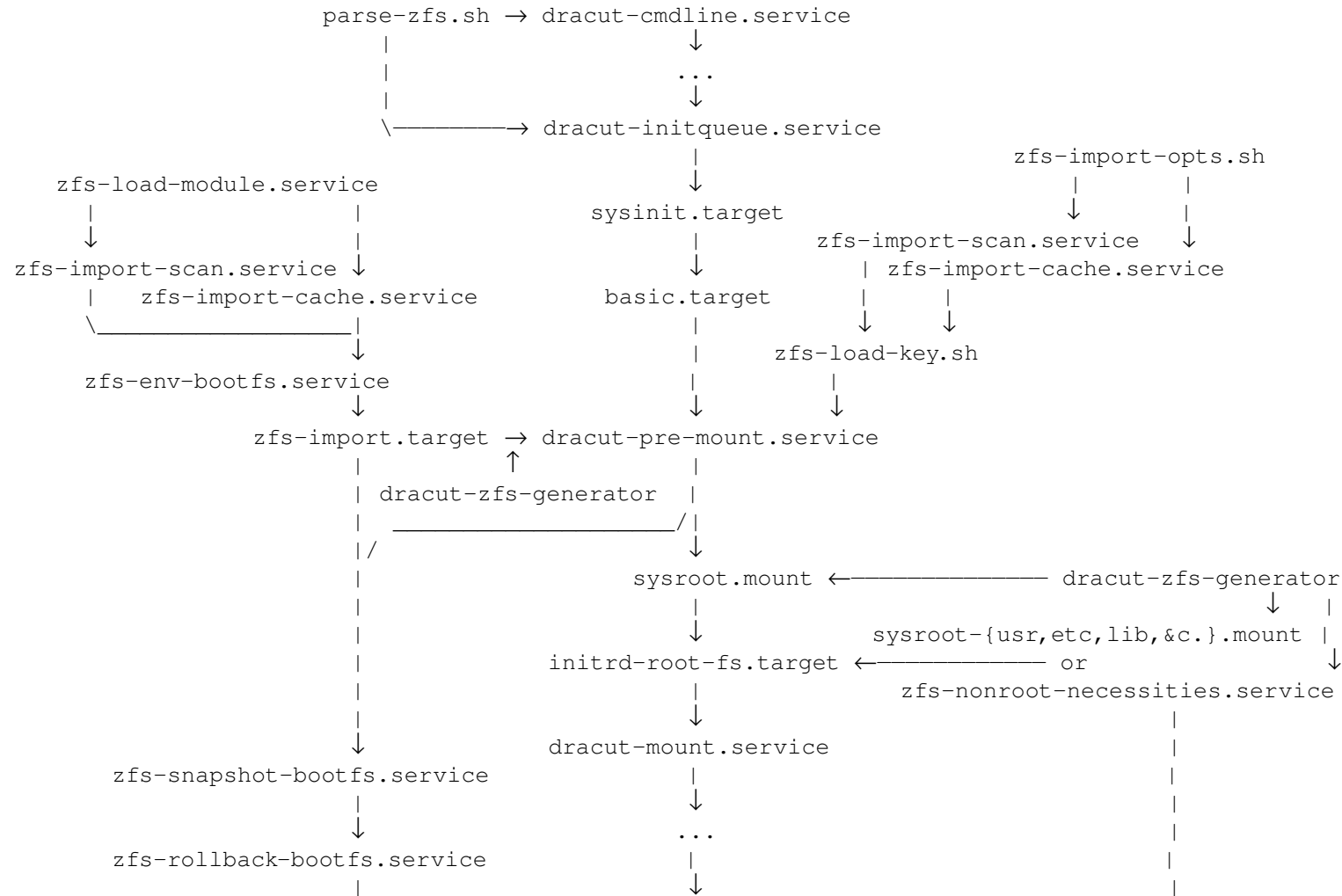
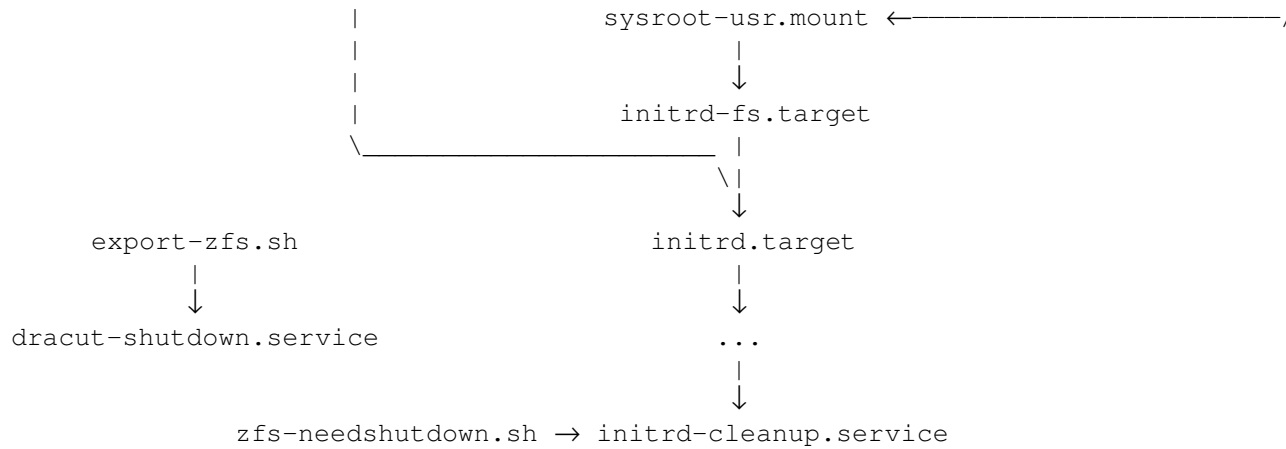


NAME

dracut.zfs — overview of ZFS dracut hooks

SYNOPSIS





Compare `dracut.bootup(7)` for the full flowchart.

DESCRIPTION

Under dracut, booting with ZFS-on-`/` is facilitated by a number of hooks in the **90zfs** module.

Booting into a ZFS dataset requires **mountpoint=**`/` to be set on the dataset containing the root filesystem (henceforth "the boot dataset") and at the very least either the **bootfs** property to be set to that dataset, or the **root=** kernel cmdline (or dracut drop-in) argument to specify it.

All children of the boot dataset with **canmount=on** with **mountpoints** matching `/etc`, `/bin`, `/lib`, `/lib??`, `/libx32`, and `/usr` globs are deemed essential and will be mounted as well.

`zfs-mount-generator(8)` is recommended for proper functioning of the system afterward (correct mount properties, remounting, &c.).

CMDLINE

Standard

- root=zfs:dataset**, **root=ZFS=dataset** Use *dataset* as the boot dataset. All pluses (`'+'`) are replaced with spaces (`' '`).
- root=zfs:AUTO**, **root=zfs:**, **root=zfs**, [**root=**] After import, search for the first pool with the **bootfs** property set, use its value as-if specified as the *dataset* above.
- rootfstype=zfs** **root=dataset** Equivalent to **root=zfs:dataset**.
- rootfstype=zfs** [**root=**] Equivalent to **root=zfs:AUTO**.

rootflags=flags

Mount the boot dataset with `-o flags`; cf. **Temporary Mount Point Properties** in `zfsprops(7)`. These properties will not last, since all filesystems will be re-mounted from the real root.

debug

If specified, **dracut-zfs-generator** logs to the journal.

Be careful about setting neither **rootfstype=zfs** nor **root=zfs:dataset** — other automatic boot selection methods, like **systemd-gpt-auto-generator** and **systemd-fstab-generator** might take precedent.

ZFS-specific

bootfs.snapshot[=snapshot-name] Execute **zfs snapshot boot-dataset@snapshot-name** before pivoting to the real root. *snapshot-name* defaults to the current kernel release.

bootfs.rollback[=snapshot-name] Execute **zfs snapshot -Rf boot-dataset@snapshot-name** before pivoting to the real root. *snapshot-name* defaults to the current kernel release.

spl_hostid=host-id

Use `zgenhostid(8)` to set the host ID to *host-id*; otherwise, `/etc/hostid` inherited from the real root is used.

zfs_force, zfs.force, zfsforce

Appends `-f` to all **zpool import** invocations; primarily useful in conjunction with **spl_hostid=**, or if no host ID was inherited.

FILES

`parse-zfs.sh` (**cmdline**)

Processes **spl_hostid=**. If **root=** matches a known pattern, above, provides `/dev/root` and delays the initqueue until `zfs(4)` is loaded,

`zfs-import-opts.sh` (**systemd** environment generator)

Turns **zfs_force, zfs.force, or zfsforce** into `ZPOOL_IMPORT_OPTS=-f` for `zfs-import-scan.service` or `zfs-import-cache.service`.

`zfs-load-key.sh` (**pre-mount**)

Loads encryption keys for the boot dataset and its essential descendants.

keylocation=prompt

Is prompted for via **systemd-ask-password** thrice.

keylocation=https://URL, keylocation=http://URL `network-online.target` is started before loading.

keylocation=file://path

If *path* doesn't exist, **udevadm** is **settled**. If it still doesn't, it's waited for for up to **10s**.

`zfs-env-bootfs.service` (**systemd** service)

After pool import, sets `BOOTFS=` in the `systemd` environment to the first non-null **bootfs** value in iteration order.

`dracut-zfs-generator` (**systemd** generator)

Generates `sysroot.mount` (using **rootflags=**, if any). If an explicit boot dataset was specified, also generates essential mountpoints (`sysroot-etc.mount`, `sysroot-bin.mount`, &c.), otherwise generates `zfs-nonroot-necessities.service` which mounts them explicitly after `/sysroot` using `BOOTFS=`.

`zfs-snapshot-bootfs.service`, `zfs-rollback-bootfs.service` (**systemd** services)

Consume **bootfs.snapshot** and **bootfs.rollback** as described in **CMDLINE**. Use `BOOTFS=` if no explicit boot dataset was specified.

`zfs-needshutdown.sh` (**cleanup**)

If any pools were imported, signals that shutdown hooks are required.

`export-zfs.sh` (**shutdown**)

Forcibly exports all pools.

`/etc/hostid`, `/etc/zfs/zpool.cache`, `/etc/zfs/vdev_id.conf` (regular files)

Included verbatim, hostonly.

`mount-zfs.sh` (**mount**)

Does nothing on **systemd** systems (if `dracut-zfs-generator` succeeded). Otherwise, loads encryption key for the boot dataset from the console or via `plymouth`. It may not work at all!

SEE ALSO

`dracut.bootup(7)`, `zfsprops(7)`, `zpoolprops(7)`, `dracut-shutdown.service(8)`, `systemd-fstab-generator(8)`, `systemd-gpt-auto-generator(8)`, `zfs-mount-generator(8)`, `zgenhostid(8)`