Oracle Linux 7
Release Notes for Oracle Linux 7.5

E93593-12
November 2022

ORACLE®

Oracle Linux 7 Release Notes for Oracle Linux 7.5,

E93593-12

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Contents

4   Fixed Issues

5   Known Issues

6   Installation and Availability

7   Package Changes from the Upstream Release

8   Removed Modules

Preface

Oracle Linux 7: Release Notes for Oracle Linux 7.5 provides a summary of the new features and known issues in Oracle Linux 7.5. This document may be updated after it is released.

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.

Documentation Accessibility

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Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry

standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

1
System Requirements and Limits

You can install Oracle Linux 7 on x86-64 systems with up to 2048 logical CPUs and 64 TB of memory. The theoretical upper limit is 5120 logical CPUs and 64 TB of memory, but Oracle has not tested this configuration. A minimum of 2 logical CPUs and 1 GB of memory per logical CPU is recommended. Although the minimum disk space required for installation is 1GB, a minimum of 5 GB is recommended.

File System, Storage, and Address Space Limitations

The following table describes the maximum file size and maximum file system size for the `btrfs`, `ext4`, and `XFS` file systems. File system limitations are affected by kernel versions and features, and by the architecture of the system where Oracle Linux is installed. The values depicted here are estimates based on the known variables that might affect the maximum theoretical value that can be achieved. The theoretical values might be higher than those depicted here, and the actual achievable values might be below the values that are shown, depending on hardware and the kernel version used.

File System Type	Maximum File Size	Maximum File System Size
btrfs	8 EiB	8 EiB
ext4	16 TiB	1 EiB
XFS	8 EiB	8 EiB

The limits for the `ext4` file system that are described here are higher than recommended and might prove unstable. If you plan to work with systems where you are intend to work towards using higher file system sizes or file sizes, it is recommended that you use either the `btrfs` or `XFS` file system.

The maximum supported size for a bootable logical unit number (LUN) is 50 TB. GPT and UEFI support are required for LUNs that are larger than 2 TB.

The maximum size of the address space that is available to each process is 128 TB.

2
Shipped Kernels

Oracle Linux 7.5 ships with the following kernel packages:

`kernel-3.10.0-862.el7`
Red Hat Compatible Kernel (RHCK).

`kernel-uek-4.1.12-112.16.4.el7uek`
Unbreakable Enterprise Kernel Release 5 (UEK R5), which is the default kernel.

The Oracle Linux release is tested as a bundle as shipped on the installation media image. When installed from the installation media image, the minimum kernel version supported is the one included in the image. Downgrading kernel packages is not supported, unless recommended by Oracle Support.

The kernel source code for the shipped kernel is available after the initial release through a public git source code repository at https://oss.oracle.com/git/?p=linux-uek.git.

> **⚠ Important:**
>
> Any system that is installed using any Oracle Linux 7 ISO that is subsequently registered with the Unbreakable Linux Network (ULN), is automatically subscribed to the `ol7_x86_64_latest` and `ol7_x86_64_UEKR5` channels and are configured to download the latest Unbreakable Enterprise Kernel Release 5 (UEK R5) release on the next system update. When you run `yum update` just after registering with ULN, the system is upgraded to the Oracle Linux 7.6 release and the default kernel is automatically changed to UEK R5. If you prefer to continue to use and alternate kernel, such as UEK R4, you must manually change the subscriptions for the system in ULN before you perform the system update.
>
> Systems that are not registered with ULN retain any existing yum channel configuration and continue to use the kernel installed with Oracle Linux 7.5. If you are not registered with ULN and wish to upgrade to also use UEK R5, you must enable the `ol7_UEKR5` repository in your yum configuration.

3
New Features and Changes

This section describes new features and changes in Oracle Linux 7.5. For details of the new features and changes in the initial release of Oracle Linux 7, see Oracle Linux 7: Release Notes for Oracle Linux 7.

File Systems

The following file systems features, bug fixes, and enhancements are included in this update.

`btrfs`: File system deprecated in RHCK

Starting with Oracle Linux 7.4, `btrfs` is deprecated in RHCK. Note that `btrfs` is fully supported with UEK R4.

`ext4`: `quotacheck` performance improvement

The `quotacheck` utility has been improved and is now faster on `ext4`.

Installation and Upgrade

The following installation and upgrade features, bug fixes, and enhancements are included in this update:

- **`livemedia-creator` includes sample kickstart file for UEFI systems**

  The `livemedia-creator` utility now includes a sample kickstart file that can be used for UEFI systems.

- **New `mount` command for assigning block devices**

  Kickstart now includes a new `mount` command, which enables you to assign block devices as mounts during an installation. The `mount` command assigns a mount point to a specified block device within a file system. You can also specify the `--reformat` option with the `mount` command to reformat a block device.

- **New `network` kickstart command option for binding a device configuration file to a MAC address**

  Use the new `--bindto=mac` option with the `network` kickstart command to specify the MAC address (`HWWADDR`) parameter instead of the default `DEVICE` parameter in the device's `ifcfg` file. Specifying this option binds the device configuration to the MAC address instead of the device name.

> **Note:**
>
> Because the `--bindto` option is independent of the `network --device` kickstart option, it is applied to the `ifcfg` file, regardless of whether the device was specified in the kickstart file by its name, `link`, or `bootif`.

Kernel

The following changes are specific to RHCK. For more information, refer to latest versions of the release notes for Oracle Linux Unbreakable Enterprise Kernel Release 4 in Unbreakable Enterprise Kernel documentation.

Automatic loading of DCCP modules through socket layer now disabled by default

For security reasons, the automatic loading of the Datagram Congestion Control Protocol (DCCP) kernel modules through the socket layer has been disabled by default. This change ensures that userspace applications are not able to maliciously load any modules. However, you can explicitly load DCCP modules by using `modprobe`. Note that the automatic loading of DCCP modules is also not allowed on UEK releases.

MySQL Community Packages

MySQL Community packages are not included on the provided ISO in this release. This change ensures that the ISO size is appropriate for use on typical DVD-ROM media. The MySQL Community 8.0, MySQL Community 5.7, MySQL Community 5.6, and MySQL Community 5.5 packages continue to be available on the Unbreakable Linux Network (ULN) and the Oracle Linux yum server.

You can install MySQL Community packages directly from ULN or the Oracle Linux yum server by enabling the appropriate channel or repository. For example, if you are using the Oracle Linux yum server you can enable the `ol7_MySQL57` repository by installing the `mysql-release-el7` package to obtain the correct yum repository configuration and then running `yum-config-manager` to update the configuration:

```
sudo yum install mysql-release-el7
sudo yum-config-manager --enable ol7_MySQL57
```

Networking

The following networking features, bug fixes, and enhancements are included in this update:

- **Control switch for offloading VXLAN and Geneve tunnels added to RHCK**

  This change to the `ethtool` utility can only be used with drivers that support this functionality, such as the new Geneve driver in the latest RHCK. A new control switch in the utility can be used to enable or disable offloading of VXLAN and Geneve tunnels to network cards.

- **Geneve driver version updated to 4.14**

  The updated version the Geneve driver includes a number of bug fixes and enhancements from the previous version.

- **Search capability for `IPTABLES_SYSCTL_LOAD_LIST` modifications expanded to `/etc/sysctl.d`**

  The search capability for `IPTABLES_SYSCTL_LOAD_LIST` modifications has been expanded to include the `systctl.d` directory. Previously, only the `/etc/sysctl.conf` file was searched for changes. This enhancement ensures that any user-provided files in `/etc/sysctl.d/` are correctly accounted for when the `iptables` service restarts.

- **VXLAN updated to version 4.14**

  The updated version of the Virtual Extensible LAN (VXLAN) feature includes a number of bug fixes and enhancements from the previous version.

Packaging

Starting with Oracle Linux 7.5, the setup package provides and sources environment settings in a defined order that overrides any unpredictable environment settings. This change is especially useful in situations where multiple scripts changed the same environment setting.

Security

The following security features, bug fixes, and enhancements are included in this update:

- **Libreswan updated to version 3.23**

  This version of the Libreswan software includes bug fixes and improvements from the previous version.

- **`nss` version updated to 3.34**

  This version of the `nss` package includes bug fixes and improvements from the last version.

- **SCAP workbench updated to version 1.1.6**

  This version of the SCAP workbench (`scap-workbench`) utility includes bug fixes and improvements from the previous version.

- **SELinux supports NNP policy for `systemd` services**

  In this update, the `selinux-policy` packages contain a policy for `systemd` services that use the No New Privileges (NNP) security feature. Also introduced is the `nnp_nosuid_transition` policy capability that enables SELinux domain transitions under NNP or `nosuid` if `nnp_nosuid_transition` is allowed between the old and new contexts.

  For example, the following rule describes how this capability is allowed for a service:

  ```
  allow init_t fprintd_t:process2 { nnp_transition nosuid_transition };
  ```

  In addition, the distribution policy now contains the `m4 macro` interface. This interface can be used in SELinux security policies for services that use the `init_nnp_daemon_domain()` function.

- **SSLv3 disabled in `mod_ssl`**

To improve security for SSL/TLS connections, support for SSLv3 in the default configuration for the `httpd mod_ssl` module has been disabled. This change also restricts the use of certain cryptographic cipher suites.

> **Note:**
>
> Only fresh installations of the `mod_ssl` package are affected. Users can change their existing SSL configuration manually, as required.

- **Using OpenSCAP to generate remediation scripts for use with Ansible**

  The OpenSCAP scanner can be used to generate remediation scripts into Ansible playbook format. This capability assists with the integration of configuration compliance into an existing Ansible work flow. After generating an Ansible playbook, you can then customize it with the desired values.

Server and Services

The following server and services features, bug fixes, and enhancements are included in this update:

- **Ability to remotely launch `dbus` applications in GNOME**

  In this update, GNOME includes a feature that provides users with the ability to remotely launch `dbus`-using applications, for example over SSH.

  This improvement also fixes a bug that existed in RHEL 6 and RHEL 7 (up through 7.4) that caused leftover processes to remain in the system after exiting a session.

- **`chrony` updated to version 3.2**

  This version of `chrony` includes bug fixes and improvements from the previous version.

- **CUPS configuration enhancement**

  You can now configure the Common UNIX Printing System (CUPS) to use only Transport Layer Security (TLS) v1.2 ciphers.

- **D-Bus updated to version 1.10**

  This version of `dbus` includes bug fixes and improvements from the previous version.

- **`squid` package includes `kerberos_ldap_group` helper**

  The `kerberos_ldap_group` helper is a reference implementation that supports Simple Authentication and Security Layer (SASL) and Generic Security Services API (GSSAPI) authentication to an LDAP server.

- **Tuned updated to version 2.9.0**

  This version of the Tuned utility includes bug fixes and improvements from the previous version.

Storage

The following storage features, bug fixes, and enhancements are included in this update:

- **DIF/DIK (T10 P1) support added for specified hardware**

  In Oracle Linux 7.5, the SCSI T10 DIF/DIX is fully supported on hardware that has been qualified by the vendor, provide that the vendor also provides full support for the particular host bus adapter (HBA) and storage array configuration. Note that DIF/DIX is *not* supported on other configurations such as for use on a boot device or a virtualized guest.

  > ✎ **Note:**
  >
  > Support for DIF/DIX is in technology preview for any HBAs and storage arrays that are not qualified and are not fully supported by the vendor. To determine whether DIF/DIX is supported by a particular hardware vendor, refer to that vendor's support information for the latest status.

- **`smartmontools` support on NVMe devices added**

  The `smartmontools` utility program is used to monitor Nonvolatile Memory Express (NVMe) devices (in particular, Solid-state Drive (SSD) disks) with the Self-Monitoring, Analysis and Reporting Technology System.

Virtualization

The following virtualization features, bug fixes, and enhancements are included in this update:

- **Hosts and guests can use GPU devices simultaneously**

  Starting with this update, both hosts and guests can use Graphics Processing Unit (GPU) devices at the same time. Note that this feature requires the `vfio_mdev` module, which is not available in UEK at the time of this release.

- **KASLR for KVM guests added**

  Capability for Kernel address-space layout randomization (KASLR) for KVM guests has been added in this update.

- **`libvirt` updated to version 3.9.0**

  This version of the `libvirt` utility includes bug fixes and improvements from the previous version.

- **QEMU updated to version 1.5.3-156**

  This version of QEMU includes several bug fixes, including important security fixes and a large number of KVM integration improvements.

Technology Preview

Features that are currently under technology preview when using UEK R4U6 are described in Unbreakable Enterprise Kernel: Release Notes for Unbreakable Enterprise Kernel Release 4 Update 6 (4.1.12-112).

For RHCK, the following features are currently under technology preview:

- **Systemd:** Importd features for container image imports and exports.
- **File Systems:**
  - Block and object storage layouts for parallel NFS (pNFS).
  - DAX (Direct Access) for direct persistent memory mapping from an application. This is under technical preview for the ext4 and XFS file systems.
  - `ima-evm-utils` package, which provides utilities for labeling file systems and verifying the integrity of the system at run time.
  - OverlayFS remains in technical preview.
  - SCSI layout for parallel NFS (pNFS), including support for both client and server configurations.
- **Kernel:**
  - Heterogeneous memory management (HMM).
  - No-IOMMU mode virtual I/O feature.
- **Networking:**
  - Cisco VIC InfiniBand kernel driver that provides similar functionality to RDMA on proprietary Cisco architectures.
  - `nftables` and `libnftnl` network filtering and classification functionality.
  - Single-Root I/O virtualization (SR-IOV) in the `qlcnic` driver.
  - Support for a Cisco proprietary User Space Network Interface Controller in UCM servers provided in the `libusnic_verbs` driver.
  - Trusted Network Connect support.
- **Storage:**
  - Multi-queue I/O scheduling for SCSI (`scsi-mq`). This functionality is disabled by default.
  - Plug-in for the `libStorageMgmt` API used for storage array management. The `libStorageMgmt` API is now fully supported, but the plug-in is under technology preview.

You can find additional information about technology preview items that are in this release at https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/7.5_release_notes/technology-previews.

Compatibility

Oracle Linux maintains user-space compatibility with Red Hat Enterprise Linux, which is independent of the kernel version that underlies the operating system. Existing applications in user space will continue to run unmodified on the Unbreakable Enterprise Kernel Release 4 (UEK R4) and no re-certifications are needed for RHEL certified applications.

To minimize impact on interoperability during releases, the Oracle Linux team works closely with third-party vendors whose hardware and software have dependencies on kernel modules. The kernel ABI for UEK R4 will remain unchanged in all subsequent updates to the initial release. UEK R4 contains changes to the kernel ABI relative to UEK R3 that require recompilation of third-party kernel modules on the system. Before installing UEK R4, verify its support status with your application vendor.

4
Fixed Issues

This chapter describes issues that are fixed in Oracle Linux 7.5.

Note that additional issues specific to the kernel that you are using might also be resolved. If you are using the default UEK R4U6, please see Unbreakable Enterprise Kernel: Release Notes for Unbreakable Enterprise Kernel Release 4 Update 6 (4.1.12-112). If you are using an alternate UEK release or update, please refer to the appropriate release notes for this kernel version, at Unbreakable Enterprise Kernel documentation.

Issue with OpenSSH not updating login records with SSH client's host name resolved

An issue that changed the default behavior of OpenSSH so that login records such as `/var/run/utmp` and other files with the SSH client's host name were not updated after an installation or upgrade has been fixed. (Bug ID 26286750)

Issue that prevented systems with Broadcom MegaRAID 9460 controller from booting after installation resolved

This update includes the MegaRAID_sas v7.x. driver on installation media, which resolves an issue that prevented certain systems with the RAID controllers based LSI SAS3500 and LSI SAS3700 chips (which depend on the megaraid_sas v7.x driver) from booting after an installation. Affected systems included, but were not necessarily limited to the Intel® Xeon® E3 v5, Intel® Xeon® Platinum 8100, Intel® Xeon® Gold 6100, Intel® Xeon® Gold 5100, Intel® Xeon® Silver 4100 and Intel® Xeon® Bronze 3100 families of processors (formerly known as Skylake). (Bug ID 26426929)

5

Known Issues

This chapter describes the known issues for Oracle Linux 7.5.

Note that additional issues specific to the kernel that you are using might also be present. If you are using the default UEK R4U6 please see Unbreakable Enterprise Kernel: Release Notes for Unbreakable Enterprise Kernel Release 4 Update 6 (4.1.12-112). If you are using an alternate UEK release or update, please refer to the appropriate release notes for this kernel version, at Unbreakable Enterprise Kernel documentation

Installation and Upgrade Issues

The following issues that might be encountered during installation.

Installation on an iSCSI disk

When installing on an iSCSI disk, add either `ip=ibft` or `rd.iscsi.ibft=1` to the boot command line and specify at least one MBR or GPT-formatted disk as an installation target. Otherwise, the installation fails with the error message `No valid boot loader target device found`. (Bug ID 22076589)

Installation on an HP 3PAR TPVV

If you have not applied a Thin Persistence license to an HP 3PAR storage array, installation fails to create a file system on a thin provisioned virtual volume (TPVV). This license is required to support the low-level SCSI UNMAP command for storage reclamation. If you do not have a suitable license, the workaround is to use a fully provisioned virtual volume (FPVV) instead of a TPVV. (Bug ID 22140852)

Installation on an Aura7 NVMe device

Installation fails if the target device is an Aura7 NVMe add in card with 2 block devices. Although the card has two independent NVMe controllers and devices, they are assigned identical WWIDs. The multipath device mapper maps the two block devices to the same WWID, resulting in a bogus multipath configuration that prevents installation.

To work around the issue, disable multipath at boot for the installation by using the installer boot argument `nompath`. After installation, blocklist the NVMe block devices for multipath configuration on the system by editing `/etc/multipath.conf`, or disable device mapper multipath altogether. See Oracle Linux 7: Administrator's Guide for more information on configuring multipath. (Bug ID 27638939)

Package Conflicts

The following are known package conflicts for packages distributed by Oracle for Oracle Linux 7 through ULN or the Oracle Linux yum server.

`rdma-core` and `infiniband-diags` when installing `oracle-ofed-release` package

In this release, a conflict between the `rdma-core` and `infiniband-diags` packages exists.

The conflict occurs when installing the `oracle-ofed-release` package, as RPM detects the conflict and attempts to install `rdma-core-*` packages instead of RDMA, which results in additional errors related to dependencies.

To avoid the conflict, use the `--exclude=rdma-core*` yum option when performing an install or upgrade of the OFED packages and install the `yum-plugin-priorities` package from the `ol7_optional_latest` yum repository on the Oracle Linux yum server. See Oracle-Supported OFED Packages for more information. (Bug ID 26309256)

`dovecot-devel.i686` and `dovecot-devel.x86_64`

The `dovecot-devel.i686` and `dovecot-devel.x86_64` packages in the `ol7_x86_64_optional_latest` ULN channel conflict. Attempting to install both packages results in a transaction check error:

```
Transaction check error:
  file /usr/include/dovecot/config.h conflicts between attempted installs of
dovecot-devel-1:2.2.10-7.el7.i686 and dovecot-devel-1:2.2.10-7.el7.x86_64
```

There are bitsize differences between the identified file. You may only install one of these packages on the same system at once. (Bug ID 25057633)

`ipa-server-dns.x86_64` and `freeipa-server-dns`

A conflict between the `ipa-server-dns.x86_64` package and the `freeipa-server-dns` package in the `ol7_x86_64_latest` ULN channel exists in this release. The `.x86_64` version of the `ipa-server-dns` package has been superseded by a `.noarch` package, starting with Oracle Linux 7.3.

To avoid the conflict, exclude the `ipa-server-dns.*.x86_64` package in your yum configuration. See Oracle Linux: Unbreakable Linux Network User's Guide for Oracle Linux 6 and Oracle Linux 7 more information about how to exclude packages. (Bug ID 25054687)

`ipa-admintools.x86_64` and `freeipa-admintools`

There is a conflict between the `ipa-admintools.x86_64` package and the `freeipa-admintools` package in the `ol7_x86_64_latest` ULN channel. The `.x86_64` version of the `ipa-admintools` package has been superseded by a `.noarch` package, starting with Oracle Linux 7.3.

To avoid the conflict, you exclude the `ipa-admintools.*.x86_64` package in your yum configuration. See Oracle Linux: Unbreakable Linux Network User's Guide for Oracle Linux 6 and Oracle Linux 7 for more information about how to exclude packages. (Bug ID 25054687)

`rear.x86_64` and `rear.noarch`

The `.noarch` version of the `rear` package in the `ol7_x86_64_latest` ULN channel has been superseded by a `.x86_64` package, starting with Oracle Linux 7.3.

To avoid the conflict, exclude the `rear.*.noarch` package in your yum configuration. See Oracle Linux: Unbreakable Linux Network User's Guide for Oracle Linux 6 and Oracle Linux 7 for more information abut how to exclude packages. (Bug ID 25054687)

`PackageKit.i686` and `PackageKit.x86_64`

The `PackageKit.i686` package from the `ol7_x86_64_optional_latest` ULN channel conflicts with the `PackageKit.x86_64` package in the `ol7_x86_64_u5_base` channel. Attempting to install both packages results in a transaction check error:

```
Transaction check error:
  file /usr/lib/python2.7/site-packages/packagekit/__init__.pyc from install
of PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/__init__.pyo from install
of PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/backend.pyc from install
of PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/backend.pyo from install
of PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/enums.pyc from install of
PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/enums.pyo from install of
PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/filter.pyc from install of
PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/filter.pyo from install of
PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/misc.pyc from install of
PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/misc.pyo from install of
PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/package.pyc from install
of PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/package.pyo from install
of PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/progress.pyc from install
of PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
  file /usr/lib/python2.7/site-packages/packagekit/progress.pyo from install
of PackageKit-version.el7.i686 conflicts with file from package
PackageKit-version.el7.x86_64
```

You may only install one of these packages on the same system at once. To avoid the conflict, exclude the `PackageKit.i686` package in your yum configuration. For more information about how to exclude packages, see Oracle Linux: Unbreakable Linux Network User's Guide for Oracle Linux 6 and Oracle Linux 7.

(Bug ID 24963661)

`sssd-common.i686` and `sssd-common.x86_64`

The `sssd-common.i686` package conflicts with the `sssd-common.x86_64` package in the `ol7_x86_64_optional_base` ULN channel. Attempting to install both packages results in a transaction check error similar to the following:

```
Transaction check error:
  file /usr/share/systemtap/tapset/sssd.stp conflicts between attempted
installs of sssd-common-1.14.0-14.el7.i686 and
sssd-common-1.14.0-14.el7.x86_64
```

You may only install one of these packages on the same system at any given time. To avoid the conflict, exclude the `sssd-common.i686` package in your yum configuration. See Oracle Linux: Unbreakable Linux Network User's Guide for Oracle Linux 6 and Oracle Linux 7 for more information about how to exclude packages. (Bug ID 24963661)

File System Bugs

The following file systems related issues pertain to Oracle Linux 7.5.

`btrfs`: Send operation causes soft lockup on large deduped file

Using `btrfs send` on a large deduped file results in a soft lockup or out-of-memory issue. This problem occurs because the `btrfs send` operation cannot handle a large deduped file containing file extents that all point to one extent, as these types of file structures create tremendous pressure for the `btrfs send` operation.

To prevent this issue from occurring, do not use `btrfs send` on systems with less than 4 GB of memory. (Bug ID 25306023)

`btrfs`, `ext4` and `xfs`: Kernel panic when freeze and unfreeze operations are performed in multiple threads

Freeze and unfreeze operations that are performed across multiple threads on any supported file system can cause the system to hang and the kernel to panic. This issue is the result of a race condition that occurs when the unfreeze operation is triggered before it is actually frozen. The resulting unlock operation attempts a write operation on a non-existent lock, which results in a kernel panic. (Bug ID 25321899)

`btrfs`: `qgroup` reserve space leaks

The way in which quota groups (`qgroups`) reserve space can result in issues with leaks. Some of these leaks are caused by rewriting to dirty ranges, resulting in a "pwrite64: Disk quota exceeded" error. (Bug ID 22483655)

`btrfs`: Incorrect exclusive reference count after cloning file between subvolumes

The count for exclusive references is incorrect after cloning a file between two subvolumes. This issue is related to quota groups and the way in which some code is implemented. (Bug ID 22456419)

`btrfs`: Kernel oops when unmounting during a quota rescan or disable

Operations that trigger a quota rescan or those that disable the quota on a mounted file system cause a kernel oops message when attempting to unmount the file system. This issue can cause the system to hang. (Bug ID 22377928)

`btrfs`: Kernel oops when removing shared extents using `qgroup` accounting

The removal of shared extents, where quota group (`qgroup`) accounting is used, can result in a kernel oops message. This issue occurs when inaccurate results are obtained during a back reference walk, due to missing records when adding delayed references. (Bug ID 21554517)

`ext4`: System hangs on unmount after an append to a file with negative `i_size`

While it is invalid for a file system to load an inode with a negative `i_size`, it is possible to create a file with a negative `i_size` and append to it. However, doing so causes an integer overflow in the routines underlying writeback, which results in the kernel locking up. (Bug ID 25565527)

`ext4`: hang occurs during dynamic expansion of inode size

A hang occurs with the `ext4` file system during the dynamic expansion of an inode's size when using the inode's `i_extra_size` field. (Bug ID 25718971)

`ext4`: System hang when processing corrupted orphaned inode list

If the orphaned inode list is corrupted, the inode might be processed repeatedly, which results in a system hang. For example, if the orphaned inode list contains a reference to the bootloader inode, `ext4_iget()`, returns a bad inode, it results in a processing loop that can hang the system. (Bug ID 24433290)

`xfs`: Oracle Linux 7.4 and later incompatible with UEK R3 for file systems formatted using XFS with `d_type` enabled

All `xfs` file systems that are created by using the Oracle Linux 7.4 and later Oracle Linux 7 installers have `d_type` support enabled automatically. These files systems are formatted with the `ftype=1` option. The UEK R3 kernel is incompatible with this option and therefore does not boot on systems that have been installed with the Oracle Linux 7.4 or a later version installer. This problem occurs when the default file system formatting is selected because the UEK R3 kernel cannot mount any `xfs` file system that is created by specifying `ftype=1`.

Note that upgrades are unaffected because previous updates of Oracle Linux 7 formatted disks use the `ftype=0` option. However, when using UEK R3 on Oracle Linux 7.4 and later, be aware that you must *explicitly* set the `ftype=0` option when formatting the disk with XFS.

When performing a kickstart installation, if you intend to use UEK R3 on the system, you can manually specify alternate file system options for formatting. If you want to continue to use XFS with UEK R3, you must explicitly set the formatting option to `ftype=0` in your kickstart configuration. (Bug ID 26176688)

`xfs`: System hangs on unmount after a buffered append to a file with negative `i_size`

While it is invalid for a file system to load an inode with a negative `i_size`, it is possible to create a file in this manner. In the case where a buffer appends to the file, an integer overflow in the routines underlying writeback result in the kernel locking up. Note that a direct append does not cause this behavior. (Bug ID 25565490)

`xfs`: System hangs during `xfs_fsr` on two-extent files with speculative preallocation

During an `xfs_fsr` process on extents that are generated by speculative preallocation, the code that determines whether all of the extents fit inline miscalculates because the `di_nextents` call that is used does not account for these extents. This results in corruption of the in-memory inode, and ultimately the code attempts to move memory structures using incorrectly calculated ranges. This causes a kernel panic. (Bug ID 25333211)

Automatic Bug Reporting Tool

The automated reporting daemons and features provided by the Red Hat Automatic Bug Reporting Tool (ABRT) are not supported with Oracle Linux

ABRT packages and associated files, such as `libreport`, are included in the distribution to satisfy package dependencies and can be used to generate local bug reports but the features to automatically upload these reports are not supported. For technical assistance, contact Oracle Support by using the My Oracle Support portal or by telephone.

The libvirtd process displays a warning on startup

After upgrading from Oracle Linux 7.4, the `libvirtd` process displays a warning message during startup. The message is similar to:

```
libvirtd ... warning : virQEMUCapsInit:1211 : Failed to get host CPU cache info
libvirtd ... warning : virLXCDriverCapsInit:85 : Failed to get host CPU cache info
```

This warning does not occur with a fresh install. You can safely ignore this warning. (Bug ID 27700583)

Snapshots of KVM guests using UEFI fail and are unsupported

You cannot do snapshots of KVM guests if they use UEFI. In older versions of QEMU and libvirt, the tools may allow you to create the snapshot without an error or warning, but the snapshot could be corrupted. More recent versions of these tools prevent snapshot creation with an error. For example:

```
virsh> sudo snapshot-create-as OL7-seboot

error: Operation not supported: internal snapshots of a VM with pflash based
firmware are not supported
```

(Bug ID 26826800)

KVM guests with LSI MegaRAID SAS ISCSI controller limited to 7 virtual disks

An Oracle Linux 7 KVM guest using the LSI MegaRAID SAS ISCSI controller is limited to 7 virtual disks. Although KVM guests can have up to 8 ISCSI virtual disks, the LSI MegaRAID SAS controller uses the first slot for the ISCSI Initiator, leaving the 7 remaining slots for virtual disks.

The workaround for this issue is to use the `megasas` controller instead of the `lsi` controller when creating ISCSI virtual disks. For example, change `-device lsi` to `-device megasas`, as shown in highlighted text in the following example:

```
# /usr/bin/qemu-system-x86_64 -machine accel=kvm -m 8192 -smp 8 \
-drive file=/path/OracleLinux-7.5-x86_64.qcow2,format=qcow2,if=none,id=disk \
-device ide-hd,bus=ide.0,unit=0,drive=disk,bootindex=0 -device lsi,id=lsi0 \
-drive  file=/path/disk1.img,format=raw,if=none,id=drive_image1 \
-device scsi-hd,id=image1,drive=drive_image1,bus=lsi0.0 \
...

# /usr/bin/qemu-system-x86_64 -machine accel=kvm -m 8192 -smp 8 \
-drive file=/path/OracleLinux-7.5-x86_64.qcow2,format=qcow2,if=none,id=disk \
-device ide-hd,bus=ide.0,unit=0,drive=disk,bootindex=0 -device megasas,id=lsi0 \
-drive  file=/path/disk1.img,format=raw,if=none,id=drive_image1 \
-device scsi-hd,id=image1,drive=drive_image1,bus=lsi0.0 \
...
```

(Bug 27681238)

`crashkernel=auto` setting on UEK R3

If you enable the `crashkernel=auto` kernel parameter for UEK R3 to simplify Kdump configuration, both `dmesg` output and `/proc/cmdline` show `crashkernel=NNNM@0M`. This behavior is expected for the implementation, where `@0M` implies the `auto` setting. The `crashkernel=auto` parameter is not supported for Xen. (Bug ID 17616874)

Running `sosreport` on UEFI systems results in `grub2-plugin-errors.txt`

Running the `sosreport` command on UEFI systems produces a `grub2-plugin-errors.txt` file with errors. This problem occurs because the `sosreport` command cannot locate the `grub.cfg` file, as UEFI systems do not use the same GRUB plug-in as BIOS systems.

This issue also happens on UEFI systems running the UEK release. (Bug ID 26586473)

`grubby` fatal error during kernel upgrade when `/boot` is on a `btrfs` subvolume

If `/boot` is hosted on a `btrfs` subvolume, GRUB 2 is unable to correctly process the `initramfs` and `vmlinuz` pathnames. This problem occurs when you update or install a new kernel and `grubby` attempts to update the GRUB 2 configuration. In the case where you are running a fresh installation of Oracle Linux 7.5, and you upgrade the RHCK or UEK kernel, the following error is displayed:

```
grubby fatal error: unable to find a suitable template
```

When the system is rebooted after the kernel update, the system boots to the old kernel.

Similarly, when upgrading from Oracle Linux 7.4 to Oracle Linux 7.5, if `/boot` is hosted on a `btrfs` subvolume, the system boots to the old Oracle Linux 7.4 kernel after the upgrade is complete.

The workaround for this problem is to use `grub2-mkconfig` to regenerate the `/etc/grub2/grub.cfg` file immediately after the kernel has been installed or upgraded, for example:

```
sudo grub2-mkconfig -o /boot/grub2/grub.cfg
```

Obtain a listing of the kernel menu entries in the generated configuration as follows:

```
grep -P "submenu|^menuentry" /boot/grub2/grub.cfg | cut -d "'" -f2
```

From the listing, select the kernel entry that you want to run as the default kernel and set this entry as the default using the following command, substituting *menu entry title* with the title of the kernel entry that you identified in the listing:

```
sudo grub2-set-default "menu entry title"
```

You can use the `grub2-editenv list` command to check that the `saved_entry` has been updated with the selected kernel menu title.

Reboot and use `uname -a` to check that the correct kernel is now running.

(Bug ID 22750169)

Hebrew LaTeX fonts

Installing the `tex-fonts-hebrew` package fails unless you first install all `texlive*` packages. (Bug ID 19059949)

InfiniBand Issues

The following are issues that you might encounter when using InfiniBand devices.

Kdump might fail due to an incorrect InfiniBand Adapter M3 Firmware version

Kdump might fail on Oracle Linux 7.5 if the Oracle Dual Port QDR InfiniBand Adapter M3 Firmware version 2.31.5350 is installed.

To prevent this issue from occurring, update the Oracle Dual Port QDR InfiniBand Adapter M3 Firmware version to at least 2.31.5350. (Bug ID 26351183)

Disabling an InfiniBand CA port generates warnings

You might see the following warning messages if you use the `ibportstate disable` command to disable an InfiniBand CA or router port:

```
ibwarn: [2696] _do_madrpc: recv failed: Connection timed out
ibwarn: [2696] mad_rpc: _do_madrpc failed; dport (Lid 38)
ibportstate: iberror: failed: smp set portinfo failed
```

You can safely ignore these warnings. (Bug ID 16248314)

Intel QuickAssist Acceleration Technology

UEK R3 does not support the QAT driver that allows cryptographic capabilities to be offloaded to QuickAssist hardware.

Database installation and operation fails if `RemoveIPC=yes` is configured for `systemd`

If `RemoveIPC=yes` is configured for `systemd`, interprocess communication (IPC) is terminated for a non-system user's processes when that user logs out. This setting, which is intended for laptops, can cause software problems on server systems. For example, if the user is a database software owner such as `oracle` for Oracle Database, this configuration can cause database installation to fail or database services to crash.

By default, Oracle Linux 7.5 configures `RemoveIPC=no` in `/etc/systemd/logind.conf` to prevent `systemd` from terminating IPC. However, if you have touched this file before updating your system to Oracle Linux 7.5, the update installs the new version of the file as `/etc/systemd/logind.conf.rpmnew` and does not set `RemoveIPC=no` in `/etc/systemd/`

`logind.conf`. To avoid database crashes, set `RemoveIPC=no` in `/etc/systemd/logind.conf` and run `systemctl reboot` to reboot the system. (Bug ID 22224874)

Unable to create Oracle Linux 7 LXC containers on NFS

The creation of Oracle Linux 7 containers fails when the `root` file system (`/container`) is hosted on an NFS share. The problem occurs because the `iputils` package in Oracle Linux 7 releases, (Updates 4 and 5) is built to use the Linux file extended attributes `[xattr(7)] security capabilities(7)`. The NFS protocol does not support these file capabilities, so the `iputils` package might not be installed into an NFS files system. For example, when attempting to create an Oracle Linux 7.4 container, the installation fails while installing the `iputils` package, producing the following error:

```
Error unpacking rpm package iputils-20121221-7.el7.x86_64
error: unpacking of archive failed on file /usr/bin/ping: cpio: cap_set_file
error: iputils-20121221-7.el7.x86_64: install failed
```

Similar issues are seen when attempting to install the `initscripts` and `systemd` packages while creating an Oracle Linux 7.3 container.

This issue occurs on both NFSv3 and NFSv4.

Oracle Linux 6 containers are not affected. (Bug ID 25024258)

Support for Oracle Linux 7 guests on Oracle VM and Xen

Oracle Linux 7 guests are supported for both hardware virtualization (HVM) and hardware virtualization with paravirtual drivers (PVHVM) on Oracle VM Release 3. Oracle Linux 7 guests in a paravirtualized domain (PVM) on Oracle VM or other Xen-based hypervisors are not supported.

Oracle Linux 7 guests of any type are not supported on Oracle VM Release 2. (Bug IDs 18712168, 18667813, 18266964)

Kdump to `ssh` target failed with Oracle Linux 7 PVHVM guest

If Kdump is set to an `ssh` target on an Oracle Linux 7.5 PVHVM guest, running on Oracle VM Release 3.4.4, Kdump fails to connect to the guest operating system. This issue is caused by the `kdump` service failing to start on the Oracle Linux 7.5 guest operating system.

To workaround this issue, on the guest virtual machine, manually start the `kdump` service after the operating system boots up using:

```
sudo kdumpctl start
```

(Bug ID 27654392)

Hyper-V related services fail to start on Oracle Linux 7 guest with UEK R4 kernel under Windows Hyper-V Server

If you are running UEK R4 or an earlier release on Oracle Linux 7, the `hypervkvpd` and `hypervvssd` services fail to start if the Hyper-V packages are at version `0-0.29.20160216git.el7` or later.

To avoid this issue, upgrade to UEK R4U5 or later.

(Bug ID 24745861)

Geneve network driver support not available in UEK releases

The `ip` and `iproute` commands included with Oracle Linux 7.5 include support for Geneve-capable devices. The module for this driver is included with the RHCK but is not included in UEK R4. The commands to set, add or view Geneve devices are only functional when used with the RHCK. (Bug ID 24652835) .

`net_prio` control group not supported on UEK R3

The Network Priority cgroup subsystem (`net_prio`) is not currently supported for use with UEK R3. Attempting to use the module with UEK R3 results in error messages such as the following:

```
modprobe: FATAL: Module netprio_cgroup not found
mount: special device cgroup does not exist.
```

(Bug ID 18966564)

`NetworkManager` fails to set the default gateway and route for interfaces configured with DHCP on UEK R3

When running UEK R3 on Oracle Linux 7.4 and later, `NetworkManager` fails to set the default gateway and route for network interfaces that are configured with DHCP. This can result in network interfaces not behaving correctly.

The workaround for this issue is to disable `NetworkManager` control over interfaces that are configured for DHCP.

To disable `NetworkManager` for an interface, edit the network script for the interface in `/etc/sysconfig/network-scripts/ifcfg-`*dev* and add the parameter `NM_CONTROLLED=no`, as shown in the following example:

```
echo "NM_CONTROLLED=no" >> /etc/sysconfig/network-scripts/ifcfg-eno4
```

(Bug ID 26268996)

`NetworkManager` fails to respond to IPv6 addresses on low priority networks with DHCP on UEK R4

When running UEK R4 on Oracle Linux 7.5, NetworkManager fails to send a response to low priority networks with DHCP on UEK R4. Networks with higher priority (link-local, IPv6 `fe80::/64` routes) take priority over the low priority networks. This behavior might result in the DHCPv6 server failing to send a response to a DHCP client on a lower priority network, even if the network has another output device. (Bug ID 27714775)

`NetworkManager` unable to add IPv6 addresses to interfaces on UEK R3

After upgrading to Oracle Linux 7.5, or when running UEK R3 on Oracle Linux 7.4 and later releases, network interfaces that are configured for IPv6 might not be brought up by `NetworkManager`.

Messages similar to the following appear in the system log:

```
<warn> platform-linux: do-add-ip6-address[2: fe80::210:e0ff:fe5f:920c]:
       failure 22 (Invalid argument)
<warn> platform-linux: do-add-ip6-address[5: fd00:1:1:24::456]:
       failure 22 (Invalid argument)
```

It is possible to manually add the IPv6 address to the interface by using the `ip addr add` command.

This issue is apparent, irrespective of whether IPv6 is configured statically, assigned dynamically through DHCP, or configured by using Stateless Address Autoconfiguration (SLAAC).

The workaround for this issue is to disable `NetworkManager` for interfaces where IPv6 must be configured for an interface. To disable `NetworkManager` for an interface, edit the network script for the interface in `/etc/sysconfig/network-scripts/ifcfg-`*dev* and add the parameter `NM_CONTROLLED=no`, as shown in the following example:

```
echo "NM_CONTROLLED=no" >> /etc/sysconfig/network-scripts/ifcfg-eno4
```

(Bug ID 24848072)

Network connection icon reports incorrect state for interfaces

The network connection icon might report an active network interface as being disconnected. This behavior is seen for the `root` user but not for other users. Command-line utilities such as `ip link` and `ifconfig` report the correct state. (Bug ID 19060089)

Power button defaults to ACPI Suspend

By default, Oracle Linux 7 in graphical (GUI) console mode treats the hardware power button as equivalent to the ACPI "Sleep" button, which puts the system into low-power sleep mode. This behavior is specific to GNOME desktop environment.

In previous Oracle Linux versions, the hardware power button initiated a system shutdown. To make Oracle Linux 7 do the same, create a file named /etc/dconf/db/local.d/01-shutdown-button with the following content:

```
[org/gnome/settings-daemon/plugins/power]
button-power='shutdown'
```

Then run the following command:

```
sudo dconf update
```

You must log out of the desktop environment and log back in for the new setting to take effect. (Bug ID 25597898)

Cockpit web interface fails to display subscription status

The Cockpit web interface might fail to display a subscription status when you click the Subscriptions menu option. An error similar to the following is returned:

```
Couldn't get system subscription status. Please ensure subscription-manager
is installed.
```

There is no subscription-manager package available. (Bug ID 26581257)

32-bit RDMA packages are installed when upgrading a system with `rdma-core` installed

When upgrading from a system prior to Oracle Linux 7.4, where the `rdma-core.noarch` package is installed, 32-bit versions of the packages and many dependencies are also installed, unnecessarily. This is because the original version of the package is obsoleted and during upgrade the package is replaced with both the `rdma-core.i686` and `rdma-core.x86_64` versions of the package, along with those packages' dependencies.

To work around the issue, run the `yum update` command with the `--exclude=\*.i686` option:

```
sudo yum update --exclude=\*.i686
```

(Bug ID 28217831)

Uninstalling `libpcap` can result in the removal of a large number of libvirt packages

The `libpcap` package is updated to enable functionality for future technologies. If you install this package and then attempt to uninstall it, a large number of libvirt packages may also be

uninstalled due to dependency relationships. The `libvirt` package has a dependency on the `libvirt-daemon-driver-nwfiler` package and this package has a dependency on `libpcap`. Removing `libpcap` removes the entire libvirt family of packages. (Bug ID 28582266)

6
Installation and Availability

You can download a full Oracle Linux 7.5 installation media image from the Oracle Software Delivery Cloud at https://edelivery.oracle.com/linux. You can also obtain the latest Oracle Linux 7 packages from the Unbreakable Linux Network (ULN) and the Oracle Linux yum server.

You can install additional software for Oracle Linux 7 by subscribing to the different channels on ULN or by enabling the required repositories within your yum configuration. To explore the channels that are available to you on ULN, log in to https://uln.oracle.com/ and view the Channels option. To view the Oracle Linux yum repositories that are available for Oracle Linux 7, visit https://yum.oracle.com/oracle-linux-7.html.

> **Note:**
>
> The Oracle Linux yum server does not provide equivalent repositories for some channels that are available on ULN. These channels provide non-open source packages.

If you are installing an update on a system on which you have previously installed the Oracle-supported OFED packages, see Upgrading to Oracle Linux 7.5 with the Oracle-Supported OFED Packages for UEK R4 installed for instructions on how to update these packages during the upgrade.

UEK R4U6 is the default boot kernel for fresh installations of Oracle Linux 7.5. For more information, see Unbreakable Enterprise Kernel: Release Notes for Unbreakable Enterprise Kernel Release 4 Update 6 (4.1.12-112).

For systems that are running UEK R3 or UEK R4 and are subscribed to the `ol7_x86_64_UEKR3` or `ol7_x86_64_UEKR4` channel on ULN, or the `ol7_x86_64_UEKR3` or `ol7_x86_64_UEKR4` repository on the Oracle Linux yum server, upgrade to the latest UEK release as follows:

1. Upgrade all packages on the system, including kernel packages.

   ```
   sudo yum update
   ```

   By default, the boot manager automatically enables the most recent kernel version so you do not need to change your GRUB configuration.

2. Reboot the system.

   ```
   sudo systemctl reboot
   ```

> **❶ Important:**
>
> Oracle Linux 7.5 updates many major subsystems. To ensure that your
> updated systems function correctly, reboot them after updating.

Upgrading from Oracle Linux 6

It is possible to upgrade an Oracle Linux 6 system to Oracle Linux 7.5 under the
following conditions:

- The system meets the minimum installation requirements for Oracle Linux 7 as
  described in System Requirements and Limits.

- The Oracle Linux 6 system has been completely updated from the
  `ol6_x86_64_latest` channel or `ol6_latest` repository.

- UEK R3 or UEK R4 has been installed on the system to be upgraded and is the
  default boot kernel. Upgrading from UEK R2 is not supported.

- No Oracle product stack is present on the system.

Upgrading is supported only for systems that are installed with the Minimal Install base
environment. If additional packages are installed from an alternative repository or
channel, upgrade might fail or the resulting upgrade might not function as expected.

General instructions on how to perform an upgrade are covered in Oracle Linux 7:
Installation Guide.

The following is a summary of steps that are specific to the update for this
release:3290

1. Make sure that your system is completely up to date by using the `yum update`
   command to update to the latest Oracle Linux 6 release. The system must be
   subscribed to the `ol6_x86_64_latest` channel or `ol6_latest` repository to be
   updated.

2. Install the required upgrade packages (specified version or later):

   ```
   redhat-upgrade-tool-0.7.51-1.0.1.el6.noarch.rpm
   preupgrade-assistant-el6toel7-0.7.1-1.0.1.el6.noarch.rpm
   preupgrade-assistant-el6toel7-data-0.20170712-1.0.1.el6.noarch.rpm
   preupgrade-assistant-2.5.1-1.0.1.el6.noarch.rpm
   preupgrade-assistant-tools-2.5.1-1.0.1.el6.noarch.rpm
   preupgrade-assistant-ui-2.5.1-1.0.1.el6.noarch.rpm
   ```

   Obtain the latest versions of these packages from ULN (in the `ol6_x86_64_addons`
   channel), or from the Oracle Linux yum server (in the `ol6_addons` repository).

3. Run the `preupg` command to perform and upgrade assessment:

   ```
   sudo preupg
   ```

   Examine the results in `/root/preupgrade/result.html` to make sure that there
   are not any items that have failed or need attention.

4. Run the `redhat-upgrade-tool-cli` command to perform the upgrade:

```
sudo redhat-upgrade-tool-cli --network=7.5 --instrepo=OL7_repo_url --debuglog=/tmp/
upgrade.log --cleanup-post
```

Replace *OL7_repo_url* with the URL of the repository where the Oracle Linux 7.5
packages are hosted.

5. Reboot the system to start the upgrade process.

Oracle-Supported OFED Packages

The following information is specific to Oracle Linux 7.5 and describes required steps for
installing or upgrading the Oracle-supported OFED packages for UEK R4. Steps to upgrade
an Oracle Linux system where the Oracle-supported OFED packages for UEK R4 are already
installed is also described.

(Bug ID 19177152)

Installing or Upgrading Oracle-Supported OFED Packages for UEK R4

For instructions for installing or upgrading OFED packages with UEK R4U6, see Unbreakable
Enterprise Kernel: Release Notes for Unbreakable Enterprise Kernel Release 4 Update 6
(4.1.12-112).

> **⊗ Important:**
>
> Before installing or upgrading the Oracle-supported OFED packages on Oracle
> Linux 7.5, you must perform some preparation steps to ensure that the system is up
> to date and that any potential package conflicts can be avoided.
>
> If you are installing or upgrading from ULN follow the steps described in Upgrade
> using ULN before continuing with the standard installations instructions described in
> Unbreakable Enterprise Kernel: Release Notes for Unbreakable Enterprise Kernel
> Release 4 Update 6 (4.1.12-112).
>
> If you are installing or upgrading from Oracle Linux yum server, follow the steps
> described in Upgrade Using the Oracle Linux Yum Server before continuing with the
> standard installation instructions described in Unbreakable Enterprise Kernel:
> Release Notes for Unbreakable Enterprise Kernel Release 4 Update 7 (4.1.12-124).
>
> Note that when you install or update the `oracle-ofed-release` or `oracle-ofed-`
> `release-guest` package, you must use the `--exclude=rdma-core*` option to avoid
> a potential package conflict. For example:
>
> ```
> sudo yum install oracle-ofed-release --exclude=rdma-core*
> ```

Upgrading to Oracle Linux 7.5 with the Oracle-Supported OFED Packages for UEK R4 installed

The following procedures describe how to upgrade an Oracle Linux 7 system to Oracle Linux
7.5 on a system where the Oracle-supported OFED packages for UEK R4 are already
present.

Upgrade using ULN

The following procedure describes how to use ULN to perform an upgrade.

> **Note:**
>
> This procedure assumes that you have registered the system with ULN. See Oracle Linux: Unbreakable Linux Network User's Guide for Oracle Linux 6 and Oracle Linux 7.

1. Subscribe the system to the `ol7_x86_64_optional_latest`, `ol7_x86_64_UEKR4_OFED`, `ol7_x86_64_UEKR4`, and `ol7_x86_64_latest` channels on ULN. By default, the `ol7_x86_64_UEKR4` and `ol7_x86_64_latest` channels are enabled when you register an Oracle Linux 7 system with ULN.

2. Edit the `/etc/yum/pluginconf.d/rhnplugin.conf` file and add the following lines to the end of the file:

   ```
   [ol7_x86_64_UEKR4_OFED]
   priority=20
   ```

3. Install the `yum-plugin-priorities` package from the `ol7_x86_64_optional_latest` channel:

   ```
   # yum install yum-plugin-priorities
   ```

4. Apply Oracle Linux 7.5 to the system and use the `--exclude=rdma-core*` option to avoid a potential package conflict:

   ```
   # yum update --exclude=rdma-core*
   ```

   Any Oracle-supported OFED packages for UEK R4 that were already present are updated from the `ol7_x86_64_UEKR4_OFED` channel. If you do not have any of the OFED packages installed, you can proceed to install the packages as described in the installation instructions provided in Unbreakable Enterprise Kernel: Release Notes for Unbreakable Enterprise Kernel Release 4 Update 6 (4.1.12-112).

Upgrade Using the Oracle Linux Yum Server

The following procedure describes how to use the Oracle Linux yum server to perform an upgrade.

1. If you updated the server from Oracle Linux 6 or the initial release of Oracle Linux 7, ensure that your system is up to date and that you have transitioned to use the modular yum repository configuration by installing the `oraclelinux-release-el7` package and running the `/usr/bin/ol_yum_configure.sh` script.

   ```
   # yum install oraclelinux-release-el7
   # /usr/bin/ol_yum_configure.sh
   ```

2. Enable the `ol7_optional_latest` and `ol7_UEKR4_OFED` repositories. By default, `ol7_latest` and `ol7_UEKR4` are already enabled, but you should enable these repositories as well if they are not already enabled.

```
# yum-config-manager --enable ol7_latest ol7_UEKR4 ol7_optional_latest
ol7_UEKR4_OFED
```

3. Install the `yum-plugin-priorities` package from the `ol7_optional_latest` repository:

```
# yum install yum-plugin-priorities
```

4. To apply Oracle Linux 7.5 to the system and use the `--exclude=rdma-core*` option to avoid a potential package conflict:

```
# yum update --exclude=rdma-core*
```

Any Oracle-supported OFED packages for UEK R4 that were already present are updated from the `ol7_UEKR4_OFED` repository on the Oracle Linux yum server. If you do not have any of the OFED packages installed, you can proceed to install the packages as described in the installation instructions provided in Unbreakable Enterprise Kernel: Release Notes for Unbreakable Enterprise Kernel Release 4 Update 7 (4.1.12-124).

7
Package Changes from the Upstream Release

The following sections list the changes to binary and source packages from the upstream release.

Changes to Binary Packages

This section contains information about the removed, modified, and new **binary** packages in this release. For information about the **source** package changes, see Changes to Source Packages.

Added Binary Packages by Oracle

The following binary packages have been added by Oracle:

- `compat-libstdc++-33`
- `dtrace-utils`
- `dtrace-utils-devel`
- `dtrace-utils-testsuite`
- `inotify-tools`
- `kernel-uek`
- `kernel-uek-debug`
- `kernel-uek-debug-devel`
- `kernel-uek-devel`
- `kernel-uek-doc`
- `kernel-uek-firmware`
- `libdtrace-ctf`
- `libdtrace-ctf-devel`
- `lxc`
- `lxc-devel`
- `lxc-libs`
- `ocfs2-tools`
- `ocfs2-tools-devel`
- `oracleasm-support`
- `oracle-database-server-12cR2-preinstall`

- `oraclelinux-release`

- `oracle-logos`

- `reflink`

- `uname26`

- `yum-plugin-ulninfo`

Modified Binary Packages

The following binary packages from the upstream release have been modified:

- `abrt`

- `abrt-addon-ccpp`

- `abrt-addon-kerneloops`

- `abrt-addon-pstoreoops`

- `abrt-addon-python`

- `abrt-addon-vmcore`

- `abrt-addon-xorg`

- `abrt-cli`

- `abrt-console-notification`

- `abrt-dbus`

- `abrt-desktop`

- `abrt-gui`

- `abrt-gui-libs`

- `abrt-java-connector`

- `abrt-libs`

- `abrt-python`

- `abrt-tui`

- `akonadi`

- `akonadi-mysql`

- `anaconda`

- `anaconda-core`

- `anaconda-gui`

- `anaconda-tui`

- `anaconda-widgets`

- `apr-util`

- `apr-util-devel`

- `autofs`

- `basesystem`
- `btrfs-progs`
- `clufter-bin`
- `clufter-cli`
- `clufter-common`
- `clufter-lib-ccs`
- `clufter-lib-general`
- `clufter-lib-pcs`
- `cmirror`
- `cockpit`
- `cockpit-bridge`
- `cockpit-system`
- `cockpit-ws`
- `coreutils`
- `dbus`
- `dbus-devel`
- `dbus-libs`
- `dbus-x11`
- `device-mapper`
- `device-mapper-event`
- `device-mapper-event-libs`
- `device-mapper-libs`
- `dhclient`
- `dhcp`
- `dhcp-common`
- `dhcp-libs`
- `dracut`
- `dracut-config-generic`
- `dracut-config-rescue`
- `dracut-fips`
- `dracut-fips-aesni`
- `dracut-network`
- `e2fsprogs`
- `e2fsprogs-devel`
- `e2fsprogs-libs`

- freeradius
- fuse
- fuse-devel
- fuse-libs
- fwupdate
- fwupdate-efi
- fwupdate-libs
- gnutls
- gnutls-c++
- gnutls-dane
- gnutls-devel
- gnutls-utils
- gperftools-libs
- grubby
- gstreamer
- gstreamer-tools
- httpd
- httpd-devel
- httpd-manual
- httpd-tools
- initial-setup
- initial-setup-gui
- initscripts
- ipa-client
- ipa-client-common
- ipa-common
- ipa-python-compat
- ipa-server
- ipa-server-common
- ipa-server-dns
- ipa-server-trust-ad
- irqbalance
- iscsi-initiator-utils
- iscsi-initiator-utils-iscsiuio
- java-1.7.0-openjdk

- `java-1.7.0-openjdk-devel`
- `java-1.7.0-openjdk-headless`
- `kabi-yum-plugins`
- `kdepimlibs`
- `kdepimlibs-akonadi`
- `kdepimlibs-devel`
- `kdepimlibs-kxmlrpcclient`
- `kde-settings`
- `kde-settings-ksplash`
- `kde-settings-plasma`
- `kde-settings-pulseaudio`
- `kexec-tools`
- `kmod`
- `kmod-kvdo`
- `kmod-libs`
- `kmod-oracleasm`
- `ksc`
- `ksh`
- `libcom_err`
- `libcom_err-devel`
- `libdbi-dbd-mysql`
- `libdbi-dbd-pgsql`
- `libdbi-drivers`
- `libfprint`
- `libgudev1`
- `libgudev1-devel`
- `libguestfs`
- `libguestfs-inspect-icons`
- `libguestfs-java`
- `libguestfs-tools`
- `libguestfs-tools-c`
- `libguestfs-xfs`
- `libreport`
- `libreport-anaconda`
- `libreport-cli`

- `libreport-filesystem`

- `libreport-gtk`

- `libreport-plugin-bugzilla`

- `libreport-plugin-mailx`

- `libreport-plugin-reportuploader`

- `libreport-plugin-ureport`

- `libreport-python`

- `libreport-rhel-anaconda-bugzilla`

- `libreport-web`

- `libreswan`

- `libss`

- `libxslt`

- `libxslt-devel`

- `lorax`

- `lvm2`

- `lvm2-cluster`

- `lvm2-libs`

- `lvm2-python-boom`

- `lvm2-python-libs`

- `lxc`

- `lxc-devel`

- `lxc-libs`

- `microcode_ctl`

- `mkbootdisk`

- `mod_session`

- `mod_ssl`

- `mokutil`

- `net-snmp`

- `net-snmp-agent-libs`

- `net-snmp-devel`

- `net-snmp-libs`

- `net-snmp-utils`

- `nfs-utils`

- `ntp`

- `ntpdate`

- `opa-address-resolution`
- `opa-basic-tools`
- `opa-fastfabric`
- `opa-fm`
- `opa-libopamgt`
- `openssl`
- `openssl-devel`
- `openssl-libs`
- `open-vm-tools`
- `open-vm-tools-desktop`
- `oraclelinux-release`
- `oracle-logos`
- `osinfo-db`
- `os-prober`
- `PackageKit`
- `PackageKit-command-not-found`
- `PackageKit-glib`
- `PackageKit-gstreamer-plugin`
- `PackageKit-gtk3-module`
- `PackageKit-yum`
- `pcs`
- `pcs-snmp`
- `perl-DBD-MySQL`
- `perl-Sys-Guestfs`
- `perl-XML-Parser`
- `plymouth`
- `plymouth-core-libs`
- `plymouth-graphics-libs`
- `plymouth-plugin-label`
- `plymouth-plugin-two-step`
- `plymouth-scripts`
- `plymouth-system-theme`
- `plymouth-theme-charge`
- `policycoreutils`
- `policycoreutils-devel`

- `policycoreutils-gui`

- `policycoreutils-newrole`

- `policycoreutils-python`

- `policycoreutils-sandbox`

- `postfix`

- `postfix-perl-scripts`

- `pykickstart`

- `python`

- `python2-ipaclient`

- `python2-ipalib`

- `python2-ipaserver`

- `python-blivet`

- `python-clufter`

- `python-devel`

- `python-libguestfs`

- `python-libs`

- `python-rtslib`

- `qt3`

- `qt3-devel`

- `qt3-MySQL`

- `qt3-ODBC`

- `qt3-PostgreSQL`

- `qt-settings`

- `rear`

- `redhat-bookmarks`

- `redhat-lsb`

- `redhat-lsb-core`

- `redhat-lsb-cxx`

- `redhat-lsb-desktop`

- `redhat-lsb-languages`

- `redhat-lsb-printing`

- `redhat-lsb-submod-multimedia`

- `redhat-lsb-submod-security`

- `redhat-release-server`

- `redhat-rpm-config`

- redhat-upgrade-dracut
- redhat-upgrade-dracut-plymouth
- redhat-upgrade-tool
- redland
- redland-virtuoso
- rhn-check
- rhn-client-tools
- rhnlib
- rhnsd
- rhn-setup
- rhn-setup-gnome
- rpmdevtools
- scap-security-guide
- scap-security-guide-doc
- scap-workbench
- selinux-policy
- selinux-policy-devel
- selinux-policy-minimum
- selinux-policy-mls
- selinux-policy-targeted
- setroubleshoot
- setroubleshoot-plugins
- setroubleshoot-server
- shim-ia32
- shim-unsigned-ia32
- shim-unsigned-x64
- shim-x64
- sos
- system-config-date
- system-config-kickstart
- system-config-users
- systemd
- systemd-devel
- systemd-libs
- systemd-python

- `systemd-sysv`

- `tog-pegasus`

- `tog-pegasus-libs`

- `uom-lib`

- `virt-install`

- `virt-manager`

- `virt-manager-common`

- `virt-p2v-maker`

- `virt-v2v`

- `wireshark`

- `wireshark-gnome`

- `xdg-desktop-portal`

- `xfsprogs`

- `xsane-common`

- `xsane-gimp`

- `yum`

- `yum-plugin-aliases`

- `yum-plugin-changelog`

- `yum-plugin-ovl`

- `yum-plugin-tmprepo`

- `yum-plugin-verify`

- `yum-plugin-versionlock`

- `yum-rhn-plugin`

- `yum-utils`

Modified Optional Binary Packages

The following optional binary packages have been modified:

- `autocorr-af`

- `autocorr-bg`

- `autocorr-ca`

- `autocorr-cs`

- `autocorr-da`

- `autocorr-de`

- `autocorr-en`

- `autocorr-es`

- `autocorr-fa`
- `autocorr-fi`
- `autocorr-fr`
- `autocorr-ga`
- `autocorr-hr`
- `autocorr-hu`
- `autocorr-is`
- `autocorr-it`
- `autocorr-ja`
- `autocorr-ko`
- `autocorr-lb`
- `autocorr-lt`
- `autocorr-mn`
- `autocorr-nl`
- `autocorr-pl`
- `autocorr-pt`
- `autocorr-ro`
- `autocorr-ru`
- `autocorr-sk`
- `autocorr-sl`
- `autocorr-sr`
- `autocorr-sv`
- `autocorr-tr`
- `autocorr-vi`
- `autocorr-zh`
- `fence-sanlock`
- `gnu-efi`
- `gnu-efi-devel`
- `gnu-efi-utils`
- `java-1.7.0-openjdk-accessibility`
- `java-1.7.0-openjdk-demo`
- `java-1.7.0-openjdk-javadoc`
- `java-1.7.0-openjdk-src`
- `kmod-redhat-ixgbe`
- `libreoffice`

- `libreoffice-base`
- `libreoffice-bsh`
- `libreoffice-calc`
- `libreoffice-core`
- `libreoffice-data`
- `libreoffice-draw`
- `libreoffice-emailmerge`
- `libreoffice-filters`
- `libreoffice-gdb-debug-support`
- `libreoffice-glade`
- `libreoffice-graphicfilter`
- `libreoffice-gtk2`
- `libreoffice-gtk3`
- `libreoffice-help-ar`
- `libreoffice-help-bg`
- `libreoffice-help-bn`
- `libreoffice-help-ca`
- `libreoffice-help-cs`
- `libreoffice-help-da`
- `libreoffice-help-de`
- `libreoffice-help-dz`
- `libreoffice-help-el`
- `libreoffice-help-es`
- `libreoffice-help-et`
- `libreoffice-help-eu`
- `libreoffice-help-fi`
- `libreoffice-help-fr`
- `libreoffice-help-gl`
- `libreoffice-help-gu`
- `libreoffice-help-he`
- `libreoffice-help-hi`
- `libreoffice-help-hr`
- `libreoffice-help-hu`
- `libreoffice-help-id`
- `libreoffice-help-it`

- `libreoffice-help-ja`
- `libreoffice-help-ko`
- `libreoffice-help-lt`
- `libreoffice-help-lv`
- `libreoffice-help-nb`
- `libreoffice-help-nl`
- `libreoffice-help-nn`
- `libreoffice-help-pl`
- `libreoffice-help-pt-BR`
- `libreoffice-help-pt-PT`
- `libreoffice-help-ro`
- `libreoffice-help-ru`
- `libreoffice-help-si`
- `libreoffice-help-sk`
- `libreoffice-help-sl`
- `libreoffice-help-sv`
- `libreoffice-help-ta`
- `libreoffice-help-tr`
- `libreoffice-help-uk`
- `libreoffice-help-zh-Hans`
- `libreoffice-help-zh-Hant`
- `libreoffice-impress`
- `libreofficekit`
- `libreofficekit-devel`
- `libreoffice-langpack-af`
- `libreoffice-langpack-ar`
- `libreoffice-langpack-as`
- `libreoffice-langpack-bg`
- `libreoffice-langpack-bn`
- `libreoffice-langpack-br`
- `libreoffice-langpack-ca`
- `libreoffice-langpack-cs`
- `libreoffice-langpack-cy`
- `libreoffice-langpack-da`
- `libreoffice-langpack-de`

- `libreoffice-langpack-dz`
- `libreoffice-langpack-el`
- `libreoffice-langpack-en`
- `libreoffice-langpack-es`
- `libreoffice-langpack-et`
- `libreoffice-langpack-eu`
- `libreoffice-langpack-fa`
- `libreoffice-langpack-fi`
- `libreoffice-langpack-fr`
- `libreoffice-langpack-ga`
- `libreoffice-langpack-gl`
- `libreoffice-langpack-gu`
- `libreoffice-langpack-he`
- `libreoffice-langpack-hi`
- `libreoffice-langpack-hr`
- `libreoffice-langpack-hu`
- `libreoffice-langpack-id`
- `libreoffice-langpack-it`
- `libreoffice-langpack-ja`
- `libreoffice-langpack-kk`
- `libreoffice-langpack-kn`
- `libreoffice-langpack-ko`
- `libreoffice-langpack-lt`
- `libreoffice-langpack-lv`
- `libreoffice-langpack-mai`
- `libreoffice-langpack-ml`
- `libreoffice-langpack-mr`
- `libreoffice-langpack-nb`
- `libreoffice-langpack-nl`
- `libreoffice-langpack-nn`
- `libreoffice-langpack-nr`
- `libreoffice-langpack-nso`
- `libreoffice-langpack-or`
- `libreoffice-langpack-pa`
- `libreoffice-langpack-pl`

- `libreoffice-langpack-pt-BR`

- `libreoffice-langpack-pt-PT`

- `libreoffice-langpack-ro`

- `libreoffice-langpack-ru`

- `libreoffice-langpack-si`

- `libreoffice-langpack-sk`

- `libreoffice-langpack-sl`

- `libreoffice-langpack-sr`

- `libreoffice-langpack-ss`

- `libreoffice-langpack-st`

- `libreoffice-langpack-sv`

- `libreoffice-langpack-ta`

- `libreoffice-langpack-te`

- `libreoffice-langpack-th`

- `libreoffice-langpack-tn`

- `libreoffice-langpack-tr`

- `libreoffice-langpack-ts`

- `libreoffice-langpack-uk`

- `libreoffice-langpack-ve`

- `libreoffice-langpack-xh`

- `libreoffice-langpack-zh-Hans`

- `libreoffice-langpack-zh-Hant`

- `libreoffice-langpack-zu`

- `libreoffice-librelogo`

- `libreoffice-math`

- `libreoffice-nlpsolver`

- `libreoffice-officebean`

- `libreoffice-officebean-common`

- `libreoffice-ogltrans`

- `libreoffice-opensymbol-fonts`

- `libreoffice-pdfimport`

- `libreoffice-postgresql`

- `libreoffice-pyuno`

- `libreoffice-rhino`

- `libreoffice-sdk`

- `libreoffice-sdk-doc`
- `libreoffice-ure`
- `libreoffice-ure-common`
- `libreoffice-wiki-publisher`
- `libreoffice-writer`
- `libreoffice-x11`
- `libreoffice-xsltfilter`
- `pesign`
- `publican`
- `publican-common-db5-web`
- `publican-common-web`
- `publican-doc`
- `sanlk-reset`
- `sanlock`
- `sanlock-devel`
- `sanlock-lib`
- `sanlock-python`
- `thunderbird`

New Binary Packages

The following binary packages are new for Update 5, relative to Update 4 of Oracle Linux 7:

- `awscli`
- `ima-evm-utils`
- `insights-client`
- `libappindicator-gtk3`
- `libdbusmenu`
- `libdbusmenu-gtk3`
- `libindicator-gtk3`
- `libsmbios`
- `python-adal`
- `python-azure-sdk`
- `python-boto3`
- `python-isodate`
- `python-jwt`
- `python-msrest`

- `python-msrestazure`

- `python-s3transfer`

Removed Binary Packages

The following binary packages from the upstream release have been removed:

- `anaconda-user-help`

- `kpatch`

- `python-rhsm`

- `redhat-access-gui`

- `redhat-access-insights`

- `redhat-access-plugin-ipa`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-as-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-bn-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-de-DE`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-en-US`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-es-ES`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-fr-FR`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-gu-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-hi-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-it-IT`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-ja-JP`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-kn-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-ko-KR`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-ml-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-mr-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-or-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-pa-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-pt-BR`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-ru-RU`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-ta-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-te-IN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-zh-CN`

- `Red_Hat_Enterprise_Linux-Release_Notes-7-zh-TW`

- `redhat-logos`

- `redhat-support-lib-python`

- redhat-support-tool

- subscription-manager

- subscription-manager-migration-data

- virt-p2v

- virt-who

Changes to Source Packages

This section contains information about the removed, modified, and new **source** packages in this release. For information about the **binary** package changes, see Changes to Binary Packages.

Added Source Packages by Oracle

The following source packages have been added by Oracle:

- compat-gcc-32

- dtrace-utils

- inotify-tools

- kernel-uek

- libdtrace-ctf

- lxc

- ocfs2-tools

- oracleasm-support

- oracle-database-server-12cR2-preinstall

- oraclelinux-release

- oracle-logos

- reflink

- uname26

- yum-plugin-ulninfo

Modified Source Packages

The following source packages from the upstream release have been modified:

- abrt

- abrt-java-connector

- akonadi

- anaconda

- apr-util

- autofs

- basesystem

- btrfs-progs

- clufter

- cockpit

- coreutils

- dbus

- dhcp

- dracut

- e2fsprogs

- firefox

- freeradius

- fuse

- fwupdate

- gcc

- gnutls

- gperftools

- grubby

- gstreamer

- httpd

- initial-setup

- initscripts

- ipa

- irqbalance

- iscsi-initiator-utils

- java

- java-1.7.0-openjdk

- kabi-yum-plugins

- kdepimlibs

- kde-settings

- kernel

- kexec-tools

- kmod

- kmod-kvdo

- ksc

- ksh

- `libdbi-drivers`
- `libfprint`
- `libguestfs`
- `libreport`
- `libreswan`
- `libxslt`
- `lorax`
- `lvm2`
- `lxc`
- `microcode_ctl`
- `mkbootdisk`
- `net-snmp`
- `nfs-utils`
- `ntp`
- `opa-ff`
- `opa-fm`
- `openssl`
- `open-vm-tools`
- `oracleasm`
- `oraclelinux-release`
- `oracle-logos`
- `osinfo-db`
- `os-prober`
- `PackageKit`
- `pcs`
- `perl-DBD-MySQL`
- `perl-XML-Parser`
- `plymouth`
- `policycoreutils`
- `postfix`
- `pykickstart`
- `python`
- `python-blivet`
- `python-rtslib`
- `qt3`

- realmd
- rear
- redhat-bookmarks
- redhat-lsb
- redhat-release-server
- redhat-rpm-config
- redhat-upgrade-dracut
- redhat-upgrade-tool
- redland
- rhn-client-tools
- rhnlib
- rhnsd
- rpmdevtools
- scap-security-guide
- scap-workbench
- selinux-policy
- setroubleshoot
- setroubleshoot-plugins
- shim
- shim-signed
- sos
- system-config-date
- system-config-kickstart
- system-config-users
- systemd
- tog-pegasus
- uom-lib
- virt-manager
- wireshark
- xdg-desktop-portal
- xfsprogs
- xsane
- yum
- yum-rhn-plugin
- yum-utils

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Modified Optional Source Packages

The following optional source packages have been modified:

- `gnu-efi`
- `jetty-artifact-remote-resources`
- `jetty-parent`
- `jetty-toolchain`
- `kmod-redhat-ixgbe`
- `libreoffice`
- `pesign`
- `publican`
- `sanlock`
- `thunderbird`
- `uom-lib`

New Source Packages

The following source packages are new for Update 5, relative to Update 4 of Oracle Linux 7:

- `awscli`
- `emacs-php-mode`
- `fio`
- `grantlee`
- `gstreamer1-plugins-ugly-free`
- `guava`
- `highcontrast-qt`
- `ima-evm-utils`
- `insights-client`
- `kmod-kvdo`
- `libappindicator`
- `libblockdev`
- `libbytesize`
- `libdbusmenu`
- `libindicator`
- `librabbitmq`
- `libsmbios`

- libva

- libyami

- lz4

- mpg123

- parfait

- python-adal

- python-azure-sdk

- python-boto3

- python-isodate

- python-jwt

- python-msrest

- python-msrestazure

- python-s3transfer

- qgnomeplatform

- qt5-qtquickcontrols2

- qt5-qtserialbus

- qt5-qtwayland

- si-units

- tpm2-abrmd

- unit-api

- uom-lib

- uom-se

- uom-systems

- vdo

- wayland

- wayland-protocols

Removed Source Packages

The following source packages from the upstream release have been removed:

- anaconda-user-help

- dtc

- kpatch

- libcxl

- libehca

- libica

- librtas
- libservicelog
- libvpd
- libzfcphbaapi
- lsvpd
- opal-prd
- openssl-ibmca
- paflib
- powerpc-utils
- powerpc-utils-python
- ppc64-diag
- ppc64-utils
- python-rhsm
- qclib
- qemu-kvm-ma
- redhat-access-gui
- redhat-access-insights
- redhat-access-plugin-ipa
- Red_Hat_Enterprise_Linux-Release_Notes-7-as-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-bn-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-de-DE
- Red_Hat_Enterprise_Linux-Release_Notes-7-en-US
- Red_Hat_Enterprise_Linux-Release_Notes-7-es-ES
- Red_Hat_Enterprise_Linux-Release_Notes-7-fr-FR
- Red_Hat_Enterprise_Linux-Release_Notes-7-gu-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-hi-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-it-IT
- Red_Hat_Enterprise_Linux-Release_Notes-7-ja-JP
- Red_Hat_Enterprise_Linux-Release_Notes-7-kn-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-ko-KR
- Red_Hat_Enterprise_Linux-Release_Notes-7-ml-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-mr-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-or-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-pa-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-pt-BR

- Red_Hat_Enterprise_Linux-Release_Notes-7-ru-RU
- Red_Hat_Enterprise_Linux-Release_Notes-7-ta-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-te-IN
- Red_Hat_Enterprise_Linux-Release_Notes-7-zh-CN
- Red_Hat_Enterprise_Linux-Release_Notes-7-zh-TW
- redhat-logos
- redhat-support-lib-python
- redhat-support-tool
- s390utils
- servicelog
- SLOF
- subscription-manager
- subscription-manager-migration-data
- virt-p2v
- virt-who
- yaboot

8
Removed Modules

The following modules have been removed from UEK R4 for Oracle Linux 7 compared with UEK R4 for Oracle Linux 6:

- `encrypted-keys`
- `usbserial`
- `xhci-pci`
- `xhci-hcd`
- `opencores-kbd`
- `max7359_keypad`
- `adp5588-keys`
- `mcs5000_ts`
- `rotary_encoder`
- `3w-xxxx`
- `scsi_dh_rdac`
- `scsi_dh_emc`
- `scsi_dh_alua`
- `scsi_dh_hp_sw`
- `hid-magicmouse`
- `cpufreq_powersave`
- `cpufreq_conservative`
- `cciss`
- `rsxx`
- `dmi-sysfs`
- `kvaser_pci`
- `ems_pci`
- `sja1000_platform`
- `fealnx`
- `ns83820`
- `natsemi`
- `via-rhine`
- `via-velocity`
- `axnet_cs`

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- ne2k-pci
- 8390
- pcnet_cs
- forcedeth
- ath5k
- orinoco_pci
- wl12xx
- wlcore
- gpio-sch
- configfs
- autofs4
- af_alg
- seqiv
- pkcs7_message
- pkcs7_test_key
- algif_hash
- ctr
- algif_skcipher
- aes-x86_64
- can-gw