

## SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4

# Release Notes

SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension is an enterprise-quality Linux desktop with market-leading usability and interoperability. This document provides a high-level overview of features, capabilities, and limitations of SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4 and highlights important product updates.

These release notes are updated periodically. The latest version of these release notes is always available at <https://www.suse.com/releasesnotes>. General documentation can be found at <https://documentation.suse.com/sled/15-SP4>.

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# 1 About the release notes

These Release Notes are identical across all architectures, and the most recent version is always available online at <https://www.suse.com/releasesnotes> .

Entries are only listed once but they can be referenced in several places if they are important and belong to more than one section.

Release notes usually only list changes that happened between two subsequent releases. Certain important entries from the release notes of previous product versions are repeated. To make these entries easier to identify, they contain a note to that effect.

However, repeated entries are provided as a courtesy only. Therefore, if you are skipping one or more service packs, check the release notes of the skipped service packs as well. If you are only reading the release notes of the current release, you could miss important changes.

## 2 SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension

SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension is the market's only enterprise-quality Linux desktop ready for routine business use. Developed and backed by SUSE, SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension provides market-leading usability, seamless interoperability with existing IT systems, and dozens of essential applications—all at a fraction of the price of proprietary operating systems.

### 2.1 Interoperability and Hardware Support

SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4 comes bundled with the latest versions of leading applications such as LibreOffice office productivity suite, Mozilla Firefox Web browser, and Evolution e-mail and calendar suite. In addition, it integrates with Microsoft SharePoint for group collaboration and supports a wide range of multimedia file formats, wireless and networking standards, and plug-and-play devices.

Through the latest enhancements in power management and security, SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4 also provides an environmentally friendly IT experience (Green IT) and an error-proof desktop. Finally, SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension offers unparalleled flexibility. You can deploy it on a wide range of thick client devices (including desktops, notebooks, netbooks,

and workstations), on thin client devices, or as a virtual desktop. By leveraging the power of SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension, your business can dramatically reduce costs, improve end user security and increase workforce productivity.

## 2.2 What Is New?

### 2.2.1 General Changes in SLE 15

SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 introduces many innovative changes compared to SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 12. The most important changes are listed below.

#### Migration from openSUSE Leap to SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension

Starting with SLE 15, we support migrating from openSUSE Leap 15 to SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15. Even if you decide to start out with the free community distribution you can later easily upgrade to a distribution with enterprise-class support.

#### Extended Package Search

Use the new Zypper command `zypper search-packages` to search across all SUSE repositories available for your product even if they are not yet enabled. This functionality makes it easier for administrators and system architects to find the software packages needed. To do so, it leverages the SUSE Customer Center.

#### Software Development Kit

With SLE 15, the Software Development Kit is now integrated into the products. Development packages are packaged alongside regular packages. In addition, the *Development Tools* module contains tools for development.

#### RMT Replaces SMT

SMT (Subscription Management Tool) has been removed. Instead, RMT (Repository Mirroring Tool) now allows mirroring SUSE repositories and custom repositories. You can then register systems directly with RMT. In environments with tightened security, RMT can also proxy other RMT servers.

## 2.2.2 Changes in 15 SP4

SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4 introduces changes compared to SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension SP3. The most important changes are listed below.

### Media Changes

The Unified Installer and Packages DVDs known from SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP1 are deprecated and have been replaced by the following media:

- **Online Installation Media:** All SUSE Linux Enterprise 15 products can be installed with this stand alone media, after entering a registration key. The necessary packages are fetched from online repositories only. For information about available modules, see [Section 3.1, “Modules in the SLE 15 SP4 Product Line”](#).
- **Full Installation Media:** All SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 products can be installed without network connection with this media, for offline installation scenarios. The media contains all necessary packages. It consists of directories with module repositories which need to be added manually as needed. RMT (Repository Mirroring Tool) and SUSE Manager provide additional options for disconnected or managed installation.

### Kernel

SLE 15 SP4 includes the Linux 5.3 kernel. This new kernel release includes upstream features such as 16 million additionally usable IPv4 addresses, utilization clamping support in the task scheduler, power-efficient userspace waiting with the umwait x86 instructions and many more.

## 2.2.3 Package and module changes in 15 SP4

The full list of changed packages and modules compared to 15 SP3 can be seen at these two URLs:

- [https://documentation.suse.com/package-lists/sle/15-SP4/package-changes\\_SLE-15-SP3-GA\\_SLE-15-SP4-GA.txt](https://documentation.suse.com/package-lists/sle/15-SP4/package-changes_SLE-15-SP3-GA_SLE-15-SP4-GA.txt) ↗
- [https://documentation.suse.com/package-lists/sle/15-SP4/module-changes\\_SLE-15-SP3-GA\\_SLE-15-SP4-GA.txt](https://documentation.suse.com/package-lists/sle/15-SP4/module-changes_SLE-15-SP3-GA_SLE-15-SP4-GA.txt) ↗

## 2.3 Important Sections of This Document

If you are upgrading from a previous SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension release, you should review at least the following sections:

- *Section 2.6, “Support statement for SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension”*
- *Section 5.2, “Upgrade-Related Notes”*
- *Section 6, “General Features & Fixes”*

## 2.4 Documentation and other information

### 2.4.1 Available on the product media

- Read the READMEs on the media.
- Get the detailed change log information about a particular package from the RPM (where *FILENAME.rpm* is the name of the RPM):

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

- Check the ChangeLog file in the top level of the installation medium for a chronological log of all changes made to the updated packages.
- Find more information in the docu directory of the installation medium of SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4. This directory includes PDF versions of the SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4 Installation Quick Start Guide.

## 2.4.2 Online documentation

- For the most up-to-date version of the documentation for SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4, see <https://documentation.suse.com/sled/15-SP4>.
- Find a collection of White Papers in the SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension Resource Library at <https://www.suse.com/products/server#resources>.

## 2.5 Support and life cycle

SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension is backed by award-winning support from SUSE, an established technology leader with a proven history of delivering enterprise-quality support services.

SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 has a 10-year life cycle, with 10 years of General Support. The current version (SP4) will be fully maintained and supported until 6 months after the release of SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP5.

For more information, check our Support Policy page <https://www.suse.com/support/policy.html>.

## 2.6 Support statement for SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension

To receive support, you need an appropriate subscription with SUSE. For more information, see [https://www.suse.com/support/programs/subscriptions/?id=SUSE\\_Linux\\_Enterprise\\_Desktop](https://www.suse.com/support/programs/subscriptions/?id=SUSE_Linux_Enterprise_Desktop).

The following definitions apply:

### L1

Problem determination, which means technical support designed to provide compatibility information, usage support, ongoing maintenance, information gathering and basic troubleshooting using available documentation.

## L2

Problem isolation, which means technical support designed to analyze data, reproduce customer problems, isolate problem area and provide a resolution for problems not resolved by Level 1 or prepare for Level 3.

## L3

Problem resolution, which means technical support designed to resolve problems by engaging engineering to resolve product defects which have been identified by Level 2 Support.

For contracted customers and partners, SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension is delivered with L3 support for all packages, except for the following:

- Technology Previews, see [Section 2.7, “Technology Previews”](#)
- Sound, graphics, fonts and artwork
- Packages that require an additional customer contract, see [Section 2.6.2, “Software requiring specific contracts”](#)
- Some packages shipped as part of the module *Workstation Extension* are L2-supported only
- Packages with names ending in `-devel` (containing header files and similar developer resources) will only be supported together with their main packages.

SUSE will only support the usage of original packages. That is, packages that are unchanged and not recompiled.

### 2.6.1 General support

To learn about supported features and limitations, refer to the following sections in this document:

- [Section 8, “Removed and Deprecated Features and Packages”](#)
- For supported file systems and virtualization options, see the Release Notes of SUSE Linux Enterprise Server 15 SP4 at [https://www.suse.com/releasenotes/x86\\_64/SUSE-SLES/15-SP2](https://www.suse.com/releasenotes/x86_64/SUSE-SLES/15-SP2).



## 2.6.2 Software requiring specific contracts

Support for specific packages may require a support contract with a third party.

## 2.7 Technology Previews

Technology previews are packages, stacks, or features delivered by SUSE to provide glimpses into upcoming innovations. Technology previews are included for your convenience to give you a chance to test new technologies within your environment. We would appreciate your feedback! If you test a technology preview, contact your SUSE representative and let them know about your experience and use cases. Your input is helpful for future development.

Technology previews come with the following limitations:

- Technology previews are still in development. Therefore, they may be functionally incomplete, unstable, or in other ways not suitable for production use.
- Technology previews are **not** supported.
- Technology previews may only be available for specific hardware architectures. Details and functionality of technology previews are subject to change. As a result, upgrading to subsequent releases of a technology preview may be impossible and require a fresh installation.
- Technology previews can be removed from a product at any time. This may be the case, for example, if SUSE discovers that a preview does not meet the customer or market needs, or does not comply with enterprise standards.

## 3 Modules, Extensions, and Related Products

This section comprises information about modules and extensions for SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4. Modules and extensions add functionality to the system.



### Note: Package changes in 15 SP4

For more information about all package changes since the last version, see [Section 2.2.3, “Package and module changes in 15 SP4”](#).

## 3.1 Modules in the SLE 15 SP4 Product Line

The SLE 15 SP4 product line is made up of modules that contain software packages. Each module has a clearly defined scope. Modules differ in their life cycles and update timelines.

The modules available within the product line based on SUSE Linux Enterprise 15 SP4 at the release of SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4 are listed in the *Modules and Extensions Quick Start* at <https://documentation.suse.com/sles/15-SP4/html/SLES-all/article-modules.html>.

Not all SLE modules are available with a subscription for SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4 itself (see the column *Available for*).

For information about the availability of individual packages within modules, see <https://scc.suse.com/packages>.

## 3.2 Available Extensions

The following extension which is not covered by SUSE support agreements, available at no additional cost and without an extra registration key:

- SUSE Package Hub: <https://packagehub.suse.com/>

## 3.3 Derived and Related Products

This section lists derived and related products. Usually, these products have their own release notes documents that are available from <https://www.suse.com/releasesnotes>.

- SUSE Linux Enterprise Server: <https://www.suse.com/products/server>
- SUSE Manager: <https://www.suse.com/products/suse-manager>

# 4 Changes affecting all architectures

Information in this section applies to all architectures supported by SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4.

## 5 Installation and Upgrade

SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension can be deployed in several ways:

- Physical machine
- Virtual host
- Virtual machine
- System containers
- Application containers

### 5.1 Installation

This section includes information related to the initial installation of SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4.



#### Important: Installation Documentation

The following release notes contain additional notes regarding the installation of SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension. However, they do not document the installation procedure itself.

For installation documentation, see the *Deployment Guide* at <https://documentation.suse.com/sled/15-SP4/html/SLED-all/book-deployment.html> .

### 5.2 Upgrade-Related Notes

This section includes upgrade-related information for SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4.



#### Important: Upgrade Documentation

The following release notes contain additional notes regarding the upgrade of SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension. However, they do not document the upgrade procedure itself.

For upgrade documentation, see the *Upgrade Guide* at <https://documentation.suse.com/sled/15-SP4/html/SLED-all/book-upgrade.html> .

### 5.2.1 Migration failure due to `insserv-compat`

If `insserv-compat` is not installed prior to migration and other software has already created the `/etc/rc.d/` directory, the migration fails. As a workaround, remove the `/etc/rc.d/` directory and continue with migration.

## 5.3 For More Information

For more information, see *Section 6, “General Features & Fixes”* and the sections relating to your respective hardware architecture.

# 6 General Features & Fixes

## 6.1 Desktop

### 6.1.1 FTP support stopped

For security reasons Mozilla has removed the default support for clicking on FTP links in Firefox. You can enable this support by adding `network.gio.supported-protocols=ftp:` via the `about:config` settings. This will enable desktop support via the GNOME Virtual File System (GVFS). See the GVFS documentation for all supported protocols.

# 7 Known Issues & Workarounds

This is a list of known issues for this release.

## 7.1 Enabling GNOME Session Restore Does Not Work

You can have GNOME restore your previous desktop session when logging in. In the past, this could be achieved by enabling the dconf entry `/org/gnome/gnome-session/auto-save-session`. In GNOME 3.34, the upstream GNOME project disabled this functionality because it caused issues under newer versions of systemd. As SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension uses GNOME 3.34, the functionality cannot be used in SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4 anymore.

# 8 Removed and Deprecated Features and Packages

This section lists features and packages that were removed from SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension or will be removed in upcoming versions.



### Note: Package changes in 15 SP4

For more information about all package changes since the last version, see [Section 2.2.3, “Package and module changes in 15 SP4”](#).

## 8.1 Removed Features and Packages

The following features and packages were removed from SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4.

- [Section 6.1.1, “FTP support stopped”](#)
- The `imgen` package, containing Mellanox firmware generator, has been removed in SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension 15 SP4.

## 8.2 Deprecated Features and Packages

The following features and packages are deprecated and will be removed with a future service pack of SUSE Linux Enterprise Desktop/SUSE Linux Enterprise Workstation Extension.

- [gnome-documents](#) has been deprecated and will be removed from the media in the next release

## 9 Obtaining source code

This SUSE product includes materials licensed to SUSE under the GNU General Public License (GPL). The GPL requires SUSE to provide the source code that corresponds to the GPL-licensed material. The source code is available for download at <https://www.suse.com/download/sled/> on Medium 2. For up to three years after distribution of the SUSE product, upon request, SUSE will mail a copy of the source code. Send requests by e-mail to [sle\\_source\\_request@suse.com](mailto:sle_source_request@suse.com) ([mailto:sle\\_source\\_request@suse.com](mailto:sle_source_request@suse.com)). SUSE may charge a reasonable fee to recover distribution costs.


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## A Changelog for 15 SP4

### A.1 2022-05-11

#### A.1.1 New

- Added this changelog
- Added note about gnome-documents deprecation (Bugzilla ([https://bugzilla.suse.com/show\\_bug.cgi?id=1197374](https://bugzilla.suse.com/show_bug.cgi?id=1197374)) )
- Added *Section 6.1.1, "FTP support stopped"* (Bugzilla ([https://bugzilla.suse.com/show\\_bug.cgi?id=1198973](https://bugzilla.suse.com/show_bug.cgi?id=1198973)) )
- Added *Section 5.2.1, "Migration failure due to insserv-compat"* (Bugzilla ([https://bugzilla.suse.com/show\\_bug.cgi?id=1194837](https://bugzilla.suse.com/show_bug.cgi?id=1194837)) )

### A.2 2021-11-03

- Initial 15 SP4 release