SYSTEMD

As part of the activation process (either with activate or activate), systemd units will get enabled that will use the OSD id and uuid as part of their name. These units will be run when the system boots, and will proceed to activate their corresponding volumes via their sub-command implementation.

The API for activation is a bit loose, it only requires two parts: the subcommand to use and any extra meta information separated by a dash. This convention makes the units look like:

```
ceph-volume@{command}-{extra metadata}
```

The *extra metadata* can be anything needed that the subcommand implementing the processing might need. In the case of lvm and simple, both look to consume the OSD id and OSD uuid, but this is not a hard requirement, it is just how the sub-commands are implemented.

Both the command and extra metadata gets persisted by systemd as part of the *"instance name"* of the unit. For example an OSD with an ID of 0, for the lvm sub-command would look like:

```
systemctl enable ceph-volume@lvm-0-0A3E1ED2-DA8A-4F0E-AA95-61DEC71768D6
```

The enabled unit is a systemd oneshot service, meant to start at boot after the local filesystem is ready to be used.

FAILURE AND RETRIES

It is common to have failures when a system is coming up online. The devices are sometimes not fully available and this unpredictable behavior may cause an OSD to not be ready to be used.

There are two configurable environment variables used to set the retry behavior:

- CEPH_VOLUME_SYSTEMD_TRIES: Defaults to 30
- CEPH_VOLUME_SYSTEMD_INTERVAL: Defaults to 5

The *"tries"* is a number that sets the maximum amount of times the unit will attempt to activate an OSD before giving up.

The *"interval"* is a value in seconds that determines the waiting time before initiating another try at activating the OSD.