



## Important information about the Remote Supervisor Adapter II-EXA and Red Hat Enterprise Linux Advanced Server version 2.1 or SuSE Linux Enterprise Server version 8

This Technical Update supplements the information in your IBM® @server™ xSeries® 445 server documentation and your IBM Remote Supervisor Adapter II-EXA documentation.

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### General considerations for all supported Linux operating system configurations

Read the following general information for all supported Linux operating systems:

- If the Remote Supervisor Adapter II-EXA is installed in a server that is running either the Red Hat Linux or SuSE Linux operating system, make sure that the Linux operating system is selected in the Remote Supervisor Adapter II settings in the server basic input/output system (BIOS). Complete the following steps to set Linux as the operating system in the server BIOS:
  1. Turn on or restart the server. When the message Press F1 for Configuration/Setup appears, press F1.
  2. Select **Advanced Setup** and then select **ASM Settings**.
  3. In the **OS USB selection** field, select **Linux**.
  4. Select **Save Values and Reboot ASM**.
- After you make the configuration changes that are listed in this document, if you run an automated X Windows System configuration utility, you must repeat the configuration changes in this document.
- If the SuSE Linux or Red Hat Linux operating system is already installed and configured to run in text mode and will never use the X Window System, no additional configuration is required for the Remote Supervisor Adapter II-EXA to function correctly. Follow the instructions in the *Remote Supervisor Adapter II-EXA Installation Guide* to install the Remote Supervisor Adapter II-EXA.
- The Remote Supervisor Adapter II-EXA requires USB mouse support from the operating system. If you install a supported Linux operating system on your server using a USB mouse, the installation process automatically establishes USB mouse support; no further action is required. If you install a supported Linux operating system using a PS/2® mouse, you must modify the Linux files after installation to add USB mouse support. Follow the instructions in this document to add USB mouse support.
- The Remote Supervisor Adapter II-EXA requires a Video Electronics Standard Association (VESA) device driver. The VESA video device driver enables the remote control screen and the local screen to display the same information (clone mode). Follow the instructions in this document to specify a VESA device driver.

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### Installing Red Hat Enterprise Linux AS version 2.1

Complete the following steps to add USB mouse support:

1. Install the operating system using text mode. Make sure that the video color depth is set to 16-bit and that the screen resolution is set to 1024 x 768.
2. During installation, when the X Customization window opens, select **Text for Default Login** to make sure that the operating system starts in text mode.
3. To add the USB mouse and specify that it send core events, edit the `/etc/X11/XF86Config-4` file, under Section "ServerLayout", as follows:

```

Section "ServerLayout"
    Identifier "Anaconda Configured"
    Screen 0 "Screen0" 0 0
    InputDevice "USB_Mouse" "CorePointer" <--- Add this line
    InputDevice "Mouse0" "SendCoreEvents" <--- Change "CorePointer" to "SendCoreEvents"
EndSection

```

4. To add the description of the USB mouse to the X Window System configuration file, edit the /etc/X11/XF86Config-4 file, below the existing mouse configuration text lines, and add the following text:

```

Section "InputDevice"
    Identifier "USB_Mouse"
    Driver "mouse"
    Option "Protocol" "IMPS/2"
    Option "Device" "/dev/input/mice"
EndSection

```

5. Edit the /etc/rc.local file and add the following line at the end of the file:  
/sbin/modprobe mousedev

Complete the following steps to change the video device driver from the default ATI Radeon device driver to the VESA device driver:

1. Edit the /etc/X11/XF86Config-4 file, under Section "Device", as follows:

```

Section "Device"
    Option "nodri"
    Identifier "ATI Radeon (generic)"
    Driver "vesa" <--- change "radeon" to "vesa"
    VendorName "ATI Radeon (generic)"
    BoardName "ATI Radeon (generic)"
    #BusID
EndSection

```

2. Edit the /etc/X11/XF86Config-4 file, under Section "Monitor", to turn off dpms, as follows:

Change the line

```
Option "dpms"
```

to

```
Option "dpms" "off"
```

3. Edit the /etc/X11/XF86Config-4 file, under Section "Screen", to make sure that the video color depth is set to 16 bits and that the display modes value is 1024 x 768 only (delete any other display mode values) as follows:

```

Section "Screen" ...
    ...
    DefaultDepth 16
    Subsection "Display"
        Depth 16
        Modes "1024x768"
    EndSubSection
EndSection

```

To have the system start the X Window System during startup, edit the /etc/inittab file and change the line

```
id:3:initdefault:
```

to

```
id:5:initdefault:
```

When you have finished editing the files, connect the USB cable from the Remote Supervisor Adapter II-EXA to a USB port on the server chassis.

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## Installing the Remote Supervisor Adaptor II-EXA device driver for Red Hat Enterprise Linux Advanced Server version 2.1

Complete the following steps to install the device driver for the Remote Supervisor Adaptor II-EXA:

1. Make sure that the file `ibmusbasm.rpm` is not currently installed.
2. Obtain version 1.6 or later of the `libusb` source rpm file (`libusb-0.1.6-1.src.rpm` or later).
3. Obtain the latest version of the `ibmusbasm` source rpm file (`ibmusbasm-1.08-2.src.rpm` or later).
4. From the directory that the `libusb` rpm is in, type the following commands:
  - a. `rpm --rebuild --nodeps libusb-0.1.6-1.src.rpm`
  - b. `cd /usr/src/redhat/RPMS/i386`
  - c. `rpm -ivh libusb-0.1.6-1.i386.rpm`
  - d. `rpm -ivh libusb-devel-0.1.6-1.i386.rpm`
  - e. `cd /usr/lib`
  - f. `ln -s libusb-0.1.so.4 libusb.so`
  - g. `ldconfig`
  - h. `cd` [to the directory that the `ibmusbasm` source rpm is in]
  - i. `rpm --rebuild ibmusbasm-1.08-2.src.rpm`
  - j. `cd /usr/src/redhat/RPMS/i386`
  - k. `rpm -ivh ibmusbasm-1.08-2.i386.rpm`

**Note:** You can verify the device driver installation by typing the following command to see the number of instances of `ibmasm` as an active process:

```
ps aux | grep ibmasm
```

If you see two instances, the installation was successful. If you see only one instance, the device driver did not successfully initialize; check `/var/log/messages` for error messages.

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## Installing SuSE Linux Enterprise Server version 8

Complete the following steps to add USB mouse support:

1. Install the operating system. When the installation boot menu displays, select F2 to make sure the operating system starts up in text mode.
2. After the installation is completed and the server restarts to a text-mode console, log in as `root`.
3. To add the description of the USB mouse to the X Window System configuration file, edit the `/etc/X11/XF86Config` file and add the following text below the existing mouse configuration text lines:

```
Section "InputDevice"
    Driver      "mouse"
    Identifier  "USB Mouse"
    Option     "Device"  "/dev/input/mice"
    Option     "Name"    "AutoDetected"
    Option     "Protocol" "IMPS/2"
    Option     "Vendor"  "AutoDetected"
EndSection
```

4. To add the USB mouse and specify that it send core events, edit the `/etc/X11/XF86Config` file, under Section "ServerLayout", as follows:

```
Section "ServerLayout"
    Identifier      "Layout[all]"
    InputDevice    "Keyboard[0]" "CoreKeyboard"
    InputDevice    "Mouse[1]" "SendCoreEvents" <--- Change "CorePointer" to "SendCoreEvents"
    InputDevice    "USB Mouse" "CorePointer" <--- Add this line
    Screen         "Screen[0]"
EndSection
```

5. Load the mouse driver, as follows:

- To load the mouse driver manually, enter the following command:  
`modprobe mousedev`
- To load the driver automatically during system initialization, edit the `/etc/init.d/boot.local` file and add the following line at the end of the file:  
`/sbin/modprobe mousedev`

Complete the following steps to change the default video device driver to the VESA device driver:

1. Enter the following command exactly:

```
sax2 -m 0=vesa
```

In the subsequent SaX2 dialog, make the following choices:

- When queried about enabling 3D, specify **no**.
- *Do not* specify the VESA video driver.
- Specify the correct monitor if it was not automatically detected correctly.
- Configure the Desktop video for 16-bit color depth and 1024 x 768 resolution; deselect all other resolutions.

2. Complete the configuration and save it.

To have the system start the X Windows System during startup, edit the `/etc/inittab` file and change the line

```
id:3:initdefault:
```

to

```
id:5:initdefault:
```

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## Installing the Remote Supervisor Adaptor II-EXA device driver for SuSE Linux Enterprise Server version 8

Complete the following steps to install the device driver for the Remote Supervisor Adaptor II-EXA:

1. Make sure that the file `ibmusbasm.rpm` is not currently installed.
2. Install the device driver using one of the following methods:
  - Directly from the United Linux Server Pack 3 CD; enter the following command:

```
rpm -ivh /UnitedLinux/i586/ibmusbasm-1.09-14.i586.rpm
```

- Obtain the latest version of the `ibmusbasm` source rpm file (`ibmusbasm-1.08-2.src.rpm` or later) and type the following commands:

```
cd [to the directory where the ibmusbasm source rpm file is]
rpm --rebuild ibmusbasm-1.08-2.src.rpm
cd /usr/src/packages/RPMS/i386
rpm -ivh ibmusbasm-1.08-2.i386.rpm
```

**Note:** You can verify the device driver installation by typing the following command to see the number of instances of `ibmasm` as an active process:

```
ps aux | grep ibmasm
```

If you see two instances, the installation was successful. If you see only one instance, the device driver did not successfully initialize; check the `/var/log/messages` for error messages.



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