Installing Linux on Power Systems servers

Version 1.0.1

Quick Start Guide for installing Linux on Power Systems servers

This guide helps you install Linux on a stand-alone Power Systems server that has a graphics card.

Overview

Use this information to install Linux on a Power Systems server that has a graphics card installed. This installation assumes an unmanaged (stand-alone) system.

1 Step 1: Complete the prerequisites

Before you install Linux on your system, ensure that you have the following items:

- USB keyboard and mouse
- Monitor
- Power cords and outlet for your system. Depending on your configuration, your system might require 220 V. For instructions, see the IBM Knowledge Center and search for your Power hardware model: IBM Knowledge Center.
- Distribution media

2 Step 2: Prepare to power on

Before you power on the system, follow these steps:

- If your system belongs in a rack, install your system into that rack. For instructions, see the IBM Knowledge Center and search for your Power hardware model: IBM Knowledge Center.
- Remove the shipping brackets from the power supplies. Ensure that the power supplies are fully seated in the system.
- Connect the monitor, mouse, and keyboard
- Connect the power cords to the system and plug them into the outlets.

After you connect the power cords, your firmware boots. Wait for a few minutes for this process to complete. Look for the green power LED on the control panel to start flashing, indicating that it is ready to use, and for the prompt `01 N V=N` to display in the control panel window.

For information about accessing and using the control panel, see the Control panel topic at https://ibm.biz/BdYjwz.

3 Step 3: Power on the system

After the firmware boots, you can power on the system. Press and hold the white power-on button on the front of the control panel for 3 seconds to start the server.

As the system powers up, you might notice the following:

- System reference codes display on the control panel while the system is being started.
- The power LED continues to flash and speeds up.
- The system cooling fans are activated after approximately 30 seconds and begin to accelerate to operating speed.
- The power LED on the control panel stops flashing and remains on, indicating that system power is on.

Note: If you system fails to start, verify that the prompt `01 N V=N` is displaying in the control panel and green power LED is flashing green.

When the system is powered on, the monitor activates and the Boot selection window is displayed.

Note: You can also connect to your system using the Advanced System Management Interface (ASMI). For instructions, see the IBM Knowledge Center and search for your Power hardware model: IBM Knowledge Center.

4 Step 4: Boot the installer kernel

To set up your server to boot the Linux installer kernel, follow these steps:

a. At the Boot selection window, enter 1 to select the SMS Menu. Enter 1 before the firmware boot screen is completely shown on the display, because it will disappear when complete. If you miss the screen, reboot the system.
b. At this time, you can insert the distribution media into the disk drive.
c. Enter 2 to Continue to password entry on the Language selection menu. Enter `admin`.
d. On the main SMS menu, enter 5 to select the Select Boot Options option.
e. Enter 1 to select Install/Boot Device.
f. Enter 7 to view all of the available boot devices.
g. Enter the number corresponding to the device you want to use. If your device is not displayed, you can enter `N` to display more.
h. Enter 2 to perform a Normal Mode Boot.
i. Enter 1 to leave the SMS menu and to start the boot process.
j. At the boot prompt from the installer, type `linux` when installing Red Hat Enterprise Linux or `install` when installing SUSE Linux Enterprise Server and press **Enter**. The kernel will begin loading.
k. Follow the installer screens to install Linux.

5 Step 5: Install additional software

Additional software is available from the IBM Linux on PowerTools Repository. The IBM Tools Repository is also called the Yum Repository. To install the IBM Tools Repository, follow these steps:

a. Download the `ibm-power-repo` RPM package from https://ibm.biz/BdxnTB. Use the same package for Red Hat Enterprise Linux and SUSE Enterprise Linux Server.
b. Install the `ibm-power-repo` RPM package. Run the command: `rpm -ivh ibm-power-repo` *`version number`*

After you have installed the IBM Tools Repository, you can use it to install the following:

- Service and Productivity tools:
  - For Red Hat Enterprise Linux: `yum install ibm-power-nonmanaged-`*`distro`* where *distro* is the distribution that you are installing.
  - For SUSE Linux Enterprise Server: `yum install ibm-power-nonmanaged-`*`distro`* where *distro* is the distribution that you are installing.
- IBM Advance Toolchain for Linux on Power
  - On Red Hat Enterprise Linux: `yum install advance-toolchain-at6*` where *advance-toolchain-at6* is the version of IBM Advance Toolchain for PowerLinux that you want to install.
  - On SUSE Linux Enterprise Server: `zypper install advance-toolchain-at6*` where *advance-toolchain-at6* is the version of IBM Advance Toolchain for PowerLinux that you want to install.
- IBM SDK for PowerLinux
  - On Red Hat Enterprise Linux: `yum install ibm-sdk-lop.ppc64`
  - On SUSE Linux Enterprise Server: `zypper install ibm-sdk-lop.ppc64`

For more information about using the IBM Linux on Power Tools Repository, see https://ibm/biz.BdYjwG.

6 Step 6: Troubleshoot

Check the control panel for any codes that might be displayed. For example, the code `11002613` indicates that there is a problem with power. Ensure that the power supplies are seated correctly and that you are using the correct power cords.

You can look up any codes that are displayed in IBM Knowledge Center.

More information

For more information, see the following resources:

- Linux information for IBM systems at https://www.ibm.com/support/knowledgecenter/linuxonibm/liaaa/ic-homepage.htm
- IBM Knowledge Center: https://www.ibm.com/support/knowledgecenter/.
- The Linux on Power developer portal at https://developer.ibm.com/linuxonpower/.