



Customize your CROPS containers with crops-generator

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Konsulko Group

- Services company specializing in Embedded Linux and Open Source Software
- Hardware/software build, design, development, and training services
- Based in San Jose, CA with an engineering presence worldwide
- <https://konsulko.com/>



Baylibre

- Embedded and Open Source services company
- In the top 20 list of contributions to the Linux Kernel
- Based in the EU and North America
- <https://baylibre.com/>



CROPS history

- **Originally to solve “Need Yocto/OE, but everyone is on Windows or Mac” and “everyone wants to use <...> IDE”**
 - SDK integration
 - Windows Subsystem for Linux (the original)...
 - Windows/Mac file systems are not compatible with Linux
 - Developer workflow centric
- **Now more about build system dependencies**
 - Here is a container with everything you need to build
 - A lot of folks use it purely for Continuous Integration

Containers are NOT Virtual Machines

REPEAT.

Containers are ephemeral.

Containers are minimal content to do a task.

Only that.

CONTAINERS ARE NOT VIRTUAL MACHINES.

CROPS current and future use cases

- I'm a user who wants CROPS plus **myspecial apps**.
What's the right way to do this?
- I'm a hardware vendor who wants to use CROPS plus **myspecial sauce** to minimize support issues.
- I'm a hardware vendor who doesn't want to distribute a (Docker) container because <insert legal issues here>

Crops-generator design goals

- **Re-use what we produced from CROPS.**
 - Containers built on top of other containers
- **Menu driven and extensible.**
- **Minimal Dockerfile experience needed**
- **Doesn't go off into the weeds**
 - Doesn't tie you to layer management tools
 - Does one thing well
 - Allows end users to extend
- **Shall not break Continuous Integration**

Designing crops-generator

- **Tim and Eilís weekly CROPs kvetchathon**
 - Can not underestimate bouncing ideas
 - Lots of menuing systems
 - Kas does some of this, but...
 - repo, git, submodules, oe-setup-layers
- **Write our own or re-use**
 - Looked at python curses
 - Original similar tool was too much “code” for other devs
 - Embedded devs know KConfig

Where to get crops-generator?



```
git clone https://github.com/crops/crops-generator
```



Crops-generator demo

Path Forward

- **Pre-canned examples**
 - Especially with alternate toolchain examples
 - **crops/poky-container**
- **Testing**
 - Right now, testing is manual
 - Incorporate into CROPs CI
- **Re-visiting *minimal* container requirements**
- **Re-thinking **CMD** / **ENTRYPOINTS****
- **Generate **crops/poky** with **crops_generator****



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