Release Notes

openSUSE Leap is a free and Linux-based operating system for your PC, Laptop or Server. You can surf the Web, manage your e-mails and photos, do office work, play videos or music and have a lot of fun!

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The release notes are under constant development. To find out about the latest updates, see the online version at https://doc.opensuse.org/release-notes. The English release notes are updated whenever need arises. Translated language versions can temporarily be incomplete.

If you upgrade from an older version to this openSUSE Leap release, see previous release notes listed here: http://en.opensuse.org/openSUSE:Release_Notes.

Information about the project is available at https://www.opensuse.org.

To report bugs against this release, use the openSUSE Bugzilla. For more information, see http://en.opensuse.org/Submitting_Bug_Reports.

1 Installation

This section contains installation-related notes. For detailed upgrade instructions, see the documentation at https://doc.opensuse.org/documentation/leap/startup/html/book.opensuse.startup/part.basics.html.

1.1 Minimal System Installation

To avoid some big recommended packages from being installed, the pattern for minimal installations uses another pattern that creates conflicts with undesired packages. This pattern, `patterns-openSUSE-minimal_base-conflicts`, can be removed after installation.

Note that the minimal installation has no firewall by default. If you need one, install `SuSEfirewall2`.

1.2 UEFI—Unified Extensible Firmware Interface

Prior to installing openSUSE on a system that boots using UEFI (Unified Extensible Firmware Interface), you are urgently advised to check for any firmware updates the hardware vendor recommends and, if available, to install such an update. A pre-installation of Windows 8 or later is a strong indication that your system boots using UEFI.

Background: Some UEFI firmware has bugs that cause it to break if too much data gets written to the UEFI storage area. However, there is no clear data of how much is “too much”.

openSUSE minimizes the risk by not writing more than the bare minimum required to boot the OS. The minimum means telling the UEFI firmware about the location of the openSUSE boot loader. Upstream Linux kernel features that use the UEFI storage area for storing boot and crash information (`pstore`) have been disabled by default. Nevertheless, it is recommended to install any firmware updates the hardware vendor recommends.

1.3 UEFI, GPT, and MS-DOS Partitions

Together with the EFI/UEFI specification, a new style of partitioning arrived: GPT (GUID Partition Table). This new schema uses globally unique identifiers (128-bit values displayed in 32 hexadecimal digits) to identify devices and partition types.

Additionally, the UEFI specification also allows legacy MBR (MS-DOS) partitions. The Linux boot loaders (ELILO or GRUB 2) try to automatically generate a GUID for those legacy partitions, and write them to the firmware. Such a GUID can change frequently, causing a rewrite in the firmware. A rewrite consists of two different operations: Removing the old entry and creating a new entry that replaces the first one.

Modern firmware has a garbage collector that collects deleted entries and frees the memory reserved for old entries. A problem arises when faulty firmware does not collect and free those entries. This can result in a non-bootable system.

To work around this problem, convert the legacy MBR partition to GPT.

1.4 Update of Kernel Graphics Stack

On openSUSE Leap 42.3, the upgrade of the graphics stack up to 4.9.x kernel code is provided via the package `drm-kmp-default` instead of backporting many patches into the kernel itself. Usually, this package is installed automatically during the OS installation when a corresponding graphics device is found on your machine.

The KMP gives users also another benefit: You can roll back to the 4.4.x kernel code by uninstalling this package. If you face critical issues, like a hung GPU, try to uninstall the package as shown below, then reboot and retest:

```
zypper rm drm-kmp-default
```

1.5 Changes for Users Installing the Nvidia Driver Manually

On openSUSE Leap 42.3, you need to uninstall the package `drm-kmp-default` first, before you can manually install Nvidia drivers using the `.run` shell script archive:

```
zypper rm drm-kmp-default
```

If you install the RPMs provided by Nvidia, you will not be affected by this issue, because in that case the package `drm-kmp-default` is replaced during the driver installation automatically.

If you decide to uninstall Nvidia's driver later, make sure to reinstall the package `drm-kmp-default`.

For more information, see https://bugzilla.suse.com/show_bug.cgi?id=1044816.

2 System Upgrade

This section lists notes related to upgrading the system. For detailed upgrade instructions, see the documentation at https://doc.opensuse.org/documentation/leap/startup/html/book.opensuse.startup/cha.update.osuse.html.

Additionally, check *Section 3.1, "Deprecated Packages"*.

2.1 Upgrading from openSUSE Leap 42.2

2.1.1 Removed and Replaced Packages

The following packages have been removed or replaced compared to openSUSE Leap 42.2:

- `ldapjdk`: Fails to build on 42.3.
- `libatlas3`: Fails to build on 42.3.
- `castor`: Fails to build on 42.3.
- `fontinfo`: Was never intended to be released as a stable package.
- `plasma5-mediacenter`: Dropped by upstream after version 5.7.3.
- `perl-Mojolicious-Plugin-Bootstrap3`: Deprecated by upstream, the functionality is replaced by `perl-Mojolicious-Plugin-AssetPack`.

- `qtsharp`: Fails to build on 42.3.
- `rubygem-mysql`: Replaced by rubygem-mysql2.

2.1.2 Synaptics Touchpad Driver with KDE Plasma

In openSUSE Leap 42.2, the X11 synaptics driver (package `xf86-input-synaptics`) was not installed by default (see *Section 2.2.4, "Synaptics X Driver Can Degrade Touchpad Experience Under GNOME"*). However, KDE Plasma only offers limited configuration options for the replacement, libinput.

Since openSUSE Leap 42.3, the `xf86-input-synaptics` package is installed together with the KDE Plasma desktop (recommended by `plasma5-workspace`).

2.1.3 Changes in KDE Desktop Search Indexing

In openSUSE Leap 42.3, the desktop search only indexes file names by default, not the contents of files.

File content indexing needs to be re-enabled manually, even if it was enabled before, as the previous default was not saved to the configuration. To do so, follow these steps:

1. Using the main menu or krunner, open the *Desktop Configuration*.
2. Click *Search*.
3. Activate the check box *Also index file content*.
4. Click *Apply*.

2.1.4 Shorewall Has Been Upgraded to Version 5.1

In openSUSE Leap 42.3, Shorewall was upgraded to last stable 5.1 release. When upgrading, `shorewall` and `shorewall6` will warn admin that an upgrade of configurations files is required.

Documentation is available on http://shorewall.net/.

PROCEDURE 1: UPGRADING SHOREWALL

1. With root privileges in a console session, run:

```
root # shorewall update -a /etc/shorewall
```

2. Adapt your configuration to the newer syntax in cases where the tool does not do that for you. This should normally only be required on specific, very complex configurations.

3. Verify and test the resulting configuration with:

```
root # shorewall try /etc/shorewall
```

   If everything works, reboot your computer or restart the service with:

```
root # systemctl restart shorewall.service
```



Note: Upgrading `shorewall6`

The upgrade process for `shorewall6` matches the process for `shorewall` described in *Procedure 1, "Upgrading Shorewall"*. However, you need to replace all instances of the `shorewall` with `shorewall6`.

2.1.5 GCC 6 Package Versions Match Packages Shipped with SLE 12 SP3

openSUSE Leap 42.2 accidentally shipped with a newer version of GCC 6 than was shipped with SUSE Linux Enterprise at the time. This has been corrected for openSUSE Leap 42.3 which ships with the same versions of GCC 6 packages as SUSE Linux Enterprise 12 SP3.

However, if GCC 6 packages are installed, this leads to forced package downgrades during the operating system upgrade.

2.2 Upgrading from openSUSE Leap 42.1

2.2.1 Removed and Replaced Packages

The following packages have been removed or replaced compared to openSUSE Leap 42.1:

- `arista`: Replaced by `transmageddon`.
- `cadabra`: The source code no longer builds. The successor, Cadabra 2 (http://cadabra.science/) is not stable yet.
- `dropbear`: Removed because there are no relevant advantages over `openssh`.
- `emerillon`: Replaced by `gnome-maps`.
- `gnome-system-log`: Replaced by `gnome-logs`.
- `hawk`: Replaced by `hawk2`.
- `ksnapshot`: Replaced by `spectacle`.
- `labplot`: Labplot has been replaced by its Qt5 version, called `labplot-kf5`. If you are updating from an openSUSE Leap 42.1 installation on which `labplot` is installed, you will receive the `labplot-kf5` automatically.
- `nodejs`: Renamed to `nodejs4`.
- `psi`: Replaced by `psi+`.
- `python-moin`: Replaced by `moinmoin-wiki`. Purely a rename, not a version upgrade - a virtually identical drop-in replacement.
- `ungifsicle`: Replaced by `gifsicle`.
- `xchat`: Replaced by `hexchat`.

2.2.2 `/var/cache` on an Own Subvolume for Snapshots and Rollback

`/var/cache` contains a lot of very volatile data, such as the Zypper cache with RPM packages in different versions for each update. As a result of storing data that is mostly redundant but highly volatile, the amount of disk space a snapshot occupies can increase very fast.

To solve this, move `/var/cache` to a separate subvolume. On fresh installations of openSUSE Leap 42.3, this is done automatically. To convert an existing root file system, perform the following steps:

1. Find out the device name (for example, `/dev/sda2` or `/dev/sda3`) of the root file system:

   ```
   df /
   ```

2. Identify the parent subvolume of all the other subvolumes. For openSUSE 13.2 installations, this is a subvolume named `@`. To check if you have a `@` subvolume, use:

   ```
   btrfs subvolume list / | grep '@'
   ```

   If the output of this command is empty, you do not have a subvolume named `@`. In that case, you may be able to proceed with subvolume ID 5 which was used in older versions of openSUSE.

3. Now mount the requisite subvolume.

   - If you have a `@` subvolume, mount that subvolume to a temporary mount point:

     ```
     mount <root_device> -o subvol=@ /mnt
     ```

   - If you do not have a `@` subvolume, mount subvolume ID 5 instead:

     ```
     mount <root_device> -o subvolid=5 /mnt
     ```

4. `/mnt/var/cache` can already exist and could be the same directory as `/var/cache`. To avoid data loss, move it:

   ```
   mv /mnt/var/cache /mnt/var/cache.old
   ```

5. Create a new subvolume:

   ```
   btrfs subvol create /mnt/var/cache
   ```

6. If there is now a directory `/var/cache.old`, move it to the new location:

   ```
   mv /var/cache.old/* /mnt/var/cache
   ```

   If that is not the case, instead do:

   ```
   mv /var/cache/* /mnt/var/cache/
   ```

7. *(Optional)* Optionally, remove `/mnt/var/cache.old`:

```
rm -rf /mnt/var/cache.old
```

8. Unmount the subvolume from the temporary mount point:

```
umount /mnt
```

9. Add an entry to `/etc/fstab` for the new `/var/cache` subvolume. Use an existing subvolume as a template to copy from. Make sure to leave the UUID untouched (this is the root file system's UUID) and change the subvolume name and its mount point consistently to `/var/cache`.

10. Mount the new subvolume as specified in `/etc/fstab`:

```
mount /var/cache
```

2.2.3 GNOME Keyring Does Not Integrate with GPG Anymore

The integrated GPG agent of GNOME Keyring has been removed. Therefore, GNOME Keyring cannot be used to manage GPG keys anymore. You can still manage GPG keys on the command line using the **`gpg`** tool.

2.2.4 Synaptics X Driver Can Degrade Touchpad Experience Under GNOME

In openSUSE Leap 42.1, the Synaptics X driver (package `xf86-input-synaptics`) was installed by default but had a lower priority than the libinput driver (`xf86-input-libinput`).

With openSUSE Leap 42.3:

- The Synaptics X driver is no longer installed by default.
- If the Synaptics X driver is installed, it will take precedence for any touchpad devices.
- The Synaptics X driver is no longer supported by GNOME. This means when the driver is installed, Synaptics touchpads can only be configured to the extent that a basic mouse can.

Unless you are using a Synaptics touchpad and have a large amount of custom configuration for the Synaptics driver, remove the package from your system:

```
sudo zypper rm xf86-input-synaptics
```

2.2.5 AArch64: Page Size Has Been Changed From openSUSE Leap 42.1 to openSUSE Leap 42.3

In openSUSE Leap 42.1, the default page size on AArch64 platforms was 64 kB. With openSUSE Leap 42.3, the page size has been changed to 4 kB. This renders old Swap and Btrfs file systems unusable.

If you are currently on openSUSE Leap 42.1 on AArch64, consider a fresh installation of openSUSE Leap 42.3 instead of upgrading.

2.2.6 Systems with CCISS Controllers Can Fail to Boot After Upgrade

The driver for Compaq/HP Smart Array (CCISS) controllers (`cciss.ko`) does not support certain controllers anymore by default. This can lead to the root disk not being detected by the openSUSE Leap 42.3 kernel.

On affected systems, the CCISS driver can be configured to revert to the previous behavior and detect the controllers again. To do so, add the kernel parameter `cciss.cciss_allow_hpsa=0`.

3 General

This section lists general issues with openSUSE Leap 42.3 that do not match any other category.

3.1 Deprecated Packages

The following packages are still shipped as part of the distribution but are deprecated. The packages exist to aid migration, but their use is discouraged and they may not receive updates. The packages will be removed in the next version of the distribution.

- `lxdm`: Unmaintained, use `lightdm` instead.
- `mysql-community-server`: May not receive maintenance and security fixes anymore. We advise migrating to `mariadb`.
- `ruby2.2-*`: For development only. Use Ruby 2.1 or 2.4 instead.
- `ruby2.3-*`: For development only. Use Ruby 2.1 or 2.4 instead.
- `uClibc`: Unmaintained.

To check whether installed packages are no longer maintained: Make sure that `lifecycle-data-openSUSE` is installed, then use the command:

```
zypper lifecycle
```

3.2 KDE Software for Personal Information Management (KDE PIM)

KDE PIM 4.x is no longer supported by upstream KDE, but was kept in openSUSE Leap 42.2 together with KDE PIM 5 to avoid disrupting user workflows and allow for easier migration.

With openSUSE Leap 42.3, the KDE PIM 4.x stack got dropped and only the current upstream-supported KDE PIM 5 stack is included.

3.3 No Screen Lock When Using GNOME Shell But Not GDM

When using GNOME Shell together with a login manager other than GDM, such as SDDM or LightDM, the screen will not blank or lock. Additionally, switching users without logging out is not possible.

To be able to lock the screen from GNOME Shell, enable GDM as your login manager:

1. Make sure that the package `gdm` is installed.
2. Open YaST and from it, open */etc/sysconfig Manager*.
3. Navigate to *Desktop* › *Display manager* › *DISPLAYMANAGER*.
4. In the text box, specify `gdm`. To save, click *OK*.
5. Reboot.

3.4 Global Menu Support in KDE Plasma

With KDE Plasma 5.9, KDE re-introduced support for the global menu as known from earlier KDE desktop releases.

In openSUSE Leap 42.3, the application menu bar plasmoid is available as well.



Note: Non-Qt Applications Can Behave Incorrectly

Applications not using the Qt toolkit may not support the global menu or behave incorrectly.

3.5 Playing MP3 Media Files

Starting with openSUSE Leap 42.3, the codecs to play MP3 media files are now shipped as part of the standard repository.

To use this decoder in gstreamer-based applications and frameworks, such as Rhythmbox or Totem, install the package `gstreamer-plugins-ugly`.

3.6 No Support for Type-1 Fonts in LibreOffice

LibreOffice 5.3 does not support legacy Type-1 fonts (file extensions `.afm` and `.pfb`) anymore. Most users should not be affected by this, as current fonts are available either in the format TrueType (`.ttf`) or OpenType (`.otf`) formats.

If you are affected by this, convert Type-1 fonts to a supported format, such as TrueType and then use the converted fonts. Conversion is possible with the application FontForge (package `fontforge`) which is included in openSUSE. For information on scripting such conversions, see https://fontforge.github.io/en-US/documentation/scripting/.

4 More Information and Feedback

- Read the `README` documents on the medium.
- View a detailed changelog information about a particular package from its RPM:

  ```
  rpm --changelog -qp FILENAME.rpm
  ```

  Replace *`FILENAME`* with the name of the RPM.
- Check the `ChangeLog` file in the top level of the medium for a chronological log of all changes made to the updated packages.
- Find more information in the `docu` directory on the medium.

- For additional or updated documentation, see https://doc.opensuse.org/.
- For the latest product news, from openSUSE, visit https://www.opensuse.org.

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