

KV260 の overlayroot 化

Ubuntu 22.04 と PYNQ をセットアップした KV260 で、
行儀悪く電源をオフしたりリブートしたりできるように overlayroot 化。

やることは単純で、まず、おそらく既にインストール済みだけど、

```
$ sudo apt install overlayroot
```

として、overlayroot をインストールあるいは意図してインストールしたものとしてマーク。
インストールしたら、/etc/overlayroot.conf の最後の行に

```
overlayroot=""
```

とあるのを

```
overlayroot="tmpfs"
```

に変更してリブートすればいい。

リブートすると、

```
tmpfs-root /media/root-rw tmpfs rw,relatime,inode64 0 0
overlayroot /var/snap/firefox/common/host-hunspell overlay
ro,noexec,noatime,lowerdir=/media/root-ro,upperdir=/media/root-rw/overlay,workdir=/media/root-rw/overlay-workdir/_ 0 0
```

とか表示されてオーバーレイされてそう。

mount コマンド叩いてみるとリブート前は、

```
sysfs on /sys type sysfs (rw,nosuid,nodev,noexec,relatime)
proc on /proc type proc (rw,nosuid,nodev,noexec,relatime)
udev on /dev type devtmpfs (rw,nosuid,relatime,size=1452052k,nr_inodes=363013,mode=755,inode64)
devpts on /dev/pts type devpts (rw,nosuid,noexec,relatime,gid=5,mode=620,ptmxmode=000)
tmpfs on /run type tmpfs (rw,nosuid,nodev,noexec,relatime,size=400036k,mode=755,inode64)
/dev/mmcblk1p2 on / type ext4 (rw,relatime,discard,errors=remount-ro)
securityfs on /sys/kernel/security type securityfs (rw,nosuid,nodev,noexec,relatime)
tmpfs on /dev/shm type tmpfs (rw,nosuid,nodev,inode64)
tmpfs on /run/lock type tmpfs (rw,nosuid,nodev,noexec,relatime,size=5120k,inode64)
cgroup2 on /sys/fs/cgroup type cgroup2
(rw,nosuid,nodev,noexec,relatime,nsdelegate,memory_recursiveprot)
pstore on /sys/fs/pstore type pstore (rw,nosuid,nodev,noexec,relatime)
bpf on /sys/fs/bpf type bpf (rw,nosuid,nodev,noexec,relatime,mode=700)
systemd-1 on /proc/sys/fs/binfmt_misc type autofs (rw,relatime,fd=30,pgrp=1,timeout=0,minproto=5
,maxproto=5,direct,pipe_ino=23919)
mqueue on /dev/mqueue type mqueue (rw,nosuid,nodev,noexec,relatime)
hugetlbfs on /dev/hugepages type hugetlbfs (rw,relatime,pagesize=2M)
debugfs on /sys/kernel/debug type debugfs (rw,nosuid,nodev,noexec,relatime)
tracefs on /sys/kernel/tracing type tracefs (rw,nosuid,nodev,noexec,relatime)
fusectl on /sys/fs/fuse/connections type fusectl (rw,nosuid,nodev,noexec,relatime)
configfs on /sys/kernel/config type configfs (rw,nosuid,nodev,noexec,relatime)
none on /run/credentials/systemd-sysusers.service type ramfs
(ro,nosuid,nodev,noexec,relatime,mode=700)
/var/lib/snapd/snaps/bare_5.snap on /snap/bare/5 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/core20_1522.snap on /snap/core20/1522 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/core20_1740.snap on /snap/core20/1740 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/firefox_1440.snap on /snap/firefox/1440 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
```

```

/var/lib/snapd/snaps/firefox_2155 .snap on /snap/firefox/2155 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/gnome-3-38-2004_107 .snap on /snap/gnome-3-38-2004/107 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/gnome-3-38-2004_122 .snap on /snap/gnome-3-38-2004/122 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/gtk-common-themes_1534 .snap on /snap/gtk-common-themes/1534 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/gtk-common-themes_1535 .snap on /snap/gtk-common-themes/1535 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/snap-store_581 .snap on /snap/snap-store/581 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/snap-store_639 .snap on /snap/snap-store/639 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/snapd_17885 .snap on /snap/snapd/17885 type squashfs
(ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/snapd-desktop-integration_15 .snap on /snap/snapd-desktop-integration/15 type
squashfs (ro,nodev,relatime,errors=continue,x-gdu.hide)
/var/lib/snapd/snaps/snapd-desktop-integration_44 .snap on /snap/snapd-desktop-integration/44 type
squashfs (ro,nodev,relatime,errors=continue,x-gdu.hide)
/dev/mmcblk1 p2 on /var/snap/firefox/common/host-hunspell type ext4
(ro,noexec,noatime,discard,errors=remount-ro)
/dev/mmcblk1p1 on /boot/firmware type vfat (rw,relatime,mask=0022,dmask=0022,codepage=437
,iocharset=iso8859-1,shortname=mixed,errors=remount-ro)
sunrpc on /run/rpc_pipefs type rpc_pipefs (rw,relatime)
binfmt_misc on /proc/sys/fs/binfmt_misc type binfmt_misc (rw,nosuid,nodev,noexec,relatime)
configfs on /configfs type configfs (rw,relatime)
tmpfs on /run/user/1000 type tmpfs (rw,nosuid,nodev,relatime,size=400032k,nr_inodes=100008,mode=700
,uid=1000,gid=1000,inode64)
portal on /run/user/1000/doc type fuse.portal (rw,nosuid,nodev,relatime,user_id=1000,group_id=1000)
tmpfs on /run/snapd/ns type tmpfs (rw,nosuid,nodev,noexec,relatime,size=400036k,mode=755,inode64)
gvfsd-fuse on /run/user/1000/gvfs type fuse.gvfsd-fuse (rw,nosuid,nodev,relatime,user_id=1000
,group_id=1000)
nsfs on /run/snapd/ns/snapd-desktop-integration.mnt type nsfs (rw)

```

となっているが、

```

sysfs on /sys type sysfs (rw,nosuid,nodev,noexec,relatime)
proc on /proc type proc (rw,nosuid,nodev,noexec,relatime)
udev on /dev type devtmpfs (rw,nosuid,relatime,size=1452052k,nr_inodes=363013,mode=755,inode64)
devpts on /dev/pts type devpts (rw,nosuid,noexec,relatime,gid=5,mode=620,ptmxmode=000)
tmpfs on /run type tmpfs (rw,nosuid,nodev,noexec,relatime,size=400036k,mode=755,inode64)
/dev/mmcblk1p2 on /media/root-ro type ext4 (ro,relatime)
tmpfs-root on /media/root-rw type tmpfs (rw,relatime,inode64)
overlayroot on / type overlay
(rw,relatime,lowerdir=/media/root-ro,upperdir=/media/root-rw/overlay,workdir=/media/root-rw/overlay-workdir/_ ) security

```

となっている。

overlayroot 環境下で実行中にファイルに恒久的な変更をしたくなったら

```
$ overlayroot-chroot
```

とかするとよい。