, select the option **Work with service tools user IDs and Devices** everywhere it says select **Work with DST environment**.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST).
2. Select **Work with DST environment**.
3. Select **System devices** (skip this step if using SST).
4. Select **Select Console**.
5. Select **Operations Console (LAN)**. The LAN adapter currently in use should be shown.
6. Press **F11**.
7. Press **F6** to perform a clear.
8. Press **F7** to store the new values.
9. If you are not using this resource for the console, press **F13** to deallocate the adapter. You will be required to use another console type or resource on the next IPL.

   Note: After you exit this window, do not enter the configuration again. Entering the configuration again will reallocate the LAN adapter resource to Operations Console.

10. Press **F12** twice to exit this window. You should have returned to the **Work with System Devices** window. If you are using SST, this returns you to Work With Service Tools User IDs and Devices.
11. Select **Select Console**.
12. Select the console type you want to use.

Important: You must change the console type to something other than Operations Console (LAN) or the adapter will get reallocated on the next IPL.

Related tasks

"Change the console from an Operations Console to a twinaxial console in a non-partitioned or primary partitioned server" on page 75
To change from an Operations Console to a twinaxial console, follow these steps on the server using the existing console.

Related reference

"Plan for your Operations Console install or upgrade" on page 22
In order to plan for your Operations Console install or upgrade, you need to know this information.

"Change from one console type to another" on page 65
If you already have a console connection, you can change to different types of consoles in the following ways.

Changing network values for Operations Console (LAN)

Use these instructions to make changes your Operations Console network adapter

If you need to make a change to the network adapter used for Operations Console (LAN), such as a new IP address use these instructions.

Note: To perform the following procedure using SST, select the option **Work with service tools user IDs and Devices** everywhere it says select **Work with DST environment**.

1. Access Dedicated Service Tools (DST) or System Service Tools (SST).
2. Select **Work with DST environment**.
3. Select **System Devices** (skip this step if using SST).
4. Select **Select Console**.
5. Select **Operations Console (LAN)**. The LAN adapter currently in use should be shown.
6. Press **F11**.
7. Use one of the following methods to make your change:
   - If you are making a simple change, such as the IP address, enter in the new values and continue with step 8.
   - If you will be changing the adapter card press **F6** to perform a clear. Continue with step 8.
8. Press **F7** to store the new values.
9. Press **F3** until the DST main menu appears.

   Important: If the change did not affect the network IP address or the service host name (interface name) you can exit these instructions now.

   If you made a change that caused the network IP address or service host name (interface name) to be different for the currently configured connections, this change must be reflected on all PCs that connect to this service host name (interface name). Since you cannot modify the network IP address or service host name (interface name) of an existing connection's configuration on the client you will have to delete the current connection and recreate a new connection using the new network IP address. Continue with the next step.

10. Reset the service tools device ID password on the server. To do this, follow these steps:

    Note: You must unlock the SST option before the option is usable.
    a. Select **Work with DST environment**.
    b. Select **Service tools device IDs**.
    c. Type 2 in front of the service tools device ID to be reset, and press **Enter**.
    d. Press **Enter** again to confirm the reset.

> **Note:** When you reset the password in DST, the device ID password becomes the device ID name in uppercase.

> **Important:** If more than one PC connects to this service host name (interface name) using a network connection you will have to delete the configurations and therefore reset the service tools device IDs of those PCs as well. To reset another service tools device ID, repeat this step.

   e. Press **F3** until the DST main menu appears.
11. There are two methods for completing the necessary work in order to allow a new IP address or service host name (interface name). The first is using an IPL. This is the recommended method because you will have more control over when you do the remaining work on the PC. The system will continue to use the old values until an IPL or manual intervention. The second method is to perform the manual intervention, at this time. Perform one of the sets of steps below to complete the network changes.

   - **Using an IPL**

   This method requires that the client reconfiguration be complete prior to establishing the next connection using Operations Console on a network. If you are currently using the console connected via LAN you would normally start an IPL, it is recommended that the IPL be an attended IPL, and you can reconfigure the client during the initial stages of the IPL. You could, for example, use a different PC as the console instead of the one you currently have connected. You could do the configuration on that PC using the steps here, then after the IPL has been started you could disconnect the current console PC's connection and start a connection on the other PC with the newly created configuration. In this manner you could reconfigure the existing client at your leisure, before the next connection to the server.

   a. Start an attended IPL on the server. See Start the system using a manual IPL.
   b. Go to Completing the client changes.

   - **Perform the manual intervention**

   Perform these steps from the DST or SST main menu.

   > **Note:**
   >   a. To perform the following procedure using SST, select the option **Work with service tools user IDs and Devices** everywhere it says select **Work with DST environment** and skip the step Select **System Devices**.

   a. Select **Work with DST environment**.
   b. Select **System Devices** (skip this step if using SST).
   c. Select **Select Console**.
   d. Select **Operations Console (LAN)**. The LAN adapter currently in use should be shown.
   e. Press **F11**.
   f. Press **F17** to deactivate and reactivate the LAN adapter card.

   > **Note:** This will cause all LAN connected console PCs to go to `Connecting console` as a status. Also, if more than one LAN connected console PC is connected, the selection of the next console device is unpredictable.

   g. Continue with Completing the client changes

The PC is now ready to make a connection. If you have already performed an IPL on the system, you are now ready to reconnect using the new network data.

Related tasks

"Using Service Tools Device IDs in System Service Tools (SST)" on page 93
Change Operations Console configuration data from System Service Tools (SST) using the Work with service tools user IDs and Devices option.

Completing the PC changes:

Perform the following steps to complete the changes to the PC.

1. To delete the old configuration, perform these steps:
   a. Select the configuration name (under iSeries Connection). This is the name that Operations Console uses to refer to a specific iSeries server.
   b. From the Connection menu, click **Disconnect**. The connection status shows `Disconnecting`.
   c. Wait for the status to show `Disconnected`.
   d. Select the configuration name (under iSeries Connection).
   e. From the Connection menu, click **Delete**.
   f. Click **Yes** to confirm the deletion if prompted.
2. Close and reopen Operations Console in order to purge the PC of network data associated with the configuration you are changing.

   Note: It is also suggested that you remove or alter the old entry in the **hosts** file on the PC. You can do a search or find for **hosts** then double-click the file when it is found to start the default editor.
3. Create a new configuration using the following steps:
   a. From the Connection menu, select **New configuration**.
   b. Continue the configuration and enter the new IP data or service host name at the appropriate time.
   c. Complete the rest of the new configuration.

Common tasks

Management tasks that are not dependant on a specific connectivity.

Change keyboard definitions
How to edit and change keyboard definitions.

You easily can change your keyboard definitions:

1. In the emulator window, using the drop-down menu, do the following:
   a. Click **Edit**.
   b. Click **preferences**.
   c. Click **keyboard**.
2. Click **User-Defined**.
3. Click **Browse**, and then navigate to where iSeries Access for Windows was installed. Then, under the **Client Access** folder, navigate to the **Emulator** folder, followed by the **Private** folder.

   Note: If you are using IBM Personal Communications the default path would be: **Documents and Settings** → **User Name** → **Application Data** → **IBM** → **Personal Communications**
4. Select your choice.
5. Click **OK**.
6. Click **OK** again.

Start the system using a manual IPL
Use this section to start your server by performing a manual initial program load (IPL).

These instructions assume the server is powered off. If the server is powered on, use one of the various methods available to start the manual IPL.

To perform a manual IPL, follow these steps:

1. Look at the Function/Data display on the iSeries control panel. Systems with a keystick should show the mode as `Manual` and `01 B` in the Function/Data display.

   Systems without a keystick should show as `01 BM` in the Function/Data display.

2. If the system is in `Manual` mode and will IPL on the B side, then go to step 8. If the system is not in Manual mode or not set to IPL on the B side, then continue with step 3.

3. If the Function/Data display is lit, then, continue with step 4. If the Function/Data display is not lit, do the following before calling your hardware service representative:

   - Confirm that the electrical outlet is functioning by plugging in a suitable device for the voltage.

   - Ensure that the power cord is securely plugged into the system unit and electrical outlet.

4. Press **Up** or **Down** until `02` appears in the Function/Data display.

   Note: If your system uses a keystick, insert it now and select **Manual** by using the **Mode** button.

5. Press **Enter** on the iSeries control panel.

6. Press Up or Down until `B M` appears in the Function/Data display. If your system uses a keystick, select **B**. The Function/Data display should show `02 B`.

7. Press **Enter** on the iSeries control panel.

8. Press **Power** on the iSeries control panel. The system takes approximately 10 to 45 minutes to power on and progress through an IPL far enough to continue with these instructions. You should see that the data changes in the Function/Data display. The last step of the IPL may take up to 30 minutes to complete or the **Attention** light may turn on.

9. Reference code x6004031 or x6004508 (where x can be any letter) will appear in the Function/Data display and remain for up to 30 minutes.

10. When the system has completed the initial phase of the manual IPL it should show `01 B` and you have a console.

    Note: There are other SRC codes that may be displayed without the attention light being on. One example is x6xx450x (where the x can be any letter or number). These SRC codes usually indicate the server detected an unexpected condition and the console may have data indicating this condition. This condition and the resulting console data precede the IPL or Install the System screen.

    If the **Attention** light is lit, then go to step 11.

    If the **Attention** light is not lit and you do not have a console, then, consider the following:

    - Your system may not have progressed through an IPL far enough to continue with these instructions. Wait at least 30 minutes before going any further.

    - If, after 30 minutes, you do not see any system activity and the Attention light did not light: See the information about handling and reporting system problems in Troubleshooting and service.

    - When the problem has been resolved, start at the beginning of this section again.

11. If you see System Reference Code (SRC) x6xx500x (where the x can be any letter or number) in the Function/Data display, then, go to Troubleshoot system reference code (SRC) data. If you do not see System Reference Code (SRC) x6xx500x (where the x can be any letter or number) in the Function/Data display, then, see the information about handling and reporting system problems in Troubleshooting and service.

    Note: If you are working with a console related problem the most common SRC code reported would be A6005008. If you see any reference code of A600500x (where x can be any number) then you can proceed with any console service functions (65+21) to debug or make changes.

Activate the asynchronous communications line on the server

How to manually activate the asynchronous communications line for use with Operations Console.

These instructions apply only to local console directly attached and local console directly attached with remote support enabled configurations. Use these instructions to manually activate the asynchronous communications line on the server:

1. If your server uses a keystick, insert it in the key slot now.
2. Place the server into `manual` mode by using the system's control panel.
3. Using **Up** and **Down**, select function 25 and press **Enter**.
4. Use the **Up** to select function 26 and press **Enter** .
5. Use the **Down** to select function 66 and press **Enter** .

The system attempts to initialize the attached modem. If it is successful, the Function/Data window displays `D1008066`. If the system could not initialize the modem, it displays `D1008065`.

if the expected reference code does not appear, refer to the section: Failure to display D1008065 and D1008066 automatically after calling the function.

> **Related reference**
>
> "Switching from one console type to another when a console is currently available" on page 58
> If you know in advance that you will need a different console type you can use the current console to make the changes necessary for use with a different console.

Deactivate the asynchronous communications line on the server

Deactivate the asynchronous communications line on the server

These instructions apply only for local consoles directly attached and local consoles directly attached with remote support enabled. Use these instructions to manually deactivate the asynchronous communications line on the server:

1. If your system is not in manual mode, if the extended functions are not activated, or both, follow these steps:
   a. First, if your server uses a keystick, insert it in the key slot.
   b. Place the server into **manual** mode by using the system's control panel.
   c. Using **Up** and **Down**, select function **25**. Press **Enter**.
   d. Use **Up** to select function **26**. Press **Enter**.
2. Use **Down** to select function **65**. Press **Enter**.

If the deactivation is successful, the Function/Data window displays `D1008065`. See Failure to display D1008065 and D1008066 automatically after calling the function, if the expected reference code did not appear in a few minutes.

> **Related reference**
>
> "Switching from one console type to another when a console is currently available" on page 58
> If you know in advance that you will need a different console type you can use the current console to make the changes necessary for use with a different console.

Using the console service functions (65+21)

The emergency console recovery functions and their uses

This function-set should be used only in circumstances where an unexpected console failure has occurred and there are no other workstations available for recovery or debugging. Improper use may result in the inability to use the intended console. Any hardware allocations or configurations will have to be accomplished before using the console service functions (65+21). For example, if you are using a shared IOP in an LPAR environment you can deallocate and allocate the resource from one partition to another, if your hardware supports this method.

The console service functions (65+21) are standard control panel functions. They can be entered at the physical control panel, any of the remote control panel connectivity types providing a graphical user interface in Operations Console or using the LPAR menus on a primary partition. Since the first function is a 65, which is the deactivation of the communications line used by the local console directly attached, you may see the status of a connection using a serial cable go to `Connecting console`.

Important: In order to use these functions, the server must be far enough through the IPL for the code to run properly. If a console device is available, you should use that console to perform any console service functions, if possible. If a console device is not available, then perform these functions only after a failing System Reference Code (SRC) has been displayed. This SRC usually is an A6005008.

The following functions are available using the console service functions (65+21):

- Change the console mode value (01-03)

  You can use the console service functions (65+21) to change the console mode from its current value to another. For example, you ordered your server with Operations Console LAN but you are having trouble getting it to work. Since you should have received the console cable for a direct attached console you would like to change the value from a 3 (LAN) to a 2 (direct).

- Clear the resource and configuration for the LAN adapter used by Operations Console (C3)

  This option allows you to disassociate the current LAN adapter used for Operations Console. You might use this option to overcome a mistake in the configuration. For example, you didn't see a keying error and you entered in another device's IP address. At connect time the client configured the server's LAN adapter for use by the console but the console fails to connect because the other device is active. This option would clear the server's network data for the console and allow you to delete the client's configuration and start over, allowing BOOTP to work again. See Prepare for your network environment for more information about BOOTP.

  Depending on your intent to clear the LAN adapter configuration you might also want to stop and restart the LAN adapter. The example here would benefit from following the clear function with a deactivate and activate (A3) function to save time from having to do an IPL.

- Deactivate followed by an activate of the LAN adapter used by Operations Console (A3)

  This option will allow you to reset the LAN adapter used by Operations Console in the event some network issue caused the server to get into a bad state and the console won't become active. This will force the LAN adapter to deactivate, and then start back up again. This may clear up the problem providing the original problem that caused the connection failure has been corrected.

  This option may be used in place of an IPL for some circumstances, such as after a clear of the LAN adapter configuration.

- Dump Operations Console flight recorders to vlogs (DD)

  Note: This option will not work if the system is IPLed in D-mode.

  This option will allow you to capture valuable debug information regarding a console connection failure for support personnel. This method is less intrusive than performing a main storage dump which would force an IPL. By using the console service functions (65+21) an attempt is made to gather all the flight recorder logs from the many parts of the code used by Operations Console. A set of vlogs is created for major code 4A00 and minor code 0500. These vlogs can then be sent to your service provider for analysis.

  Note: When possible, perform an IPL on the system to guarantee all vlogs get created even if the IPL will fail. The intent is that LIC has started the vlog tasks prior to performing the dump of flight recorders.

The following is an overview of how this function works:

Note: If your system is not in manual mode, and the extended functions are not activated, or both, follow these steps:

1. First, if your server uses a keystick, insert it in the key slot.
2. Place the server into `manual` mode by using the system's control panel.
3. Using **Up** and **Down**, select function **25**. Press **Enter**.
4. Use **Up** to select function **26**. Press **Enter**.

A function 65 is performed from one of the input methods. You have approximately 45 seconds to enter a function 21 for the system to pair the two functions together. If not, the function 21 is a force of DST to the console. Depending on the state of the current IPL you may or may not see a change at the console, assuming the console is still present after the 65. If the 65 and 21 are entered in less than 45 seconds a System Reference Code (SRC) of A6nn500A should appear on the control panel. The value of nn is dependent upon the console type currently being used, 01 thru 03. Repeating the 65 and 21 puts the system into an edit mode in which you can make a change or cause an action to be performed. After the second 65+21 pair is entered, the control panel will respond with the SRC of A6nn500B to indicate you are in edit mode. Each repeated 65+21 within edit mode will increment nn of the SRC until you reach the value representing what action you intend to perform. At this time you enter just a single 21 which will cause the selected function to be performed. The SRC should then become A6nn500C to indicate the function was successfully submitted. If at any time you exceed 45 seconds between the 65 and 21 or between succeeding 21s, SRC A6nn500D may be presented indicating a timeout condition and the system is no longer in edit mode. If you were intending to make a change you will need to restart the operations. This SRC will be reset in approximately 3 minutes. You can cancel out of edit mode by doing a function 66. The function 66 does not have to complete successfully.

The following codes will allow you to track your progress:

A6nn 500x

Where nn means:

00 = No console defined
01 = Twinax console
02 = Direct attached Operations Console
03 = LAN Operations Console
C3 = Clear LAN configuration
A3 = Deactivate followed by an activate of the LAN Operations Console adapter
DD = Dump all console related flight recorder into a set of vlogs

Note:

1. Selecting 02 will automatically activate the asynchronous communications adapter used for Operations Console direct attached.
2. Selecting 03 may also require a function A3 to activate the LAN adapter in rare cases. Also, if a LAN connected console is connected, the emulator may go to a Disconnected state. If so, you can start it again by clicking **Communication** and selecting **Connect**.

Where x means:

A6nn 500A
    You are displaying the current console mode setting.

A6nn 500B
    You did a second 65+21 pair so you are in edit mode.

A6nn 500C
    You executed a second 21 to cause an action, such as setting the console to another value.

A6nn 500D

> You waited too long after entering edit mode to cause an action so you will have to enter edit mode again if you intended to make a change. A 21 at this time will force the console to DST, not cause an action.

If you do not want to make a change after entering edit mode you can wait 3 minutes and this completion code should show up indicating a change is no longer pending or you do a function 66 to cancel any pending changes and exit.

Note: You have 45 seconds between a 65 and the 21 to start display mode or edit mode changes. If the time between these codes exceeds this limit the 21 will become a `force DST console` request.

An example of a console change would be:

The console type is 01 (twinaxial) and you want to use LAN (03).

65 - 21 = A601 500A   You are in display mode and the console mode is 01
65 - 21 = A602 500B   You entered edit mode and incremented the counter
65 - 21 = A603 500B   You incremented the counter again
      21 = A603 500C   You invoked the action (set the console mode to 03)

If the LAN adapter already had a valid configuration, for example you previously configured the LAN adapter for use with the service tool server, then you would be ready to create a local console on a network configuration on the client, if one didn't already exist. You could then power off the twinaxial device and connect the Operations Console LAN configuration.

Note: To reset the console without changing the console mode value you can do a 65 - 21 - 21. The server should respond with A6nn500A after the first 21 and a A6nn500C after the second 21. This will cause the connection to the console to be dropped during the reset process. It is recommended that this function not be used when you already have a working console. This function will not correct all errors associated with a console failure, but rather resets the hardware associated with the configured console connection.

Related reference

"Switching from one console type to another when the current console is not operational" on page 59
If you develop a problem with the current console, you may be able to use one of the following methods to change the console mode.

"Recovery details" on page 61
These are some details you should refer to concerning the console recovery action.

"SRCs A6nn500x" on page 102
System Reference Codes used to access console modes and console tasks

Troubleshooting using the OPSCONSOLE macro

Using the server-side debugging and analysis tool for troubleshooting without a console device.

Native macros are advanced debug and analysis tools resident on the server. These tools are intended to be used only with the direction of support personnel since inappropriate use of these tools can cause unpredictable problems with your system. If you are not comfortable in the service tools area you should call your service provider for assistance before using these tools. These instructions assume you do not have a console device but do have another workstation capable of using the System Service Tools (SST).

Note: Improper use of native macros could result in a change requiring a complete system reload. It is strongly suggested that you use these native macros only at the request of a support representative.

To use the Operations Console native macro support, follow these steps:

1. Access **System Service Tools** (SST).
2. Select **Start a service tool**.
3. Select **Display/Alter/Dump**.
4. Select **Display/Alter storage**.
5. Select **Licensed Internal Code (LIC) data**.
6. Select **Advanced analysis**. (You will have to page down to see this option.)
7. Page down until you find the **OPSCONSOLE** option. Then, place a 1 next to the option and press Enter. You should be on the **Specify Advanced Analysis Options** window. The command should show as **OPSCONSOLE**.
8. Enter the appropriate option and any required parameters in the Options field. Use the following options based on the function you are running:
   - Deactivate the communications adapter for a local console (directly attached) = **deactdirect**
   - Activate the communications adapter for a local console (directly attached) = **actdirect**
   - Deactivate the LAN adapter for a local console on a network (LAN) = **deactlan**
   - Activate the LAN adapter for a local console on a network (LAN) = **actlan**
   - Restart the console device (any console) = **restart**

   Note: Use the **restart** option when you need to take down the current console and allow the server to determine and start or restart a console. You can use the **restart** option to correct a problem with the original console or when switching from one console type to another.

Using Service Tools Device IDs in System Service Tools (SST)

Change Operations Console configuration data from System Service Tools (SST) using the Work with service tools user IDs and Devices option.

From the Work with Service Tools User IDs And Devices display, select the Service tools device IDs option. By default, this option is locked to prevent unauthorized changes to existing service tools device IDs, the creation of new IDs, or the deletion of IDs. To unlock this SST option, you must use a native macro in Dedicated Service Tools (DST). To unlock the Service Tools Device IDs menu option, complete the following tasks:

Note: By default, the Service tools device IDs option is locked. If you receive the message `The user can not perform the option selected`, it indicates that the option has not been unlocked.

1. Access **Dedicated Service Tools (DST)**.
2. Select **Start a service tool**.
3. Select **Display/Alter/Dump**.
4. Select **Display/Alter storage**.
5. Select **Licensed Internal Code (LIC) data**.
6. Select **Advanced analysis**.
7. Page down until you find the **FLIGHTLOG** option. Place a 1 next to the option and press Enter. You should be on the Specify Advanced Analysis Options display. The command should show as **FLIGHTLOG**.
8. Enter the option **SEC UNLOCKDEVID** in the Options field.

   Note: If you want to lock this option to prevent later use, enter the option SEC LOCKDEVID.

   Related tasks

   "Reset the service tools device ID password on the server" on page 79
   To reset the service tools device ID password on the server, do one of the following.

   "Changing network values for Operations Console (LAN)" on page 85
   Use these instructions to make changes your Operations Console network adapter

Troubleshoot Operations Console connections

Solve connection, authentication, and emulator problems when using Operations Console.

Problems can occur during an Operations Console session. The following topics are some solutions to common problems that are encountered during your initial setup and management of your configurations.

Settings dialog window

Operations Console has a built-in, hot-key-activated, settings dialog window that has special options used to help troubleshoot problems. The Settings window is activated by pressing and holding the **Alt** and **shift** keys then, press the **s** key before releasing all three keys (**ALT+Shift+s**). The options to split the log files can be very helpful to your service provider, especially if you have many connection configurations. Splitting the logs so each configuration has its own log makes it easier to find problems. When only one connection has a problem, activity in other connections aren't seen in the log.

It is highly suggested that the user not make any other changes or turn on any other functions without advice from your service provider. Improper use of the options on this window may cause unpredictable behavior on any or all configured connections.

There is also a hot-key-activated function to capture the screen data when the connection is not responding correctly. To capture the screen data, select the configuration and press **Ctrl+C**. This will dump the contents of the last ten screen buffers (three screens of data) and the timestamp they were received into the connection log. This log can be used by support or development to see what the last updates to the emulator were. Activating this process a second time without changes to the screen will not produce any more data to the connection log.

Troubleshoot status messages

If you encounter connection problems when connecting a console, Operations Console provides status messages to assist you in troubleshooting the connections.

A status message indicates whether or not you have a connection problem. It is displayed under `Status` in the Connection details area of the iSeries Operations Console window.

Do the following before you start troubleshooting the connection:
- Make sure that you have the latest Service pack for iSeries Access for Windows.
- If your local console allows remote consoles to connect to it, make sure that you have the same service packs at the local console and remote console.

  Related reference

  "Apply iSeries Access for Windows service packs" on page 33
  You should have the latest Service Pack program temporary fix (PTF) for iSeries Access for Windows and the latest level of iSeries Access for Windows on your PC.

Status messages when configuration is running normally

The following status messages assist you in identifying whether or not you have connection problems.

These status messages indicate that you do not have connection problems:

Connecting
         This appears at the remote console during an initial connection to the local console.

Connecting console or Connecting remote control panel

This status message is the normal status while the console is making the initial connection to an iSeries server. If it shows for more than a couple of minutes, see `Connecting console` in the list of status messages that indicate connection problems.

Pending authorization

This appears during an initial connection to an iSeries server when the Service Device sign-on window appears. This status remains until a first user (either at a local console or remote console) signs on successfully. After the user signs on successfully, the sign-on window and this status will not appear to other dial-in users as long as the local console remains connected to the server. A local console over a network (LAN) will always post the LAN Service Device Sign-on window the first time a connection is made. Subsequent connections to the same server will not re-prompt the user.

Connected

This appears at the local console after an initial connection to the iSeries server is completed (the user signed on successfully to Operations Console). This status also appears at the remote console when a connection to the local console is completed.

Disconnecting

This appears at the local console when the local console user disconnects from an iSeries server and the PC is disconnecting the connection. This status would appear at the remote console when the remote console user disconnects from the local console and the PC is disconnecting the connection.

Disconnected

This appears at the local console after the local console user disconnected from an iSeries server and the PC is no longer communicating with the server.

Not connected to local console

This appears at the remote console when the PC is not connected to the local console.

If the status message you received is not listed, see Status messages when you have connection problems.

Status messages when you have connection problems

The following status messages assist you in identifying whether or not you have connection problems.

These status messages indicate that you do have connection problems:

Remote control panel unavailable

This appears during an initial connection to an iSeries server. It shows when there is a problem with the remote control panel cable and the connection, and you choose not to retry the connection. To find a possible solution, see Remote control panel fails to start.

Connecting remote control panel

This appears when the connection fails during the initial connection or stops working after the initial connection. Possibly, the remote control panel cable is disconnected. To find a possible solution, see Troubleshoot connection problems. This status disappears when you solve the problem.

Connecting console

This is the normal status while the console is making the initial connection to an iSeries server. If it shows for more than a couple of minutes, the connection failed. It also shows when the connection stops working after the initial connection, possibly because the cable is disconnected. To find a possible solution, see Troubleshoot connection problems.

Connecting console or Connecting remote control panel

This appears when the console and remote control panel connections fail or stop working, possibly because the Operations Console cable and remote control panel cable are disconnected. To find a possible solution, see Troubleshoot connection problems. This status disappears when you solve the problem.

Console unavailable

> This appears when there is a problem during an initial connection to an iSeries server, and you choose not to retry the connection. It usually shows when the Operations Console connection modem is not available, but the Operations Console cable is attached. Operations Console connection modem is not a physical modem but a logical device driver that comes with Operations Console and allows an local console to connect to a server. To find a possible solution, see Troubleshoot connection problems.

Console unavailable or Remote control panel unavailable

> This appears when there is a problem during an initial connection to an iSeries server, and you choose not to retry the connection for the console and remote control panel. It indicates that there is a problem with the console connection, possibly because the Operations Console Connection Modem is not available or the console cable is disconnected. Operations Console Connection Modem is not a physical modem but a logical device driver that comes with Operations Console and allows a local console to connect to a server. It also indicates that there is a problem with the remote control panel connection, possibly because the remote control panel cable is disconnected. To find a possible solution, see Local console does not detect cables and Remote control panel fails to start. In each case the user selected No to a previous message allowing the user to retry the failing function.
>
> **Note:** If the local console is configured to start in unattended mode, the local console will not be in control and will not be able to disconnect normally.

If the status message you received is not listed here, see Status messages when configuration is running normally.

Troubleshoot connection problems

When setting up your initial connection you may encounter problems connecting your Operations Console configuration.

Local console connection problems

When setting up your local console you may encounter problems connecting. Failure to connect is defined as problems resulting in the status not going to **Connected** and the emulator did not start.

> **Related reference**
>
> "Troubleshoot emulator problems" on page 102
> When setting up your initial connection you may encounter emulator problems.

Console fails to connect:

Under certain circumstances a directly attached console will fail to connect.

This may be the result of the server's communications adapter being deactivated for some reason, such as an exception that took place. This most likely will appear during an IPL and may have an associated system reference code (SRC) on the control panel along with the attention light. You can reset the communications line by performing a function **65** followed by a function **66** on the control panel or remote control panel. To reset the asynchronous communications adapter, do the following:

To deactivate the asynchronous communications line on the server, do the following:

1. If your system is not in manual mode, if the extended functions are not activated, or both, follow these steps:
   a. First, if your server uses a keystick, insert it in the key slot.
   b. Place the server into manual mode by using the system's control panel.
   c. Using **Up** and **Down**, select function **25**.
   d. Press **Enter**.

e. Use **Up** to select function **26**.

f. Press **Enter**.

2. Use **Down** to select function **65**.

3. Press **Enter**. If the deactivation is successful, the Function/Data window displays D1008065.

To activate the communications line on the server, do the following:

a. Use **Down** to select function **66**.

b. Press **Enter**.

The system attempts to initialize the line. If it is successful, the Function/Data window displays D1008066. If it could not initialize the line, it displays D1008065.

> **Related tasks**
>
> "Failure to display D1008065 and D1008066 automatically after calling the function" on page 105
> When working with models that have a double row for the **Function/Data** display portion of the control panel, calling the function 65 or 66, the control panel may not automatically display the resulting SRC code.

Network connection errors:

These are solutions to problems that occur when a local console fails to connect to a server over a network.

Try these possible solutions:

*   Make sure the network is working.

*   Verify that you provided the correct password that allows the server to access your service device information during the configuration wizard. Also, verify that you provide the correct service tools user ID and password.

*   If you are using Ethernet for your network, you can use a crossover cable to directly connect the PC to the adapter card temporarily. This will isolate the PC and server from any potential problems on your network that might interfere with proper operations.

> **Note:** A crossover cable is a standard network cable but has the transmit and receive signal wires reversed. This virtually allows each end to act as if a hub, switch, or router is between them.

Error message: The connection to the system is not a secure connection:

You may receive this error message: The connection to the system is not a secure connection.

These messages appropriately appear during a D-mode (installation) IPL. Authentication is not performed and the remote control panel (LAN) is not supported for this IPL type.

> **Related reference**
>
> "Authentication errors" on page 101
> Solutions for when your PC cannot complete a connection between the local console and the server.

Local or remote console status remains Connecting:

These are solutions to problems that prevent the local console from connecting to the server or the remote console from connecting to a local console due to improper hardware or software configurations:

*   Verify that the resources of the PC are free of address or interrupt request (IRQ) conflicts. Operations Console uses addresses in the range of 192.168.0.0 to 192.168.0.255. If you run any software that makes your PC SOCKS-enabled, check your SOCKS configuration and make sure that the entry is:

    Direct 192.168.0.0 255.255.255.0

A **SOCKS-enabled PC** accesses the Internet through a firewall, such as Microsoft Proxy Client, Hummingbird SOCKS Client, or others.

*   Verify that the iSeries server name and the local console name are correct.
*   If you are using Ethernet for your network, you can use a crossover cable to directly connect the PC to the adapter card temporarily. This will isolate the PC and server from any potential problems on your network that might interfere with proper operations.

> **Note:** A crossover cable is a standard network cable but has the transmit and receive signal wires reversed. This virtually allows each end to act as if a hub, switch, or router is between them.

Console fails to connect and port detection fails:

If your console fails to connect and your port detection fails, here are some possible reasons.

*   Sometimes RealPlayer or RealJukebox interferes with port detection and usage.
*   Some PDA drivers or software may also prevent connections or port detection.

Performance degradation on local console:

The most likely reason for performance degradation is that the communication port is not running a buffered UART (Universal Asynchronous Receive/Transmit serial port chip).

Go into the **Advanced** settings for the serial port and verify the check mark is checked to use a buffered UART. Make sure the Receive Buffer setting is not set to the right-most setting.

If that does not help and you suspect that there is a possibility that the PC may truly not have the buffered UART, IBM recommends that you slow the connection down between the PC and server. Depending on the operating system, you may have to change the registry, the DUN object, or the phone book entry, or all three.

The problem when the UART is not buffered is that the high speed inputs data to the UART faster than it can handle, which causes a missed packet of data resulting in a 30-second retry. This can occur randomly, but will be persistent. The slower speed reduces the exposure to an overrun of data and therefore no more 30-second retries.

Unable to make a connection when infrared devices are installed:

If the PC having connection problems has infrared devices, you may need to disable infrared in some cases.

Most of these devices work from **COM1** but fail to show up as using the associated hardware resources. Some experimentation may need to be performed to isolate the problem during configuration of Operations Console.

Unexpected disconnections:

If the PC, local or remote console, or both, have power management capabilities, it should have this function disabled.

Most PCs, and especially laptops, reset the communications ports when invoking power management after the specified time. This would potentially disconnect the established connection. Therefore, a local console that goes into power saver mode might disconnect to the server and disconnect an active remote console.

Use HyperTerminal to validate connectivity between client and the server:

HyperTerminal is a Windows application used for connecting to various sources and is supplied by all Windows operating systems on the install media, though may not be automatically installed. When the local console directly attached to the server does not connect, you can use HyperTerminal to determine if the PC has connectivity to the server.

Note:

1. The data is slow to appear so be certain to allow a 15 - 20 seconds for an action to complete before moving to the next step. Also keep in mind that some steps may not provide data to the window. Wait a little time and then continue.

2. The following example was performed on a Windows 2000 PC. Other operating systems may have slight differences in the presentation of options. The important part of this test is getting a response back from the NEGOTIATE at the end of the document.

Install HyperTerminal:

To install HyperTerminal, follow these steps:

1. Click your path.
   - **Start** › **Programs** › **Accessories** › **Communications** › **HyperTerminal**
   - **Start** › **Programs** › **Communications** › **HyperTermiAccessoriesnal**

   Note: You want the executable and not one of the predefined connections or the folder.

2. If it is not found, use these instructions to install it:
   a. Place the installation media, if CD-ROM, into the CD—ROM drive and wait for the program to begin. Then, close the window. If the program did not automatically start, or the installation media is not a CD-ROM, continue with the next step.
   b. Click **Start** › **Settings** › **Control Panel**.
   c. Double-click **Add/Remove Programs**.
   d. Click **Windows Setup**.
   e. Select **Communications**.
   f. Click **Details**.
   g. Place a check mark in the box preceding HyperTerminal by clicking on the box.
   h. Click **OK**.
   i. Click **Apply**.
   j. Follow the instructions in any prompts that may show up. If you are presented a window in which you might replace a newer file with an older one, click **Yes** to keep the newer file.

   Related tasks
   "Use HyperTerminal"
   To use HyperTerminal, follow these steps.

Use HyperTerminal:

To use HyperTerminal, follow these steps.

If you have not installed HyperTerminal, see the Install HyperTerminal topic.

1. Click your path:
   - **Start** › **Programs** › **Accessories** › **HypertTerminal**
   - **Start** › **Programs** › **Accessories** › **Communications** › **HypertTerminal**
2. In the **Connect To** window, enter a name, select an icon, and then click **OK**.
3. A new **Connect To** window will appear. Click the little arrow at the end of line for **Connect using:**

4. Select the communications port being used for the console. It might also be listed as **direct to COMn** (where n is 1 to 4). Click **OK**.

5. A **COMn Properties** window will appear. Change the speed to 9600. Click **OK**.

   Note: Failure to set the speed to 9600 will result in all unintelligible text and you will not see the desired results.

6. The **HyperTerminal** window will open. In the lower-left corner the status should report as **Connected** and the time will be incrementing.

7. In the data window you may get:
   - Nothing
   - Unintelligible
   - +++ATH0

8. Do a **Disconnect**.

9. Select **File → Properties**.

10. You should be in the **Properties** for the connection you just created. Select the **Settings** tab.

11. Click **ASCII Setup**.

12. Change the following settings so there is a check mark in the check box:
    - **Send line ends with line feeds**
    - **Echo typed characters locally**
    - **Append line feeds to incoming line ends**
    - **Wrap lines that exceed terminal width**

13. Click **OK**. Click **OK**.

14. Do a **Connect**.

15. At the server's control panel enter a function **65** (you need to take the server to a known state).

    Note: You may need to enter a function **25** and **26** in order to have access to the upper functions.

16. The server's control panel may display D1008065 after a little while. Also, in the **HyperTerminal** window, you may get some data.

17. At the server's control panel enter a function **66**. You may get D1008066. This reference code may not appear in all cases. Also, in the **HyperTerminal** window, you may get some data.

18. Using uppercase, type NEGOTIATE 1 in the HyperTerminal window. Press **Enter**. The HyperTerminal data window displays 115200.

    Note: If nothing is returned, repeat NEGOTIATE 1.

    If a speed value is returned, you had data exchanged in both directions and have full connectivity. If Operations Console will not connect, more than likely you have a setup problem on the client side.

    If a speed value was not returned, you might try powering off the PC, power it back on, and repeat the test. Or attempt to connect the console again. In rare cases the server may need to be IPLed. For the best results it is recommended you do the following, in sequence:

    a. Power off the server.

    b. Power off the PC.

    c. Power on the PC.

    d. Start a connection for the console.

    e. Power on the server.

    If the above process fails to solve your connection problem, you need to contact your service provider for further assistance.

    Related tasks

"Install HyperTerminal" on page 99
To install HyperTerminal, follow these steps:

Remote console connection problems

Troubleshooting strategies for problems encountered during a remote console connection.

When setting up your remote console you may encounter problems connecting. Possible troubleshooting solutions include the following topics.

Remote console through dial-up fails to connect to local console:

Solutions to a problem that occurs when a remote console modem fails to establish a connection with a local console.

While you are connecting a remote console to a local console, you may encounter remote console connection problems. These are solutions to a problem that occurs when a remote console modem fails to establish a connection with a local console:

* If your PC modem is listed as a **Standard Modem** option in the **Modems** folder, configure it with a different manufacturer and model.
* If you have an original equipment manufacturer (OEM) modem, your OEM modem may not be configured correctly. If that is the case, try to configure it using some similar modem setups.

Local console name mismatch when remote console connects to the local console:

Reasons for a possible console name mismatch when the remote console connects to the local console.

It is important that the user at both ends check the **Local Console** column in the Operations Console window. The names must be the same.

What TCP/IP uses for a name is retrieved and placed there. When the remote console is then configured, make sure the name of the local console is the same. It is possible to have two different system names on the same PC. The name used for Operations Console is taken from the DNS entry in the TCP/IP service.

Troubleshoot authentication problems

When setting up your initial connection you may encounter authentication problems.

Authentication errors

Solutions for when your PC cannot complete a connection between the local console and the server.

While you are connecting a local console to a server, you may encounter local console connection problems. These are solutions to errors that occur when Operations Console cannot complete a connection between a server and a local console (PC). The errors consist of software configuration problems or unrecognizable service tool user IDs.

Tip: Verify that you are entering a valid service tools user ID and password during the configuration wizard.

You may also receive an error message regarding a secure connection. For information about this error go to:Error message: The connection to the system is not a secure connection

Related reference

"Error message: The connection to the system is not a secure connection" on page 97
You may receive this error message: The connection to the system is not a secure connection.

Troubleshoot emulator problems

When setting up your initial connection you may encounter emulator problems.

If the emulator window did not start and the connection status is not **Connected**, refer to the Local console connection problems topic.

Related reference

"Local console connection problems" on page 96
When setting up your local console you may encounter problems connecting. Failure to connect is defined as problems resulting in the status not going to **Connected** and the emulator did not start.

PC5250 window does not display user data

This can be caused by a non-buffered UART for the serial connection in the PC.

See Performance degradation on local console. This problem only affects a direct attach local console.

Troubleshoot system reference code (SRC) data

Solutions to system reference code (SRC) data received on your server.

If you receive any of the following system reference codes (SRCs), you may have some problems in your Operations Console configuration.

Refer to the sections below to find information about specific system reference codes and troubleshooting options.

SRCs A6nn500x

System Reference Codes used to access console modes and console tasks

These SRC codes are associated with the operation of the control panel method to change the console mode or accomplish a console task when the console or other workstation is not available.

Remember: nn can be any alphanumeric designation.
- A6nn 500A - You are displaying the current console mode setting.
- A6nn 500B - You did a second 65+21 so you are in edit mode.
- A6nn 500C - You executed a second 21 to cause an action, such as setting the console to another value.
- A6nn 500D - You waited too long after entering edit mode to cause an action so you will have to reenter edit mode again if you intended to make the change. A 21 at this time will force the console to DST, not cause an action.

For details on how to use this function, see the section: Using console service functions (65+21).

Related reference

"Using the console service functions (65+21)" on page 89
The emergency console recovery functions and their uses

SRCs A6005001, A6005004, and A6005007

The following reference codes may be displayed for twinaxial consoles.

A6005001

A console resource (controller) was not found during a manual IPL.

A6005004

A console device was not found during a manual IPL. A twinaxial controller was found but may not be used. This is only indicating the presence of a controller. It is not indicating the controller may be defective.

A6005007

A console device was not found during a manual IPL. This reference code is also indicating the presence of hardware that may indicate another console type other than twinaxial or Operations Console (Direct) was found. An example would be the old async console, no longer supported. This is not indicating a failure of that hardware or that this is the intended console.

These reference codes, as well as the attention light, will be reset when a console is detected and becomes active. It is possible that an IPL will be necessary to attempt finding a console device again if one of these reference codes exists for a long period of time, depending on many factors, including model, hardware present, etc. You can force the server to try finding the console again by doing a function 21 from the control panel, remote control panel, or virtual control panel. You can also use the 65+21 functions to gather data or attempt recovery.

System reference code A6005008

Use this table if you received reference codes A6005008. If an IPL did not find a console and if the console type is set to anything except a 1, the system will display code A6005008.

* If you are attempting to use a twinaxial console the only data relevant in this SRC is word 16. Use the table below to determine the twinaxial failure. The first 4 characters of this word contains the last 4 characters of the original failure type. For example, if word 16 contained 50010001, the twinaxial-related SRC code would be A6005001 and the console type is set to use a twinaxial console. Refer to that SRC code.

* If you are attempting to use Operations Console select the appropriate section in the table below as follows:

    – Local console on a network uses words 13, 14, and 15.
    – Local console directly attached to the server uses words 17, 18, and 19.

Note: If you just replaced the LAN adapter associated with Operations Console (LAN), you need to wait at least 35 minutes for the server to find and use the new LAN adapter card. In this case, once the server is satisfied it will start using the new adapter, the console should start and the reference code will go away.

LAN			
If Word 13 value is:	Failure	Word 14 means:	Word 15 means:
1	No supported HW detected or HW detected is not expected (for example, you replaced the LAN IOA so the serial number is different)		In some cases the serial number of the expected adapter may be shown.
2	LAN IOA failed to report		

LAN			
If Word 13 value is:	**Failure**	**Word 14 means:**	**Word 15 means:**
3	Hardware error	Common error codes: 53001A80,53002AC0 Network, cable or the LAN adapter may not be operational. Error code: 00000000 . This error code indicates the adapter reported but has not been initialized yet. This is not considered an error, at this time. The adapter should be activated shortly. For other error codes contact your service provider.	Card position or serial number of adapter
4	BOOTP status: If attempts are zero, then BOOTP is ready, when called. If attempts have a value, then the PC did not respond	Attempts	Card position or serial number of adapter
5	Server's LAN connection is active but the PC failed to connect - Is the PC & server on the same network? Using the same protocol? Can the PC ping the server? (`ping serverhostname`)	IP address	Card position or serial number of adapter
Word 16		The twinaxial-related SRC is represented by the first 4 characters. The console type value is represented by the last 4 characters in the form xxxx xxxx. • 00 = Not defined by user (old default value), see note below. • 01 = Twinaxial • 02 = Operations Console (direct) • 03 = Operations Console (LAN)	

Cable			
If Word 17 value is:	**Failure**	**Word 18 means:**	**Word 19 means:**
1	Async card not detected		
2	No cables detected	Card position	Card type
3	Wrong cable detected	Card position	Cable ID
4	Port in use	Card position	Card type
FA	Not configured for direct cable		

Note: It is expected that a D-mode IPL with a new load source DASD will show the console mode value of 00. Examples of when this can occur might be that the copy of data from a failing DASD did not copy all data or you are installing a new logical partition. Also, there are times when the

DASD is late reporting an the console mode value was not retrieved in time. In these cases you can use the console service function to set a console mode value or attempt to contact the console again.

System reference code A9002000

Possible reasons you received system reference code A90002000:

- If the system displays this SRC code, it usually means that a console was not found by i5/OS.
- The iSeries system value QAUTOCFG must be set to **ON**. i5/OS is unable to create the new console device if it is off.
- If you just migrated the console from one type to another and the new console fails to work in i5/OS you may need to use another workstation to manually delete the controller and device description associated with the old console device.

Note: You may be able to use the console service functions (65+21) to assist in a recovery or to gather debug data.

System reference code A6005082

Possible reasons you received system reference code A6005082:

- If the system displays this SRC code, it usually means that a console was found, and then the server lost the console connection.
- If the console is reassigned and the server can locate a console, the SRC code will go away.
- The console type does not affect this SRC code.
- Only issued in attended mode IPLs.

Failure to display D1008065 and D1008066 automatically after calling the function

When working with models that have a double row for the **Function/Data** display portion of the control panel, calling the function 65 or 66, the control panel may not automatically display the resulting SRC code.

In these cases, you have to do a function **11** in order to determine whether the function **65** or **66** completed successfully. If the function did not complete successfully, that is, if the SRC did not display automatically:

1. Using the control panel or the remote control panel, press the Up or Down buttons until 11 is shown.
2. Press **Enter**.

   Related tasks

   "Console fails to connect" on page 96
   Under certain circumstances a directly attached console will fail to connect.

IPL step C6004031 takes longer than expected

i5/OS operating system can detect the hardware resource for a console.

Depending on what other console-capable resources might be found plus the time it takes to walk the bus, this activity has increased the amount of time spent at this IPL stepin the startup process.

Troubleshoot remote control panel and virtual control panel problems

When setting up your initial connection you may encounter problems accessing your control panels.

   Related reference

   "Virtual control panel (VCP)" on page 25
   The virtual control panel (VCP) is one way to get remote control panel (RCP) functions on the PC.

Remote control panel fails to start

If your remote control panel fails to start, verify the following:

- Verify that the cables are properly connected.

- Verify that the resources of the PC are free of address or interrupt request (IRQ) conflicts. Operations Console uses addresses in the range of 192.168.0.0 to 192.168.0.255. If you run any software that makes your PC SOCKS-enabled, check your SOCKS configuration and make sure that the entry is:

   Direct 192.168.0.0 255.255.255.0

   A SOCKS-enabled PC accesses the Internet through a firewall, such as Microsoft Proxy Client, Hummingbird SOCKS Client, or others.

- If you are connecting via a network, another reason the remote control panel fails to start may be that either the user ID or service tools device ID being used does not have permission to use the remote control panel.

   Related reference

   "Install an Operations Console cable" on page 39
   How to install or remove the Operations Console cable

Unable to use the mode function

Verify that the authenticated connection has the correct privileges to use the mode function on a remote control panel.

If you are unable to use the mode function on a remote control panel or virtual control panel, check that the user that authenticated the connection (Service Device Sign-on) has the **Partition remote panel key** privilege for the partition connected to.

To ensure you have the proper privileges for the connection to the partition, follow these steps:

1. Access Dedicated Service Tools (DST).
2. Select **Work with DST environment**.
3. Select **Service tools user profiles**.
4. Select **Change privileges** (option 7).

That user must be granted the privilege, **Partition remote panel key** by partition, in order to use the mode function. If the system supports the keystick, the keystick must be inserted before the mode function is active.

Authentication problems

Two common authentication related problems and suggestions to correct the them.

- Failure to authenticate.

   Error message: `The current access password entered is not valid. Please enter the valid access password.`

   This message typically means that the access password you entered in the **Service Device Sign-on** window is not the same as the password you entered in the **Specify Access Password** window during the configuration wizard. Make sure that the `caps lock` is not active and reenter the access password using the password you assigned, taking into account any case sensitivity you may have used.

- Failure to connect the VCP.

   Error message: `The PC service tools device ID password and the iSeries service tools device ID password do not match. Either the service tools device ID (name) is already in use or the passwords must be RESET on this PC and the iSeries.`

   This indicates that the Service Tools Device ID password is incorrect.

   The Service Device ID password stored on the PC no longer matches the value stored on the server. In rare cases this password gets out of synchronization and you will need to reset the value back to the

original default values on both the PC and the server. For instructions on how reset the password values, see:Resynchronize the PC and service tools device ID password.

Troubleshoot configuration wizard problems

Solutions to problems encountered while you are completing the Operations Console configuration wizard.

When setting up your initial connection you may encounter problems during the configuration wizard. Wizard problems that can occur:

Local console does not detect console cable

These are solutions to problems that occur when the local console does not detect the presence of the Operations Console cable.

A status message of `Connecting` or `Unavailable` is usually present:

- Verify that the cable is properly connected.
- For the console, verify that the communications adapter card on the server is properly located.
- Verify that the part numbers for the Operations Console cable is correct.
- Verify that the server is in a state such that the console would be active. For example, the console is active after a manual initial program load (IPL). After you perform the IPL, the system reference codes (SRCs) B6004031, B6004501, or B600500X (where x is a number) indicate that the server is in the proper state.
- Verify that the resources of the PC are free of address or interrupt request (IRQ) conflicts. Operations Console uses addresses in the range of 192.168.0.0 to 192.168.0.255. If you run any software that makes your PC SOCKS-enabled, check your SOCKS configuration and make sure that the entry is:

  Direct 192.168.0.0 255.255.255.0

  A SOCKS-enabled PC accesses the Internet through a firewall, such as Microsoft Proxy Client, Hummingbird SOCKS Client, or others.

  Related reference

  "Install an Operations Console cable" on page 39
  How to install or remove the Operations Console cable

Old network data interfering with reconfiguration of network connectivity

If you are configuring a local console on a network (LAN) and the user keeps getting an old IP address, which may be wrong but you cannot get to it without changing the name, you may need to edit the **hosts** file on the PC. You may need to edit the file and remove the entry in question.

Note:

1. It is also suggested that you remove or alter the old entry in the **hosts** file on the PC. You can do a search or find for **hosts** then double-click the file when it is found to start the default editor.

2. Operations Console should be closed and restarted before attempting to connect a new configuration. This action will remove all cached values associated with any old configurations.

Troubleshoot other Operations Console problems

Problems with your Operations Console not covered in the other troubleshooting sections

These sections include solutions to additional problems you may encounter during your Operations Console connection.

You may encounter the following problems:

Operations Console remains in QCTL

This situation usually shows up after a migration, but could be found at any time you have been working with resources. QCONSOLE still remains in QCTL when you would have expected it to be reassigned as another workstation.

Be sure that the system has not been IPLed with **DEBUG** turned on. A good indication is that no other interactive subsystem has started, if present, and others may also be absent. Check SYSVAL QIPLTYPE it should be 0.

Note: If the new console fails to work in i5/OS you may need to use another workstation to manually delete the controller and device description associated with the old console device.

System requests will not work

Solutions for when system requests will not work.

When using Operations Console, **SYSREQ** corresponds to **Shift+ESC** and is defined as the default for PC5250 emulation.

Most keyboards have a **Print Screen** key, also labeled as **SYSREQ** and would be activated by using that key with the **Ctrl** key, however Windows reserves this key for the **Print Screen** function.

You must remap the keyboard by using the operating system, not PC5250, in order to change it.

Unable to sign on because of a lost or expired password or disabled user ID

Use this information to correct a problem when the takeover function isn't working.

If you have the special DST sign-on screen but find yourself unable to sign on because of either a disabled user ID or expired password, you can attempt the first steps of recovery by doing the following:

1. Make certain that no other devices (PCs) that normally are eligible to become the console are connected.
2. Perform the console service functions (65+21) using 65, 21, 21.

This will cause the console to be lost temporarily. The device should then become the console with a sign-on screen appropriate to the system state, assuming that it matches the current console type setting. For example, if the system was IPLed to command entry, then you would see the i5/OS sign-on screen. You can then sign on using any user ID with the authority to continue the recovery of the DST user ID that has the problem.

For more information about the DST user ID and passwords see the section: Service tools user IDs and passwords.

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