JOURNEY TO WAYLAND WITH KDE PLASMA

NEAL GOMPA
KDE SIG member

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WHO AM I?

- Open Source Advocate
- Contributor and package maintainer in Fedora, openSUSE, Mageia, and OpenMandriva
- Member of Fedora Engineering Steering Committee (FESCo)
- Member of openSUSE Board
- Senior DevOps Engineer at Datto, Inc.
- Developer and maintainer of package build and release pipeline using OBS
- Packager and Backporter
Fedora KDE SIG

Packages and maintains the Qt stack and KDE software ecosystem for Fedora (and RHEL, starting with RHEL 8)

KDE Plasma Edition

The main deliverable of the KDE SIG, which offers a curated experience to showcase KDE technologies on the Fedora Linux platform.
SO... 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 The Server?

Not exactly a thing!

Unlike with X11, Wayland does not separate the desktop window management service (window manager) from desktop rendering service (X server). These are merged into one, called the “compositor”, which directly interfaces with the hardware through the direct rendering manager (DRM) in the kernel. Compositors are part of the desktop platform instead of separately developed.
WAYLAND ON KDE PLASMA

Winning with Wayland now!

For KDE Plasma, the Wayland-based desktop session is implemented in KWin (the KDE Window Manager), which is the compositor used for KDE Plasma.

There is also a fork of KWin called KWinFT, which is now based on the wlroots library for building Wayland compositors.
ONTO WAYLAND, THEN?
ONWARD AND UPWARD

Use Wayland by default for F34+

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Reference: https://fedoraproject.org/wiki/Changes/WaylandByDefaultForPlasma
ONWARD AND UPWARD

Use Wayland by default for F34+

Author: ngompa
Commit: 1 file changed, 9 lines added, 1 lines removed

Reference: https://fedoraproject.org/wiki/Changes/WaylandByDefaultForPlasma

Build completed

Built as kwin-5.19-90-2.fc34
10 months ago
WE’RE DONE NOW, RIGHT?
UPWARD UPSTREAM

Prefer Wayland sessions over X11 ones #1305

pflorini merged 1 commit into sddm:develop from Conan-Kudo:prefer-wayland-session on Nov 3, 2020

Conan-Kudo commented on Oct 18, 2020

As a general goal and preference, we want to make the change to Wayland as the default and X11 as the fallback.

This change codifies that preference.

Reference: https://fedoraproject.org/wiki/Changes/WaylandByDefaultForPlasma
UPWARD UPSTREAM

wayland-session: Ensure $SHELL remains correctly set #1360

In some circumstances, the effort of setting the environment correctly can wind up clobbering the user-specified shell. To work around this issue, capture the shell setting in a variable and set it back at the end of environment and profile setup.

Fixes #1351
Being awake at an ungodly hour and couldn't go back to sleep, I tried to tackle a frustrating bug in Plasma Wayland + @Fedora installer, to try to get it to run. Thanks to @ikey_doherty and @ulaas, I have seen it work now! Maybe we can come up with a proper fix now... 🙏
HOW ABOUT NOW?
LAST MINUTE BUG OF DOOM

Bug 1952431 - startplasma-wayland hangs when run in basic video mode (nomodeset; VESA (BIOS) / FBDEV (UEFI))

Keywords: 

Status: CLOSED ERRATA
Alias: None
Product: Fedora
Component: kwin
Version: 34
Hardware: Unspecified
OS: Unspecified
Priority: unspecified
Severity: unspecified
Target Milestone: ---
Assignee: Daniel Víští
QA Contact: Fedora Extras Quality Assurance
Doc Contact: 
URL: 
Whiteboard: AcceptedBlocker
Depends On: F34FinalBlocker
TreeView: depends on / blocked
Reported: 2021-04-22 09:37 UTC by František Zatloukal

Enable hiding Wayland sessions with a flag file (#1952431)

Authored and Committed by ngompa 4 months ago
3 files changed. 75 lines added. 1 lines removed.
Enable hiding Wayland sessions with a flag file (#1952431)

Simplify to creating/deleting the flag file in the udev rule (#1952431)

Authored and Committed by ngompa 4 months ago
3 files changed. 6 lines added. 43 lines removed.
Simplify to creating/deleting the flag file in the udev rule (#1952431)
LAST MINUTE BUG OF DOOM

kde: Fallback to Plasma X11 session for basic graphics mode (#1952431)

The Plasma Wayland session does not work when kernel mode-setting has been disabled, so fall back to X11 automatically in this scenario.
WAYLAND BY DEFAULT ON FEDORA

Leaping into the future!

KDE Plasma now runs with Plasma Wayland by default, rather than the legacy X11 session (with caveats). 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.
SO WHAT’S COMING IN THE FUTURE?
WHAT’S COMING SOON

On the bucket list...

- SDL1 replacement (Fedora 35)
- SDL2 preferring Wayland (Fedora 35-36?)
- SDDM using Wayland (Fedora 36+)
- Further improvements in the Wayland experience in collaboration with KDE

Join Us

- Project issue tracker: pagure.io/fedora-kde/SIG
- Mailing list: kde@lists.fedoraproject.org
- Matrix: #fedora-kde:matrix.org
- IRC: #fedora-kde on Libera.Chat

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QUESTIONS?