Fedora Remix

FeltonLUG

04 Apr 2009

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Fedora Contributor
Docs, Ambassadors, Mktg, Infrastructure

Sr. Community Gardener
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<!-- fedoraproject.org / wiki / Remix -->

Toolkit to
"Build Your Own Distro"

<!-- Based upon Fedora -->

fedora
remix

<!-- Go Ahead, It's Okay! -->

100 % Free

<!-- Really, it is!
    In fact, we double-dog dare you to try it. -->

fedora
remix

<!-- spins: approved by Fedora Board -->

Spin vs Remix

<!-- remix: additional packages outside fedora -->

<!-- Latest and greatest -->

Selected updates

<!-- Security fixes only -->

<!-- software outside fedora -->

<!-- kiosks -->

<!-- kernel modifications -->

Your own customizations

<!-- Omega 10 -->

<!-- custom desktop or theme -->

fedora remix

Leverage existing technologies

Anaconda's "kickstart"

- `<!-- space hungry -->`

Words to the wise

- /var /cache
- /tmp
- destination directory

Live image tools:

kickstart file ► live image

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livecd-creator

```
$ su -c "livecd-creator --config=<KICKSTART_FILE>"
```

- <!-- size doesn't matter -->

livecd-creator hints

- -b option for "based on"
- local disk repos faster

livecd-iso-to-disk

```
$ su -c "livecd-iso-to-disk --overlay-size-mb <MB>
<ISO_FILE> <USB_STICK_DEVICE>
```

<!-- save your personal data -->

persistence

<!-- configurations stay -->

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remix

<!-- won't overwrite any existing data -->

non-destructive

<!-- perfect for ad-hoc show and tell -->

fedora
r e m i x

<!-- Windows version also available -->

LiveUSB Creator
https://fedorahosted.org/liveusb-creator

<!-- graphical usb creator -->

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kickstart file ► install disc(s)

pungi

```
$ su -c "pungi --config=<KICKSTART_FILE> --all-
stages"
```

- <!-- personal builds -->

pungi options

- --nosplitmedia to avoid CDs
- --nosource to forget about SRPMs
- --cachedir to point to packages on disk

- <!-- think about I/O -->

pungi hints

- Local file caches == good
- Edit kickstart repositories
- Add to %packages as desired

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installation or live media ► one tool

<!-- build live or install -->

revisor

<!-- used by fedora unity respin -->

fedora remix

<!-- easy to update a spin -->

Simple GUI Mode

<!-- watch out! lots of options -->

Configurable CLI

<!-- extremely configurable -->

Questions?

FREEDOM.

FRIENDS.

http://join.fedoraproject.org

https://fedoraproject.org/wiki/Presentations#Fedora_Applications

FEATURES.

FIRST.

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(Introduce self)

Fedora Remix arises from a fundamental method in the Fedora Project, that of continuously making it easier for Fedora to (re)build itself. From Infrastructure to Release Engineering.

Because we believe sharing and inviting participation is the best way to make better software faster, we have worked over the years to make it both easier to maintain software in Fedora, and easier to build on top of Fedora in numerous ways.

Fedora Remix is the latest iteration of this vision.

<!-- fedoraproject.org / wiki / Remix -->

Toolkit to
"Build Your Own Distro"

<!-- Based upon Fedora -->

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End result is a toolkit that is used to build a distro based upon Fedora. The toolkit is easily available for you to use on your own machine(s). We'll go in to what is in that toolkit after we talk about what you can and cannot call Fedora.

We understand that people are going to want to use a Fedora base for any number of reasons, including ones we might find personally abhorrent or are criminal in this and other countries. This includes distributing with patent encumbered MP3, DVD, and etc.

A core value of Fedora is Freedom, and when that comes to free speech, the Fedora Project isn't going to restrict what you have to say ... or put on a Linux distro. We have ways to interact with the Fedora trademark depending on your needs and desires.

<!-- Go Ahead, It's Okay! -->

100 % Free

<!-- Really, it is!
In fact, we double-dog dare you to try it. -->

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Legal

- Using the Fedora trademark implies the OS is 100% free and approved by the Fedora Board
- But you can use the Fedora Remix trademark, privileges given without asking:
  - https://fedoraproject.org/wiki/Remix
- There are many designs and usage guidelines
  - When distributing a remix, you must label it as a 'Fedora Remix'
  - Several color schemes exist and simple rules to help.
  - https://fedoraproject.org/wiki/Legal/Secondary_trademark_usage_guidelines

<!-- spins: approved by Fedora Board -->

Spin vs Remix

<!-- remix: additional packages outside fedora -->

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Legal
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<!-- Latest and greatest -->

Selected updates

<!-- Security fixes only -->

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Reasons you might make a Fedora Remix.:
- Make a remix/respin with new or selected code
  - Alpha
  - Updates to current version of Fedora

<!-- software outside fedora -->

<!-- kiosks -->

<!-- kernel modifications -->

Your own customizations

<!-- Omega 10 -->

<!-- custom desktop or theme -->

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- Add your custom rpms
- Personalized Live Media
  - custom .vimrc
  - custom themes
  - non-standard software from the Fedora repos
- A portable, bootable environment for a classroom
- Clustering software
  - generally, it'd be cool to have a live disc that just boots up and connects and starts crunching data
  - boinc-client for seti@home or some non-free ones like distributed.net or folding at home
- Provide software that Fedora cannot due to legal restrictions in the US.

Leverage existing technologies

Using Fedora as a base **is** the open source way. Build on what others are doing and don't reinvent what you isn't within your project scope. Fedora frees you to innovate.

Another project called ThinCrust (thincrust.net) is an appliance builder, making a Fedora or RHEL-based image with a minimal package set for custom appliances. The ThinCrust team is building their technology on top of existing Fedora projects and toolkits for spinning up a distro.

Anaconda's "kickstart"

- Also tool for automated installation
- Very Customizable
- yum install spin-kickstarts
  - Provides some basic setup to get started
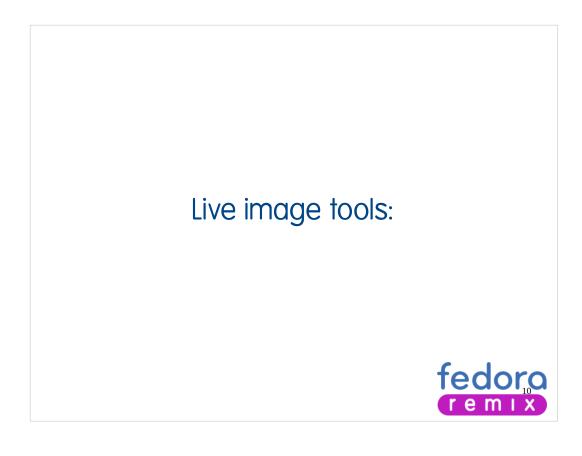- Showing a customized kickstart here is a good idea

- <!-- space hungry -->

Words to the wise

- /var/cache
- /tmp
- destination directory

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- Best to keep the cache and tmp in your control
  - Put them where you have the space

Live image tools:

kickstart file ▶ live image

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livecd-creator

```
$ su -c "livecd-creator --config=<KICKSTART_FILE>"
```

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livecd-creator -c ks/remix-customizations.ks
  --cache=/data/projects/fedora/remix/cache/ -t
  /data/projects/fedora/remix/tmp -f Herlo-Remix

Commonly Recommended Options

- -t TMPDIR, --tmpdir=TMPDIR Temporary directory
    to use
- --cache=CACHEDIR Cache directory to use
- -b BASE_ON, --base-on=BASE_ON Add packages
    to an existing live CD iso9660 image.

- <!-- size doesn't matter -->

livecd-creator hints

- -b option for "based on"
- local disk repos faster

man livecd-creator

livecd-iso-to-disk

```
$ su -c "livecd-iso-to-disk --overlay-size-mb <MB>
<ISO_FILE> <USB_STICK_DEVICE>
```

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- Why put it on a CD alone
  - USB's are great and easy to create

<!-- save your personal data -->

persistence

<!-- configurations stay -->

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- Can be as big as the available space on your USB disk
- Pretends to be the storage location
  - Provides saving of data and configurations

<!-- won't overwrite any existing data -->

non-destructive

<!-- perfect for ad-hoc show and tell -->

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- Already have data? No worries, creating a liveUSB won't destroy any existing data.

<!-- Windows version also available -->

LiveUSB Creator
https://fedorahosted.org/liveusb-creator

<!-- graphical usb creator -->

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- Available in Linux and Windows
  - yum install liveusb-creator
- For the user who wants to try it out quickly

kickstart file ▶ install disc(s)

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pungi

```
$ su -c "pungi --config=<KICKSTART_FILE> --all-
stages"
```

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pungi -c ks/fedora-install-fedora.ks
  --cachedir=/data/projects/fedora/remix/cache/
  --destdir=/data/projects/fedora/remix/ --name=Remix-
  Install --nosource --nosplitmedia –force

- <!-- personal builds -->

pungi options

- --nosplitmedia to avoid CDs
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- <!-- think about I/O -->

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installation or live media ▶ one tool

<!-- build live or install -->

revisor

<!-- used by fedora unity respin -->

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remix
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Just show the gui for now, should do more research into the cli and gui tools

<!-- easy to update a spin -->

Simple GUI Mode

<!-- watch out! lots of options -->

Configurable CLI

<!-- extremely configurable -->

Questions?

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