



Cockpit-Composer

Building OS images for any platform

Jenn Giardino
Senior Interaction Designer

Will Woods
Senior Software Engineer



Featuring
guest speaker
Jacob Kozol

Cockpit-Composer

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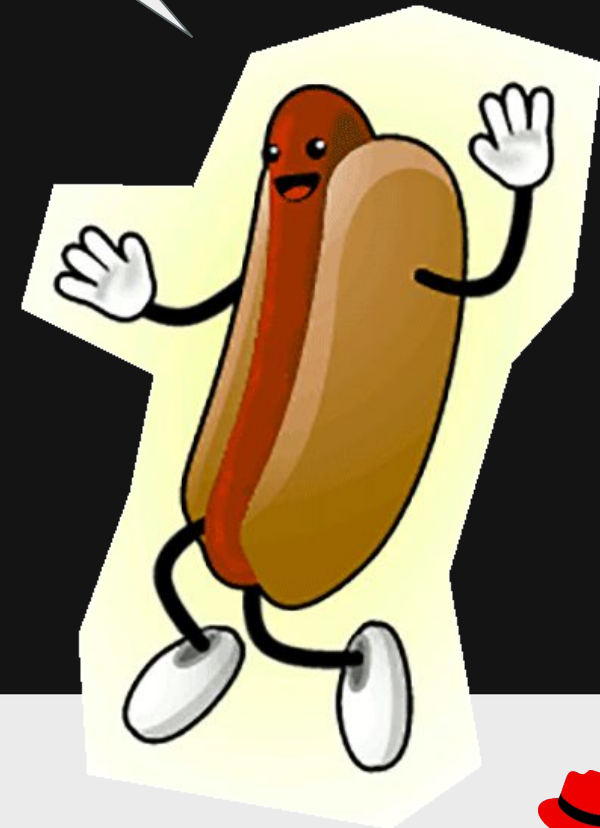


IMAGE BUILDER

Tooling to enable automated creation of customized OS images

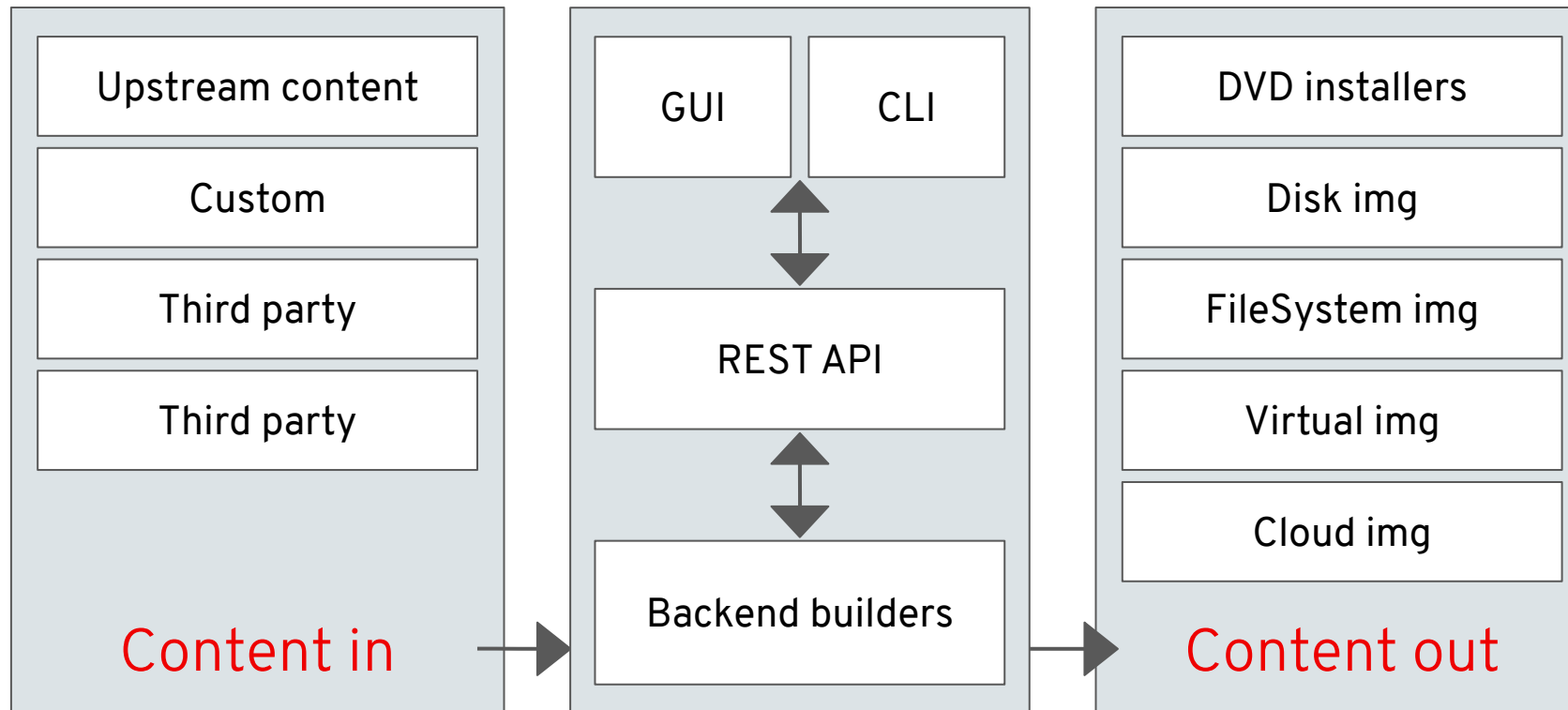
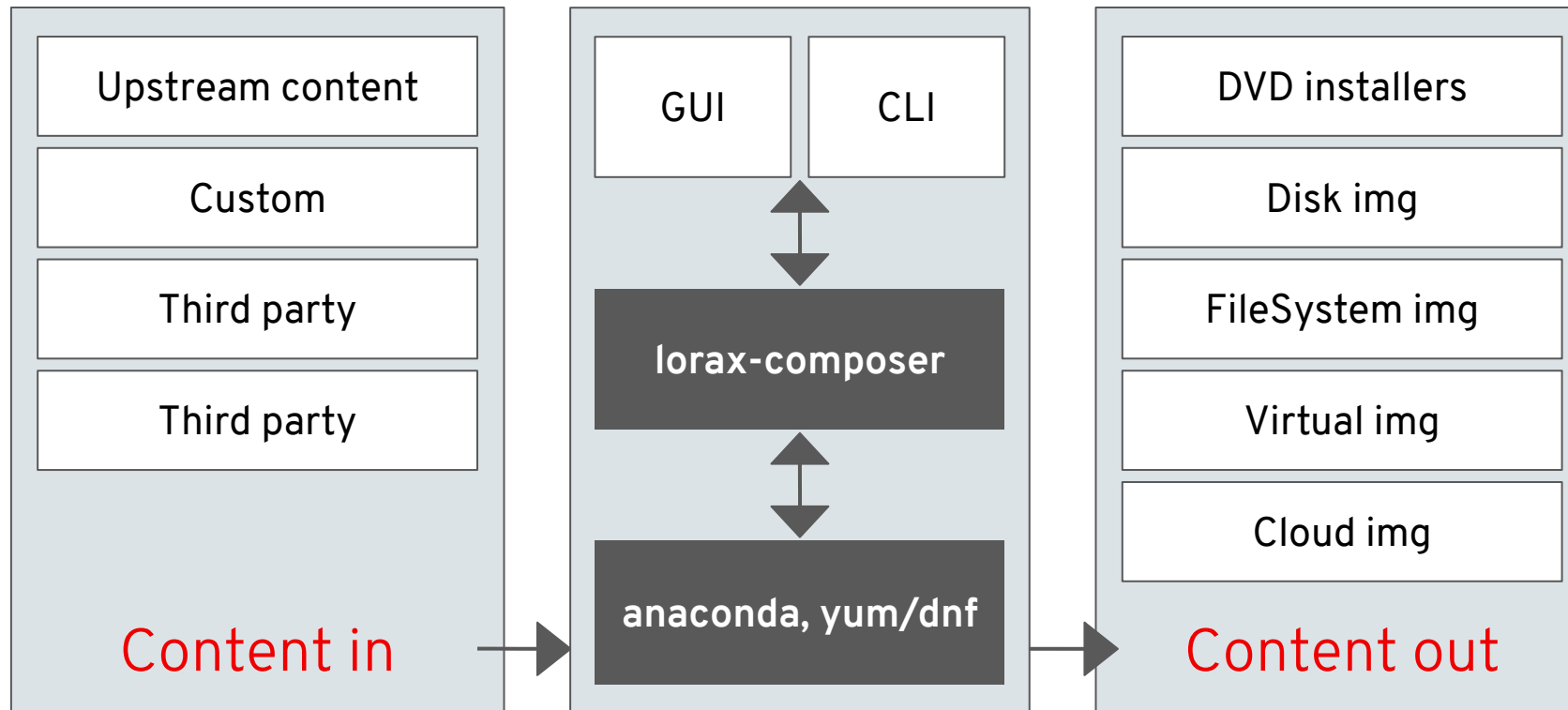


IMAGE BUILDER

Tooling to enable automated creation of customized OS images



OUTPUT IMAGE TYPES

Current Capabilities



Introduced in

Red Hat Enterprise Linux 7

- › Live Bootable ISO (.iso)
- › QEMU QCOW2 Image (.qcow2)
- › Raw Partitioned Disk Image (.img)
- › Ext4 File System Image (.img)



Introduced in

Red Hat Enterprise Linux 8

- › Amazon Machine Image (.ami)
- › Azure Disk Image (.vhd)
- › VMware Virtual Machine Disk (.vmdk)
- › OpenStack (.qcow2)

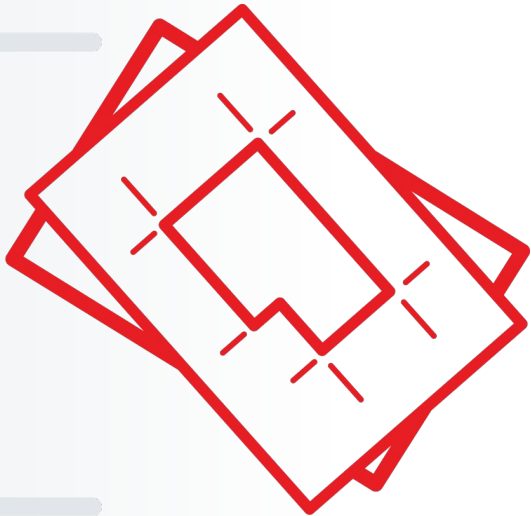
BLUEPRINTS

Current Capabilities

› Define Package List

› Define Customizations

- Hostname
- Kernel
- Group
- Timezone
- Locale
- User (password and ssh keys)
- Firewall
- Services



Demo

What does Image Builder not do

FUTURE CAPABILITIES

Under consideration for inclusion in a future release



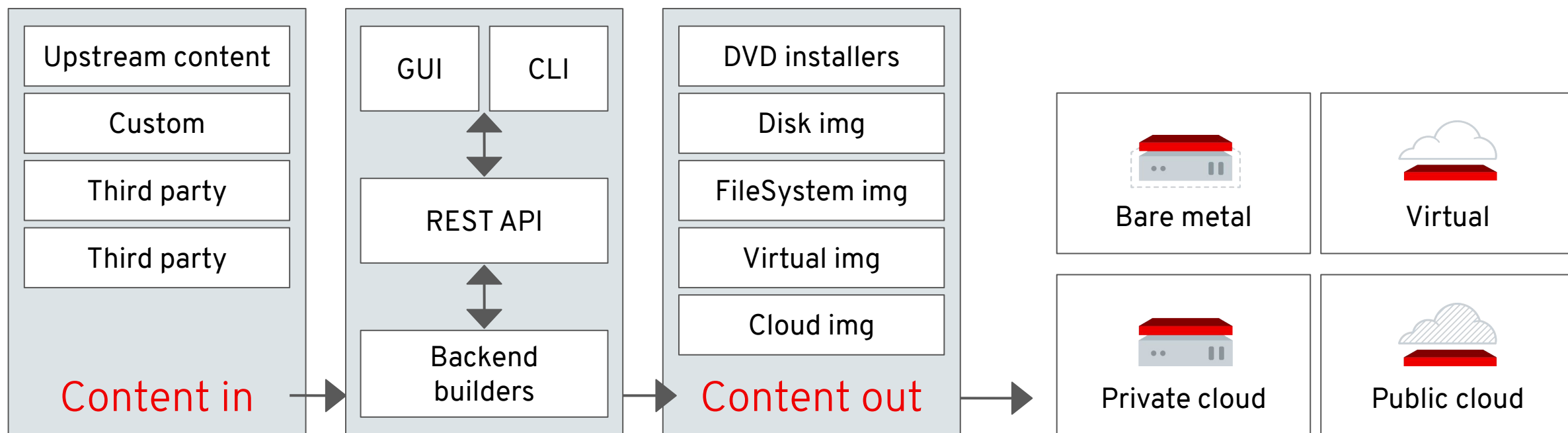
Image types


- Hyper-V
- Google
- IBM
- Alibaba
- more...


Deployment and configuration options


- Upload to cloud
- OSbuild
- More advanced configuration

UPLOAD TO CLOUD



 Host

 Dashboard

 Image Builder

Back to Blueprints > example-development

example-development

Details

Selected Components


Name

Filter by Name...

Selected Components 20


>

☐

 cmake
Cross-platform


>

☐

 curl
A utility for gett


>

☐

 file
A utility for dete


>

☐

 firefox
Mozilla Firefox V


>

☐

 gcc
Various compile


>

☐

 gcc-c++
C++ support for

>

☐

 gdb
A stub package for GNU source-level debugger

Create Image

Edit Blueprint

Create and Upload Image

1 Image Type

Blueprint

example-development

Image *

test-image

Type

Azure Disk Image (.vhd)

Upload Image

☐ Upload to Azure

Create

Back

Cancel

Release 1.fc30

Release 2.fc30

Release 3.fc30


Release 4.fc30


Release 1.fc30


Release 1.fc30

Release 6.fc30

Version 8.3

 Host

 Dashboard

 Image Builder

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Release 3.fc30

Release 4.fc30

Release 1.fc30

Release 1.fc30

Release 6.fc30

Version 8.3

Host

Dashboard

Image Builder

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Create and Upload Image

1 Image Type

2 Upload to Azure

Authentication

File Upload

Client ID

my-id

Subscription ID

my-subscription

Secret

my-secret

Tenant

my-tenant

Resource group

my-resource-group

Storage account name

my-storage-account

Next

Back

Cancel

Release 1.fc30

Release 2.fc30

Release 3.fc30

Release 4.fc30








Release 1.fc30

Release 1.fc30

Release 6.fc30

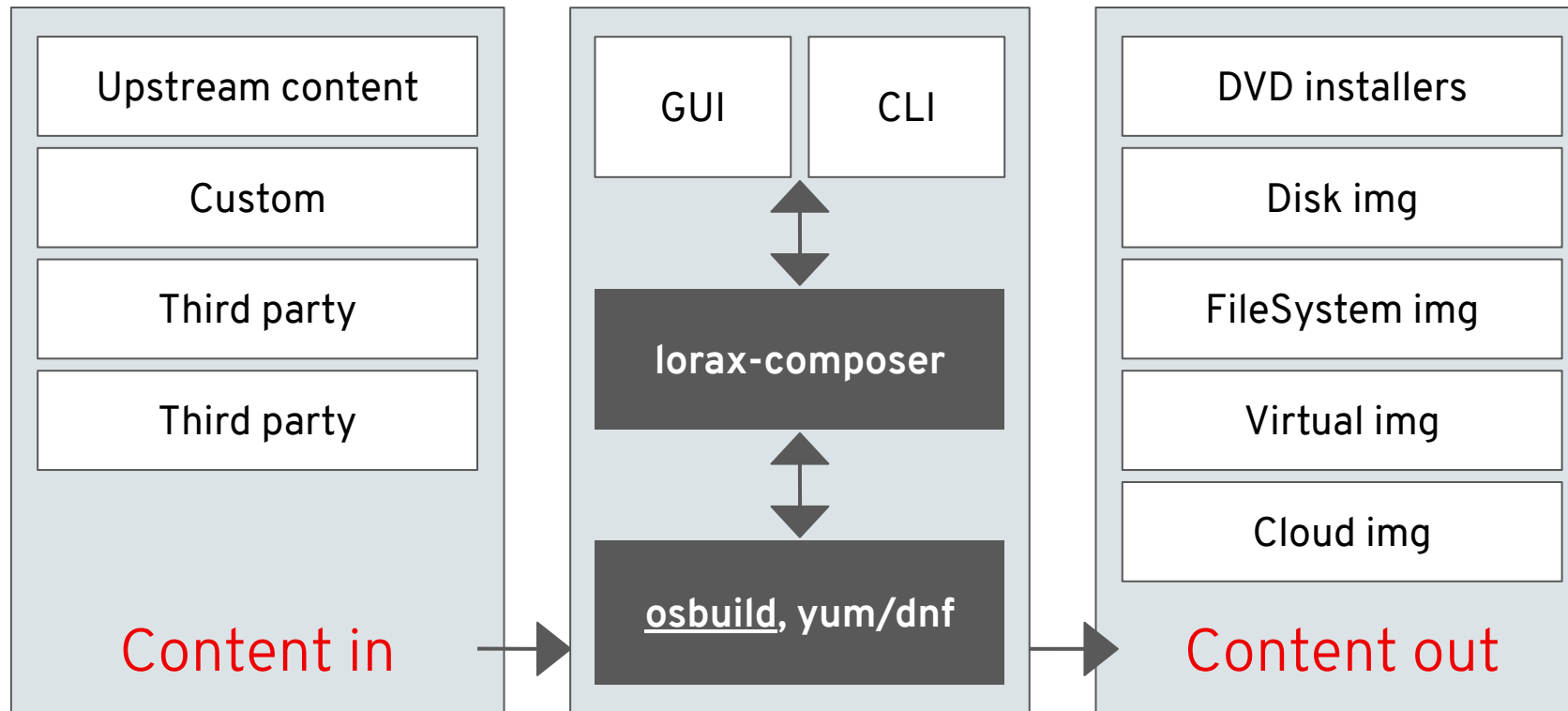
Version 8.3

OSBUILD

▼	 Compose 1 based on version 0.0.2 Created Sat May 18 2019	✔ Compose complete	⋮ Logs
>	 example-http-server-ver0.0.2-qcow2 Type QEMU QCOW2 Image Created Sat May 18 2019	⊗ Image build pending	⋮ Logs
▼	 example-http-server-ver0.0.2-qcow2 Type QEMU QCOW2 Image Created Sat May 18 2019	✔ Image build complete	⋮ Logs
	 Satellite upload Started Sat May 18 2019	✔ Upload action complete	Logs
	 Another upload Started Sat May 18 2019	❗ Upload action failed Try again	Logs
>	 example-http-server-ver0.0.2-qcow2 Type QEMU QCOW2 Image Created Sat May 18 2019	✔ Image build complete ✔ 2 upload actions complete	⋮ Logs
	 example-http-server-ver0.0.2-qcow2 Type QEMU QCOW2 Image Created Sat May 18 2019	✔ Image build complete	⋮ Logs

OSBUILD

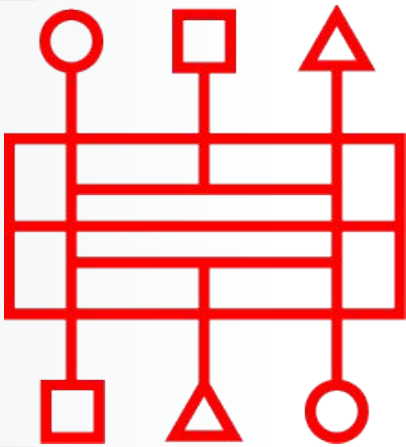
A new build system for OS images



 <https://github.com/osbuild/osbuild>

IMAGE CUSTOMIZATIONS

“Why not just use (kickstart, Ansible, etc)?”



Current challenges

- › Some are difficult to troubleshoot
- › Some are not supported
- › Some use first boot then create new deployments using configurations that are unique to the original environment

DOCUMENTATION

Upstream

<https://weldr.io/lorax/lorax-composer.html>

Red Hat Enterprise Linux 7.6

Installation Guide

Chapter 28: Building custom
system Images with Composer »

Red Hat Enterprise Linux 8.0

Installing and deploying Red Hat Enterprise Linux

Chapter 6: Building custom
system images with Composer »

TRY IT OUT

```
dnf install cockpit-composer
```

ANSIBLE PLAYBOOK

https://galaxy.ansible.com/linux-system-roles/image_builder

SOURCE CODE

 <https://github.com/weldr/lorax>

 <https://github.com/weldr/cockpit-composer>



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Visit the User Experience Design Team in the lobby.

Image Builder card sort activity

Sara Chizari, Jenn Giardino

RHEL top tasks survey

Sara Chizari

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Currently available

- Pull source content from Red Hat Satellite/Red Hat Subscription Management
- Upload images back to Red Hat Satellite for deployment (*enabled with [Hammer](#)*)

IMAGE BUILDER

