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OSTree CLI for OS management

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Open First



Common update methods

**Full
Package
changes**

Android (.apk),
Debian/Ubuntu (.deb)

**Delta
Package
changes**

Used by RedHat/SUSE
(.rpm) predominantly

**Full file
system
changes**

Often used by default for
embedded products

OSTree

Always known end-state
Built-in support for
rollback with very limited
dependencies



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What is OSTree?

- `libostree` -- reference library
- `ostree` -- CLI tool
- Integration with numerous bootloaders

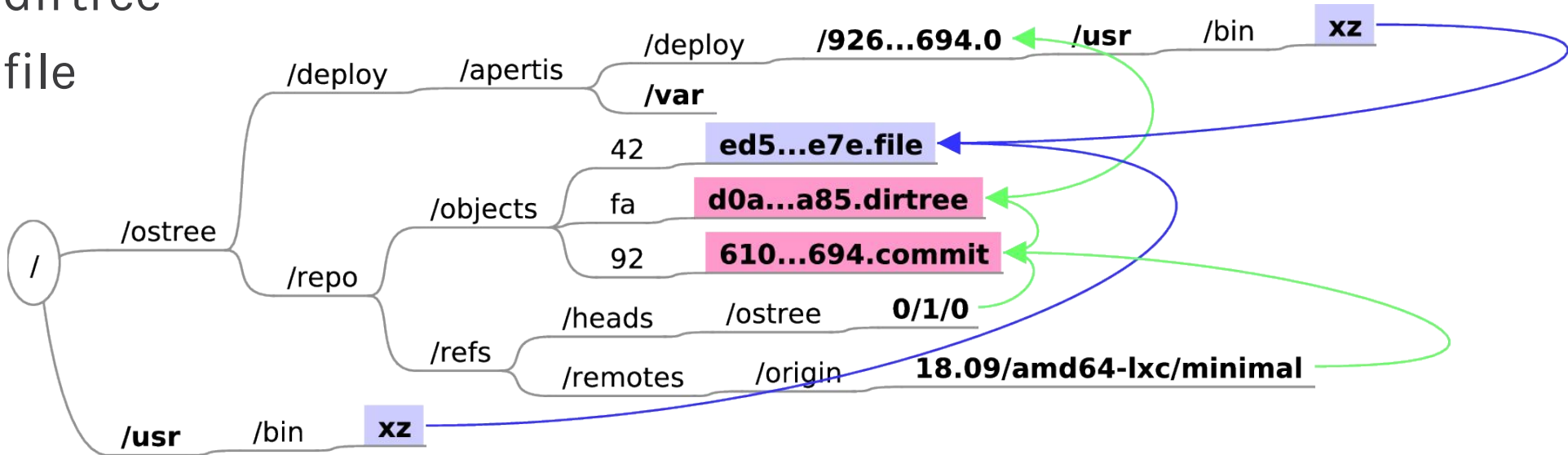
Why OSTree?

- Management library
- Multiple OSes and variants
- Operates on top of any FS
- Stateless root filesystem
- Atomic versions switch
- Git-like model
- Deduplication
- Reliable updates and rollbacks
- Distribution: OTA & offline
- The same for applications



OSTree repository objects

- commit
- dirtree
- file

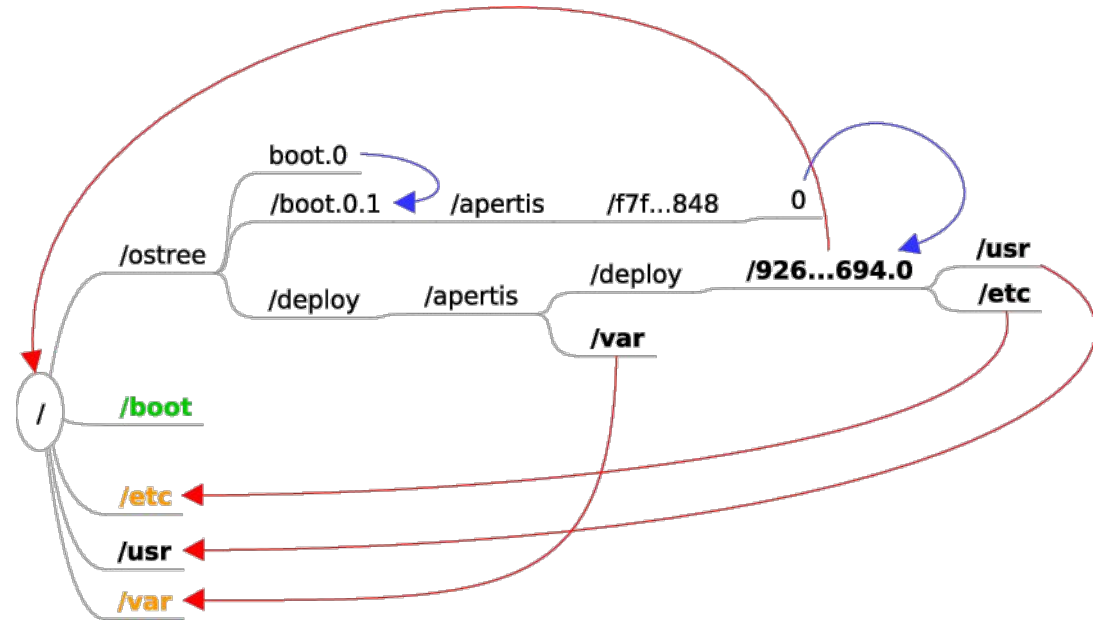


OSTree repository

- `ls -l /ostree/`
- `ls -l /ostree/repo`
- `cat /ostree/repo/config`
- `ls -l /ostree/deploy/`
- `ls -l /ostree/deploy/apertis/`

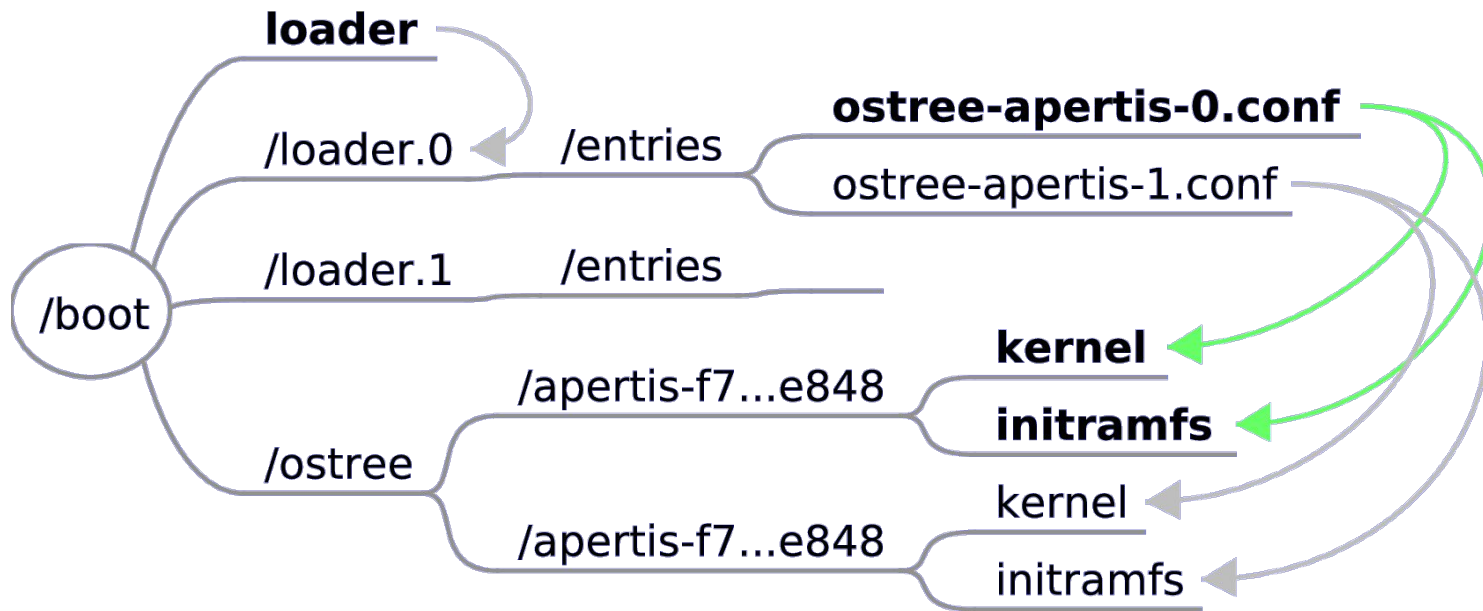
OSTree root file system layout

- Need support from initramfs
- Uses hardlink trees for files
- Special treatment:
 - /boot
 - /etc
 - /var



OSTree boot switch*

- Configuration for boot is defined by symlink switching



Basic commands

- `ostree --help`
- `ostree --version`
- `ostree admin --print-current-dir`
- `ostree admin status`
- `ostree remote list`
- `ostree config --group 'remote "origin"' get url`

Basic commands: upgrade

- `ostree admin upgrade`
- `ostree admin status`

Basic commands: the state

- `ostree refs`
- `ostree rev-parse \`
`origin:apertis/v2020pre/armhf-uboot/minimal`
- `find /ostree/repo/ -name "*commit*"`
- `ostree show \`
`origin:apertis/v2020pre/armhf-uboot/minimal`
- `ostree admin config-diff`

Basic commands: repo care

- Check repo consistency
 - `ostree fsck`
- Prune
 - `ostree prune`
 - `ostree prune --refs-only`
 - `ostree prune --depth=3 --refs-only`
 - `ostree prune --keep-younger-than='1 day ago'`

Basic commands: undeploy

- `ostree admin status`
- `ostree admin undeploy 1`

Basic commands: hotfix

- `ostree admin unlock`

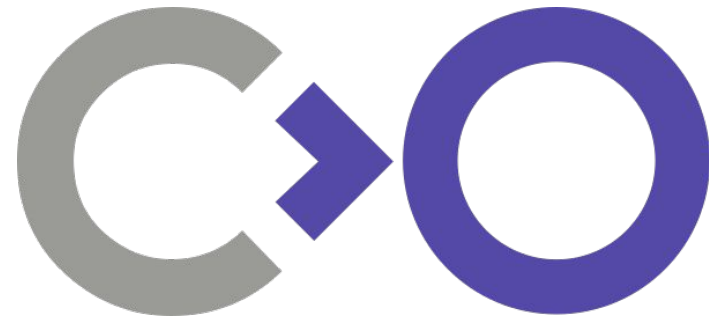
Basic commands: history

- `ostree log \`
`origin:apertis/v2020pre/armhf-uboot/minimal`
- `ostree pull --commit-metadata-only --depth=5 \`
`origin apertis/v2020pre/armhf-u boot/minimal`
- `ostree log \`
`origin:apertis/v2020pre/armhf-uboot/minimal`



Basic commands: downgrade

- `ostree admin upgrade --allow-downgrade \`
`--override-commit=<hashID>`



Thank you!



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