



Getting Started with Image Mode for RHEL

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New!

Introducing image mode for Red Hat Enterprise Linux

Combining the power of RHEL with the benefits of containers

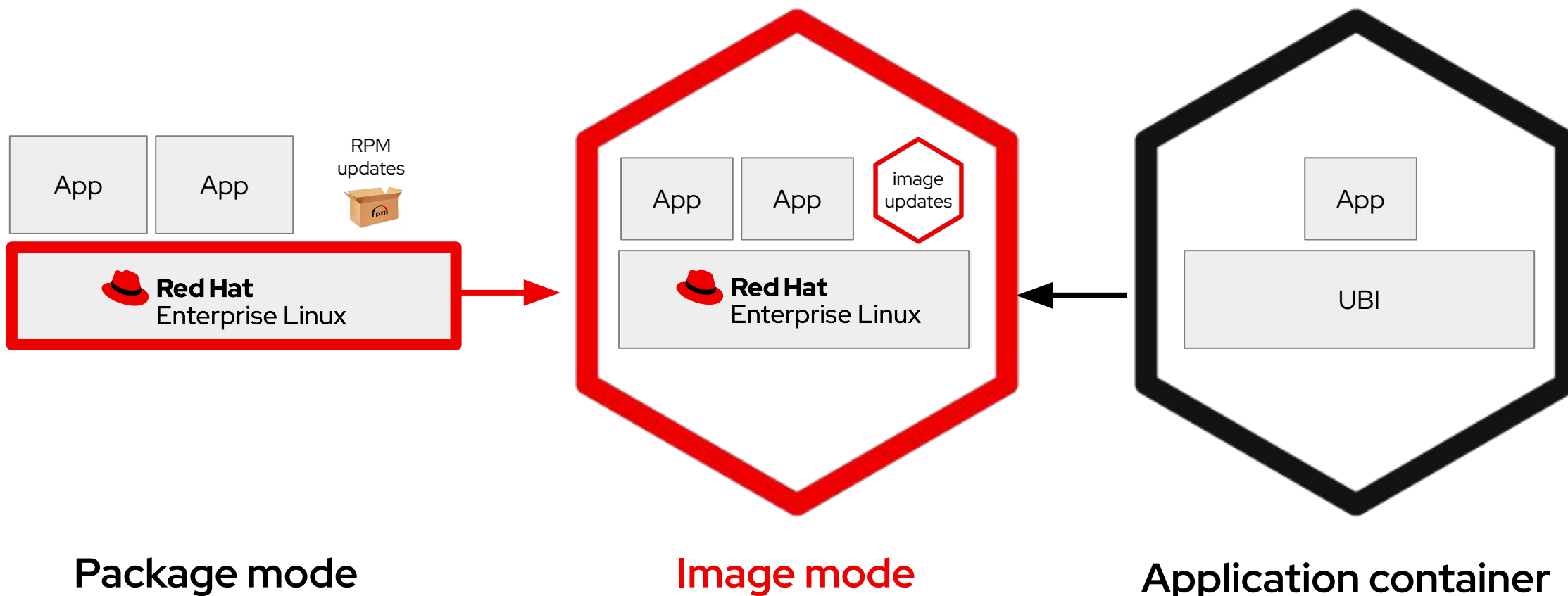
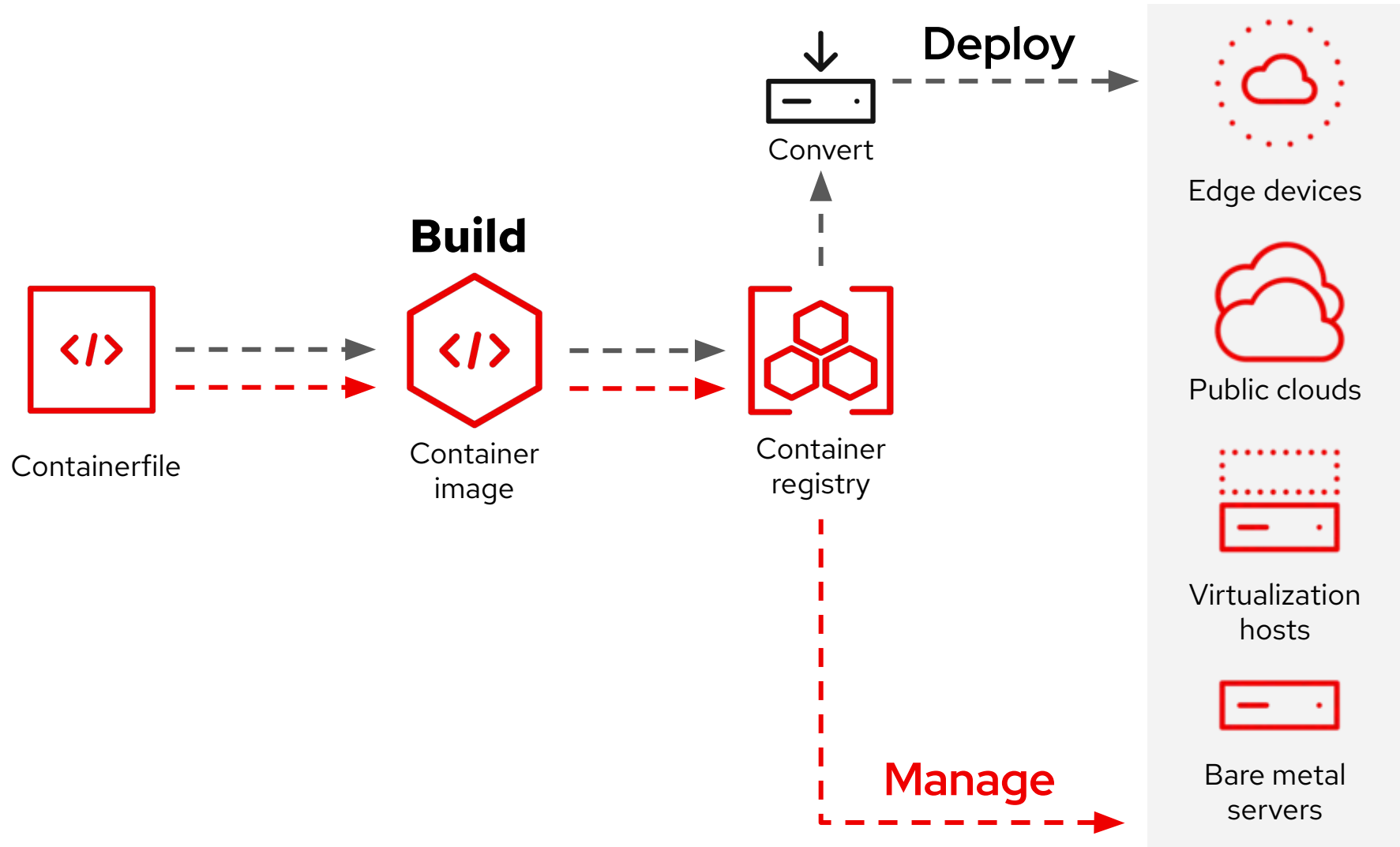


Image mode for Red Hat Enterprise Linux

Simple. Consistent. Anywhere.



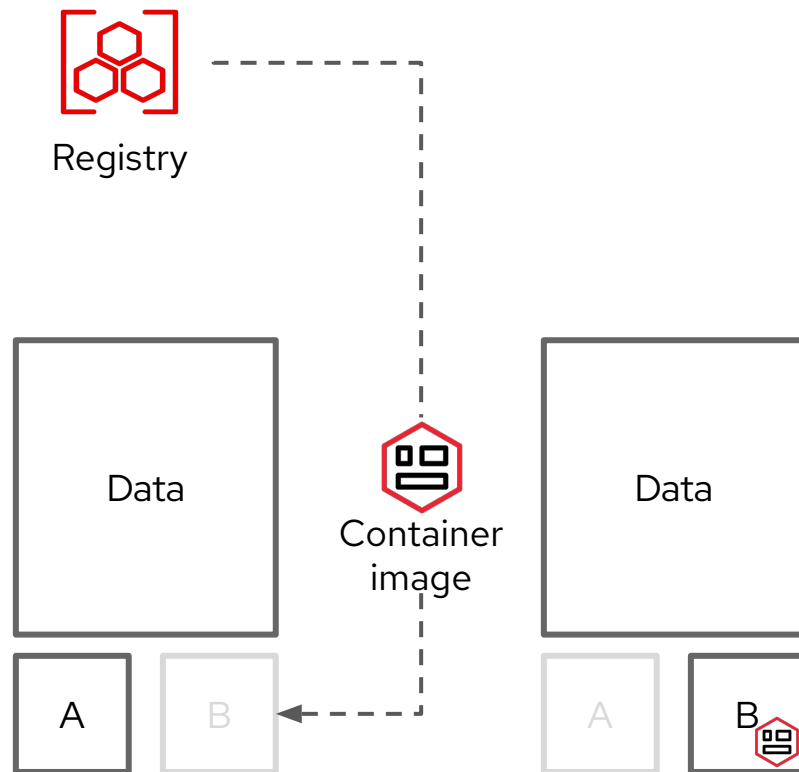
The choice is yours!

Select the most suitable approach for your organizational needs

	Package mode	Image mode
Build	Image builder	Container tools
Update	Packages (dnf)	Images (bootc)
Distribute	rpm repository	Container registry
Change	Run time	Build time
Manage	Red Hat Insights, Satellite, Ansible	
Deploy	Bare metal, VM, cloud, edge	

Bootc: Image-based updates perfected

Immutable by default - secure by design



Transactional updates (A → B model)

Bootc uses composefs and ostree to convert the container image into the root filesystem on the host..

Roll forward or backwards

Updates are staged in the background and applied when the system reboots. The transactional model enables rollbacks for additional assurance

Upgrades have never been easier

While there are some limits, bootc enables moving between minor releases of RHEL (9.5 → 9.6), as well as major releases (9.6 → 10.0)

Immutability of Image Mode

Filesystem Layout

Writable at build time

```
FROM rhel-bootc
RUN dnf install -y $my_pkg
COPY $my_content
RUN $my_script
```

Readonly at runtime, except from

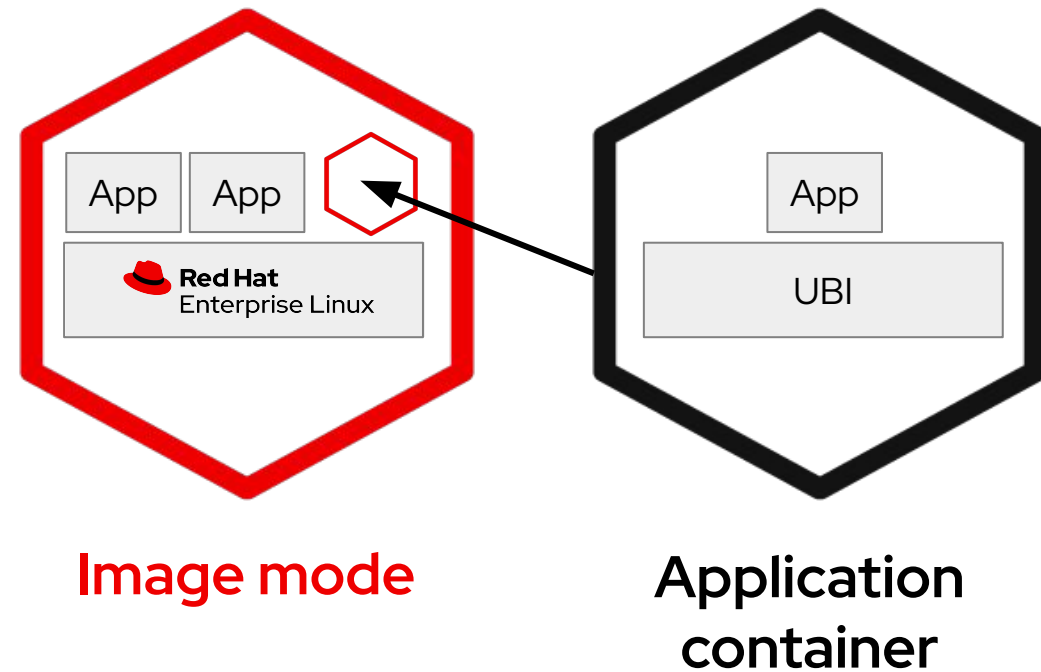
- ▶ /etc
 - Local configuration
 - 3-way merge on updates
- ▶ /var
 - Persistent mutable state and data



Containerizing Workloads on Image Mode

Decoupling Applications from the Host

- ▶ Independent lifecycle
- ▶ Improved security
- ▶ Improved uptime
- ▶ Unified pipeline for apps and host



Combining Image Mode and Quadlets

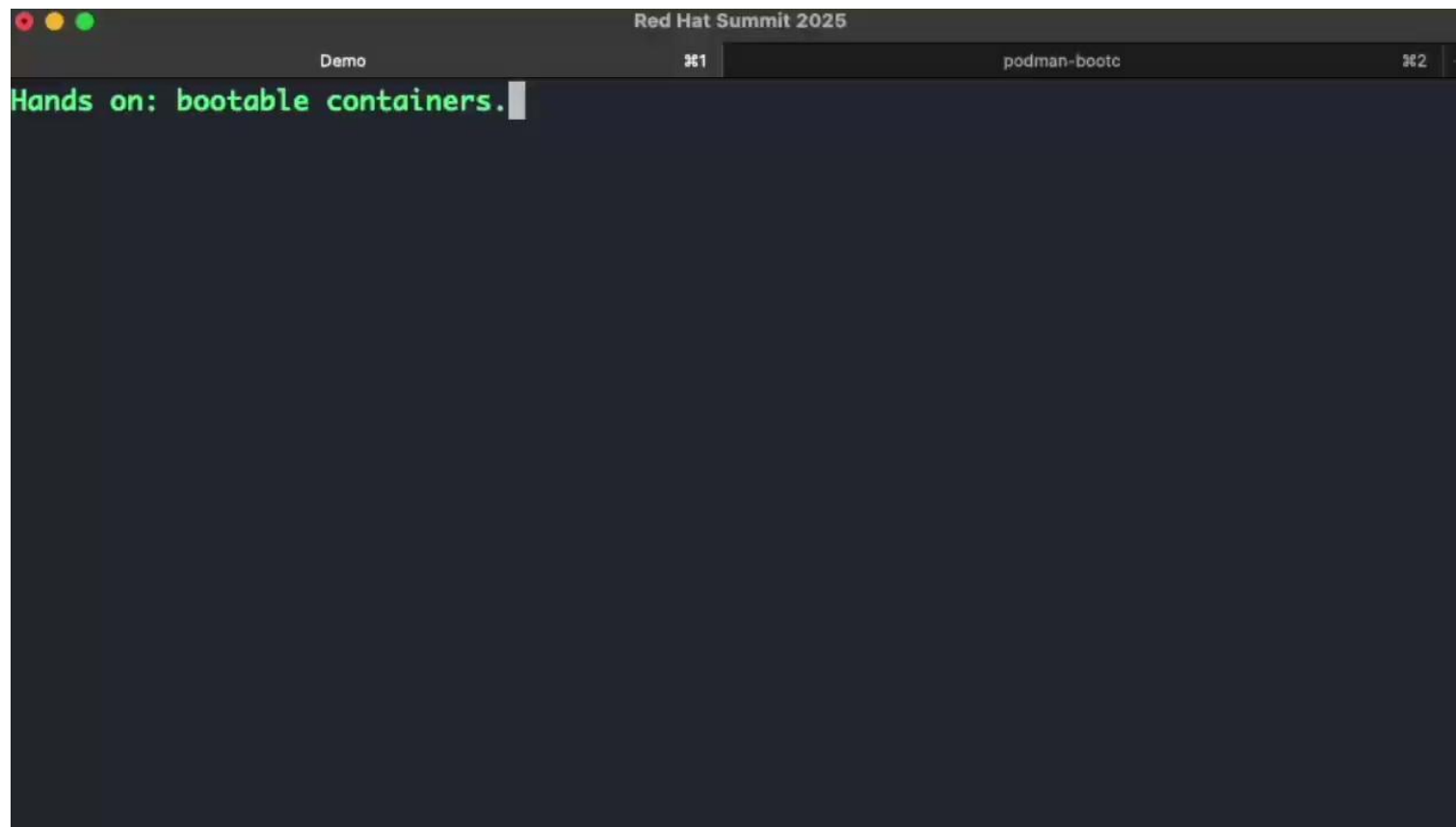
for Sysadmins and DevOps



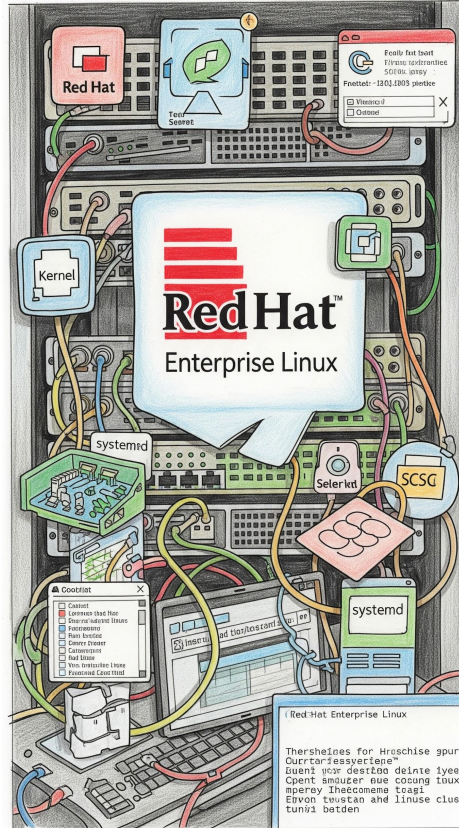
```
FROM quay.io/centos-bootc/centos-bootc:$VERSION
RUN mkdir -p /etc/containers/systemd
COPY workload.container /etc/containers/systemd
```



- ▶ Quadlets are shipped with the image
- ▶ Clear separation of concerns
- ▶ Updates to Quadlets can be automated
 - No reboot required
- ▶ Application teams manage updates
 - Shared CI/CD pipelines with bootc
 - Similar workflow and experience
- ▶ Sysadmins manage the OS
- ▶ Architects compose the images



Where to find information?



- ▶ [Fedora bootc documentation](#)
- ▶ [Bootc upstream documentation](#)
- ▶ [Red Hat landing page](#)
- ▶ [Red Hat FAQ](#)
- ▶ Bootc is a [CNCF project](#)

