

FEDORA KDE FOR THE CLOUD

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WHO ARE WE?

David Duncan

- Contributor and package maintainer in Fedora
- Chair of Fedora Cloud WG
- Member of Fedora Mindshare Committee
- Member of CentOS Hyperscale SIG
- Member of CentOS Alternative Images SIG
- Senior Manager, Partner Solutions Architecture at Amazon Web Services, Inc.

Neal Gompa

- Open Source Advocate
- Contributor and package maintainer in Fedora and CentOS
- Member of Fedora Engineering Steering Committee (FESCo)
- Chair of Fedora Asahi SIG
- 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 CentOS Alternative Images SIG
- Co-host of the Sudo Show podcast
- Principal Consultant at Velocity Limitless

DESKTOPS IN THE CLOUD

VIRTUAL DESKTOP INFRASTRUCTURE

Desktops on-demand

Virtual Desktop Infrastructure (VDI) is incredibly popular option for enabling success with technology. In particular, it enables *safe* experimentation, easy access, and can reduce costs for strained organizations trying to deliver useful experiences to people.



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DEVELOPING FOR THE CLOUD IN THE CLOUD

"Full" developer experience

Despite advances in web-based developer IDEs, a lot of really good development experiences can only be done with a full desktop experience, especially cloud-based software.

Linux shines here with high quality software for developing software!



Preferred operating systems survey excerpted from StackOverflow Developer Survey 2022



FEDORA KDE FOR THE CLOUD

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



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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.

As part of enabling that, the Fedora KDE SIG collaborates closely with the KDE community to help support our needs.



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LINUX VDI APPROACHES

LINUX VDI APPROACH: NESTED RENDERING

Heavy and inflexible

This is the traditional way Linux desktops are set up for remote access. It usually looks something like this:

- Custom XII server to run Xnest to run the desktop
- Custom graphics server + X11 driver to "hack" Xorg to run the desktop
- Custom Wayland compositor to run a Wayland compositor nested inside The benefit of this approach is that it requires minimal software integration to work.

Example implementations: Xrdp, Xvnc, VMware Horizon, Bomgar/BeyondTrust, etc.



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LINUX VDI APPROACH: DESKTOP BACKEND

Lightweight and integrated

With the move to Wayland, there is no longer a separate renderer to modify, as the graphics stack is integrated into the desktop. A couple of ways this can work:

- Wayland protocols
 - <u>ext-image-copy-capturer</u>, <u>ext-virtual-keyboard</u>, <u>ext-transient-seat</u>
 - wlr-data-control, wlr-virtual-pointer
- XDG Portals
 - <u>Clipboard</u>
 - Input Capture
 - Rémote Desktop
 - ScreenCast

Typically, this approach means that you need a local session already running.

Examples implementations: WayVNC, KRdp, RustDesk, TeamViewer



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ARTIFACTS



fedora-kiwi-descriptions

This project is used to manage the Fedora KIWI image descriptions used in composing Fedora release images.

The rawhide branch is used for Fedora Rawhide images and each release branch is used by that release.

All changes should be made via the PR workflow.

Image variants

Please look at VARIANTS for details on the available configurations that can be built.



☐ Notifications 🛛 😵 Fork 1

☆ Star 1 👻

Internethamster / build-cloud-kde-ansible Public

<> Code 💿 Issues 3 11 Pull requests 🕑 Actions 🖽 Projects 🛈 Security 🗠 Insights

Conan-Kudo add: install seatd and c	onfigure for use by the cloud user 🛛 🚥	6e84ad1 · 4 days ago	🕚 24 Commits	Ansible
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📄 playbooks	add: install seatd and configure for use by the cloud user 4 days ago			
templates	add: include the security group configuration for sg build last year			
🗅 .gitignore	chore: let git ignore emacs backup and undo files 4 months ago 💡			
LICENSE	Initial commit last year			
README.md	Initial commit		last year	Releases
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build cloud kdo	ansible			Contributors 2
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Languages



CLOUD KDE ANSIBLE WITH X86 AND ARM

\$ ansible-playbook --private-key ~/.ssh/id_rsa-previous -i inventory/cloud-instanc = e-aws_ec2.yaml -e "ec2_architecture=x86_64" ./playbooks/build_<mark>k</mark>de_instance.yml



FEDORA KDE PLASMA NESTED ON WESTON

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HEADLESS KDE PLASMA 6

Wayland+RDP with 6.1

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.

With KDE Plasma 6, Fedora KDE is shipping only a Wayland session. The KDE community is working on enabling support for headless KDE Plasma Wayland environment using RDP through a new component called <u>krdp</u>.

With this, we can have a fully open-source stack for cloud desktops in **any** and **every** cloud without nesting in Weston.



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DEMONSTRATION

FEDORA KDE SIG

Join Us

- Project issue tracker: pagure.io/fedora-kde/SIG
- Mailing list: kde@lists.fedoraproject.org
- Matrix: <u>#kde:fedoraproject.org</u>

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QUESTIONS?