

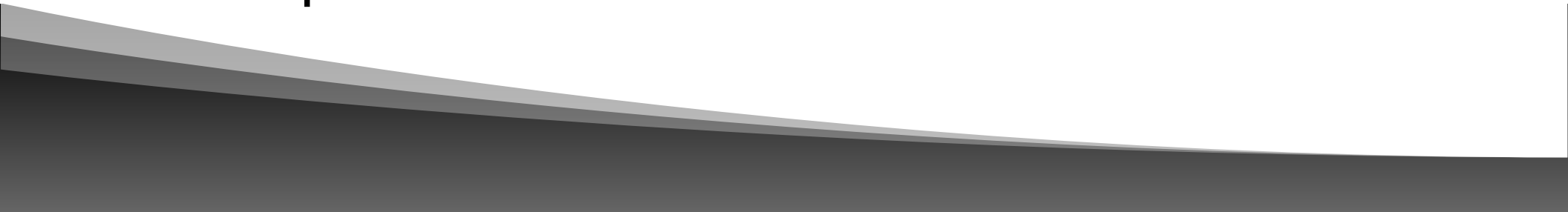


Building Images with Yocto Project

What is the Yocto Project?

- A Linux Foundation project that helps you build your own custom Linux distribution, from source to installable image
- A collection of tools to make building your own custom Linux distribution easier
- “yocto” is the smallest unit prefix in the SI system (10^{-24})

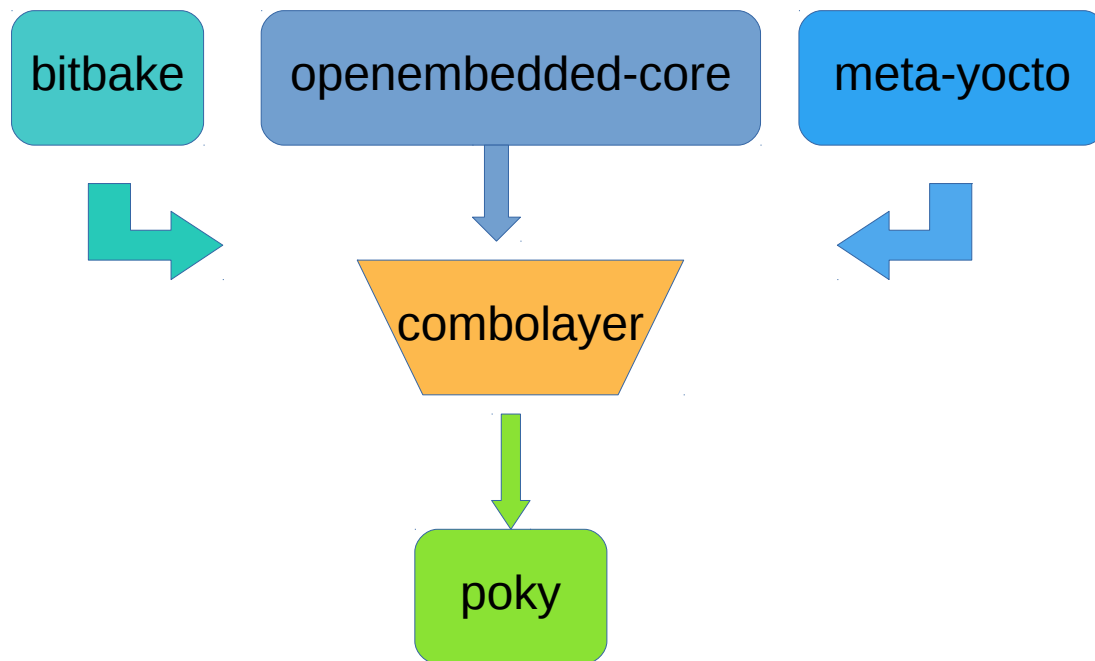
What is Open Embedded?

- A build system, using the “bitbake” tool, to create a Linux distribution
 - A long time ago, in a galaxy far far away, it was what came to be known as Open Embedded Classic
 - A not for profit organization which aims to champion embedded Linux
- 
- A decorative gradient bar at the bottom of the slide, transitioning from dark grey on the left to light grey on the right.

What is poky?

- “poky” is the reference distribution used to make sure the Yocto Project is “all systems normal”
- A conveniently and legally different name for something that sounds the same as a chocolate dipped cookie stick popular in Japan
- Not an equine companion to a green clay-mation character from a popular children’s Saturday morning show that sounds like it might be not so fast

What is poky?



What is poky?

```
$ tree -L 1 poky
poky
├── bitbake
├── documentation
├── LICENSE
├── meta
├── meta-poky
├── meta-selftest
├── meta-skeleton
├── meta-yocto-bsp
├── oe-init-build-env
├── README.hardware
├── README.LSB
├── README.poky
├── README.poky
└── scripts
```



Enough History
we just want to build an image for
our PocketBeagle!

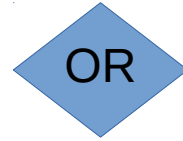
What do we mean by “image”?

- /boot (and boot loader)
- kernel (and kernel modules)
- rootfs
 - /etc
 - /var
 - /usr

Cloning our tools and metadata *e-ale*

```
git clone bitbake
```

```
git clone openembedded-core
```



```
git clone poky
```

```
git clone meta-foo
```

Setting up our build environment

- Without any options
 - `./poky/oe-init-build-env`

```
MACHINE ??= "qemux86"
```

```
TOP_DIR = "./build"
```

A collage of various electronic components. In the background, a breadboard holds several integrated circuits and jumper wires. A black microSD card with a blue plastic adapter is visible, with the brand name 'SanDisk' and 'microSDHC' printed on it. In the foreground, several LEDs in red, green, and yellow are scattered, some with long metal leads. A black power adapter is partially visible on the right side. The entire scene is set against a dark, textured background.

Questions?

Thank you!



e-ale