



ENTERING A WAYLAND-ONLY WORLD WITH PLASMA 6.0

NEAL GOMPA

Chair, Fedora KDE SIG

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WHO AM I?

- Open Source Advocate
- Contributor and package maintainer in Fedora and CentOS
- Member of Fedora Engineering Steering Committee (FESCo)
- Chair of Fedora KDE SIG
- Member of the KDE, e.V.
- Member of Fedora Workstation, Fedora Cloud, and Fedora Server WGs
- Co-chair of CentOS Hyperscale SIG
- Member of the openSUSE Board and openSUSE Heroes
- Member of the Mageia Council and Mageia.org Board
- Co-host of the Sudo Show podcast
- Senior Black Belt, Managed OpenShift at Red Hat, Inc.
 - Previously: Senior DevOps Engineer at Datto, Inc.

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FEDORA KDE OVERVIEW



FEDORA KDE

Fedora KDE SIG

The Special Interest Group (SIG) packages and maintains the Qt stack and KDE software ecosystem for Fedora (and RHEL, starting with RHEL 8).

We develop and maintain variants of Fedora media with KDE software on it.

Also... [fedoraloveskde.org](https://www.fedoraloveskde.org)



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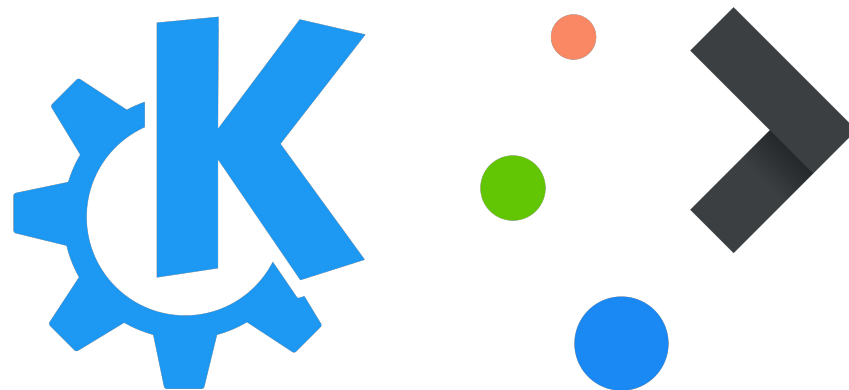
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FRESH KDE PLASMA

Always latest KDE software

The Fedora KDE SIG has a policy of continuously updating KDE Plasma for the latest stable releases of Fedora Linux.

In addition, for KDE Plasma for RHEL/CentOS and derivatives, we refresh to the latest stable release at least once a year for the latest stable release of RHEL/CentOS.



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 **fedora**

FEDORA KDE PLASMA SPIN

The flagship experience

- Curated collection of KDE software to demonstrate the quality of the ecosystem
- Aims to provide quality KDE Plasma Desktop experience largely based on upstream defaults
 - Minor branding and usability tweaks
 - Mozilla Firefox as the browser
 - Firewalld and SELinux for security
- Shipped as a live media ISO for 64-bit x86 and ARM systems and a disk image for 64-bit ARM systems
 - Available from kde.fedoraproject.org



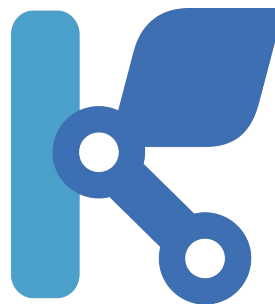
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FEDORA KINOITE

A new experience

Offers much of the same features as the main KDE spin, except...

- A more minimal default experience
 - Applications delivered as Flatpaks
 - RPM-OSTree supports a reliable “immutable” base Linux desktop experience
 - Developer workflows supported through containers with Podman and Toolbox
- Shipped as an install ISO for 64-bit x86, ARM, and POWER systems
 - Available from kinoite.fedoraproject.org



fedora
KINOITE

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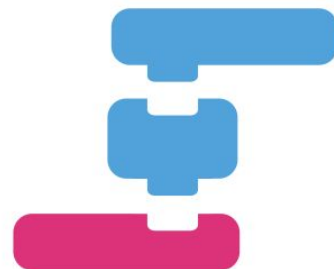
KDE FOR ENTERPRISE LINUX

KDE Plasma for RHEL

KDE software is packaged and maintained in the Extra Packages for Enterprise Linux (EPEL) repository for RHEL/CentOS and derivatives.

Notably, the CentOS Hyperscale SIG and the AlmaLinux project both offer live media ISOs using KDE Plasma on their distributions.

- CentOS Hyperscale:
<https://sigs.centos.org/hyperscale/content/spins/workstation/>
- AlmaLinux:
<https://wiki.almaLinux.org/LiveMedia.html>



EPEL

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FEDORA KDE AND WAYLAND



WAYLAND THE PROTOCOL

Not quite the X replacement

Wayland restructures the graphics stack to simplify the pipeline “from program to pixel”. It prioritizes minimizing latency and context switches for rendering graphics, and provides a framework to easily layer more capabilities as protocol extensions.



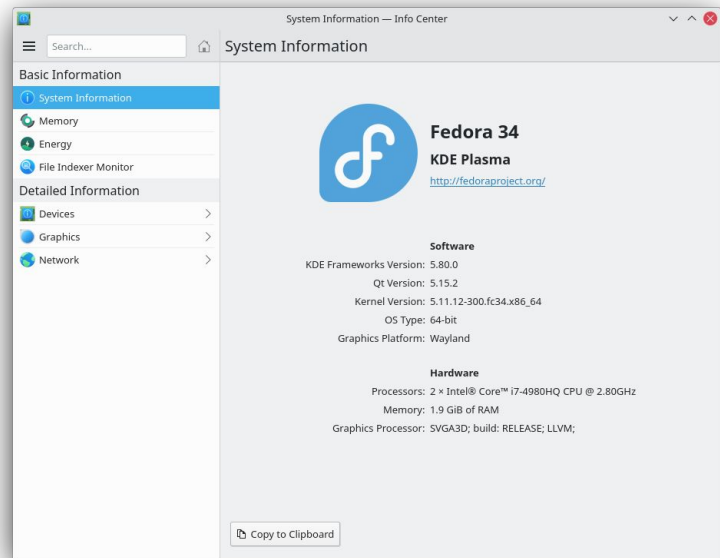
Wayland logo from Wayland.FreeDesktop.org.

WAYLAND BY DEFAULT

Leaping into the future!

KDE Plasma now runs with Plasma Wayland by default, rather than the legacy X11 session. This gives us all the benefits: smoother graphics, greater performance, and lower resource usage.

Fedora is the first distribution to make the switch for KDE Plasma.



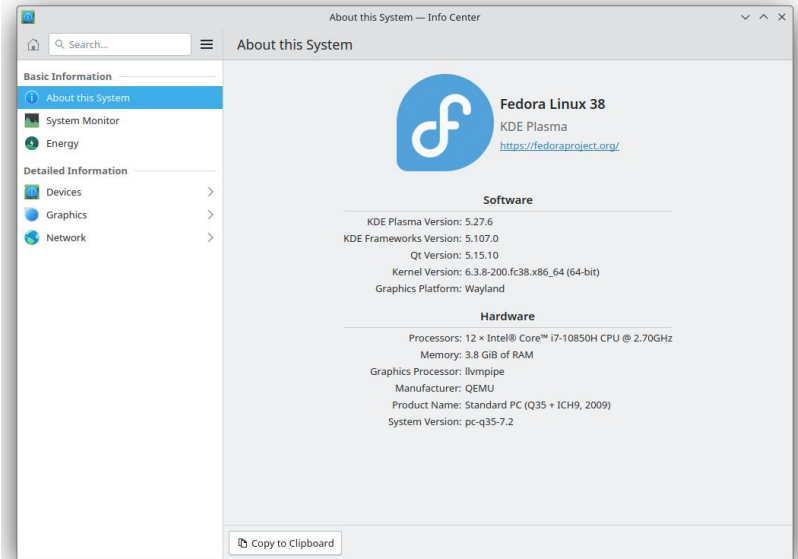
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WAYLAND BY DEFAULT ... NOW WITH SDDM!

Leaping into the future!

With Fedora Linux 38, Fedora KDE now configures SDDM to use KWin in Wayland mode to run the greeter, rather than the X server.

Fedora KDE is the first KDE Linux distribution running Wayland from beginning to end.



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LINUX GRAPHICS AND KDE PLASMA 6.0



X WINDOW SYSTEM

Nearly unmaintained

The main codebase (known commonly as “Xorg”) for the X Window System is on life support, primarily maintained by Red Hat to support its use in Red Hat Enterprise Linux.

[Red Hat declared it deprecated in Red Hat Enterprise Linux 9.0](#) and stated it will be removed “in a future major RHEL release.”



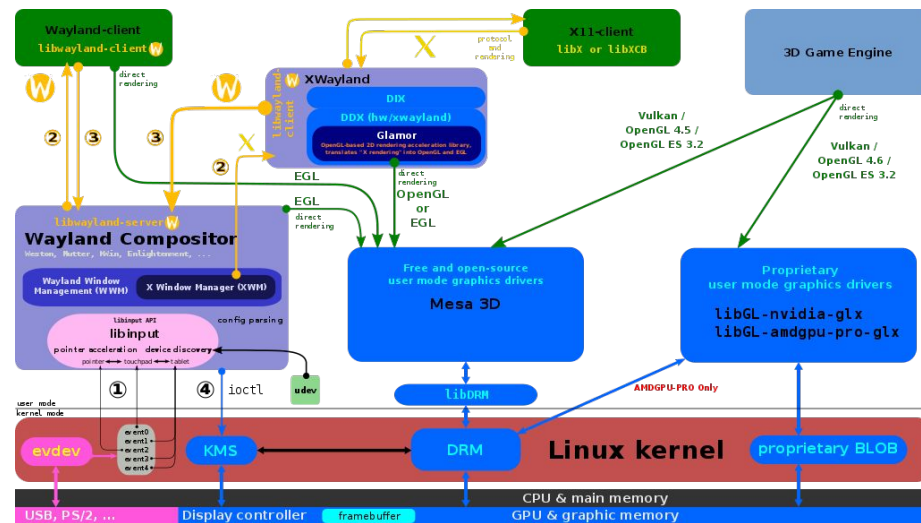
Xorg logo from Wikipedia

HARDWARE SUPPORT

NVIDIA Wayland is here!

NVIDIA re-architected the Wayland support in their driver to use the Generic Buffer Management (GBM) framework with v495. Current versions of the driver “Just Work” with nearly all Wayland compositors.

Additionally, NVIDIA re-architected their driver for GTX 16/RTX 20 series and newer GPUs such that we now have usable firmware for nouveau to work properly. The work to integrate this is in progress right now.

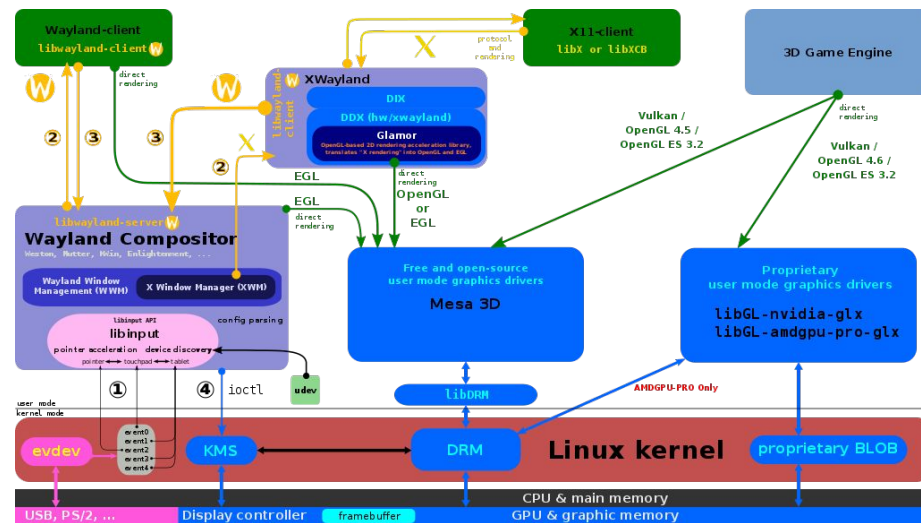


DRI architecture chart from Wikipedia

HARDWARE SUPPORT

SimpleDRM for fallbacks

With Linux kernel version 5.14, a new basic graphics driver for hardware was added to support the baseline framebuffer graphics modes in graphics hardware. This “SimpleDRM” driver makes basic graphics go through the same infrastructure as other drivers do, instantly enabling Wayland support.



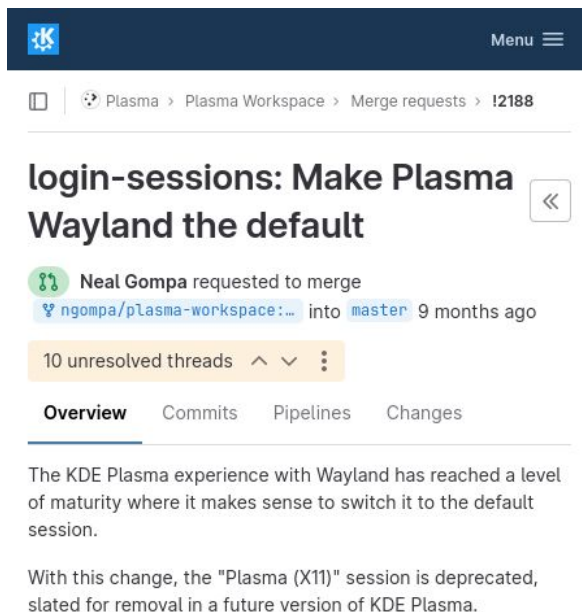
DRI architecture chart from Wikipedia

GETTING EVERYONE ELSE ON BOARD

Changing defaults

Fedora has been using Plasma Wayland as the default experience since Fedora Linux 34 with KDE Plasma 5.21. Since then, real-world feedback has led to tremendous improvements in Plasma Wayland.

Other distributions have indicated they will only switch if upstream makes it default, so...



The screenshot shows a GitHub pull request interface. At the top, there's a dark blue header with the KDE logo and a 'Menu' icon. Below that, a breadcrumb trail reads 'Plasma > Plasma Workspace > Merge requests > !2188'. The main title of the pull request is 'login-sessions: Make Plasma Wayland the default'. The author is 'Neal Gomba', who requested to merge a branch 'ngomba/plasma-workspace:...' into the 'master' branch, 9 months ago. There are '10 unresolved threads' listed below the merge request. The 'Overview' tab is selected, showing a description: 'The KDE Plasma experience with Wayland has reached a level of maturity where it makes sense to switch it to the default session.' Below this, it states: 'With this change, the "Plasma (X11)" session is deprecated, slated for removal in a future version of KDE Plasma.'

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SO WHAT'S COMING IN THE FUTURE?

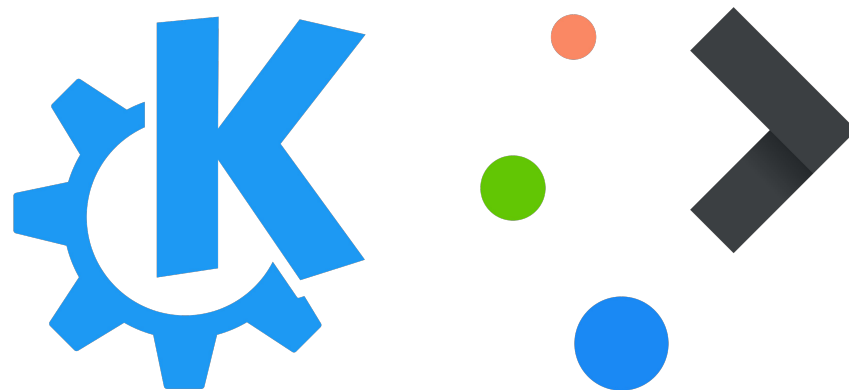


DROPPING X11 SESSION WITH PLASMA 6.0

Wayland-only for 6.0

Fedora is about working with upstreams to enable bringing features first to users. This is also balanced by the skillset of the KDE SIG and where we spend time and effort.

Plasma 6.0 is the right point to reset expectations. The “plan” is for Fedora Linux 40 and EPEL for CentOS/RHEL 10 to ship with KDE Plasma 6.0 with **no X11 session**.



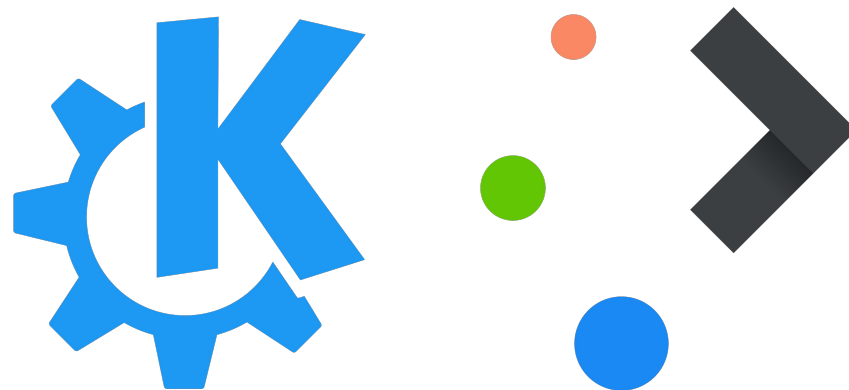
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MAKING X11 OPTIONAL IN KDE PLASMA

Path to final removal

After the change to make the Wayland session the default is merged, the focus will shift to contributing changes throughout the stack to make X11 session components optional (such as `startplasma-x11`, `kwin_x11`, etc.)

This does not include removing support for running X11 applications in Plasma Wayland. That will remain available in Fedora KDE.



























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FEDORA KDE SIG

Join Us

- Project issue tracker:
pagure.io/fedora-kde/SIG
- Mailing list:
kde@lists.fedoraproject.org
- Matrix:
[#kde:fedoraproject.org](https://matrix.fedoraproject.org/#kde:fedoraproject.org)

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QUESTIONS?

