Oracle® Linux

Oracle Linux 7 Update 4 (ARM) README

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Preface

The *Oracle Linux 7 Update 4 (ARM) README* provides a summary of the new features and known issues in Oracle Linux 7 Update 4 (ARM) This document may be updated after it is released.

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Audience

This document is intended for developers and administrators of Oracle Linux 7 who are interested in developing and testing Oracle Linux 7 on ARM hardware. It describes potential issues and the corresponding workarounds you may encounter while using Oracle Linux 7 on the ARM platform. Oracle recommends that you read this document before installing Oracle Linux 7 Update 4 (ARM). It is assumed that readers have a general understanding of the Linux operating system.

Related Documents

The latest version of this document is available at:

https://oss.oracle.com/ol7/docs/

Other related documents may be found at:

http://www.oracle.com/technetwork/server-storage/linux/documentation/index.html

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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Chapter 1 Introduction

Oracle Linux 7 Update 4 (ARM) is the first public release of Oracle Linux on the ARM platform. The release is built from the same source packages as the corresponding Oracle Linux distribution for the x86 architecture, plus any required patches and modifications that are required to support the ARM platform.

Although Oracle Linux 7 Update 4 (ARM) is based on Oracle Linux 7 Update 4 for the x86 platform, differences between the releases for the two platforms exist in terms of packaging and kernel versions. Packages built for 64-bit ARM architecture use the `aarch64` architecture code. Some packages that are available for the x86 platform may not be available for this release. Patches may have been applied to packages to successfully build for this platform, and some packages may have been bumped to a newer version.

For this reason, upgrade functionality is limited and is liable to fail. It is recommended that you always use a fresh installation from the latest available ISO where possible.

1.1 Support Statement

Oracle makes Oracle Linux 7 Update 4 (ARM) available as a developer release for the benefit of developers and partners. Oracle does not offer support for Oracle Linux 7 Update 4 (ARM).

Chapter 2 Installation and Availability

2.1 Availability

Oracle Linux 7 Update 4 (ARM) is released as a developer preview release. For this purpose, the release is made available in two forms:

- `rpi3-ol7.4-image.img.tar.xz` : A disk image that can be installed onto an SD Card and used on a Raspberry Pi 3 Model B single-board computer. This image includes the necessary firmware to boot the Raspberry Pi 3 directly into Oracle Linux 7. This image is made available for developers who may not have access to alternate ARM hardware.

  Note

  The disk image for the Raspberry Pi is not generally available at this time, but is coming soon!

- `OracleLinux-R7-U4-Server-aarch64-dvd.iso` : An ISO image that can be used for a standard installation on generic 64-bit ARMv8 hardware. This ISO has been tested on ARM hardware and is engineered for use with Cavium ThunderX® ARM Processors.

  This ISO image can be loaded from local media, such as DVD-ROM or USB flash drive, or can be used to perform a network-based Kickstart installation via PXE. If you perform a network-based installation and you wish to access the graphical interface for the installer, you must change kernel boot parameters to enable VNC and to set the network address at boot.

2.2 Installation

2.2.1 Image Installation for Raspberry Pi 3

Oracle provides an installation image of Oracle Linux 7 Update 4 (ARM) specifically designed to run on Raspberry Pi 3 hardware. The provided installation image is a default installation of Oracle Linux 7 Update 4 (ARM) into a raw disk image that can be cloned block-by-block to an SD Card for immediate boot. Raspberry Pi is a trademark of the Raspberry Pi Foundation. More information on installing a Linux image onto the Raspberry Pi is available at:

https://www.raspberrypi.org/documentation/installation/installing-images/linux.md

In summary, the recommended installation process is as follows:

1. Obtain the Raspberry Pi 3 disk image from the Oracle Technology Network (https://www.oracle.com/linux/products.html). You should unzip the disk image once you have downloaded it.

2. On an existing Oracle Linux system, insert the SD Card into an SD Card reader connected to the system. The image is 5 GB in size, so your SD Card must have the capacity to store this image at minimum. An 8 GB SD Card is the recommended minimum.

3. Identify the device name for the SD Card. You can use this using the output from `dmesg` when you connect the device, using the `lsblk` or by using `fdisk -l` to list device names and device information.

4. Use the `dd` command to perform a block copy of the image file to the SD Card device. For example:

   ```
   # dd if=/path/to/img of=/dev/mmcblk0 bs=4M
   ```

Replace */path/to/img* with the relative path to the image file, and replace */dev/mmcblk0* with the device name for the SD Card. This operation is destructive and will overwrite any data on the device that you have specified. Ensure that you have specified the correct device name. The operation may take some time to complete.

5. When the operation is complete, eject the SD Card from the reader, insert it into the SD Card reader on the Raspberry Pi and boot into Oracle Linux 7.

6. Log into the image as the **root** user with the password **oracle**. Change the password immediately after you login.

2.2.2 ISO Installation

The installation process to install Oracle Linux 7 Update 4 (ARM) does not differ substantially from the installation process to install Oracle Linux 7 Update 4 on an x86 platform. The instructions and information provided in the *Oracle Linux Installation Guide for Release 7*, apply and can be viewed at:

https://docs.oracle.com/cd/E52668_01/E54695/html/index.html

The recommended installation process is as follows:

1. Obtain the ISO image from the Oracle Technology Network (https://www.oracle.com/linux/products.html)

2. Configure a Network Installation Server to perform the installation. See https://docs.oracle.com/cd/E52668_01/E54695/html/ol7-install-network-server.html for more information.

3. Create a Kickstart file to automate your installation. See https://docs.oracle.com/cd/E52668_01/E54695/html/ol7-install-kickstart.html for more information on the contents of this file and how to use it when booting the installer.

4. Connect your target ARM hardware to the network and configure the firmware to network boot or to boot from PXE. Refer to your hardware documentation for instructions.

5. Boot the target hardware and wait for the installation to complete.

Exceptions and additional information that may be required to complete the installation are provided in this section.

Graphical network-based installation

If you are performing a manual installation over the network and intend to use the remote graphical installer over VNC by setting the `inst.vnc` boot option, you must also set the boot options to configure the network, or the graphical installer fails to load and the installation reverts to text mode.

To ensure that the VNC server starts at boot, append the appropriate `ip` option to your kernel boot command. Typically, for a DHCP configuration, this may look similar to the following: `ip=eth0:dhcp`.

Software Selection Groups

Note that the available Software Selection Groups in the installer may differ slightly from the groups available in the x86 installer.

Software Sources

Note that unlike the x86 installer, there are no alternate Software Source repositories provided on this ISO.