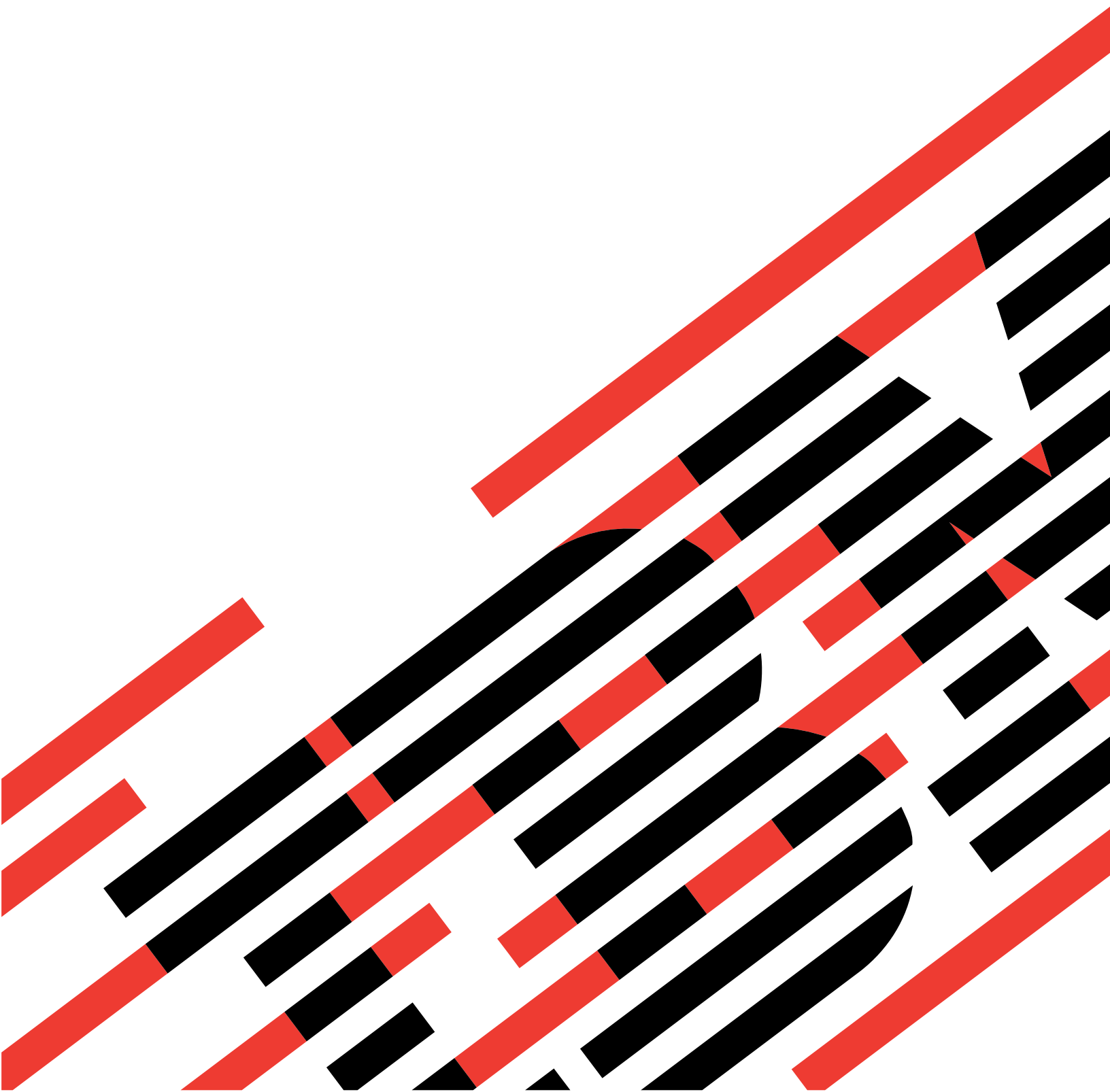




@server

iSeries

iSeries Access for Windows
Operations Console





@server

iSeries

iSeries Access for Windows
Operations Console

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Part 1. Operations Console

You can interact with your iSeries™ through a console. Use iSeries Operations Console as a system console to access and administer your iSeries.

Operations Console is an installable component of iSeries Access for Windows®. It allows you to use one or more PCs to access and control, either remotely or locally, the iSeries console and control panel functions.

Operations Console uses 5250 emulation provided by either iSeries Access for Windows or IBM® Personal Communications to emulate a console. To emulate an iSeries control panel, Operations Console provides a graphical remote control panel or virtual control panel. Operations Console can use a local area network (LAN), TCP/IP-based connectivity in addition to direct cable attachment, and dial-up connections to enable communications between an iSeries server and a PC. It supports dial-in connections from remote PCs to PCs that are directly attached to iSeries servers. These remote PCs can then function as an iSeries console. A local console through dial-up support enables communications to iSeries servers running without a local console. These PCs can then function as iSeries consoles.

This topic provides you with information and instructions to plan, set up, and manage Operations Console:

What's new for V5R2

New Operations Console functions and enhancements.

Print this topic

Print a PDF of all the information included in the Operations Console topic.

Plan for Operations Console

Plan for your Operations Console configuration with scenarios and information on security, migration, upgrades, and control panels.

Set up Operations Console

Complete required setup tasks for your Operations Console configuration with personal checklist.

Manage Operations Console

Maintain and operate Operations Console after you have successfully installed it.

Troubleshoot Operations Console connections

Solve connection, authentication, and emulator problems when using Operations Console.

Related information

View additional information related to Operations Console.

Operations Console support is available on V4R5 and later releases of the OS/400 operating system. The only type of PC console that IBM iSeries Models 270, 810, 820, 825, 830, 840, 870, and 890 support is Operations Console.

Enhanced authentication and data encryption provide network security for console procedures. Operations Console network connections uses a version of Secured Sockets Layer (SSL), which supports device and user authentication but without using certificates.

Before using this information and the product it supports, be sure to read the information in Safety and Environmental Notices and Electronic Emission Notices for Class A products and Class B products.

Chapter 1. What's new for V5R2

New functions for Operations Console include:

Virtual control panel

Virtual control panel support is the recommended alternative to the parallel cable remote control panel.

Improved Configuration Wizard

The Installation Wizard has been redesigned and new graphics have been added to improve usability. Comprehensive help text has been added to the configuration wizard.

PC prerequisite checking program

A pre-installation program is available to help you ensure the PC you choose will have all of the prerequisite function needed to support Operations Console.

Support for Windows XP

Operations Console now supports the Windows XP Professional Operating System.

Enhancements for Operations Console include:

Documentation

The Operations Console topic now includes your planning, setup, managing, and troubleshooting information in one location. The *iSeries Operations Console Setup*, SC41-5508, is no longer available for releases V5R2 and later.

Additional hardware support

Operations Console has added adapter support for feature codes 2742 and 2793.

Error messages

Additional error messages have been added to the configuration wizard.

Terminology

Changes have been made to the configuration terminology to clarify configuration data.

Table 1. Terminology changes

Previous term	New term
Stand-alone local controlling system (LCS)	Local console directly attached to the server
LCS with remote support	Local console directly attached to the server with remote access allowed
LAN LCS	Local console on a network
Dial-up LCS	Local console through dial-up support
Remote controlling system (RCS)	Remote console through dial-up support

Discontinued functions for Operations Console include:

Support for Windows 95 dropped

Operations Console no longer supports Windows 95.

Support for 4xx and 5xx models dropped

Operations Console no longer supports models 4xx and 5xx.


Chapter 2. Print this topic

To view or download the PDF version, select Operations Console (about 713 KB or 116 pages).

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

1. Open the PDF in your browser (click the link above).
2. In the menu of your browser, click **File**.
3. Click **Save As...**
4. Navigate to the directory in which you would like to save the PDF.
5. Click **Save**.

If you need Adobe Acrobat Reader to view or print this PDF, you can download a copy from the Adobe Web site

(www.adobe.com/prodindex/acrobat/readstep.html)  .

Chapter 3. Plan for Operations Console

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

Plan for your configuration

Planning information assists you in selecting the correct configuration; this topic includes scenarios and graphics.

Plan for your Operations Console migration

Planning information assists you in migrating from one Operations Console choice to another.

Plan for your Operations Console upgrade

Planning information assists you in upgrading your Operations Console configurations from previous releases.

Plan for your control panel

Planning information assists you in selecting a remote control panel or a virtual control panel.

After you complete the planning requirements, you can create a setup checklist that lists the Operations Console prerequisite. For more information, see Set up Operations Console.

Plan for your configuration

The information in this section illustrates the connectivity allowed by the various types of Operations Console configurations. The scenarios offer specific configurations to help you select a console configuration. If you plan ahead, you can include additional features in your configuration.

Plan for your backup console

Plan for your backup console in the event of hardware or network failures.

Scenarios: Select your configuration

Scenarios help you decide which configuration will work in your environment.

Prepare for your network environment

Plan for your minimum network configurations.

Secure your Operations Console configuration

Plan for your Operations Console network security.

Prepare for your Operations Console and iSeries Navigator configuration

Plan for how Operations Console works with iSeries Navigator.

Important:

- Operations Console allows multiple connections to a single iSeries server, but only one 5250 session can have control of an iSeries server at a time. It 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). There is a maximum of 26 emulator sessions available per PC.

- 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 OS/400® partition running Linux, see Configure the LAN console for a guest partition.

Plan for your backup console

This topic covers backup console information you might want to consider to quickly recover from the unexpected loss of your console. Many system plans include a level of redundancy to allow for hardware failures, but some do not consider the console in those plans. Here are some suggestions if you would like to plan for a backup for your console:

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. An active console is a command interface to an iSeries server (5250 emulation) that is currently interacting with the server.
- A twinaxial workstation on any twinaxial work station controller with port 0 (address 0 or 1 or with port 1 (address 0 or 1) can be a console device.
- To prevent interactions between eligible console types, be sure you do not have more than one workstation available during an IPL. To prevent a device enabled as an Operations Console from becoming the console, you need to disconnect any active connections and leave it disconnected during the IPL. For twinaxial workstations, it is suggested that you power off the workstation. Note that on some models the on/off switch actually only powers off the display portion of the workstation and the workstation electronics are still active, which would allow the device to become the console. If you are not sure, remove the power cord from the rear of the workstation.
- For independent and primary partitions, multiple IOPs capable of supporting a console workstation can interfere with the selection of the desired LAN adapter. Consider the following:
 - Having a 2nd IOP on the bus before your intended console adapter card, when the first IOP contains a twinaxial adapter card, will 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 2nd IOP, such as C06 or C07.
 - Typically, the card location used for Operations Console directly attached configurations, commonly referred to as the ECS slot, is located close to the beginning of the bus. When the card location is a low number such as C02, then C03 is farther from the beginning of the bus than C02. When the card location is a higher number such as C07, then C06 is farther from the beginning of the bus than C07. This may not be true for all models and expansion units. When in doubt contact your service representative.

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.
- For secondary partitions consider:
 - In an LPAR environment, the term alternate console is referring to a 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 gives you another level of protection. Tagging a single IOP as both the primary console and the alternate console does not give you this protection from an IOP-type failure. 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.
 - The current implementation for tagging a console type is only at the IOP level. Placing two network adapters for the same IOP can sometimes make it difficult to determine, in advance, which network adapter will be used for the console. IBM recommends only one network adapter for the IOP tagged as the primary console to support Operations Console local console on a network.
 - 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 additional backup consoles:

Note: If you plan to use Operations Console local console on a network (LAN) as a backup to another console type, you must have the console type set to Operations Console (LAN) and have the associated network adapter configured prior to needing this device. Setting the console to Operations Console (LAN) does not prevent an Operations Console (direct) or twinaxial from becoming the console during an IPL. Just make certain only one console type is available during the IPL.

Backup console configuration types:

- If your server is accessed 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 is not using it 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 activating the line, 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 as much redundancy as possible for your console needs. If you consider "what if this fails" and you have another route to provide a console, and also make compromises for the hardware requirements necessary to overcome the various levels where a failure might occur, you will be reducing your exposure to a catastrophic console failure condition.

See *Managing your multiple consoles* for information on the ability to switch between console devices.

Scenarios: Select your configuration

The following scenarios assist you in choosing your Operations Console configuration.

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.

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: Consoles for multiple servers or partitions

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

Scenario: Directly dial-up a server from a remote location

A scenario that discusses a situation in which you might need to access the server without a console from a console at a remote location.

The table provides an overview of the advantages and disadvantages of each scenario.

Table 1. Scenario configuration

Advantages and Disadvantages	Scenarios			
	A single console directly attached to the server without remote support	A single console directly attached to the server with remote support	Consoles for multiple servers or partitions	Directly dial up a server from a remote location
Requires cable hardware	Yes	Yes	No	No
Supports connections from another location	No	Yes	No	Yes
Must be in the server room to access the console	Yes	Yes	No	No
Easily manage multiple servers or partitions	No	No	Yes	No
Can access iSeries console and perform control panel functions, or both.	Yes	Yes	Yes	No
Access in the event of a network failure	Yes	Yes	No	Yes

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

Your company owns an iSeries server and you want to use a PC to manage your server. You need one console physically or 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**. See Set up Operations Console to complete an interview that will produce a checklist specific to your configuration.

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.

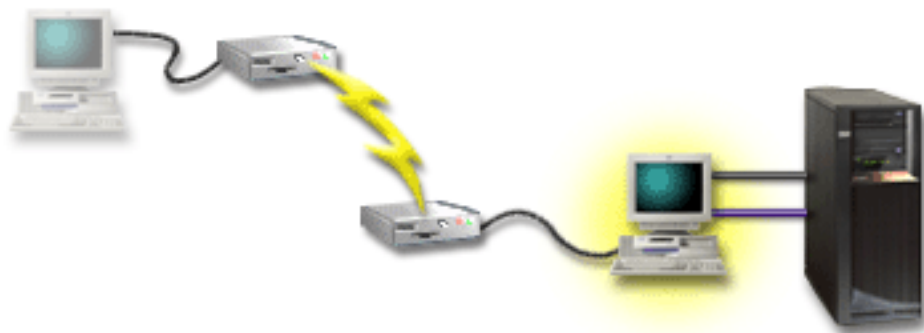
- You can use this PC to become the iSeries console, to perform control panel functions, or both provided you have a control panel cable, or you set up virtual control panel support. For more information, see the Plan for your control panel.
- The console can be securely placed behind locked doors in the server room.

Disadvantages:

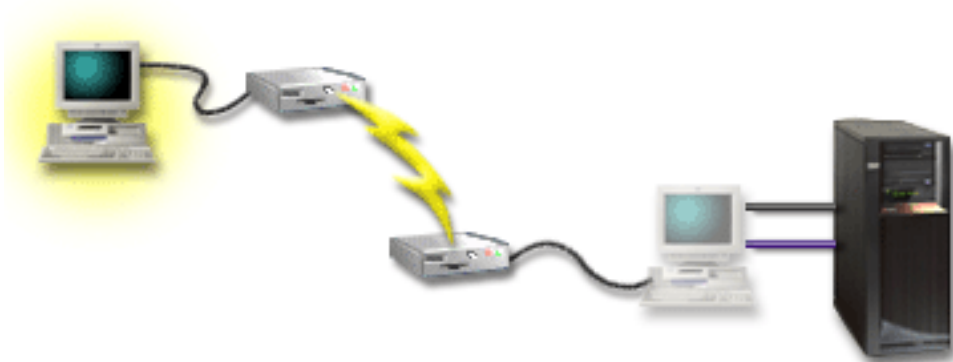
- It can be cumbersome to manage multiple servers or partitioned servers with this configuration.
- You must be close to the server to manage or access the console.
- A console cable and a remote control panel cable is required to support their corresponding functions.
- This configuration does not support remote connections. If you desire remote connections, see Scenario: A single console directly attached to the server with remote support.
- This configuration does not support remote control panel function for secondary partitions.
- Only one directly attached configuration is allowed per PC.

Scenario: A single console directly attached to the server with remote support

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. See Set up Operations Console to complete an interview that will produce a checklist specific to your configuration.

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 invention depending on your choices during the configuration wizard.

Disadvantages:

- Only one incoming connection is allowed at a time.
- The local PC must be running Windows NT®, Windows 2000, or Windows XP. Windows 98/Me PCs cannot be used to support the remote console.
- You need a console cable and a remote control cable to support their corresponding functions. For more information, see Meet Operations Console cable requirements.
- Only one directly attached configuration is allowed per PC.

Scenario: Consoles for 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**. See Set up Operations Console to complete an interview that will produce a checklist specific to your configuration.

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.
- The administrator will not need to be physically near the server to manage the console.
- Security features are available to protect your console connections.
- If you ordered Operations Console local console on a network, your iSeries should already be configured for this console type.

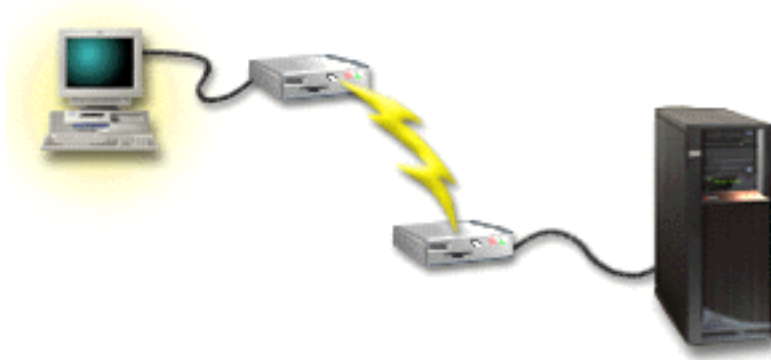
- A local console on a network is the connectivity of choice for secondary partitions in an LPAR environment. For more information on consoles on partitioned servers, see Plan for logical partitions.
- Multiple PCs can be configured as the console to a server or partition, but only one can be active at a time.

Disadvantages:

- No console is available in the event that a network failure takes place unless a backup console is in place. Configure a local console directly attached to the server or a twinaxial console for backup. For more information, see Plan for your backup console.
- You will need a separate LAN card to be used by the console. For more information, see Meet Operations Console hardware requirements.

Scenario: Directly dial-up a server from a remote location

Your company owns an iSeries server but plan to manage it from a remote location. There will be no local console connected to the server locally.



For this scenario, a **local console through dial-up support** should be configured. See Set up Operations Console to complete an interview that will produce a checklist specific to your configuration. This method has severe restrictions and should be considered carefully.

Advantage:

- The server is managed remotely, reducing the skill necessary to interact with the server during daily activities.

Disadvantage:

- A remote PC can only dial into the iSeries server if there is an operator at the iSeries allowing the PC console access.
- The modem on the server needs to be operational.
- The remote control panel and virtual control panel is not supported.
- A temporary console is necessary, locally, to set up the server properly.
- In the event of a communications line drop any jobs running on the server that was submitted by the remote console will be terminated abnormally. Also, someone will be needed at the server to re-establish the connection.
- Placing the server in restricted mode from the console dialed into the server carry additional risks in the event of a communications line drop. This could result in a necessary IPL to recover.

Prepare for your network environment

This information assists you in identifying and complying 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 card for Operations Console according to your iSeries model. To do this, see Meet Operations Console hardware requirements. If your server is new and you ordered a local console on a network configuration, the card should already be configured with the server. The LAN card should be a dedicated LAN adapter for service tools.

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

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

Notes:

1. The Operations Console PC must be placed on a network that is accessible by the iSeries. This can be the same physical network or a network that permits broadcast packets to flow. This is a one-time setup requirement; normal console operation does not require this. It is recommended that this setup occur on the same physical network.
2. The BOOTP request carries the iSeries serial number. The iSeries 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 iSeries serial number is correct in the configuration.
3. Operations Console local console on a network uses ports 2323 and 3001. To use Operations Console in a different physical network the router and firewall must allow IP traffic on these ports.
4. The success of BOOTP is dependent on the network hardware used to connect the iSeries 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 console connection.

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.

The iSeries console security consists of service device authentication, user authentication, data privacy, and data integrity:

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.

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 (AC3 and CE3). 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 (AC3 and CE3). 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.

For more information, see Operations Console LAN security administration.

Operations Console LAN security administration

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 sends a new encrypted password to the device and also sends the console service tools sign-on display to the PC (4). You must have a valid service tools user ID to sign on to the console session.

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.

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 and service tools user IDs.

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, such as that provided by QSECOFR. Mode selections include: Manual, Normal, Auto, Secure. Auto and Secure are only available on servers with a keystick.
- 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.

Protection tips

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

1. Create another service tools device ID with console attributes.
2. Install Cryptographic Access Provider program number 5722-AC3, on the iSeries server and install Client Encryption, 5722-CE3, on the Operations Console PC.
3. Choose a nontrivial access password.
4. Protect the Operations Console PC in the same manner you would protect a twinaxial console or an Operations Console with direct connectivity.
5. Change your password for the following DST user IDs: QSECOFR, 22222222, and QSRV.
6. Create an additional service tools device ID for each PC that will be used as a console.
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

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 and dial-in (modem) 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 be 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. Operation Console and iSeries Navigator can both run on a single PC. 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 OS/400 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 card 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.

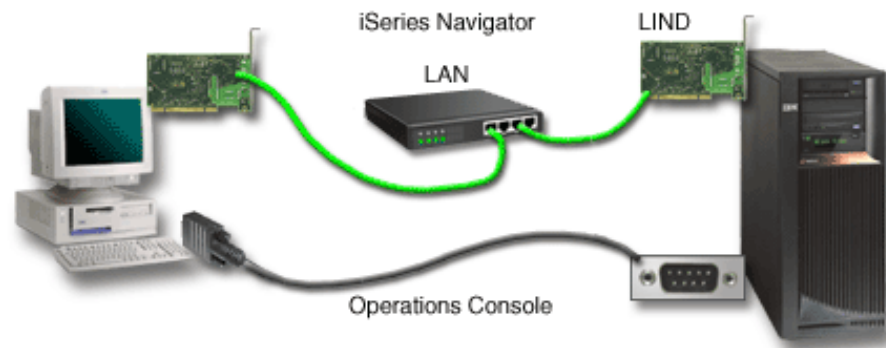


Figure 1. iSeries Navigator and Operations Console configuration over separate connectivity

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 OS/400 line description (LIND). Operation Console will use the service network adapter as defined by the service host name. If the network adapter and configured OS/400 LIND and the service network adapter as defined by the service host name are on the same network, then an additional PC LAN adapter is not needed.

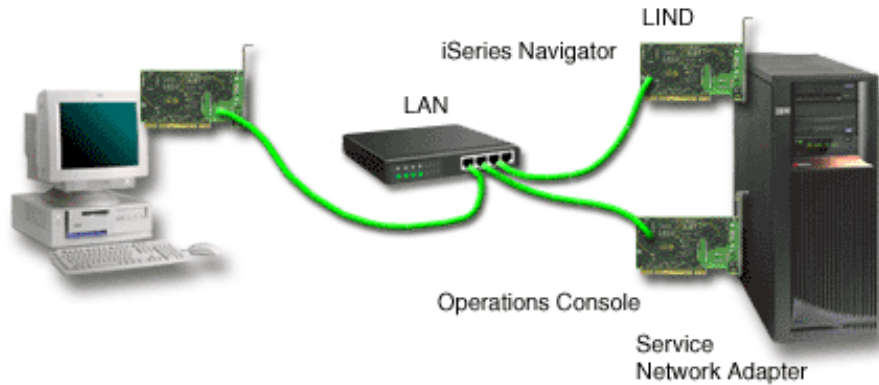


Figure 2. iSeries Navigator and Operations Console configuration on the same network

However, if the network adapter and configured OS/400 LIND and the service network adapter as defined by the service host name are on separate networks, then an additional PC LAN adapter is required.

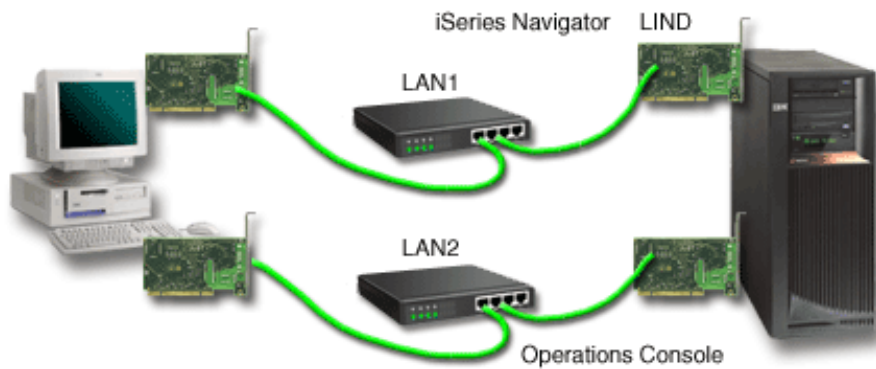


Figure 3. iSeries Navigator and Operations Console configuration on separate networks

Plan for your Operations Console migration

If you already have a twinaxial or Operations Console connection, you can migrate your console in the following ways.

Migrate from a local console directly attached to the server to a local console on a network

Use these instructions to migrate from a local console directly attached to the server to a local console on a network.

Migrate from a twinaxial console to an Operations Console

Use these instructions to migrate from a twinaxial console to Operations Console.

Migrate from an Operations Console to a twinaxial console

Use these instructions to migrate from Operations Console to a twinaxial console.

Tips:

Electronic customer support

If you are currently using electronic customer support 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. For more information, see Electronic customer support.

Note: If you are configuring a local console through dial-up support, do not move the electronic customer support resources.

Modem function

If you are adding a modem for remote capability or replacing an existing modem, physically install the modem before starting with the iSeries Operations Console configuration wizard.

As part of your migration, you may need to Deactivate the LAN card from use by Operations Console.

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

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

To migrate Operations Console with a local console directly attached to a local console on a network (LAN), you must perform steps on the PC and the server:

1. **Migrate the console in a non-partitioned or primary partitioned server**
Use these instructions to migrate the console from a local console directly attached to a local console on a network (LAN) in a non-partitioned or primary partitioned server.
2. **Migrate the console in a secondary partition**
Use these instructions to migrate the console from a local console directly attached to a local console on a network (LAN) when the console to be migrated is located in a secondary partition.
3. **Configure the PC to use the new console type**
Use these instructions to configure the PC to use the new console type when migrating from a local console directly attached to a local console on a network.

Migrate the console in a non-partitioned or primary partitioned server

To migrate 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).
2. Select **Work with DST environment**.
3. Select **System Devices**.
4. Select **Console mode**.
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.

If you do not plan to use the local console directly attached configuration as an alternate console, do not remove or move it or its adapter at this time. You may need it to debug a problem. Ensure the configuration for the local console directly attached is not in a **Connecting** status so that the next initial program load (IPL) will not select it as the console device.

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 OS/400** 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.

Migrate the console from a local console directly attached to a local console on a network in a secondary partition

To migrate 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 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).
2. Select **Work with System Partitions**.
3. Select **Work with partition configuration**.
4. Choose **Select Console Resource** (option 7) on the secondary partition.
5. Press **F9** to **Change capability filter**.
6. Select **Any Console** (option 4).
7. To select the IOP that will support the twinaxial console, do one of the following:
 - If the adapter to be used for the local console on a network is under the same IOP as the local console directly attached adapter, the console IOP is already correctly tagged. Go to step 9.
 - If the adapter to be used for local console on a network 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.
 - Put a **2** in front of the previous console IOP to tag it as the alternate console IOP.

8. Verify that the IOP containing the adapter for the local console directly attached is tagged as the alternate console.
Attention: If the current console IOP is not selected as the alternate console IOP, you may not be able to finish configuration. Also, if the correct IOP to be used for the new console type is not correctly tagged you may have to use the Operations Console to debug any problems you might encounter.
9. Press **F3** to exit to the DST main menu.
10. Select **Work with DST environment**.
11. Select **System Devices**.
12. Select **Console mode**.
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 server is now configured for use by Operations Console. If you do not plan to use the local console directly attached configuration as an alternate console, do not remove or move it or its adapter at this time. You may need it to debug a problem. Ensure the configuration for the local console directly attached is not in a **Connecting** status so that the next initial program load (IPL) will not select it as the console device.

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 OS/400** 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.

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

To migrate 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, 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 the 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:

1. Select the configuration name (under iSeries Connection).
2. From the **Connection** menu, click **Delete**.
3. Click **Yes** to confirm the deletion.

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

Migrate from a twinaxial console to Operations Console

Install the new V5R2M0 level of iSeries Access for Windows along with the *iSeries Operations Console Update* CD-ROM on your PC workstation that will be used for Operations Console functions.

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

To migrate from twinaxial to Operations Console, you must perform steps on both the PC and the server.

1. **Migrate the console in a non-partitioned or primary partitioned server**
Use these instructions to migrate the console from a twinaxial console to an Operations Console in a non-partitioned or primary partitioned server.
2. **Migrate the console in a secondary partition**
Use these instructions to migrate the console from a twinaxial console to an Operations Console when the console to be migrated is located in a secondary partition.
3. **Configure the PC**
Use these instructions to configure the PC to use the new console type when you are migrating from a twinaxial console to an Operations Console.

Migrate the console from using a twinaxial console to an Operations Console in a non-partitioned or primary partitioned server

To migrate from twinaxial to Operations Console, you must perform these steps on the server using the existing console:

1. Access Dedicated Service Tools (DST).
2. Select **Work with DST environment**.
3. Select **System Devices**.
4. Select **Console mode**.
5. Select the new console type.

- If you selected an Operations Console local console on a network (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 local console directly attached to the server, continue with step 6.
6. Press **F3** until you return to the DST main menu.
 7. Select **Start a service tool**.
 8. Select **Operator Panel functions**.
 9. Select the type of initial program load (IPL) you want to perform when you have finished with cable or adapter work on the server. Then, select **F10** to power down the iSeries.

The system is now configured for use by Operations Console. If you do not plan to use the twinaxial device as an alternate console do not remove it or its adapter at this time. You may need it to debug a problem. Remove power from the twinaxial workstation or change the address to something other than a **0** or **1** so that the next IPL will not select it as the console device.

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 OS/400** 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.

Migrate the console from using a twinaxial console to an Operations Console in a secondary partition

To migrate 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. Dedicated Service Tools (DST).
2. Select **Work with System Partitions**.
3. Select **Work with partition configuration**.
4. Choose **Select Console Resource** (option 7) on the secondary partition.
5. Press **F9** to **Change capability filter**.
6. Select **Any Console** (option 4).
7. To select the IOP that will support the Operations Console, do one of the following:

- If the adapter to be used for Operations Console is under the same IOP as the twinaxial adapter, the console IOP is already correctly tagged. Go to step 9.
 - If the adapter to be used for Operations Console is under a different IOP, place a **1** in front of the IOP to select it as the console IOP.
 - Put a **2** in front of the previous console IOP to tag it as the alternate console IOP.
8. Verify that the IOP containing the twinaxial adapter is tagged as the alternate console.

Attention: If the twinaxial console IOP is not selected as the alternate console IOP, you may not be able to finish configuration. Also, if the correct IOP to be used for the new console type is not correctly tagged, you may have to use the twinaxial console to debug any problems you might encounter.

9. Press **F3** to exit to the DST main menu.
10. Select **Work with DST environment**.
11. Select **System Devices**.
12. Select **Console mode**.
13. Use one of the following console choices to select the new console type.
 - If you selected an Operations Console local console directly attached to the server, continue with step 14.
 - If you selected an Operations Console local console on a network (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 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.
15. Select **Start a service tool**.
16. Select **Operator Panel functions**.
17. Select the type of IPL you want to perform when you have finished with cable or adapter work on the server. Then, select **F10** to power down the iSeries.

The server is now configured for use by Operations Console. If you do not plan to use the twinaxial device as an alternate console do not remove it or its adapter at this time. You may need it to debug a problem. Remove power from the twinaxial workstation or change the address to something other than a **0** or **1** so that the next IPL will not select it as the console device.

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 OS/400** 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.

Configure the PC to use the new console type from using a twinaxial console to an Operations Console

To migrate 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.

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 OS/400 you may need to use another workstation to manually delete the controller and device description associated with the old console device.

Migrating from an Operations Console to a twinaxial console

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

To migrate Operations Console to a twinaxial console, you must perform steps on the server and, optionally, on the PC.

1. **Migrate the console in a non-partitioned or primary partitioned server**
Use these instructions to migrate the console from an Operations Console to a twinaxial console in a non-partitioned or primary partitioned server.
2. **Migrate the console in a secondary partition**
Use these instructions to migrate the console from Operations Console to a twinaxial console in a secondary partition.
3. **Perform optional steps on the PC**
Use these instructions to configure the PC to use the new console type when migrating from Operations Console to a twinaxial console.

Migrate the console from an Operations Console to a twinaxial console in a non-partitioned or primary partitioned server

To migrate from an Operations Console to a twinaxial console, follow these steps on the server using the existing console:

1. Access Dedicated Service Tools (DST).
2. Select **Work with DST environment**.
3. Select **System Devices**.
4. Select **Console mode**.
5. 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:
 - 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** to exit this window.
 - f. Select **Console Mode**.

6. Select **Twinaxial**.
7. Press **F3** to return to the DST main menu.
8. Select **Start a service tool**.
9. Select **Operator Panel functions**.
10. Select the type of initial program load (IPL) you want to perform when you have finished with cable or adapter work on the server. Then, select **F10** to power down the iSeries.

The server is now configured for use by a twinaxial console. If you do not plan to use the local console directly attached configuration as an alternate console, do not remove or move it or its adapter at this time. You may need it to debug a problem. Ensure that the configuration for the local console directly attached is not in a **Connecting** status so that the next IPL will not select it as the console device.

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 OS/400** 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.

Migrate the console from an Operations Console to a twinaxial console in a secondary partition

To migrate from 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 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).
2. Select **Work with System Partitions**.
3. Select **Work with partition configuration**.
4. Choose **Select Console Resource** (option 7) on the secondary partition.
5. Press **F9** to **Change capability filter**.
6. Select **Any Console** (option 4).
7. To select the IOP that will support the twinaxial console, do one of the following:
 - If the adapter to be used for the twinaxial console is under the same IOP as the Operations Console adapter, the server is already configured for the new console. Go to step 9.
 - If the adapter to be used for the twinaxial console is under a different IOP, place a **1** in front of the IOP. This will automatically tag the previous console IOP as the alternate console IOP.
8. Verify that the IOP containing the adapter for the Operations Console is tagged as the alternate console.

Attention: If the current console IOP is not selected as the alternate console IOP, you may not be able to finish configuration. Also, if the correct IOP to be used for the new console type is not correctly tagged, you may have to use the Operations Console to debug any problems you might encounter.
9. Press **F3** to exit to the DST main menu.

10. Select **Work with DST environment**.
11. Select **System Devices**.
12. Select **Console mode**.
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:
 - 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** to exit this window.
 - f. Select **Console Mode**.
14. Select **Twinaxial**.
15. Press **F3** to return to the DST main menu.
16. Select **Start a service tool**.
17. Select **Operator Panel functions**.
18. Select the type of initial program load (IPL) you want to perform when you have finished with cable or adapter work on the server. Then, select **F10** to power down the iSeries.

The server is now configured for use by twinaxial console. If you do not plan to use Operations Console as an alternate console, do not remove or move it or its adapter at this time. You may need it to debug a problem. Ensure the configuration for the Operations Console is not in a **Connecting** status so that the next IPL will not select it as the console device.

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 OS/400** 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.

Perform optional steps on the PC when migrating from an Operations Console to a twinaxial console

Important: Perform these steps only after you are sure there are no problems with the twinaxial console.

If the PC will not be used for Operations Console, follow these steps:

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:

1. Select the configuration name (under iSeries Connection).
2. From the Connection menu, click **Delete**.
3. Click **Yes** to confirm the deletion.
4. Optionally 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 OS/400 you may need to use another workstation to manually delete the controller and device description associated with the old console device.

Plan for your Operations Console install or upgrade

If you are upgrading to V5R2 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 instructions on upgrading your OS/400, see the Upgrades topic and Install the OS/400 release and related software topic.

Prerequisite information for Operations Console users upgrading to, or installing, V5R2:

You must comply with the following before upgrading or installing your software (OS/400, Licensed Internal Code) to V5R2:

1. If your iSeries has a 2771 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 prior to the upgrade or install. Each model has a different preferred location. Refer to Install an Operations Console cable.
2. For all upgrades and installs you need to establish a connection between the iSeries server and Operations Console PC using the service tools user ID of 11111111 (eight 1's). This will prevent the shipped expired user IDs from preventing a successful re-authentication of the client connection to the server. When you receive the OS/400 release upgrade, the shipped user IDs (except 11111111) are expired. To establish a successful re-authentication of the client connection to the server, enter the service tools user ID of 11111111 (eight 1's). This is especially important for auto installs.
3. It is recommended that you update iSeries Access for Windows to V5R2 before you upgrade the OS/400 operating system. For more information, see 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.

Migrating to Operations Console before your server model upgrade

If you are going to be utilizing Operations Console on your new iSeries server (migrating from a different console type), it is important that you configure the new Operations Console PC before the beginning of the server model upgrade. At the point in the upgrade instructions where console functions are required on the new iSeries server, you will be able to perform any required functions without the need for your current console device. The Operations Console features matching the connectivity you plan to use should be specified as part of the order for your new iSeries server.

Plan for your control panel

You can use 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 or a virtual control panel. They are both a graphical interface to the iSeries control panel. The remote control panel allows you to perform most of the control panel functions from a local or remote location. The virtual control panel allows you to perform most of the control panel functions from a local location. To review your control panel options, comparisons, and setup instructions see the Control panel topic.

Note: The remote control panel by parallel port is no longer marketed. The virtual control panel is not a replacement for the parallel-connected remote control panel (part number 04N5592, a 25-pin cable) but rather an alternative.

Chapter 4. Set up 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 setup checklist:

Complete the setup interview

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

Complete the setup prerequisite checklist

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

Select the operating system you will be using to configure a local console directly attached to the server.

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

Select the operating system you will be using to configure a local console directly attached to the server with remote access allowed.

Set up a local console on a network

Select the operating system you will be using to configure a local console on a network.

Set up a local console through dial-up support

Select the operating system you will be using to configure a local console through dial-up support.

Set up a remote console through dial-up support

Select the operating system you will be using to configure a remote console through dial-up support.

Set up a local console directly attached to the server

There are unique setup prerequisites depending on the operating system you are using. Select the operating system on which you are installing Operations Console:

Complete prerequisite checklist for Windows 98/Me

Complete the prerequisite checklist for a local console directly attached to the server running Windows 98/Me.

Complete prerequisite checklist for Windows NT

Complete the prerequisite checklist for a local console directly attached to the server running Windows NT.

Complete prerequisite checklist for Windows 2000

Complete the prerequisite checklist for a local console directly attached to the server running Windows 2000.

Complete prerequisite checklist for Windows XP

Complete the prerequisite checklist for a local console directly attached to the server running Windows XP.

Complete prerequisite checklist for Windows 98/Me: Local console directly attached to the server

Complete the following checklist to set up a local console directly attached to the server on Windows 98/Me:

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Meet Operations Console cable requirements.
- 5. Verify available communications port.
- 6. Install iSeries Access for Windows.
- 7. Apply iSeries Access for Windows service packs.
- 8. Install AS400 Operations Console Connection Modem.
- 9. Confirm installation of TCP/IP on the PC.
- 10. Install Dial-Up Networking.
- 11. Install Operations Console cables.
- 12. Configure Operations Console on the PC.

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

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

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Meet Operations Console cable requirements.
- 5. Verify available communications port.
- 6. Install iSeries Access for Windows.
- 7. Apply iSeries Access for Windows service packs.
- 8. Confirm installation of TCP/IP on the PC.
- 9. Install AS400 Operations Console Connection Modem.
- 10. Install or configure Remote Access Service.
- 11. Install Microsoft® service pack.
- 12. Install Operations Console cables.
- 13. Configure Operations Console on the PC.

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. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Meet Operations Console cable requirements.
- 5. Verify available communications port.
- 6. Install iSeries Access for Windows.
- 7. Apply iSeries Access for Windows service packs.
- 8. Install AS400 Operations Console Connection Modem.
- 9. Install Operations Console cables.
- 10. 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. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Meet Operations Console cable requirements.
- 5. Verify available communications port.
- 6. Install iSeries Access for Windows.
- 7. Apply iSeries Access for Windows service packs.
- 8. Install AS400 Operations Console Connection Modem.
- 9. Install Operations Console cables.
- 10. Configure Operations Console on the PC.

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

There are unique setup prerequisites depending on the operating system you are using. Select the operating system on which you are installing Operations Console:

Complete prerequisite checklist for Windows NT

Complete the prerequisite checklist for a local console directly attached to the server with remote access allowed running Windows NT.

Complete prerequisite checklist for Windows 2000

Complete the prerequisite checklist for a local console directly attached to the server with remote access allowed running Windows 2000.

Complete prerequisite checklist for Windows XP

Complete the prerequisite checklist for a local console directly attached to the server with remote access allowed running Windows XP.

Note: The local console must be running Windows NT, Windows 2000, or Windows XP. Windows 98 and Windows Me PCs cannot be used to support the remote console.

Complete prerequisite checklist for Windows NT: 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 NT:

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Meet Operations Console cable requirements.
- 5. Verify available communications port.
- 6. Install iSeries Access for Windows.
- 7. Apply iSeries Access for Windows service packs.
- 8. Confirm installation of TCP/IP on the PC.
- 9. Install AS400 Operations Console Connection Modem.
- 10. Install PC modem.
- 11. Install or configure Remote Access Service.
- 12. Install Microsoft service pack.
- 13. Granting remote access.
- 14. Install Operations Console cables.
- 15. Configure Operations Console on the PC.

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. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Meet Operations Console cable requirements.
- 5. Verify available communications port.
- 6. Install iSeries Access for Windows.
- 7. Apply iSeries Access for Windows service packs.
- 8. Install AS400 Operations Console Connection Modem.
- 9. Install PC modem.
- 10. Create and configure incoming connections.
- 11. Grant remote access
- 12. Install Operations Console cables.
- 13. 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. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Meet Operations Console cable requirements.
- 5. Verify available communications port.

- 6. Install iSeries Access for Windows.
- 7. Apply iSeries Access for Windows service packs.
- 8. Install AS400 Operations Console Connection Modem.
- 9. Install PC modem.
- 10. Create and configure incoming connections.
- 11. Grant remote access.
- 12. Install Operations Console cables.
- 13. Configure Operations Console on the PC.

Set up a local console on a network

There are unique setup prerequisites depending on the operating system you are using. Select the operating system on which you are installing Operations Console on:

Complete prerequisite checklist for Windows 98/Me

Complete the prerequisite checklist for a local console on a network running Windows 98/Me.

Complete prerequisite checklist for Windows NT

Complete the prerequisite checklist for a local console on a network running Windows NT.

Complete prerequisite checklist for Windows 2000

Complete the prerequisite checklist for a local console on a network running Windows 2000.

Complete prerequisite checklist for Windows XP

Complete the prerequisite checklist for a local console on a network running Windows XP.

Complete prerequisite checklist for Windows 98/Me: Local console on a network

Complete the following checklist to set up a local console on a network on Windows 98/Me:

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Configure a service host name.
- 7. Create service tools device IDs on the server.
- 8. Confirm installation of TCP/IP on the PC.
- 9. Configure Operations Console on the PC.

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

Complete the following checklist to set up a local console on a network on Windows NT:

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.

- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Configure a service host name.
- 7. Create service tools device IDs on the server.
- 8. Confirm installation of TCP/IP on the PC.
- 9. Configure Operations Console on the PC.

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. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Configure a service host name.
- 7. Create service tools device IDs on the server.
- 8. 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. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Configure a service host name.
- 7. Create service tools device IDs on the server.
- 8. Configure Operations Console on the PC.

Set up a local console through dial-up support

There are unique setup prerequisites depending on the operating system you are using. Select the operating system on which you are installing Operations Console:

Complete prerequisite checklist for Windows 98/Me

Complete the prerequisite checklist for a local console through dial-up support running Windows 98/Me.

Complete prerequisite checklist for Windows NT

Complete the prerequisite checklist for a local console through dial-up support running Windows NT.

Complete prerequisite checklist for Windows 2000

Complete the prerequisite checklist for a local console through dial-up support running Windows 2000.

Complete prerequisite checklist for Windows XP

Complete the prerequisite checklist for a local console through dial-up support running Windows XP.

Complete prerequisite checklist for Windows 98/Me: Local console through dial-up support

Complete the following checklist to set up a local console through dial-up on Windows 98/Me:

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Install PC modem.
- 7. Set up the server for a local console through dial-up.
- 8. Confirm installation of TCP/IP on the PC.
- 9. Install Dial-Up Networking on the PC.
- 10. Configure Operations Console on the PC.

Complete prerequisite checklist for Windows NT: Local console with dial-up support

Complete the following checklist to set up a local console through dial-up on Windows NT:

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Install PC modem.
- 7. Set up the server for a local console through dial-up.
- 8. Confirm installation of TCP/IP on the PC.
- 9. Install or configure Remote Access Service.
- 10. Install Microsoft service pack.
- 11. Configure Operations Console on the PC.

Complete prerequisite checklist for Windows 2000: Local console with dial-up support

Complete the following checklist to set up a local console through dial-up on Windows 2000:

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Install PC modem.
- 7. Set up the server for a local console through dial-up.
- 8. Configure Operations Console on the PC.

Complete prerequisite checklist for Windows XP: Local console with dial-up support

Complete the following checklist to set up a local console through dial-up on Windows XP:

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Install PC modem.
- 7. Set up the server for a local console through dial-up.
- 8. Configure Operations Console on the PC.

Set up a remote console through dial-up support

There are unique setup prerequisites depending on the operating system you are using. Select the operating system on which you are installing Operations Console:

Complete prerequisite checklist for Windows 98/Me

Complete the prerequisite checklist for a remote console through dial-up support running Windows 98/Me.

Complete prerequisite checklist for Windows NT

Complete the prerequisite checklist for a remote console through dial-up support running Windows NT.

Complete prerequisite checklist for Windows 2000

Complete the prerequisite checklist for a remote console through dial-up support running Windows 2000.

Complete prerequisite checklist for Windows XP

Complete the prerequisite checklist for a remote console through dial-up support running Windows XP.

Complete prerequisite checklist for Windows 98/Me: Remote console through dial-up support

Complete the following checklist to set up a remote console through dial-up on Windows 98/Me:

- 1. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Install PC modem.
- 7. Install Dial-Up Networking on the PC.
- 8. Configure Operations Console on the PC.

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

Complete the following checklist to set up a remote console through dial-up on Windows NT:

- 1. Run prerequisite checking program on the PC.

- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Install PC modem.
- 7. Install Remote Access Service.
- 8. Install Microsoft service pack.
- 9. Configure Operations Console on the PC.

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. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Install PC modem.
- 7. 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. Run prerequisite checking program on the PC.
- 2. Meet Operations Console hardware requirements.
- 3. Meet Operations Console software requirements.
- 4. Install iSeries Access for Windows.
- 5. Apply iSeries Access for Windows service packs.
- 6. Install PC modem.
- 7. Configure Operations Console on the PC.

Complete required prerequisite tasks

Complete each prerequisite task needed for your configuration and operating system. This is a reference section that 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.

Here is the list of all possible tasks:

Run prerequisite checking program

Run the prerequisite checking program prior to beginning your Operations Console configuration.

Meet Operations Console hardware requirements

Meet Operations Console hardware requirements for the PC and iSeries.

Meet Operations Console software requirements

Meet Operations Console software requirements for the PC and iSeries.

Meet Operations Console cable requirements

Meet Operations Console cable requirements for the PC and iSeries.

Verify available communications port

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

Install iSeries Access for Windows

Install iSeries Access for Windows to load Operations Console on your PC.

Apply iSeries Access for Windows service packs

Apply iSeries Access for Windows service packs to receive the latest level of iSeries Access for Windows.

Install AS400® Operations Console Connection Modem

Install the Operations Console Connection modem that is shipped with Operations Console in order for a local console to communicate with the server using the Operations Console cable. 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.

Install PC modem

Install the PC Modem to allow your local console to communicate with one another using telephone connection.

Confirm installation of TCP/IP on the PC

Confirm installation of TCP/IP on the PC to satisfy the network requirements for Windows 98, Windows Me, or Windows NT

Install Dial-up Networking on the PC

Install Dial-Up Networking (DUN), if you are using Windows 98 or Windows Me.

Install Remote Access Service

Install Remote Access Service if you are using Windows NT.

Install Microsoft service pack

Install Microsoft Service Pack after you install Remote Access Service.

Set up the server for a local console through dial-up

Set up your server for a local console through dial-up only.

Grant remote access

Grant remote access if you are using Windows NT, Windows 2000, or Windows XP.

Create and configure incoming connections

Create and configure incoming connections if you are using Windows 2000 or Windows XP.

Install Operations Console cables

Install Operations Console cables to allow your directly attached console to connect to the server.

Configure Operations Console on the PC

Configure Operations Console on the PC when you have completed all of the prerequisites. Instructions to begin the Operations Console configuration wizard are included.

Run prerequisite checking program

You should run the prerequisite checking program prior to beginning your Operations Console configuration. Run this tool on every PC for which you want an Operations Console connection. It will check for some of the prerequisites and then tell you how to address any missing components.

Start the prerequisite checking program.

Meet Operations Console hardware requirements

This section describes the 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 98/Me	<ul style="list-style-type: none">• Pentium® 266 MHz recommended (P6 or equivalent compatible microprocessor)• 32 MB memory minimum
Windows NT 4.0	<ul style="list-style-type: none">• Pentium 300 MHz recommended• 64 MB memory minimum (128 MB recommended)
Windows 2000/XP Professional	<ul style="list-style-type: none">• Pentium 500 MHz (P6 or equivalent compatible microprocessor)• 256 MB memory minimum

Notes:

1. See the iSeries Access web site for 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 card for Operations Console according to your iSeries model. IBM supports a local console on a network (LAN) only on Models 270, 810, 820, 825, 830, 840, 870, and 890. Table 2 shows the supported cards for LAN connectivity. Table 3 shows the correct location for the LAN card.

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 Tokenring 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	LAN console card location	Operations Console async card location for the cable
270	C06, second C05	C07
810	C06, second C05	C07
820	C04, second C03, third C11	C06
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, C10	C02
Note: (1)These locations will only be available if the Integrated Ethernet Port is not operational.		

Note: If a local console on a network is being used by the asynchronous communications port used to support a local console directly attached to the server, it will be unavailable for use from OS/400 if a communications cable or an Operations Console cable is attached to that port.

To review cable requirements, see Meet Operations Console cable requirements.

Meet Operations Console software requirements

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 98, Windows Me, Windows NT Workstation 4.0 or later, Windows 2000 Professional, and Windows XP Professional.

You must install the contents of the *iSeries Operations Console Update CD-ROM*, if you received one in your box.

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 (V5.5 CSD 1 minimum) needs to be installed for the console only. It is not required for remote control panel configurations.

Table 1. Resulting encryption level

Cryptographic Access Provider on the iSeries server	Client Encryption on the Operations Console PC	Resulting data encryption
None	None	None
5722-AC2	5722-CE2	56 bit
5722-AC2	5722-CE3	56 bit
5722-AC3	5722-CE2	56 bit
5722-AC3	5722-CE3	128 bit

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. For the console data to be encrypted, the iSeries server must have one of the Cryptographic Access Provider products installed (5722-AC2 or 5722-AC3) and the PC must have one of the Client Encryption products (5722-CE2 or 5722-CE3) installed. The table summarizes the resulting encryption level.

iSeries Operations Console Update

The *iSeries Operations Console Update CD-ROM, SK3T-4114-02* may be required to install Operations Console. You will have been provided the CD-ROM in your box if it is required to install Operations Console. If you did not receive the CD-ROM, you do not need to complete the following steps.

To install the Operations Console Update, follow these steps:

1. If you are upgrading a secondary partition to OS/400 V5R2, you must upgrade the PC to V5R2 iSeries Access for Windows prior to upgrading the operating system of your server to V5R2.
2. Install Operations Console Update from the CD-ROM by double-clicking the Setup.exe file.
3. Install, if applicable, the latest service pack for iSeries Access for Windows.

Meet Operations Console cable requirements

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 card.

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

Table 1. Operations Console cards and cables

Server	Feature code (card)	Part number (cable)
9406 640/650/730/740/S30/S40	2699	97H7556
9406 600/620/720/S10/S20	2721 or 2745	97H7557
9401 150 9406 270/830/840 9406 810/820/825/870/890	2721, 2742, 2745, 2771, 2793	97H7557

Table 2. Remote control panel cables

Server	Part number (cable)
9406 640/650/S30/S40	97H7584
9406 270/820/830/840 (1)	04N5592 (2) (3)
All other systems	97H7591
<p>Notes:</p> <ol style="list-style-type: none"> 1. Currently, these servers support the remote control panel only under Windows NT Workstation 4.0 or Windows 2000 Professional, and Windows XP Professional. 2. The connector with the missing pin goes on the server side. 3. The parallel remote control panel cable is no longer marketed. An alternative to the remote control panel is the virtual control panel. For more information on your options, see Control panels. The table has been included in case you are currently using remote control panel cables. 	

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

Table 3. Card location

Model	Operations Console async card location for the cable	Local console on a network
170/250	C08	
270	C07	C06, second C05
620/S20/600/S10	C09	
720	C09	
810	C07	C06, 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, C10
<p>Note: (1)These locations will only be available if the Integrated Ethernet Port is not operational.</p>		

Notes:

1. For a local console directly attached to the server the console and the remote control panel functions each need a special cable.
2. On servers other than the 270, 810, 820, 825, 830, 840, 870, and 890, the cables for the console and the control panel cannot be interchanged, even though both are serial cables.
3. If you are currently using electronic customer support, you must move the electronic customer support cabling to another communications port before trying to install Operations Console directly attached. If you are configuring a local console through dial-up support, do not move the electronic customer support resources.
4. The Console table only pertains to the primary partition. Any supported card might be used in a secondary partition. There are cases where the Multi-function Input/Output Processor (MFIOP) may not support certain Input/Output Adapter (IOA) types in a secondary partition. When in doubt, contact your service representative.
5. If a local console on a network is being used by the asynchronous communications port used to support a local console directly attached to the server, it will be unavailable for use from OS/400 if a communications cable or an Operations Console cable is attached to that port.

For more information, see *Install the Operations Console cable*.

Verify available communications port

For the configuration wizard to successfully configure Operations Console, you need to verify that you have an available communications port. You need a connector for a communications interface such as a serial port. One COM port is required for system console support and one COM port is required for remote control panel support (except for servers 270, 810, 820, 825, 830, 840, 870, and 890, which require a parallel port for remote control panel support). Operations Console supports serial COM ports 1-4 and LPT port 1.

To check that you have an available communication port, run the PC prerequisite checking program. The program provides instructions to find an available port if your communications port is not available. When you configure Operations Console, the wizard will search for this port.

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 (if you do not already have PC5250 or IBM Personal Communications V5.5 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 - Setup, SC41-5507-03*  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, 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 (V5.5 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.
9. If you have the *iSeries Operations Console Update CD-ROM, SK3T-4114-02*, install the update CD-ROM now.

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/eserver/series/clientaccess/casp.htm> 

- The IBM FTP site:

<ftp://ftp.software.ibm.com> 

Navigate down to the directory path:

as400/products/clientaccess/win32/v5r2m0/servicepack.

Install AS400 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 need to install the AS400 Operations Console Connection Modem.

Install AS400 Operations Console Connection Modem for Windows 98/Me

Use these instructions to install the AS400 Operations Console Connection Modem for Windows 98/Me.

Install AS400 Operations Console Connection Modem for Windows NT

Use these instructions to install the AS400 Operations Console Connection Modem for Windows NT.

Install AS400 Operations Console Connection Modem for Windows 2000

Use these instructions to install the AS400 Operations Console Connection Modem for Windows 2000.

Install AS400 Operations Console Connection Modem for Windows XP

Use these instructions to install the AS400 Operations Console Connection Modem for Windows XP.

Install AS400 Operations Console Connection Modem for Windows 98/Me

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 using the Operations Console cable. 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**, and then click **Modems**.
2. If you are currently in the **Modems** folder, click **Add**, and then **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. Select **Don't detect my modem; I will select it from a list**, then click **Next**.
4. Click **Have Disk...**
5. Click **Browse...**
6. 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 is C:\Program Files\Ibm\Client Access\Aoc\Inf\cwbopaoc.inf
7. Click **Open**, then click **OK**.
8. Select **Operations Console Connection**, and then click **Next**.
9. Select the communications port where you are going to install the Operations Console cable (for example, COM1).
10. Click **Next**.
11. Click **Finish**.
12. Click **OK**.

Install AS400 Operations Console Connection Modem for Windows NT

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 using the Operations Console cable. 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**, and then click **Modems**.
2. If the Install New Modem window appears, go to the next step. Otherwise, if you are currently in the Modem Properties window, click **Add**.
3. Select **Don't detect my modem; I will select it from a list**, then click **Next**.
4. Click **Have Disk...**
5. Click **Browse...**
6. 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.
7. Click **Open**, then click **OK**.
8. Select the communications port where you are going to install the Operations Console cable (for example, COM1).
9. Click **Next**.
10. Click **Finish**.
11. Click **OK**.

Install AS400 Operations Console Connection Modem for 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. Click **Phone and Modem Options**.
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 7. If you do not know the path, continue with step 6.
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.f)
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 AS400 Operations Console Connection Modem for 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...**
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

You need to install the PC modem on your PC.

Install PC modem for Windows 98/Me

Use these instructions to install the PC Modem for Windows 98/Me.

Install PC modem for Windows NT

Use these instructions to install the PC Modem for Windows NT.

Install PC modem for Windows 2000

Use these instructions to install the PC Modem for Windows 2000.

Install PC modem for Windows XP

Use these instructions to install the PC Modem for Windows XP.

Install PC modem for Windows 98/Me

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

1. Click **Start** —> **Settings** —> **Control Panel** —> **Modems**.

2. If you are currently in the **Modems** folder, click **Add**, and then **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 to the **Modems** folder.
5. Close the **Modems** 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 your PC. If so, click **Yes** or **OK** to perform the shutdown.
7. If you were not prompted to restart the PC, restart the PC to force a rewrite of changed data.

Install PC modem for Windows NT

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

1. Click **Start** —> **Settings** —> **Control Panel** —> **Modems**.
2. If you are currently in the Modems Properties window click **Add**, and then **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 Modems Properties window.
5. Close the **Modems Properties** window.

Note: You must add and configure this modem in Remote Access Service before the modem can be used by Operations Console.

Install PC modem for Windows 2000

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

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

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

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. Restart your PC before using the modem.

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

Confirm installation of TCP/IP on the PC

Use this section to satisfy the network requirements for Windows 98, Windows Me, or Windows NT. Be sure you fully install and configure any network adapter cards (such as LAN or Ethernet adapters) before starting the Operations Console installation.

Confirm the existence of TCP/IP as follows:

1. Click **Start** and select **Settings**.
2. Click **Control Panel**.
3. Double-click **Network**. If you get a message indicating that Networking is not installed, click **Yes** to install it.
4. If you are using Windows NT, click the **Protocols** tab. If you are using Windows 98/Me, check for TCP/IP on the **Configuration** tab.

If TCP/IP is not installed on your PC, access your Windows Help by clicking **Start** → **Help** for instructions on installing TCP/IP.

Note: Windows 2000 Professional and Windows XP Professional automatically installs with TCP/IP.

Install Dial-up Networking on the PC

You need to install Dial-Up Networking (DUN) if you are using Windows 98 or Windows Me.

To install DUN on your system, perform these steps:

1. Click **Start** and select **Settings**.
2. Click **Control Panel**.
3. Click **Add/Remove Programs**.
4. On the **Windows Setup** tab, select **Communications**.
5. Click **Details**.
6. Make sure that the **Dial-Up Networking** box is checked on the **Communications** dialog.
7. Click **OK**

8. Click **Apply**. If prompted, insert your Windows Setup CD-ROM.
9. Click **OK** to restart the PC.

Install or configure Remote Access Service (NT only)

Make sure that you install and set up Remote Access Service according to your intended configuration. You only need to install Remote Access Service if you are using Windows NT. You are going to add and configure the modems needed for your configuration even if you are not installing Remote Access Service.

Important:

- You must have your *Windows NT Setup CD-ROM* available.
- You will need to install Remote Access Service before installing Windows NT service pack.

To install or configure Remote Access Service:

1. Open the Network folder by doing the following:
 - ___ a. Click **Start** and select **Settings**.
 - ___ b. Click **Control Panel**.
 - ___ c. Double-click **Network**.
2. Click the **Services** tab.
3. Do one of the following:
 - If Remote Access Service is listed, do the following:
 - a. Select **Remote Access Service**; then, click **Properties**.
 - b. Continue with step 4.
 - If Remote Access Service is not listed, follow these instructions to install:
 - a. Put the Windows NT CD into the optical device drive (for example, a CD-ROM drive), unless installing from a network drive.
 - b. Click **Add**.
 - c. Select **Remote Access Service** and click **OK**.
 - d. Set the path the Windows NT files will be read from, then click **Continue**. When the necessary files have been copied, the Add RAS Device window should appear. Read step 4, then, continue with step 5b.
4. Using Table 1, identify the correct modems that you need to add in Remote Access Service for your Operations Console configuration.

Important: You may have to add more than one modem in Remote Access Service to satisfy your intended configuration.

Under certain circumstances, such as when installing Windows NT and Remote Access Service, you may have had to install a nonexistent modem. If so, any modem you intend to use with Operations Console may not show up in the Add RAS Device window even though it was previously installed. In these cases, you will need to **Remove** the previously installed modem from Remote Access Service, and later from the **Modems** folder, since it may be on the same COM port. In this way, the intended modem is made available to be selected. Remote Access Service does not allow more than one modem for the same COM port.

Table 1. Modems for Operations Console configurations for Windows NT

Desired configuration	Necessary modems
Local console directly attached to the server	AS400 Operations Console connection ¹

Desired configuration	Necessary modems
Local console directly attached to the server with remote access allowed	AS400 Operations Console connection ¹ and a PC modem
Local console through dial-up support	A PC modem
Remote console through dial-up support	A PC modem
<p>Note: 1. The AS400 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 AS400 Operations Console Connection in the Remote Access Setup window.</p>	

5. To add the first or the only modem, do the following:
 - a. If you are in the Remote Access Setup window, click **Add**.
 - b. In the Add RAS Device window, select the modem.
 - c. Click **OK**. You should be at the Remote Access Setup window.
 - d. If you have satisfied the modems for your intended configuration, go to step 7.
6. If Table 1 indicates that you need to add another modem, add the modem as follows:
 - a. Click **Add**.
 - b. In the Add RAS Device window, select the modem.
 - c. Click **OK**. You should be at the Remote Access Setup window.
7. If the Remote Access Setup window has an **AS400 Operations Console Connection** entry present,
 - a. Select **AS400 Operations Console Connection**, then click **Configure**.
 - b. Click **Dial out only**. Click **OK**.
 - c. Click **Network**.
 - d. Select **TCP/IP**. Click **OK**.
8. If the **Remote Access Setup** window does not have a PC modem present, go to step 11. If the Remote Access Setup window does have a PC modem present, continue with step 13.
9. Select the PC modem. Then, click **Configure**. Do *one* of the following:
 - To configure only a remote console, select **Dial out only**.
 - To configure a local console through dial-up support, select **Dial out only**.
 - To configure a local console to receive calls (local console through dial-up support), select **Receive calls only**.
 - To configure as both, select **Dial out and Receive calls**.

Click **OK**.
10. Click **Network** on the right side of the window. Do *one* of the following:
 - To configure only a remote console through dial-up support, follow these steps:
 - a. For **Dial out Protocols**, select the **TCP/IP** check box.
 - b. Click **OK**.
 - c. Go to step 11 on page 56.
 - To configure only a local console through dial-up support, follow these steps:
 - a. For **Dial out Protocols**, select the **TCP/IP** check box.
 - b. Click **OK**.

- c. Go to step 13.
- To configure a local console to receive calls from a remote console, select the following values:
 - a. For **Allow remote clients running**, select the **TCP/IP** check box and clear any others (unless your own operation requires them).
 - b. For **Encryption settings**, click **Allow any authentication including clear text**.
 - c. Click **Configure** (located to the right of TCP/IP).
 - d. For **Allow remote TCP/IP clients to access**, click **This computer only**.
 - e. Click **Use Static address pool**.
 - f. In the **Begin** field, type the address 192.168.000.005
 - g. In the **End** field, type the address 192.168.000.024
 - h. Select the **Allow remote clients to request a predetermined IP address** check box.
 - i. Click **OK**.
 - j. Click **OK** again. Go to step 11.
- To configure as both a local console that receives calls and a remote console, select the following values:
 - a. For **Dial out Protocols**, select the **TCP/IP** check box and clear any others (unless your own operation requires them).
 - b. For **Allow remote clients running**, select the **TCP/IP** check box and clear any others (unless your own operation requires them).
 - c. For **Encryption settings**, click **Allow any authentication including clear text**.
 - d. Click **Configure** (located to the right of TCP/IP).
 - e. For **Allow Remote TCP/IP client to access**, click **This computer only**.
 - f. Click **Use Static address pool**.
 - g. In the **Begin** field, type the address 192.168.000.005
 - h. In the **End** field, type the address 192.168.000.024
 - i. Select the **Allow remote clients to request a predetermined IP address** check box.
 - j. Click **OK**.
 - k. Click **OK** again.
- 11. To complete the setup:
 - a. Click **Continue**.
 - b. If you get a message that says that the PC does not have a network adapter installed, click **OK**.
 - c. If you get a message that says that Remote Access Service has been successfully installed, click **OK**.
This message does not appear for all installations.
 - d. Click **Close**.
 - e. Click **Yes** to restart.
- 12. Continue with Install Microsoft service pack.

Install Microsoft service pack

Anytime Remote Access Service is either installed or reinstalled, you need to install Windows NT Service Pack 6 (minimum level) before attempting to use Operations Console.

If you need a service pack and have Internet capabilities, download the latest

Service Pack from <http://www.microsoft.com> . Otherwise, contact Microsoft for the latest update.

Set up the server for a local console through dial-up

Only complete this task if you are configuring a local console through dial-up support.

The iSeries server requires that a valid modem be attached. Usually, this is the electronic customer support modem. Supported types are 7852-400, 7855-10, 7857-017 and 2771.

If there is already a console device present, you may use it. Otherwise, you may need to temporarily attach another console such as:

- A twinaxial-attached console
- An Operations Console connected locally (if an Operations Console cable is available)

To configure the server, you need do the following:

1. Access Dedicated Service Tools (DST). You need authorization to make changes in this environment.
2. Plug the electronic customer support cable into the same port as the Operations Console cable would go. For more information, see *Install an Operations Console cable*.
3. If you are using the 2771 integrated modem, be sure the telephone line is connected before connecting your console.

After you complete this task, you will need to complete the following for your local console through dial-up configuration:

Select the correct modem for Operations Console

Use these instructions to select the correct modem at the server for your local console through dial-up support configuration.

Select Operations Console as the console device

Use these instructions to select Operations Console as the console device for your local console through dial-up support.

Configure the modem

Use these instructions to configure the modem for your local console through dial-up support configuration, if needed.

Select the correct modem for Operations Console

Only complete this task if you are configuring a local console through dial-up support. Before selecting the correct modem, you need to *Set up the server for a local console through dial-up support* to select a modem for the console to connect to.

Select the correct modem for your iSeries server:

1. Access Dedicated Service Tools (DST).
2. Select **Work with remote service support**.
3. Select **Change service attributes**.
4. In the **Modem Type** field, select the modem that you are going to use.

If you select option 9 (Other), then the **Other modem initialization string** field becomes available. In this field, you can enter a special string for your original equipment manufacturer (OEM) modem. Any data placed in the **Other modem initialization string** field is not used unless you select option 9 (Other) as the modem type.

Important:

- You need to determine the correct initialization string for the OEM modem. For assistance in determining the initialization string, see Modem initialization and configuration.
 - The OEM modem must be in asynchronous mode before sending the string data to the modem.
5. Press the PF3 key until you reach the DST main menu.

After you complete this task, you will need to complete the following for your local console through dial-up configuration:

Select Operations Console as the console device

Use these instructions to select Operations Console as the console device for your local console through dial-up support.

Configure the modem

Use these instructions to configure the modem for your local console through dial-up support configuration.

Select Operations Console as the console device

Use these instructions to select Operations Console as the console device for your local console through dial-up support.

1. Access Dedicated Service Tools (DST).
2. Select **Work with DST environment**.
3. Select **System devices**.
4. Select **Console mode**.
5. Select **Operations Console (direct)**.

Important: Make sure that you type 2 and press Enter even if 2 already exists. This forces the value to be rewritten.

6. Press PF3 until you reach the DST main menu.

At this time Operations Console does not need a locally connected console. In order for your local console through dial-up support to be able to connect to the server, you need to power down the system to allow the local console directly attached to the server to be disconnected. Follow these steps:

1. Select **Start a service tool**.
2. Select **Operator panel functions**.
3. To power down and perform an initial program load (IPL), select the desired options and press the appropriate PF function key.
4. Press Enter to confirm that you want to power down or restart the iSeries server.

Note: After the system has fully powered down, you may remove the directly attached console device. Then, you will most likely perform an IPL in normal mode and allow users to access the system.

After you complete this task, you need to Configure the modem for your local console through dial-up configuration.

Configure the modem

If the server is currently using a 7852-400, 7855-10, 7857-017 or the integrated 2771 or 2793 modem, the line activation will automatically switch the modem, if necessary, to the correct mode. If the server is using another modem type you have to specify **Other** for the modem type and possibly even supply an initialization string to allow the communications line to be activated in a manner that it supports Operations Console.

The server uses any of the following modems:

- **7852:** Configuration switches are on one side. The modem automatically uses synchronous connections and can be set to asynchronous mode without changing any switches. You do not need to make any changes to this modem configuration.
- **7855:** You can configure it by using the buttons on the front of the modem. It also uses synchronous connections automatically, and you can switch it to asynchronous mode without intervention. You do not need to make any changes to this modem configuration.
- **7857:** You can configure it by using the buttons on the front of the modem. It also uses synchronous connections automatically, and you can switch it to asynchronous mode without intervention. Nevertheless, you have to perform an additional configuration every time you attempt to connect to this modem.
- **2771 or 2793:** This adapter card has an integrated asynchronous modem and requires no configuration.

To configure the 7857 modem to make a connection:

1. Press the Up arrow key 11 times until C106 (CTS) U11 is shown.
2. Press the Right arrow key 3 times until C106 Always follows C105 is shown.
3. Press the Enter key twice.
4. This should turn on the Clear to send (CTS) light.

Important: Check the light before activating the communications line.

You must perform the steps before attempting to activate the iSeries communications line. If the attempt fails, you must again perform the steps. You may have to do this setup more than once.

For more information on configuring a modem, see Modem initialization and configuration.

Modem initialization and configuration: This will assist you in modifying the initialization strings for modems that work in a local console through dial-up support environment. It also assists you in finding a workable string for your original equipment manufacturer (OEM) modem at the iSeries side of the connection.

See the following for more information:

- **Determine the initialization string for OEM modems**
- **Modem initialization strings for the iSeries server and PC**

- **Reset the modem for synchronous use**
- **Reset the modem for asynchronous use**

Determine the initialization string for OEM modems: This section assists you in determining the appropriate initialization string for your OEM modem.

If you are going to use an OEM modem, you may need to use a trial-and-error approach to determine the initialization string. The modem initialization string commands and their meanings may not be appropriate for your modem. To determine comparable functions, refer to the documentation that the modem manufacturer provides.

Tip: To determine the initialization string, start with the basics such as just sending the AT command. Most modems return a positive response and should activate the line, even though connection data will probably not be exchanged. Add commands, one or two at a time, and deactivate the line between attempts. When you determine that enough commands have been added to support a true data connection, test it using a PC setup as a local console through dial-up support that is as close to your iSeries as possible. This allows you to monitor both sides of the connection and support further debugging of the initialization string.

Modem initialization strings for the iSeries server and PC: Use this section to modify the modem initialization strings for your iSeries server and PC according to your modem type. Strings for modem types supported by IBM (7852, 7855, and 7857) and for OEM modems are listed below.

Important: If you experience problems connecting to your iSeries in a local console through dial-up configuration, you may have to add the appropriate initialization string for the PC modem to negotiate. You may also have to connect at only 9600 bps. The initialization string is dependent on the modem and will differ from type and model used.

See the following initialization strings for your modem:

- **7852**
- **7855**
- **7857**

See the following initialization strings for your OEM modem:

- **ZOOM**
- **Intel 144e FaxModem**
- **USRobotics Sportster 28.8**
- **Other OEM modems**

Initialization strings for 7852: For the 7852-400 modem, the initialization string for the iSeries system is:

```
AT&FE0M0X2S0=2
AT - ATTENTION
&F - LOAD FACTORY SET (SWITCH SET TO SYNC)
E0 - DISABLE ECHO
M0 - DISABLE SPEAKER
X2 - CHECK FOR DIAL TONE BEFORE DIALING
S0 = 2 SPECIFIES ANSWER ON SECOND RING
```

For the 7852-400 modem, the initialization string for the PC is:

```
AT&FE0M0X2$BA1&W0$MB9600S0=0
AT - ATTENTION
&F - LOAD FACTORY SET (SWITCH SET TO SYNC)
E0 - DISABLE ECHO
M0 - DISABLE SPEAKER
X2 - CHECK FOR DIAL TONE BEFORE DIALING
$BA1&W0 - TURN OFF SPEED CONVERSION
$MB9600 - CONNECT AT 9600 ONLY
S0 = 0 SPECIFIES NO AUTO ANSWER
```

Initialization string for 7855: For the 7855-10 modem, the initialization string for the iSeries system is:

```
AT&F1&C1E0M0V1X4&S1S0=2\R2\Q2
AT - ATTENTION
&F1 - LOAD FACTORY ASYNC SETTINGS
&C1 - CD ON ONLY WHEN CONNECTED
E0 - DISABLE ECHO
M0 - DISABLE SPEAKER
V1 - RESULT CODES ARE WORDS
X4 - DETECT DIAL TONE AND BUSY
&S1 - DSR FOLLOWS CD
S0 = 2 SPECIFIES ANSWER ON SECOND RING
\R2 - DTE USES RTS
\Q2 - MODEM USES RFS
```

For the 7855-10 modem, the initialization string for the PC is:

```
AT&F1&C1E0M0V1X4S0=0\R2\Q2
AT - ATTENTION
&F1 - LOAD FACTORY ASYNC SETTINGS
&C1 - CD ON ONLY WHEN CONNECTED
E0 - DISABLE ECHO
M0 - DISABLE SPEAKER
V1 - RESULT CODES ARE WORDS
X4 - DETECT DIAL TONE AND BUSY
S0 = 0 SPECIFIES NO AUTO ANSWER
\R2 - DTE USES RTS
\Q2 - MODEM USES RFS
```

Initialization string for 7857: For the 7857-017 modem, the initialization string for the iSeries system is:

```
AT&F0&C1E0M0V1X2S0=2&K2&U4&D2*I8
AT - ATTENTION
&F0 - LOAD FACTORY ASYNC SETTINGS
&C1 - DSR&CD IN NORMAL MODE
E0 - DISABLE ECHO
M0 - DISABLE SPEAKER
V1 - RESULT CODES ARE WORDS
S0 = 2 ANSWER ON SECOND RING
&D2 - RETURN MODEM TO COMMAND MODE WHEN THE LINE DROPS
*I8 - USE 9600 BPS DTE ONLY (important for internal port speed)
```

For the 7857-017 modem, the initialization string for the PC is:

```
AT&F0&C1E0M0V1X2S0=0&K2&U4&D2F8*I8&E2
AT - ATTENTION
&F0 - LOAD FACTORY ASYNC SETTINGS
&C1 - DSR&CD IN NORMAL MODE
E0 - DISABLE ECHO
M0 - DISABLE SPEAKER
V1 - RESULT CODES ARE WORDS
S0 = 0 NO AUTO ANSWER
&K2 - USE CTS(C106) DTE FLOW CONTROL
&U4 - USE RTS(C105) DATA FLOW CONTROL
```

&D2 - DROP LINE WHEN DTR GOES OFF
&F8 - USE 9600 BPS ONLY
*I8 - USE 9600 BPS ONLY
&E2 - USE ERROR CORRECTION

Initialization strings for ZOOM: For ZOOM VFXV32BIS, the initialization string for the iSeries system is:

AT&FE0M0S0=2&C1&D2&K3&S1
AT - ATTENTION
&F - LOAD FACTORY ASYNC SETTINGS
E0 - DISABLE ECHO
M0 - DISABLE SPEAKER
S0 = 0 NO AUTO ANSWER
&C1 - CD ON ONLY WHEN CONNECTED
&D2 - DTR GOING OFF DROPS LINE AND TURNS OFF AUTO ANSWER
&K3 - USE RTS/CTS FLOW CONTROL
&S1 - DSR FOLLOWS CD

For ZOOM VFXV32BIS, the initialization string for the PC is:

AT&F&C1E0M0S0=0&D2&K3N0S37=9
AT - ATTENTION
&F - LOAD FACTORY ASYNC SETTINGS
&C1 - CD ON ONLY WHEN CONNECTED
E0 - DISABLE ECHO
M0 - DISABLE SPEAKER
S0 = 0 NO AUTO ANSWER
&D2 - DTR GOING OFF DROPS LINE AND TURNS OFF AUTO ANSWER
&K3 - USE RTS/CTS FLOW CONTROL
N0 - USE S37 REGISTER FOR SPEED
S37 = 9 - CONNECT AT 9600 ONLY

Initialization string for Intel 144e FaxModem: For Intel 144e FaxModem, the initialization string for the iSeries system is:

AT&F&C1E0M0V1X4F8S0=2

For Intel 144e FaxModem, the initialization string for the PC is:

AT&F&C1E0M0V1X4F8S0=0

Initialization string for USRobotics Sportster 28.8: For USRobotics Sportster 28.8, the initialization string for the iSeries system is:

AT&FE0M0S0=2&N6

For USRobotics Sportster 28.8, the initialization string for the PC is:

AT&FE0M0S0=0&N6

Initialization string for other OEM modems: For other OEM modems, try using the 7852 initialization string. It should work for most OEM ASYNC-only modems. You may also try this basic string:

AT&FnS0=N

(Where n and N are numbers, and N in S0=N only applies for iSeries and represents the number of rings before the modem answers a call.)

When using the basic string, verify that &F is not using options that are not supported in the remote environment. You may need to try all &F selections to find out whether one will work.

Reset the modem for synchronous use: Use this section for resetting the 7855, 7857, and 7852 modems for use with electronic customer support.

To reset the 7855 modem for synchronous use, follow these steps:

1. Press the Right-arrow and Left-arrow buttons, at the same time, until Exit Enter is shown.
2. Press the Right-arrow button.
3. Press the Down-arrow button until First Setup is shown.
4. Press the Right-arrow button.
5. Press the Down-arrow button until Reset to Factory is shown.
6. Press the Right-arrow button.
7. Press the Left-arrow button at Profiles Only and the light should briefly light and return you to First Setup.
8. Press the Left-arrow button, and Exit Enter shows.
9. Press the Left-arrow button, and Remain Unlocked shows.
10. Press the Left-arrow button, and Save Profile 0 shows.
11. Press the Left-arrow button to complete the configuration change.

To reset the 7857 modem for synchronous use, follow these steps:

1. Press the Down-arrow button until Configurations is shown.
2. Press the Right-arrow button, and Select Factory shows on the bottom line.
3. Press the Enter button, and an underscore shows.
4. Press the Up-arrow button until 3 is shown. At this point, 3 begins to alternate with the cursor.
5. Press the Enter button, and IBM 7857 V25B1S aa shows.

To reset the 7852 modem for synchronous or asynchronous use, use the switch settings below:

1 16
UUDDUUDDUUUUUU

(Where U=up and D=down.)

Reset the modem for asynchronous use: Use this section for resetting the 7855, 7857, and 7852 modems for asynchronous use.

To reset the 7855 modem for asynchronous use, follow these steps:

1. Press the Right-arrow and Left-arrow buttons (at the same time) until Exit Enter is shown.
2. Press the Right-arrow button.
3. Press the Down-arrow button until First Setup is shown.
4. Press the Right-arrow button.
5. Press the Down-arrow button until Reset to Factory is shown.
6. Press the Right-arrow button.
7. Press the Left-arrow button at Profiles Only. The light should briefly light and return you to First Setup.
8. Press the Right-arrow button.
9. Press the Down-arrow button until Asynchronous AT is shown.
10. Press the Left-arrow button, and First Setup shows.
11. Press the Right-arrow button.
12. Press the Down-arrow button until Power on Profile is shown.
13. Press the Right-arrow button, and Profile NVM 0 shows.

14. Press the Down-arrow button, and Profile NVM 1 shows.
15. Press the Left-arrow button, and First Setup shows.
16. Press the Left-arrow button, and Exit Enter shows.
17. Press the Left-arrow button, and Remain Unlocked shows.
18. Press the Left-arrow button, and Save Profile 0 shows.
19. Press the Left-arrow button, and ASYN8N A 9600 a shows.

To reset the 7857 modem for asynchronous use, follow these steps:

1. Press the Down-arrow button until Configurations is shown.
2. Press the Right-arrow button, and Select Factory shows on the bottom line.
3. Press the Enter button, and an underscore shows.
4. Press the Up-arrow button until 0 is shown. At this point, 0 begins to alternate with the cursor.
5. Press the Enter button, and IBM 7857 AT CMD aa shows.

To reset the 7852 modem only for asynchronous, use the switch settings below:

```
1          16
UUDDUUDDUUUU
```

(Where U=up and D=down.)

Grant remote access

You will need to grant remote access for a remote console to have access to the local console:

Grant remote access for Windows NT

Use these instructions to grant remote access if you are running Windows NT.

Grant remote access for Windows 2000

Use these instructions to grant remote access if you are running Windows 2000.

Grant remote access for Windows XP

Use these instructions to grant remote access if you are running Windows XP.

Grant remote access for Windows NT

To grant remote access using the Windows NT User Manager:

1. Click **Start**
2. Select **Programs**.
3. Select **Administration Tools**.
4. Select **User Manager**.
5. In User Manager, select **New User** from the User menu and enter the user name and password information, or double-click the desired user if it is already defined.
6. On the **User Properties** dialog, click **Dial-In**.
7. Select **Grant dial-in permission to user**.
8. Click **OK** twice.

Grant remote access for Windows 2000

To grant remote access using the Windows 2000 Incoming Connections:

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. For more information, see 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.

Grant remote access for Windows XP

To grant remote access using Windows XP Incoming Connections Properties:

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. For more information, see 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.

Create and configure incoming connections

You need to create and configure Incoming Connections:

Create and configure incoming connections for Windows 2000

Use these instructions to create and configure Incoming Connections for Windows 2000.

Create and configure incoming connections for Windows XP

Use these instructions to create and configure incoming connections for Windows XP.

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**.

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

Then, click **Next**.

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.

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 AS400 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**.

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

Then, click **Next**.

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.

Install an Operations Console cable

You may need to install or remove the Operations Console cable, the remote control panel cable, or both, according to your server. 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 configuration. The parallel remote control panel cable is no longer marketed. The virtual control panel is the recommended alternative to the parallel remote control panel. For more information, see Control panel.

If you are changing the console device, the server 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 OS/400** 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:

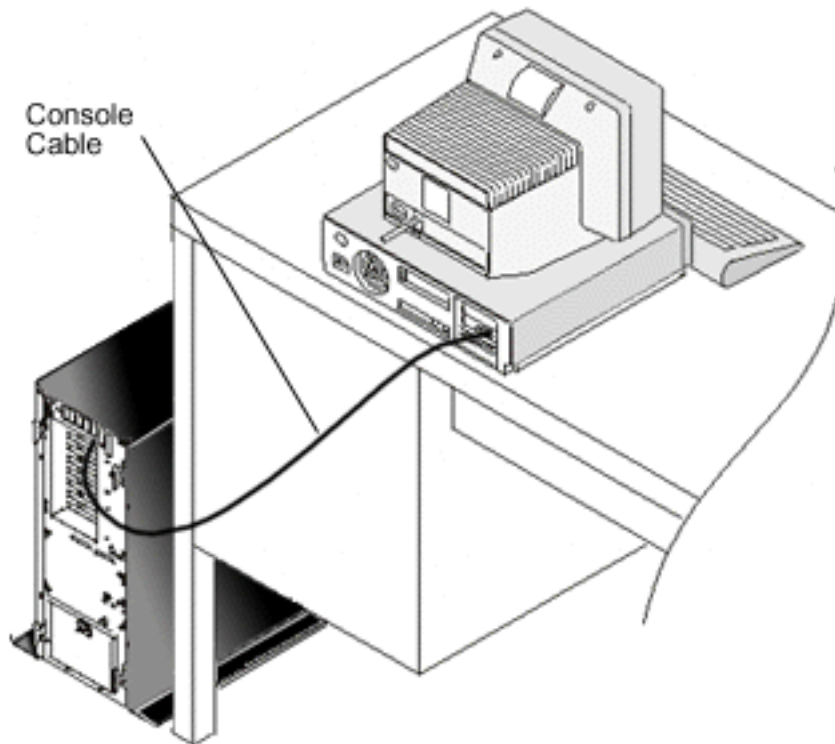
1. Power off all PCs.
2. Unplug all PC power cords from the electrical outlets.

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.



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

- Model 250
- Model 270
- Model 600/700
- Model 810
- Model 820
- Model 825
- Model 870/890

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. 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 wizard starts the console connection panel for you.

The configuration is complete. The connection is now ready to be connected. Click **Finish** to begin working with Operations Console. The wizard invokes the console connection for you. 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.

Chapter 5. Manage Operations Console

After you have completed your Operations Console Planning and Set up your connection, you have options available to help you manage your local and remote console connections.

These topics help you to successfully complete the tasks that you need to perform when managing your configurations:

Manage your console configuration

Manage your local and remote console through maintenance tasks.

Manage your multiple consoles

Manage your multiple consoles on the same server or partitions.

Manage your local console on a network

Manage your local console network-connected passwords on the PC and server.

Manage your console configuration

Manage your local and remote console configuration through the following tasks:

Change a console configuration

Use these instructions to change a console configuration.

Delete a console configuration

Use these instructions to delete a console configuration.

Connect a local console to a server

Use these instructions to connect a local console to a server.

Connect a local console directly attached to the server

Use these instructions to connect a local console that is directly attached to the server.

Connect a remote console to a local console by modem

Use these instructions to connect a remote console to a local console by a modem.

Control tasks between users

Use these topic to manage control between your local consoles or your remote consoles.

Change keyboard definitions

Use these instructions to change your keyboard definitions.

Start the system using a manual IPL

Use these instructions to start the system using a manual IPL.

Activate the communications line on the server

Use these instructions to activate the communications line on the server.

Deactivate the communications line on the server

Use these instructions to deactivate the communications line on the server.

Dial the server

Use these instructions to dial the server from your local console through dial-up support.

Change a console configuration

You may need to change 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 change or create a local console. If you are changing a system name, you have to delete the configuration and re-create it with the new names.

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 **Configure Connection**.
4. Continue through the wizard and make any necessary changes.

Change a remote console

To change 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 **Configure Connection**.
4. Continue through the wizard and make any necessary changes.

To reconfigure LAN configurations:

Note: If network data will be changed, 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 Not connected to local console at the remote console.
3. Select the configuration name.
4. From the **Connection** menu, click **Configure Connection**.
5. Continue through the wizard and make any necessary changes.

Delete a console configuration

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.

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 98/Me/2000/XP users:

You may need to delete the network object (Windows 2000 and Windows XP) or DUN object (Windows 98/Me) each time you delete a configuration entry in Operations Console. Do the following to verify that either the network object or the DUN object does not exist:

1. If you are using Windows 2000 Professional or Windows XP Professional, open the **Network and Dial-up Connections** folder in the Control Panel. If you are using Windows 98, or Windows Me, double-click **My Computer** and open the **Dial-Up Networking** folder.

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 or DUN object as follows:
 - a. Right-click the icon.
 - b. Click **Delete**.

Connect a local console to a server

You need to connect your local console to a server:

Connect a local console on a network to a server

Use these instructions to connect a local console on a network to a server.

Connect a local console to another server

Use these instructions to connect a local console to another server.

Connect a local console directly attached to the server

Use these instructions to connect a local console directly attached with remote access allowed to a server.

Connect a local console on a network to a 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 the following steps to connect a local console on a network to an iSeries 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 try 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** 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 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 Operations Console LAN security administration.

Note: If the connection is to a logical partition and you have configured a console and remote control panel, you will receive a sign-on window for each function.

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

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

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

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) or through local or remote 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 more than one network or remote configurations.

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

Perform the following 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**.

Notes:

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 configuration in order to make the connection to another server. 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

Connecting a local console directly attached to the server 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 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 try 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** 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.

Connect a remote console to a local console by modem

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 the 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 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** 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 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.

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.

Identify user in control of a server

Use these instructions to identify Operations Console users in control of a server.

Grant or refuse control to a remote console

Use these instructions to grant or refuse control to a remote console.

Display the remote control panel in read-only mode

Use these instructions to display the remote control panel in read-only mode.

Request and release control at the local console

Use these instructions to request or release control at the local console.

Send a message to a controlling remote console

Use these instructions to send a message to a remote console in control.

Request control at the remote console

Use these instructions to request control at the remote console.

Release control at the remote console

Use these instructions to release control at the remote console.

Send a message to a controlling local console or remote console

Use these instructions to send a message to a controlling local or remote console.

Transfer control between users

Use these instructions to transfer control between users.

Identify 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.

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.

Grant or refuse control to a remote console

As an operator of a local console with remote support, you must handle incoming requests for iSeries control when you have control. Granting 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. 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, 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.

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. (Optional) In the **Message** field, type an explanation for the refusal.
3. Click **OK**.

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

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.

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**.

Request and release control at the local console

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 had control. After finishing your work, you must release control to allow Operations Console to automatically grant control to a requester.

Requesting control:

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.
3. 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 steps 2a through 2e.

If a remote console user has control and you **do** want to force control back from the remote console, do steps 2a through 2e. 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:

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:

1. Type the reply.
2. Click **Reply**.

Request control at the remote 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 another user has control, do the following:
 - a. (Optional) 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 current 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 current user refuses control to the remote console, a window appears indicating the refusal.

Release control at the remote console

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:
 1. Select the configuration name.
 2. From the **Connection** menu, click **Remote Control Panel**.

- End the remote console connection to the local console. To end the connection, follow these steps:
 1. Select the configuration name.
 2. From the **Connection** menu, click **Disconnect**. The connection status shows **Disconnecting**.
 3. Wait until the status shows **Not connected to local console**.

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 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:

1. Type the reply.
2. Click **Reply**.

Transfer control between users

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.

Change keyboard definitions

You can change your keyboard definition:

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.
4. Select your choice.
5. Click **OK**.
6. Click **OK** again.

Start the system using a manual IPL

Use this section to start your iSeries server by performing a manual initial program load (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.
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 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 the Up or Down button 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 the **Enter** button on the iSeries control panel.
6. Press the Up or Down button 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 the Enter button on the iSeries control panel.
8. Press the Power button on the iSeries control panel.

The system takes approximately 10 to 30 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 5 minutes to complete before the Attention light is turned on.

9. Reference code x6004031 or x6004501 (where x can be any letter) will appear in the Function/Data display for several minutes.
10. When the system has completed the initial phase of the manual IPL it will show **01 B** and you should have a console.
If the Attention light 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. Then configure a new configuration.

If you have an 270 or 8xx server, see System reference code D10005008 in the troubleshooting topic.

Activate the communications line on the server

These instructions are only for a local console through dial-up support configuration or local consoles directly attached. Use these instructions to manually activate the 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 the Up and Down buttons, select function **25** and press the Enter button.
4. Use the Up button to select function **26** and press the Enter button.
5. Use the Down button to select function **66** and press the Enter button.

The system attempts to initialize the attached modem. If it is successful, the Function/Data window displays D1008066. If it could not initialize the modem, it 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.

Deactivate the communications line on the server

These instructions are only for a local console through dial-up support configuration or local consoles directly attached. Use these instructions to manually deactivate the communications line on the server. Your system should be in

manual mode and the extended control panel functions should be activated. The extended functions are activated from when the communications line was activated.

To deactivate the 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 the Up and Down buttons, select function **25**. Press the Enter button.
 - d. Use the Up button to select function **26**. Press the Enter button.
2. Use the Down button to select function **65**. Press the Enter button.

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.

Dial the server

These instructions are only for a local console through dial-up support configuration. Once someone activates the line at the server, the local console PC has to dial into the system. Start a connection just as you would to connect to a local console. Once fully connected, you receive control automatically. Disconnect when you are finished.

To disconnect, follow these steps:

1. Select the configuration name (under iSeries Connection). This is the name that Operations Console uses to refer to a specific iSeries system.
2. From the **Connection** menu, click **Disconnect**. The connection status shows **Disconnecting**.
3. Wait for the connection status to show **Disconnected**.

When you disconnect, the iSeries server automatically deactivates the communications line.

If you fail to connect, the person at the iSeries server again has to activate the line. Moreover, if you are dialing a 7857 modem, you also have to follow the configuration steps for this modem again.

Manage your multiple consoles

If you have more than one workstation that is capable of being the console to the same server or logical partition, there may be more than one way of using that device as the console, depending on your configuration and circumstances. The following will explain the more common procedures:

Multiple local PC consoles on a network

When a workstation is already a console and another local console on a network attempts to become the console the connection will be successful but the emulator will go to a **Disconnected** state, as shown in the bottom left corner of the emulator window. Many connections of this type can be connected but again only one can be the active console. Currently, there is no mechanism for this PC to know which

user or PC is 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 **Connection**.
 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.

Note: This same method is shared with a local console directly attached to the server or local console directly attached to the server with remote access allowed.

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. The users will have 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 while the server is being IPLed in manual mode and has not completed the IPL to command entry

Note: If you plan to use Operations Console (LAN) as a backup to another console type, you must have the console type set to Operations Console (LAN) and have the associated network adapter configured prior to needing this device. Setting the console to Operations Console (LAN) does not prevent an Operations Console (direct) or twinaxial console from becoming the console during an IPL. Just make certain only one console type is available during the IPL.

In this environment, you only need to make the current console type unavailable to the server. Disconnecting the configuration will do this for an Operations Console. Then, make the target console type available. For Operations Console you would start a connection. Now, do a function 21 on the control panel (or remote control panel). This forces the server to look for a console device again. It should find the target console type.

When this involves twinaxial workstations, you can make the device unavailable by removing power to the electronics or removing the cable from the device or from the 4-port (or 8-port) port connector.

Switching from one console type to another while the server has been IPLed to command entry

You can attempt to use the same function 21 method as explained above, but you need to know that this is not consistent. Some circumstances, depending on server,

existing console type, target console type, system load, and other factors may prevent the system from using the new console type. In these circumstances an IPL is necessary to complete the transition from one to the other.

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.

Manage your local console on a network

These instructions are only if you have a local console on a network configured. Use the following topics to assist you in managing your service network connection:

Considerations for changing the service tools device ID passwords

Use these considerations if you want to change your service tools device password.

Change the service tools device ID password on the PC and the server

Use these instructions to change the service tools device ID password on the PC and the server.

Change the access password

Use these instructions to change the access password.

Resynchronize the PC and service tools device ID password

Use these instructions to resynchronize the PC and service tools device ID password.

Create service tools device IDs on the server

Use these instructions to create service tools device IDs on the server.

Configure a service host name

Use these instructions to configure a service host name.

Deactivate the LAN card from use by Operations Console

Use these instructions to deactivate the LAN card from use by Operations Console.

Changing network values for Operations Console (LAN)

Use these instructions to change the network values for Operations Console (LAN).

Considerations for changing the service tools device ID passwords

Review these considerations before you change the service tools device ID password:

- The service tools device ID password on the PC must be the same as the service tools device ID password on the server.
- 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.

- If you have previously connected successfully using this local console on a network configuration, you need to reset the service tools device ID password on the PC and the server. To do this, see Resynchronize the PC and service tools device ID password.
- When you are changing a local console on a network configuration, the service tools device ID password is the only editable fields in the Specify Service Device ID window.
- 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, 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. Thus, when you create the new configuration, you can use the reset service tools device ID name. For instructions on resetting the device profile password, see Resynchronize the PC and service tools device ID password.

If you need to change the service tools device ID password, see Change the service tools device ID password on 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 have gotten 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.

Change the access password

You can change the password used to access the service tools device ID information at any time during the creation of a new local console on a network configuration or while you are changing an existing local console on a network configuration. If you are working with logical 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 later, during the connection process, to sign on the Service Device Sign-on window.

To change the access password, use one of the following methods:

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**.

To change the access password using the configuration wizard, follow these steps:

Note: Using **Properties** to change access passwords for the remote control panel in logical partitions is currently not supported. You must use the configuration wizard to change the password.

1. Select the connection name for which you will be changing the access password.
2. Click **Connection** —> **Configure Connection**.
3. Click **Next** and continue taking the default data for each window until you get to the **Access Password** window.
4. Click the check box **Change the access password**.
5. For **Current Password** enter what you currently use for the access password.
6. Enter the new password into the **New Password** and **Confirm password** fields, and then click **Next**.
7. Continue taking the default data for the rest of the windows, and click **Finish** on the last window to save the new data.

Resynchronize the PC and 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.

Note: You need to access Dedicated Service Tools (DST) 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.

Reset the service tools device ID password on the server

To complete the resynchronize task you need to reset the service tools device ID password on the server.

Reset the service tools device ID password on the PC

To complete the resynchronize task you need to reset the service tools device ID password on the PC.

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:

- If you can obtain a console session 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).
 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 will be using a password other than the device name, you will have to delete the current service tools device ID and create a new ID with your desired password.

- If you do not want your service tools device ID name and service tools device ID password to be the same, delete the service tools device ID and create a new service tools device ID with a password of your choice. To do this, perform these steps from the DST main menu:
 1. Select **Work with DST environment**.
 2. Select **Service tools device IDs**.
 3. Type 3 in front of the old service tools device ID you want to delete, and then press **Enter**.
 4. Press **Enter** again to confirm the deletion.
 5. Using option 1 create a new service tools device ID and assign the password of your choice.
- If you do not have another device 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.
 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.
- If you cannot use another service tools device 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 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 one of the following methods to reset the QCONSOLE service tools device ID depending on the partition type:
 - For independent systems or primary partitions follow these 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 done and the count will return to zero.
- For secondary partitions follow these steps using the console on the primary partition:
 - a. Access Dedicated Service Tools (DST).
 - b. Select **Work with system partitions**.
 - c. Select **Work with partition status**.
 - d. Enter a **65** on the line used 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 done and the count will return to zero.
- 3. 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:

```
xxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx
```

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 presents data like this:

```
xxxxxxx
```

Each word is 8 characters only and displayed individually. If you want word 17, you have to request function 17.

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.

Proceed to Reset the service tools device ID password on the PC.

Reset the service tools device ID password on the PC

Reset the service tools device ID password on the PC by doing one of the following:

- 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 `Not connected to local console` or `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.
 3. Re-create the configuration with the service tools device ID password you previously reset or with the new service tools device ID.
- To change or reset the password for the same service tools device ID, follow one of these steps:
 - To use the connection properties to change or reset the service tools device ID password, 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. Enter the appropriate password in the **Password and Confirm password** fields, and then click **OK**.
 4. The **Access Password** window will appear. Enter the current access password, and then click **OK**.
 - To use the configuration wizard to change or reset the service tools device ID password, follow these steps:
 1. Select the connection name that you will be making the change for, and then click **Connection** → **Configure Connection**.
 2. Accept the values on each window and continue into the wizard until you get to the **Specify Service Device ID** window.
 3. Enter the appropriate password in the **Password and Confirm password** fields, and then click **Next**.
 4. The **Access Password** window will appear. Enter the current access password, and then click **OK**.
 5. Continue through the wizard to the last window and click **Finish** to rewrite the data and exit the wizard.

Create service tools device IDs on the server

You need to set up service tools device IDs on the server for a local console on a network configuration:

1. Access Dedicated Service Tools (DST).
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. Enter the service tools device ID password. Enter it again for verification. You may enter a description.

Note: The service tools device ID password is case-sensitive.

Press Enter. You have finished creating a service tools device ID.

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.

Notes:

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 a logical partition server or 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. For more information, see Resynchronize the PC and service tools device ID password. For additional information on service tools concepts, see Service tools.

Configure a service host name

iSeries service host 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 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 is going to be used. Since the data for the logical partition comes from the primary, a service host name is required.

There are two methods to create a service host 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, and during the initial connection this data finishes the server configuration for the network.
- The second method to create a service host 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 by going into Dedicated Service Tools (DST) on the partition that you are configuring and use the Configure Service Tools Adapter display. Enter the same name one the PC as the existing service host name defined in DST. To locate the service host name:

Note: You may have to temporarily change the console type to complete this work. For example, you use twinaxial on the primary partition but want the remote control panel function for one or more logical partitions.

To create a service host name:

1. Access Dedicated Service Tools (DST).
2. Select **Work with DST environment**.
3. Select **System devices**.
4. Select **Console Mode**.
5. Select **Operations Console (LAN)**. This should show Verify Operations Console Adapters.
6. Press **F11** to configure.
7. The service host 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 the F7 key.
 - c. Activate the LAN adapter by pressing the F14 key.
 - d. Exit using F3 or F13.
 - e. If you had to change the console type from the currently used console to a Operations Console local console on a network configuration, reselect the original console type if that choice will remain the console.

For more additional information, see Service tools.

Deactivate or move the LAN card from use by Operations Console

During a migration you may need to deactivate the LAN card from use by Operations Console. You should deactivate the LAN card if you are not planning on using an Operations Console local console on a network configuration. Once the LAN card is deactivated you can move it and 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 deactivate the LAN adapter currently associated with an Operations Console local console on a network (LAN):

1. Access Dedicated Service Tools (DST).
2. Select **Work with DST environment**.
3. Select **System devices**.
4. Select **Console mode**.
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 deactivate the adapter. You will be required to use another console type or resource on the next IPL.
10. Press **F12** to exit this window.
You should have returned to the **Work with System Devices** window.
11. Select **Console mode**.
12. Select the console type you are currently using.

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

Changing network values for Operations Console (LAN)

If you need to make a change to the network adapter used for Operations Console (LAN), such as a new IP address or a new adapter card, use these instructions:

1. Access Dedicated Service Tools (DST).
2. Select **Work with DST environment**.
3. Select **System Devices**.
4. Select **Console mode**.
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.
10. Reset the service tools device ID password on the server. To do this, follow these steps:
 - 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. If you will be using a password other than the device name, you will have to delete the current device ID and create a new ID with your desired password.

- e. Press **F3** until the DST main menu appears.

The initial program load (IPL) should now be complete on the server to allow the new network data to take affect. If you are changing the network IP address for the network adapter, follow these steps to change the PC client:

1. It is recommended that you delete the old configuration. To do this, follow 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.
2. Close and reopen Operations Console in order to purge the PC of network data associated with the configuration you are changing.
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 at the appropriate time.
- c. Complete the rest of the new configuration.

The PC client 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 or adapter.

Chapter 6. Troubleshoot Operations Console connections

Problems can occur during an Operations Console configuration. Here are some solutions to common problems that are encountered during your initial setup and management of your configurations:

Troubleshoot status messages

This topic includes status messages to help you troubleshoot your connection.

Troubleshoot connection problems

This topic includes solutions to connection problems encountered during your Operations Console connection.

Troubleshoot authentication problems

This topic includes solutions to authentication problems encountered during your Operations Console connection.

Troubleshoot emulator problems

This topic includes solutions to emulator problems you may encounter during your Operations Console connection.

Troubleshoot system reference code (SRC) data

This topic includes solutions to SRC data received on your server.

Troubleshoot remote control panel or virtual control panel problems

This topic includes solutions to control panel problems encountered during your Operations Console connection.

Troubleshoot configuration wizard problems

This topic includes solutions to problems encountered while you are completing the Operations Console configuration wizard.

Troubleshoot other Operations Console problems

This topic includes solutions to additional problems encountered during your Operations Console connection.

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.

Review the following status messages to diagnosis if you have a connection problem.

Status messages when configuration is running normally

Status messages that indicate you do not have connection problems.

Status messages when you have connection problems

Status messages that indicate you have connections problems.

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 an 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 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 AS400 Operations Console connection modem is not available, but the Operations Console cable is attached. AS400 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 AS400 Operations Console Connection Modem is not available or the console cable is disconnected. AS400 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.

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.

Connecting console or Remote control panel unavailable

This appears when the console connection fails or stops working, possibly because the console cable is disconnected. It also indicates that there is a problem with the remote control panel connection and you choose not to retry the connection. It is possible that 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.

Console unavailable or Connecting remote control panel

This appears when the remote control panel connection fails or stops working, possibly because the remote control panel cable is disconnected. It also indicates that there is a problem with the console connection and you choose not to retry the connection. It is possible that the console cable is disconnected. To find a possible solution, see Local console does not detect cables and Remote control panel fails to start.

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. Connection problems that can occur:

Local console connection problems

Troubleshooting solutions for connection problems encountered during a local console configuration.

Remote console connection problems

Troubleshooting solutions for connection problems encountered during a remote 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. It is possible that the status will go to **Connected** and the emulator starts but no console data is present. If this is the case, see Troubleshoot emulator problems. Possible connection troubleshooting solutions include:

Console fails to connect

Solutions to problems that occur when a local console fails to connect to an iSeries server.

Network connection errors

Solutions to problems that occur when a local console fails to connect to an iSeries server over a network.

Error message: The connection to the system is not a secure connection

Solutions to problems that occur when a local console fails to make a secure connection.

Local or remote console status remains Connecting

Solutions to problems that prevent the local console from connecting to the server or prevent the remote console from connecting to a local console due to improper hardware or software configurations.

Windows Me drops connection every 20 minutes

Solutions if you are using Windows Me and your connection is dropped in 20 minutes without activity.

Console fails to connect and port detection fails

Solutions if your console fails to connect and your port detection fails.

Performance degradation on local console

Reasons for performance degradation when the communication port is not running a buffered UART (Universal Asynchronous Receive/Transmit, serial port chip).

Unable to make a connection when infrared devices are installed

Solutions if the PC is having connection problems when using infrared devices.

Unexpected disconnects

Solutions if the PC, local or remote console, or both, have power management capabilities.

Use HyperTerminal to validate connectivity between client and the server

Solutions for using HyperTerminal for connecting to various sources.

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 communications adapter, do the following:

To deactivate the 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 the Up and Down buttons, select function 25.
 - d. Press the Enter button.
 - e. Use the Up button to select function 26.
 - f. Press the Enter button.
2. Use the Down button to select function 65.
3. Press the Enter button.

If the deactivation is successful, the Function/Data window displays D1008065.

To activate the communications line on the server, do the following:

1. Use the Down button to select function 66.
2. Press the Enter button.

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. See Failure to display D1008065 and D1008066 automatically after calling the function, if the expected reference code did not appear in a few minutes.

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**. This error message may be preceded by the message Remote control panel connection to <your connection name --> failed. Do you want to try again? if the remote control panel is also configured. This message indicates that the service tools device ID password is out of synchronization between the PC and the server. Refer to Resynchronize the PC and service tools device ID password.

Important: 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.

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 192.168.0.0 255.255.255.0A **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.

- If you are running Windows NT on a local console directly attached to the server with remote access allowed, check the following:
 - Verify that the configuration of the modem that receives the call at the local console is not set to **Dial out only**.
 - Verify that you have Installed Microsoft Service Pack 6 (or later) after Installing Remote Access Service.

Windows Me drops connection every 20 minutes

Microsoft added a new set of options to Windows Me that does not exist in any other operating system. Windows Me does not consider Operations Console data transfer to be activity. Windows Me has an option in which the connection drops after 20 minutes without activity. To fix this problem, follow these instructions:

Note: A configuration must exist and must have connected successfully at least once so the connection object in Dial-up Networking is created.

1. Click **Start**.
2. Click **Settings**.
3. Click **Control Panel**.
4. Click **Dial-up Networking**.
5. Right-click on the connection icon and select **Properties**.
6. Select the **Dialing** tab.
7. Uncheck **Enable idle disconnect** and **Disconnect when connection may not be needed**.
8. Restart the PC in order for the new options to take effect.

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).

If the operating system is Windows 98, you can:

1. Go into the **Advanced** settings for the comm port and verify the check mark is checked to use a buffered UART, but it will most likely be checked. Make sure the Receive Buffer setting is not set to the right-most setting.
2. Uncheck the check box.
3. Restart the PC.
4. Go back into the **Advanced** settings and recheck the option.
5. Restart the PC again.

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 chokes the UART with data, 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, they will need to be disabled 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.

Notes:

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 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.

See the following to install and use HyperTerminal:

Install HyperTerminal

Instructions available to install HyperTerminal on your PC.

Use HyperTerminal

Instructions available for using HyperTerminal.

Install HyperTerminal: To install HyperTerminal:

1. Click your path.
 - **Start -> Programs -> Accessories -> HyperTerminal**
 - **Start -> Programs -> Accessories -> Communications ->HyperTerminal**

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 one of the following, based on the operating system:
 - **Windows Setup** tab
 - **Windows NT Setup** tab
 - 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.

When you are ready to use HyperTerminal, see the Use HyperTerminal topic.

Use HyperTerminal: If you have not installed HyperTerminal, see the Install HyperTerminal topic. To use HyperTerminal:

1. Click your path:
 - **Start** -> **Programs** -> **Accessories** -> **HyperTerminal**
 - **Start** -> **Programs** -> **Accessories** -> **Communications** -> **HyperTerminal**
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 the **ASCII Setup** button.
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. Do not worry if the reference code does not post. 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 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 was not returned, it is most likely that the problem is on the client PC. 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.

Remote console connection problems

When setting up your remote console you may encounter problems connecting. Possible troubleshooting solutions include:

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.

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.

Remote console through dial-up fails to connect to local console

While you are connecting a remote console to a server, 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.

For more information, see Modem initialization and configuration.

Local console name mismatch when 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. 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 problems can include:

Authentication errors

Solutions for when your PC cannot complete a connection between the local console and the server.

Internal authentication errors when connecting Windows 98/Me remote consoles to Windows 2000

Solutions for internal authentication errors.

Authentication errors with Windows NT Service Pack 6

Solutions for authentication errors on Windows NT.

Authentication errors

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:

- Verify that you are entering a valid service tools user ID and password during the configuration wizard.
- If you are using Windows NT:
 - Verify that you have installed the latest Windows NT Service Pack (Service Pack 6 minimum).
 - Verify that you have installed (or reinstalled) the Windows NT Service Pack after Installing Remote Access Service.

You may also receive an error message regarding a secure connection. See Error message: The connection to the system is not a secure connection.

Internal authentication errors when connecting Windows 98/Me remote consoles to Windows 2000

If you have this error, follow these instructions at the local console:

1. Go into the **Incoming Connection Properties**.
2. Click the **User** tab.
3. Check the option **Require all users to secure their passwords and data**. It should be turned off.
4. Reboot the Windows 2000 PC if this option is changed.

Also, if the remote console is Windows 98/Me, make certain that it does not already have a local console connection. Only one active connection is allowed.

Authentication errors with Windows NT Service Pack 6

Socket calls may not work properly if the user is not in the **Administrator** group.

Winsock Call Fails When User Does Not Have Local Administrator Rights

For more information, see <http://www.microsoft.com> .

Troubleshoot emulator problems

When setting up your initial connection you may encounter emulator problems. Emulator problems can include:

Local console emulator goes to Disconnected state

Solutions for local console emulator data.

PC5250 window does not display user data

Solutions for PC5250 emulator problems.

If the emulator window did not start and the connection status is not **Connected**, refer to the Local console connection problems topic.

Local console emulator goes to Disconnected state

This problem mostly affects a local console on a network. It could also affect a local console directly attached to the server if a server supports a local console on a network. A possible cause is that another user has control of the server. To verify whether your local console has control of the server, do the following in the emulator window:

1. Click **Appearance** —> **Show** —> **Status bar history**.
2. If **Disconnected** is the last entry, another user may have control.
3. If that is the case, try connecting to the server later.

PC5250 window does not display user data

This can also be caused by a non-buffered UART for the serial connection in the PC. When delivering screen data, the larger packet size of data causes a buffer overrun and there is a 30-second wait before it tries again. Contact your service provider before lowering the modem speed.

Troubleshoot system reference code (SRC) data

There can be problems with your Operations Console configuration if you receive any of the following system reference codes (SRCs):

SRCs A6005001, A6005004, A6005007, B6005001, B6005004, and B6005007
Solutions for SRCs A6005001, A6005004, A6005007, B6005001, B6005004, and B6005007.

SRCs A6005008 and B6005008
Solutions for SRCs A6005008 and B6005008.

System reference code A9002000
Solutions for system reference code A9002000.

System reference code A6005082
Solutions for system reference code A6005082.

Failure to display D1008065 and D1008066 automatically after calling the function
Solutions for failure to post D1008065 and D1008066 automatically after invoking the function.

IPL step C6004031 takes longer than expected
Solutions for V5R1 and later IPL step at C6004031 may take 45 minutes.

SRCs A6005001, A6005004, A6005007, B6005001, B6005004, and B6005007

The following reference codes may be displayed for twinaxial consoles as well as Operations Console (directly attached) consoles.

A6005001 and B6005001
A console resource (controller) was not found during a manual IPL.

A6005004 and B6005004
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 and B6005007
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.

System reference code A6005008 and B6005008

Use this table if you received reference codes A6005008 or B6005008. 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 or B6005008.

- 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.
- 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:
2	LAN IOA failed to report		
3	Hardware error	Error code	Card position
		Network, or cable. Otherwise, LAN IOA not operational	
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
5	Host's LAN connection is active - Possible configuration error (host or client)	IP address (hexadecimal)	

Word 16	The twinaxial-related SRC represents the first 4 characters Console type value represents the last 2 characters 00 = Not defined by user (old default value) 01 = Twinaxial 02 = Operations Console (cabled or dial) 03 = Operations Console (LAN)
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Cable

If Word 17 value is:	Failure	Word 18 means:	Word 19 means:
1	Async card not detected		
2	No cables detected	Card position	
3	Wrong cable detected	Card position	Cable ID
4	Port in use	Card position	

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.
- The iSeries system value **QAUTOCFG** must be set to **ON**. OS/400 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 OS/400 you may need to use another workstation to manually delete the controller and device description associated with the old console device.

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.
- If the console is reassigned and the server can locate the console, the SRC code will go away. In this case, once the server is satisfied and can find the console, the reference code will go away.
- The console type does not affect this SRC code.

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, after calling the function, the control panel (and remote 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:

1. Using the control panel or the remote control panel, press the Up or Down buttons until 11 is shown.
2. Press Enter.

IPL step C6004031 takes longer than expected

A change was made in V5R1 that allows the user to place a 2771 (9771) anywhere within the processing unit (first tower) and have it found and used for Operations 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 step.

Troubleshoot remote control panel and virtual control panel problems

When setting up your initial connection you may encounter problems accessing your control panels. Control panel problems that can occur:

Remote control panel fails to start

Solutions for remote control panel cables.

Unable to use the mode function

Solutions for when you are unable to use the mode function on remote control panel or virtual control panel.

Remote control panel fails to start

If your remote control panel fails to start, verify the following:

- Verify that the cables are properly connected. For more information, see *Install Operations Console cables*.
- 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.

Unable to use the mode function

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) does not have the **Partition remote panel key** privilege for the partition connected to.

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 this privilege, by partition, in order to use the mode function. Also, if the system supports the keystick, the keystick must be inserted before the mode function is active.

Troubleshoot configuration wizard problems

When setting up your initial connection you may encounter problems during the configuration wizard. Wizard problems that can occur:

Local console does not detect cables

Solutions for when the local console does not detect the presence of the Operations Console cable or remote control panel cable.

Old network data interfering with reconfiguration of network connectivity

Solutions for when old network data interferes with reconfiguration of network connectivity.

Console options not available in configuration wizard

Solutions for when console options are not available in the configuration wizard.

Unable to find correct modem at Add RAS Device selection

Solutions for when you are unable to find the correct modem at **Add RAS Device** for Windows NT configurations.

Local console does not detect cables

These are solutions to problems that occur when the local console does not detect the presence of the Operations Console cable or remote control panel cable. A status message of `Connecting` or `Unavailable` is usually present:

- Verify that the cables are properly connected. For more information, see `Install Operations Console cables`.
- For the console, verify that the communications adapter card on the server is properly connected.
- Verify that the part numbers for the Operations Console cable and remote control panel cable are 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.

Note: Make sure that you power off or disconnect any display device on any twinaxial work station controllers, with port 0 address 0 or 1, or port 1 address 0 or 1.

- 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 you meet all necessary networking requirements. If your local console uses a LAN to connect to the server, be sure the network is active and properly configured at the PC and the server.

Old network data interfering with reconfiguration of network connectivity

If you are configuring a local console on a network 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: 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.

Console options not available in configuration wizard

Prior to V4R5, it was required to have a 5250 emulator installed (PC5250 or IBM Personal Communications). Starting with V4R5 the emulator is no longer required when only the remote control panel will be used. As a result, when the wizard gets to the window where the user chooses what function (console or remote control panel) the console function is disabled if the wizard code is unable to find a path to a valid emulator. This might also indicate that the user did not allow the iSeries Access for Windows installation to update the path (only Windows 98/Me PCs). Either install or reinstall the emulator functions, or add the path to the emulator manually to the system's path statement.

Unable to find correct modem at Add RAS Device selection

The user can be setting up a remote console or a local console in Windows NT. They have either recently added or replaced a PC modem but are unable to find the item in the list of **Add RAS device** window. Looking in **RAS Properties** should show another device on the same COM port. A typical scenario is that during the installation of Remote Access Service, which is part of some Network installations, the user will configure a nonexistent modem to complete the Remote Access Service installation, which requires a modem. Later, during the setup of Operations Console, they need to add the AS400 Operations Console Connection modem but it does not show up.

Solution: The current modem will have to be removed before the new modem is allowed to be presented in that window.

In a similar case, you are switching from one type of configuration to another and during the initial steps at determining what modems will need to be present for Remote Access Service the instructions have you delete a modem. When you exit the **Modem** folder and get the message Dial-up Networking needs to be configured because the list of installed modems has changed. Would you like to do this now? If you answer with a **Yes** the result is that Remote Access Service and the modem list is out of sync. To fix this:

1. Go into Remote Access Service.
2. Remove the same modem.
3. Click **Continue**.
4. Answer the appropriate messages and reboot.
5. Return to Remote Access Service and continue with the instructions to add the modem that you could not before.

Troubleshoot other Operations Console problems

When using Operations Console you can encounter the following problems:

Operations Console remains in QCTL

Solutions for when Operations Console remains in QCTL when it should be CTLxx.

Local console receives message: Remote Access Service server did not start

Solutions for when the local console gets Remote Access Service Server did not start message (Windows NT only).

System requests will not work

Solutions for when system requests will not work.

Operations Console remains in QCTL

This 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.

Local console receives message: Remote Access Service server did not start

If a local console is set up to receive calls and there is no PC modem configured to receive those calls, it will post a Remote Access Service Server did not start message. To fix this, either set up the local console to not receive calls or configure a modem (even one that does not exist). But be careful with this latter approach. If both serial ports are assigned to Operations Console, the modem will have to reside on COM3 and many PCs will not have one. This can also be caused by not having the Windows NT Service pack installed.

System requests will not work

When using Operations Console, **SYSREQ** equals **Shift+ESC** as defined as the default for 5250 emulation. Most keyboards have the **Prt Screen** key labeled as **SYSREQ** would be activated by using that key with the **Ctrl** key, but Windows has that key reserved. You have to remap the keyboard by using the operating system, not 5250, in order to change it.

Chapter 7. Related information

IBM related information contains technical, know-how, and "how to" information.

Manuals

iSeries Access for Windows Setup

Use this manual 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. This manual assumes that the system administrator installs and configures the server and that the user installs iSeries Access for Windows on the PC.

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 in the Information Center

Control panel

Operate the system by directly manipulating the control panel or using APIs in your programs. 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 OS/400 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.



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