



## Using the BladeCenter JS20 Type 8842 blade server

This *Hints and Tips* document provides information about the most commonly encountered installation problems and their solutions to assist you with the installation, configuration, and use of an IBM® @server® BladeCenter® JS20 Type 8842 blade server. It applies to JS20 Type 8842 blade servers that are installed in all types of BladeCenter units.

This document supplements the documentation that comes with BladeCenter components. Documentation that is useful to have available when you are using the JS20 Type 8842 blade server is listed in “Referenced documentation” on page 6. For the latest versions of these and all other BladeCenter documents, go to <http://www.ibm.com/support/>.

**Important:** The procedures in this document assume that you are experienced in working with computer hardware and that you are familiar with the information in the *Safety Information* document that comes with your blade server.

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## What this document contains

This document provides the following information:

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## No keyboard, video, mouse support

There is no keyboard, video, or mouse (KVM) support on the JS20 Type 8842 blade server. You must use a Serial over LAN (SOL) connection through the BladeCenter management module for operating-system installation and initial blade server management. After installing the operating system, you can also use a Telnet session to directly access the blade server.

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## Serial over LAN

SOL provides a means to manage servers remotely by using a command-line interface (CLI) over a Telnet or Secure Shell (SSH) connection. SOL is required to manage servers that do not have KVM support, such as the JS20 Type 8842 blade server.

SOL provides console redirection for both BIOS and the blade server operating system. The SOL feature redirects server serial-connection data over a LAN without the need for special cabling. The SOL connection enables blade servers to be managed from any remote location with Internet access. The advantages of SOL include:

- Remote administration without keyboard, video, or mouse (headless servers)
- Reduced cabling and no need for a serial concentrator
- Standard Telnet interface that eliminates the need for special client software

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## BladeCenter unit readiness checklist

The rack, BladeCenter unit, and Ethernet I/O modules must be correctly set up and configured before you install the JS20 Type 8842 blade server. Review the following checklist and make sure that you have completed each item before you continue.

- \_\_\_ 1. Set up the rack in which you will install the BladeCenter unit. See the documentation that comes with the rack for instructions.
- \_\_\_ 2. Install the BladeCenter unit in the rack. For more information, see the *Rack Installation Instructions* that come with the BladeCenter unit.
- \_\_\_ 3. For a Type 8677-1xx (where *x* is any alphanumeric character) BladeCenter unit, make sure that the BladeCenter unit has the correct customer interface card (CIC). See the *BladeCenter JS20 Type 8842 Installation and User's Guide*, which is available at <http://www.ibm.com/support/>, for instructions.
- \_\_\_ 4. Install either two or four power modules in the BladeCenter unit. For a Type 8677 BladeCenter unit that is configured with power modules of less than 2000 watts, see the *BladeCenter Power Module Upgrade Guidelines Technical Update*, which is available at <http://www.ibm.com/support/>, to make sure that the power modules are sufficient to power all the components that you will install.
- \_\_\_ 5. Install and configure one of the following Ethernet switch modules in I/O module bay 1 of the BladeCenter unit. See the *Installation Guide* that comes with the switch module for instructions.
  - IBM 4-Port Gigabit Ethernet Switch Module
  - Nortel Networks 2-7 Layer Ethernet Switch Module for IBM BladeCenter
  - Cisco Systems Intelligent Gigabit Ethernet Switch Module for IBM BladeCenterIf you plan to install the blade server operating system through the Ethernet network, you also must install and configure a second Ethernet switch module in I/O module bay 2 of the BladeCenter unit. This switch module does not have to be the same type as the switch module in I/O module bay 1.
- \_\_\_ 6. Configure the BladeCenter management module, the Ethernet switch modules, and other BladeCenter components to support a Serial over LAN (SOL) connection. See the *BladeCenter Serial Over LAN Setup Guide*, which is available at <http://www.ibm.com/support/>, for instructions.

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## Installing the blade server into a BladeCenter unit

To install the JS20 Type 8842 blade server into a BladeCenter unit, complete the following steps. Detailed instructions are in the *BladeCenter JS20 Type 8842 Installation and User's Guide*, which is available at <http://www.ibm.com/support/>.

1. Install any blade server options that you want to add, such as additional memory or a hard disk drive, in the blade server.

**Note:** Some of the JS20 Type 8842 blade server options are unique and are not compatible with the options that are installed in other IBM blade server types. Make sure that all of the options that you are installing are designed for use with the JS20 Type 8842 blade server. See "Unique JS20 Type 8842 blade server components" on page 3 for more information.

2. Select a blade bay for the blade server, and remove the filler blade from that bay.
3. Open the release levers on the blade server, slide the blade server into the blade bay until it stops; then, push the levers on the blade server to the closed position.
4. If you have to update any of the JS20 Type 8842 blade server firmware, download the updates and the instructions for installing them from <http://www.ibm.com/support/>. See "Firmware information" on page 5 for additional information about JS20 Type 8842 firmware.

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## Unique JS20 Type 8842 blade server components

The JS20 Type 8842 blade server uses some components that are unique and that are not used by other types of blade servers. For a list of supported options for the blade server, see <http://www.ibm.com/servers/eserver/serverproven/compat/us/>.

The JS20 Type 8842 blade server does not support unregistered DIMMs. Install only 2.5 V, 184-pin, double-data-rate (DDR), PC2700, registered synchronous dynamic random-access memory (SDRAM) with error correcting code (ECC) DIMMs. These DIMMs must be compatible with the latest PC2700 SDRAM Registered DIMM specification, which is available at <http://www.jedec.org/>.

Other types of blade servers, such as the BladeCenter HS20 Type 8678, that are installed in the same BladeCenter unit as the JS20 Type 8842 blade server might have different requirements for Ethernet controller routing. See the documentation that comes with each type of blade server for detailed information.

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## Connecting to the management module

Until the JS20 Type 8842 blade server operating system is installed, you must connect to the blade server through the BladeCenter management module. The management module connection is also required to configure and manage operation of the BladeCenter unit.

You can manage the BladeCenter unit by using the graphical user interface that is provided by the management-module Web interface or by using the command-line interface that you access through Telnet. Because the JS20 Type 8842 blade server does not support KVM, all connections to it are made through a command-line interface.

You can connect to the management module through a network or through a computer that is connected directly to the management module. To connect to the management module, you need the following equipment and information:

- A computer with Internet browser capability. To facilitate connections at multiple locations, you can use a notebook computer.
- The management module MAC address (listed on the label on the management module).
- For networked connection to the management module, you need the following equipment:
  - A standard Ethernet cable
  - A local Ethernet network port (facility connection)
  - An Ethernet switch module in I/O module bay 1
- For direct connection to the management module, you need an Ethernet crossover cable.

### Notes:

1. If Ethernet port 0 is being used for SOL, you must use Ethernet port 1 for NIM installation or BOOTP.
2. If there is no Telnet or SOL traffic within the timeout interval specified in the management module, the Telnet session and any SOL session that is associated with the Telnet session will terminate. See the *IBM @server BladeCenter Management Module Command-Line Interface Reference Guide*, which is available at <http://www.ibm.com/support/>, for information about configuring the Telnet session timeout value.

## Connecting to the management module for the first time

The default user ID and password for the management module are as follows:

- User ID: USERID (all capital letters)
- Password: PASSWORD (note the number zero, not the letter O, in PASSWORD)

If you are using a DHCP name server to access the management module, complete the following steps:

1. Using a standard Ethernet cable, attach your computer to port 0 of the Ethernet switch module in I/O module bay 1.
2. Apply power to the BladeCenter unit.
3. Wait 20 to 30 seconds for the management module to acquire an IP address for your DHCP server; then, open a Web browser on your computer and direct it to the IP address of the management module.
4. Enter the default user name, USERID, and the default password, PASSWORD, to start the remote session.

The BladeCenter JS20 Type 8842 is configured to use a DHCP name server by default. If you want to use the default static IP address, complete the following steps:

1. Connect a crossover cable from the remote management and console (Ethernet) connector on the management module to the Ethernet network connector on the computer that you are connecting.
2. Open a Web browser on the computer, and direct it to the default management-module IP address 192.168.70.125.
3. Enter the default user name, USERID, and the default password, PASSWORD, to start the remote session.

## Connecting to the management module through the network

To access the management module through a network after initial BladeCenter installation and configuration, complete the following steps:

1. On a network-attached computer, open a Web browser and direct it to the assigned management-module ID.
2. Enter a valid user name and password to start the remote session.

## Connecting to the management module through a directly connected computer

The computer that you are connecting to the management module must be configured to operate on the same subnet as the BladeCenter management module. If the IP address of the management module is outside of your local domain, you must change the Internet protocol properties on the computer that you are connecting.

To access the management model through a direct-attached computer after initial BladeCenter installation and configuration, complete the following steps:

1. Connect a crossover cable from the remote management and console (Ethernet) connector on the management module to the Ethernet network connector on the computer that you are connecting.
2. Open a Web browser on the computer and direct it to the static IP address that is assigned to the management module. If you do not know this IP address, ask your system administrator.
3. Enter a valid user name and password to start the remote session.

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## Installing the operating system

To install the operating system software on a JS20 Type 8842 blade server, complete the following steps:

1. Using Telnet, establish an SOL connection with the JS20 Type 8842 blade server through the BladeCenter management module. See “Connecting to the management module” on page 3 and the *BladeCenter Serial Over LAN Setup Guide*, which is available at <http://www.ibm.com/support/>, for instructions.
2. Install the operating system software. For instructions, see one of the following documents, all of which are at <http://www.ibm.com/support/>:
  - *Installing AIX 5L 5.2 - IBM eServer BladeCenter JS20*
  - *Installing SUSE Linux Enterprise Server 8 sp3 - IBM eServer BladeCenter JS20*
  - *Installing Red Hat Enterprise Linux 3 Advanced Server - IBM eServer BladeCenter JS20*

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## Communicating directly with a blade server

After you have completely installed and configured the operating system, you can use a Telnet or SSH session to communicate directly with the JS20 Type 8842 blade server operating system. See the documentation for your operating system for information about using its command-line interface.

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## Firmware information

Unless otherwise instructed, you must maintain the latest levels of firmware code for all BladeCenter components. The latest firmware versions and firmware update instructions are at <http://www.ibm.com/support/>. The following BladeCenter firmware must be maintained:

- Management module
- Blade server (including BSMP/ISMP and Ethernet controller)
- Ethernet switch module
- Blade server Ethernet I/O expansion card (if one is installed)

## Updating blade server firmware using Linux tools

The Linux service aid for managing blade server firmware is separate from the operating-system installation and is available at <http://techsupport.services.ibm.com/server/lopdiaags/>.

You can perform the Linux `update_flash` command only if the `update_flash` service aid for your Linux version is installed on the JS20 Type 8842 blade server.

## Blade server firmware recovery

You can recover damaged JS20 Type 8842 blade server firmware by following the instructions in the *BladeCenter JS20 Type 8842 Hardware Maintenance Manual and Troubleshooting Guide*, which is available at <http://www.ibm.com/support/>.

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## Linux service and productivity tools

Hardware service diagnostic aids and productivity tools for blade servers that use Linux operating systems are available at <http://techsupport.services.ibm.com/server/lopdiaags/>. These items are separate from the operating-system installation. You must install the diagnostic aids before a problem occurs in order to diagnose it.

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## Referenced documentation

You should have the following documents available when installing and configuring the JS20 Type 8842 blade server. For the latest versions of these and all other BladeCenter documents, go to <http://www.ibm.com/support/>.

- BladeCenter or BladeCenter T unit *Rack Installation Instructions*
- BladeCenter or BladeCenter T unit *Installation and User's Guide*
- *BladeCenter Serial Over LAN Setup Guide*
- *BladeCenter Power Module Upgrade Guidelines Technical Update*
- *BladeCenter Management Module Installation Guide*
- *BladeCenter Management Module Command-Line Interface Reference Guide*
- *IBM 4-Port Gb Ethernet Switch Module for BladeCenter Installation and User's Guide*
- *Nortel Networks Layer 2-7 GbE Switch Module for IBM BladeCenter Installation Guide*
- *Cisco Systems Gigabit Ethernet Switch Module for IBM BladeCenter Installation Guide*
- *Installing AIX 5L 5.2 - IBM eServer BladeCenter JS20*
- *Installing SUSE Linux Enterprise Server 8 sp3 - IBM eServer BladeCenter JS20*
- *Installing Red Hat Enterprise Linux 3 Advanced Server - IBM eServer BladeCenter JS20*



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