

openSUSE 12.2 – the Latest Free Software in a Stable and Easy Manner

Dear users, contributors, fans and friends. We are proud to present to you the latest openSUSE release! It is the result of 10 months of hard work by the openSUSE community and allows you to enjoy the latest that Free Software has to offer, with the unique openSUSE touch — stable, friendly, fun.

So that is new in openSUSE 12.2:



Performance

From the kernel to the desktop, openSUSE 12.2 brings you speed-ups: [Linux 3.4](#) has a faster storage layer to prevent blocking during large transfers. glibc 2.15, the basic library, improves the performance of many functions especially on 64 bit systems. [Systemd](#) 44 enables faster booting. And [KDE](#) 4.8.4 builds on Qt 4.8.1 to make the desktop more responsive.



Evolution

openSUSE adopts the latest developments in Linux distribution technology as they mature. The [GRUB2 bootloader](#) is now the default, binaries are now located under /usr/bin, and during boot and shutdown [Plymouth](#) 0.8.6.1 provides flicker-free transitions and attractive animations.



Polish

[GNOME](#) 3.4 introduces smooth scrolling in all applications, a reworked System Settings app and polished Contacts manager. [XFCE](#) 4.10 has an improved application finder and allows vertical panels. The [Dolphin](#) file manager is both prettier and faster.



Innovation

[XOrg](#) 1.12 introduces support for multitouch input devices, and multi-seat deployments. [Mozilla Firefox](#) 14 supports the latest Web technologies. The llvmpipe software 3D renderer enables [Gnome Shell](#) and virtual machines to use compositing even where no 3D hardware is present. [GIMP](#) 2.8 and [Krita](#) 2.4 make Free image processing and natural media painting competitive with proprietary tools. [Tomahawk Player](#) promises to make listening to music on your computer a social experience.



Stability

[LibreOffice](#) 3.5 continues to refine the Free office suite experience with many additions and improvements. KDE 4.8.4's email and calendaring applications have increased stability, while the next-generation [btrfs filesystem](#) now has improved error handling and recovery tools.



Management

The 3.4 kernel allows the capping of CPU usage across entire groups of processes. The new version of systemd offers a watchdog function for supervising services under its control, as well as a new process management tool. Sysadmins will benefit from a new suite of [Digital Forensics/Incident Response](#) tools.



Novelty

A set of heavyweight scientific tools brings math applications such as numeric computation, plotting, and visualization to openSUSE. The [Stellarium](#) astronomical simulator lets you explore the night sky without a telescope. Programmers will enjoy version 1.0.2 of Google's [Go](#) language, as well as the latest C++ language standards implemented in [GCC](#) 4.7.1 and [Qt Creator](#) 2.5.

Under the hood

[Systemd](#) 44 adds watchdog support for supervising services. The new top-like process management tool (systemd-cgtop) shows resource usage of services per control-group rather than per process to make it easier to see which service uses memory, CPU etc. Systemd also improved readahead for even faster boot. Introduction of the ["journal"](#) allows among other things fast per-service logging.

[glibc 2.15](#) optimizes performance of many functions, especially on 64bit systems. Support for the syscalls process_vm_writev and process_vm_readv allow fast data transfer between processes in user space. The new program 'pldd' (package glibc-utils) allows to list loaded shared libraries of running processes.

[BIND 9.9](#) improves DNSSEC support by e.g. adding support for inline signing of zones which greatly simplifies the deployment of DNSSEC. On multi-core machines multi-threading now improves the query performance. The startup speed of BIND has been improved as well to reduce the downtime between restarts.

[Linux Kernel 3.4.2](#), with many improvements over the Linux 3.1 shipped in 12.1, brings support for the latest hardware, including Free drivers for NVIDIA and ATI graphics cards, improved power saving modes for Intel video chipsets, better wireless drivers, and improved virtualization of PCI hardware. Ethernet link aggregation provides redundancy and improved SSD support. The btrfs filesystem sees many improvements including RAID reconfiguration, and the general storage layer has better performance and interactivity when writing huge amounts of data. Process group control improvements allow the capping of CPU consumption by cgroups.

The [Mesa 3D](#) library version 8.0 introduces OpenGL 3.0 support. To keep the library clean many outdated and unmaintained drivers have been removed, such as those that do not support DRI2. Mesa includes the llvmpipe driver enabling 3D support on VMWare virtual machines and physical machines without 3D hardware.

openSUSE moves to [GRUB2](#) as its default boot loader. GRUB2 is now mature, and is supported, unlike its predecessor. The released version is bumped to [2.00final](#). GRUB2 allows us to support new technologies such as UEFI cleanly, it could also chainload other efi loader or loading efi stub kernel. It can boot from LVM and btrfs partitions, as well as encrypted partitions. Its menus can be translated, and themed. GRUB Legacy is still available.

[plymouth](#) is now used for the boot splash screen. It allows for flicker-free boot on systems with kernel mode switching (KMS) support. Passphrase prompts for encrypted disks are also handled by plymouth.

[SPICE](#) is included in openSUSE for the first time. SPICE is a system to display a remote or virtualized system's applications and devices.

[OpenSSH 6.0](#) enhances privilege separation and sandboxing in addition to many bug fixes. It also adds SHA256 based HMAC transport integrity modes.

[openssl](#) 1.0.1c brings support for TLS version 1.1 and 1.2 support, [Next Protocol Negotiation](#) and the Secure Remote Password (SRP) Protocol.

The [X server](#) now reports multi-touch events on hardware that supports it, like man tablets and laptops. And enabled udev/systemd-based multi-seat support.

UsrMerge In openSUSE 12.2 the [UsrMerge initiative](#) started to move binaries and libraries from subdirectories of / (such as /bin) to subdirectories /usr. Symlinks in the old location provide backward compatibility. This effort continues for the next release.

DFIR: openSUSE 12.2 now includes several tools to aid Digital Forensics/Incident Response (DFIR): [analyzeMFT](#), [afflib](#), [fiwalk](#) and [bulk_extractor](#), [dc3dd](#), [distorm3](#), [ext4magic](#), [ewftools](#)

The **update repos** were split to have separate oss and non-oss repositories. Please refer to the [bug report](#) for details.

Free Desktops

KDE

[Version 4.8.4 of KDE Plasma Workspaces, Applications and Platform](#) are included, marking a big leap since 4.7.2 on openSUSE 12.1. Plasma Workspace includes performance improvements to the window manager, enhanced power management utilities, a redesigned window switcher popup and several other applets. The file manager, Dolphin, has faster and more polished view code, while the picture viewer has improved image zoom and slideshow effects. KMail has seen many performance and bug fixes, including the resolution of a long-standing problem with client-side mail filtering. Marble, the mapping and globe app, can display the elevation profile of a route to better plan an outdoor trip, and in planet mode can display satellites' orbits. Developers will enjoy improvements to the text editor's search and replace functions, vi mode, and a faster translation tool with support for more file formats.

GNOME

This is the second openSUSE release featuring [GNOME 3](#), which continues to evolve rapidly. GNOME 3.4 adds a new document browser app and introduces 'Web', a repackaging of the existing Epiphany as a lightweight default web browser. Video calling, as well as Facebook chat and Windows Live Messenger support comes to the Empathy messenger. Gnome Shell now shows application menus from the main title bar, and includes integrated document search functions from the overview. The Contacts application has been polished, as have many pages of the System Settings app. All applications will benefit from improvements to GTK3 such as smooth scrolling of window contents and redesigned scroll bars. Many apps' documentation has been improved as well.

openSUSE tweaks to GNOME include allowing wireless network connections to be added by non-root users, and enabling the system reset extension to gnome-shell by default, reflecting openSUSE users' preference to have full control over their computers. In addition, notebook users will enjoy the sensible defaults of enabling tap-to-click and disabling the touchpad while typing. And the inclusion of the llvmpipe software 3D renderer allows gnome-shell to run on systems without 3D hardware, including virtual machines.

Other Free Desktops

[XFCE](#) version 4.10 is an option, and includes an improved application finder, allows vertical panels and single click to launch icons on the desktop for the first time, and can now automatically tile windows when dragged to a screen edge.

[LXDE](#) sees an updated panel, with new applets, as well as bugfixes and theming improvements across the desktop.

All the desktops will benefit from the inclusion of the new free screen font by Adobe, [Source Sans](#). International users, especially those in CJK countries, will enjoy the improved m17n stack.

New and updated applications

Browsers

[Chromium](#) is the web browser based on [Google Chrome](#), that brings many integration features with Google services. It is based upon [Webkit](#) engine and comes with NativeClient support enabled for the first time in openSUSE 12.2.

[Firefox](#) is the number one browser among openSUSE users. Developed by Mozilla, 12.2 includes 14.0.1 version, that brings [CSS3](#) 3D-Transforms, redesigned media controls for [HTML5](#), new migration capabilities of your data from Google Chrome, faster browsing thanks to the [SPDY protocol](#), Add-on sync and many stability and security fixes, among other features.

[Rekonq](#) is a lightweight WebKit-based browser built on KDE. openSUSE 12.2 includes rekonq 0.9.2 introducing a New Tab page and provides passwords, bookmarks and history sync features, also improved URL bar, bookmarks toolbar and WebKit settings.

Graphics and multimedia

[Gimp](#) 2.8.0, the image editor, comes with several new improvements in different areas, like the user interface, where the "single-window mode" to open several images in tabs, will be noticed really quick by openSUSE users.

[Krita](#) is a painting application for digital artists. openSUSE 12.2 delivers version 2.4 including a new smudging option, a composition docker, and selection capabilities of predefined size/dpi combinations amongst many other new features.

[Scribus](#) is a Free Software page layout program. openSUSE 12.2 comes with an updated version ([1.4.1](#)) that improves performance and fix several bugs. Translations have been also improved.

[Inkscape](#) is a Free Software scalable vector graphics editor. openSUSE 12.2 includes 0.48.3.1 version, that comes with stability and bug fixes.

[Tomahawk](#) is a last generation multiplatform music player. openSUSE 12.2 release includes its 0.4.2 version that comes with heavy improvements in CPU usage and lots of bugs fixed.

[Amarok](#) is a well known Free Software music player. openSUSE 12.2 brings 2.5 version with a rewrite of the Automated Playlist Generator algorithm, improvements in CPU usage and better detection of mounts of NFS & SMB Shares, among many other improvements.

[Darktable](#) 1.0.5 is a photography application and RAW tool that is new in openSUSE 12.2, a virtual lighttable and darkroom for photographers.

[Rapid Photo Downloader](#) 0.4.4 is a photography tool for bulk photo transfers.

[openTTD](#) is an open source transport simulation game, resembling "Transport Tycoon Deluxe". Look and feel is similar to the original but gameplay was improved significantly. openTTD also features a multi-player mode for up to 255 players.

Office and PIM

Office suites and applications

LibreOffice

The latest stable [LibreOffice](#) release brings again a large number of additions and [improvements](#) such as:

- **Writer:** better UI for header/footer handling; better page breaks indicators; modeless word count dialog that updates as you type
- **Calc:** new multiline inputbar; 10000 sheets support; configurable initial number of sheets; better DDE and external links handling; new Calc functions as declared in the [ODF 1.2](#) specification; re-designed Autofilter popup window; many performance improvements

- **Impress / Draw:** [SmartArt](#) import, custom shapes import, elliptical arcs in path; support embedding palettes and other property list types;
- **Filters:** import filter for MS Visio documents; new, re-written [RTF](#) import filter; many improvements in import/export filters, especially for Microsoft [OpenXML](#) file formats
- **User interface:** new color picker; menus list their entries in a natural sort order; improved usability in several area
- **Misc:** support for Java 7; ODF 1.2 conforming documents are produced by default; performance improvements; improved translations; [AES encryption](#) is used, which replaces the previously used one (Blowfish)

[Calligra](#) is a Free Software multiplatform office suite that includes [several components](#). openSUSE 12.2 includes [2.4.2 version](#) that include many bugfixes in every component.

[Gnumeric](#) is the oldest graphical Free Software spreadsheet. Part of the GNOME project, in this version, 1.11.3 comes with many bug fixes.

Personal information applications

[Evolution](#) is a personal information manager for the GNOME project. Evolution 3.4.4 includes a large number of bugfixes and incremental improvements over openSUSE 12.1.

[Kontact](#) is a personal information management suite for KDE. openSUSE 12.1 ships Kontact 4.8.4, where developers have fixed many bugs in KAlarm and KMail.

[Thunderbird](#) is a multiplatform Free Software email/news/RSS application, developed by Mozilla. openSUSE ships 14.0 version of the program that allow users to sign up for a personalized email address from within the application (in partnership with Gandi and Hover), among other services. It comes with several improvements in the user interface and security/general fixes. Thunderbird is based on the new [Mozilla Gecko](#) engine.

Scientific

[Stellarium](#) is an astronomical simulator that renders 3D photos in real time. openSUSE 12.2 ships version 0.11.3.

[Octave](#), the interpreted language for numeric computations is for the first time available in openSUSE, version 3.6.2.

[Maxima](#) is a symbolic computation program doing symbolic manipulation of polynomials, matrices, rational functions, integration, Todd-coxeter, graphing, bigfloats. openSUSE 12.2 ships this application for the first time (version 5.27). [wxmaxima] is the graphical user interface for Maxima.

[vtk](#), The Visualization ToolKit, is a Free Software, freely available software system for 3D computer graphics, image processing and visualization. It is a new package in openSUSE 12.2 repository (version 5.10).

[Mathgl](#) is a cross-platform library for making high-quality scientific graphics. openSUSE 12.2 ships 2.0.2 version.

[Veusz](#) is a GUI scientific plotting and graphing package. This is a new package. Version 1.16 is included in openSUSE 12.2 as a new package.

Other applications

File managers

[Dolphin](#) 4.8.4 is KDE's file manager. Several bugs have been fixed in this version, highly integrated with [Nepomuk](#). The user interface is now faster and smoother, animations have been improved and grouping capabilities have been added, among other features.

[Nautilus](#) is GNOME's file manager. This release includes 3.4.2 version that comes with several new features like a polished UI or introduce Undo support for common file operations.

Financial

[GNUCash](#), the personal and small-business financial-accounting software, comes with several bugfixes in 2.4.10 version.

[KMyMoney](#) is a personal and small business accounting multiplatform application. openSUSE 12.2 comes with version 4.6.2 [including many features](#) like OFX support, GnuCash file import and [QIF](#) import on Windows.

Others

qutIM

openSUSE 12.2 includes a module-based multiprotocol instant messenger build on Qt, [qutIM](#). It supports various protocols, such as ICQ, Jabber, IRC, Mail.ru Agent and VKontakte. openSUSE 12.2 ships 0.3.1 version.

Development tools, IDEs, toolchain

IDEs and compilers

GCC

While being mostly a bugfix release [GCC 4.7.1](#) supports a bigger subset of the new ISO C++11 and ISO C11 standard. It also brings in version 3.1 of the OpenMP specification for C, C++ and Fortran.

QtCreator

[Qt Creator 2.5](#) includes greatly improved C++11 support, a clipboard history, and a TODO plugin.

Languages and Libraries

With [Qt 4.8.1](#) we introduce QPA(Qt Platform Abstraction). This makes it easy to port Qt to different windowing systems and devices. It enables those of us that are not OpenGL-ninjas to render OpenGL from more than one thread concurrently. It makes multithreaded HTTP easy and has an optimized file system access.

openSUSE 12.2 ships [OpenJDK 7](#) (java-1_7_0-openjdk). As upstream support for OpenJDK 6 (java-1_6_0-openjdk) ends in November it's no longer included.

[gnu-efi](#), the library to develop EFI applications for IA-64 (IPF), IA-32 (x86) , and x86_64 platforms using the GNU toolchain and the EFI development environment. openSUSE 12.2 included version 3.0q, the newest upstream releases version, it brings many more improvements.

[Perl 5.16.0](#) supports most of unicode 6.1 so you can even use unicode characters in symbol names now.

Go

openSUSE 12.2 includes the stable version 1.0.2 of Google's concurrent programming language [Go](#). It is type and memory-safe, has an efficient, latency-free garbage collection and it has an ultra fast compiler.

Other

[QEMU](#) 1.1.0 brings more supports, such as KVM in-kernel IRQ chip, virtio-scsi, USB 3.0, and PCI-to-PCI bridges. In addition, inspection/modification of new QEMU Object Model (QOM) through QEMU Monitor Protocol, provides many other new QMP commands, a guest agent(qemu-ga), and a bridge helper utility.

[Tomcat 7](#) has been added to openSUSE, it implements the Servlet 3.0 and JavaServer Pages 2.2 and many more. In addition, we dropped Tomcat 6 and the jpackage.org naming scheme.

openSUSE 12.2 includes the [SUSEpaste script](#) - the essential collaborative debugging utility to paste outputs/logs easily to the openSUSE Paste site from the command line.

The openSUSE build service command line client [OSC](#) now supports creating and releasing maintenance updates for openSUSE.

[Firebird](#) 2.5 including new SuperClient model and reworked threading architecture. Embedded server is now based on SuperClient, allowing simultaneous access to a database from multiple applications.

Input Methods

fcitx and gcin

In 12.2, openSUSE brings you two modern input method frameworks. One of them is [fcitx](#), an input method framework with extension support. It is the default input method for locales ko, zh_CN and zh_SG. [gcin](#) is a stable input method that is famous in Taiwan and new in openSUSE 12.2. It is the default input method for locales zh_TW, zh_HK and zh_MO.

Other

Google Web Fonts

A selection of twelve open source font families from Google's web font collection is included in openSUSE 12.2. While including both formats, .otf and .ttf you are free to use them in any word processing or graphics application you want. To learn more about Google web fonts and find more that 500 additional great fonts have a look at the [Google web font directory](#).

[NCurses Disk Usage](#) aka. ncdu, ncurses version of 'du' which provides a fast way to see what directories are using your disk space.

openSUSE Reference documentation

The openSUSE Reference documentation has been updated where required, with new chapters on GRUB2 and systemd, and updates covering recent changes in KDE and GNOME. To make space on the DVD images, large books and manuals have been removed, but are part of the openSUSE 12.2 online repositories and are [available to read online](#).

And more

The above selection of changes and improvements in openSUSE 12.2 is still far from complete but gives a taste of what is new. We hope you enjoyed reading it!