



# TOOLBX

Recent updates

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# I am ...

- rishi
- Red Hat Display Systems Team  
(formerly Desktop Team)
- Fedora Silverblue & Workstation
- GNOME



# Toolbx

- [containertoolbx.org](https://containertoolbx.org)
- [containertoolbx.org/articles](https://containertoolbx.org/articles)
- Formerly Toolbox or Fedora Toolbox



# Toolbx

- Recent updates



# Toolbx

- Major update of the website
- [containertoolbx.org](https://containertoolbx.org)
  
- More pixel art



# Toolbx

- Major update of the website
- [containertoolbx.org](https://containertoolbx.org)
- Jakub Steiner



# Toolbx

- Mastodon/Fediverse
- [floss.social/@containertoolbx](https://floss.social/@containertoolbx)



# Toolbx

- Enabled the proprietary NVIDIA driver
- [github.com/containers/toolbox/issues/116](https://github.com/containers/toolbox/issues/116)





# Toolbx

- Enabled the proprietary NVIDIA driver
- [github.com/containers/toolbox/issues/116](https://github.com/containers/toolbox/issues/116)
- Artificial intelligence hardware acceleration



# Toolbx

- Optimized 'enter'
- [github.com/containers/toolbox/issues/1070](https://github.com/containers/toolbox/issues/1070)
- Either:
  - Almost a second faster
  - Two less podman(1) invocations



# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
- “Up to date fedora-toolbox OCI images must be published on registry.fedoraproject.org as release-blocking deliverables ...”
- “... there must be release-blocking test criteria to ensure usable toolbox RPMs.”



# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
- Improve the quality of the Toolbx environments on Fedora
- Make them as reliable as similar environments running directly on Fedora hosts



# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
- Toolbx integrates with too many parts of the OS
  - Removable devices
  - SSH agent socket
  - Wayland socket



# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
  
- Toolbx integrates with too many parts of the OS
  - Needs more formal testing



# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
- Toolbx has two parts — an OCI image, which defaults to fedora-toolbox on Fedora hosts, and the toolbox RPM
  - The images could be stale



# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
- fedora-toolbox images are built by the nightly composes
  - fedora-kickstarts, pungi-fedora
  - Image Factory





# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
- fedora-toolbox images are built by the nightly composes
  - No more Dockerfile
  - No more OpenShift Build Service



# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
- fedora-toolbox images are built by the nightly composes
  - Built as a separate base image
  - No more layered images



# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
- fedora-toolbox images are built by the nightly composes
  - No need to unminimize the base fedora image



# Toolbx

- Changes/ToolbxReleaseBlocker for Fedora 39
- [fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker](https://fedoraproject.org/wiki/Changes/ToolbxReleaseBlocker)
- Negatives:
  - Container/Dockerfile was easier for upstream CI
  - Image Factory is also considered uncool
  - RHEL/UBI images still defined as Dockerfile



# Toolbx

- Changes/KiwiBuiltCloudImages for Fedora 40
- [fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages](https://fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages)
- “Fedora Cloud Edition images will be built with Kiwi, which will replace the unmaintained ImageFactory tooling that is currently being used ...”



# Toolbx

- Changes/KiwiBuiltCloudImages for Fedora 40
- [fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages](https://fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages)
  
- David Duncan
- Neal Gomba



# Toolbx

- Changes/KiwiBuiltCloudImages for Fedora 40
- [fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages](https://fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages)
  
- fedora-toolbox images are built by the nightly composes
  - fedora-kiwi-descriptions
  - KIWI



# Toolbx

- Changes/KiwiBuiltCloudImages for Fedora 40
- [fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages](https://fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages)
- fedora-toolbox images are built by the nightly composes
  - No more fedora-kickstarts and pungi-fedora
  - No more Image Factory





# Toolbx

- Changes/KiwiBuiltCloudImages for Fedora 40
- [fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages](https://fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages)
- fedora-toolbox images are built by the nightly composes
  - Built as a separate base image
  - No more layered images



# Toolbx

- Changes/KiwiBuiltCloudImages for Fedora 40
- [fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages](https://fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages)
- Positives:
  - KIWI descriptions are easier for upstream CI
  - KIWI is considered cool



# Toolbx

- Changes/KiwiBuiltCloudImages for Fedora 40
- [fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages](https://fedoraproject.org/wiki/Changes/KiwiBuiltCloudImages)
- However:
  - RHEL/UBI images still defined as Dockerfile



# Toolbx

- Built-in support for OSes outside the Fedora family
- `$ toolbox create --distro`
  
- Arch Linux
- Ubuntu



# Toolbx

- Built-in support for OSes outside the Fedora family
- Ievgen Popovych
- Morten Linderud
- Timothée Ravier



# Toolbx

- Built-in support for OSes outside the Fedora family
- Hard to do CI with non-Ubuntu hosts
- Software Factory for CentOS Stream 9 and Fedora hosts
- Impossible to provide first-class support without upstream CI



# Toolbx

- Built-in support for OSes outside the Fedora family
- Need CI runners for Arch Linux and Debian hosts to run our fast-growing test suite
- Currently at 380 tests



# Toolbx

- Ptyxis
- Better integration with the terminal emulation stack in GNOME and Fedora
  
- [devsuite.app/ptyxis](https://devsuite.app/ptyxis)
- [flathub.org/apps/app.devsuite.Ptyxis](https://flathub.org/apps/app.devsuite.Ptyxis)
- [gitlab.gnome.org/cherbert/ptyxis](https://gitlab.gnome.org/cherbert/ptyxis)





# Toolbx

- Better integration with the terminal emulation stack in GNOME and Fedora
- [devsuite.app/ptyxis](https://devsuite.app/ptyxis)
- Christian Hergert



# Toolbx

- Better integration with the terminal emulation stack in GNOME and Fedora
- [devsuite.app/ptyxis](https://devsuite.app/ptyxis)
- Ptyxis is a container native terminal emulator



# Toolbx

- Better integration with the terminal emulation stack in GNOME and Fedora
- [devsuite.app/ptyxis](https://devsuite.app/ptyxis)
- `tcgetpgrp(3)` doesn't work across nested PTY pairs



# Toolbx

- Better errors and insight when containers fail to start
- No need to mess with:
  - podman logs
  - podman start



# Toolbx

- Future plans



# Toolbx

- podmansh(1)
- Containers created with quadlet(5)



# Toolbx

- Custom CA certificates
- [github.com/containers/toolbox/issues/626](https://github.com/containers/toolbox/issues/626)



# Toolbx

- Shims for well-known host binaries
- [github.com/containers/toolbox/issues/145](https://github.com/containers/toolbox/issues/145)
  
- flatpak(1)
- podman(1)
- rpm-ostree(1)





# Toolbx

- List supported images
- [github.com/containers/toolbox/issues/1478](https://github.com/containers/toolbox/issues/1478)



# Toolbx

- A dot-zero release



**containertoolbx.org**

