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Lessons Learned: Migrating a Production Platform to Yocto

Mitch Gaines – Embue / Farmblox

About Mitch Gaines

- Embedded Systems Engineer at Farmblox & Embue
- Yocto Developer
- Contributor to meta-rauc-community
- Previously in Customer Success



<https://www.linkedin.com/in/mitchgaines/>



Agenda

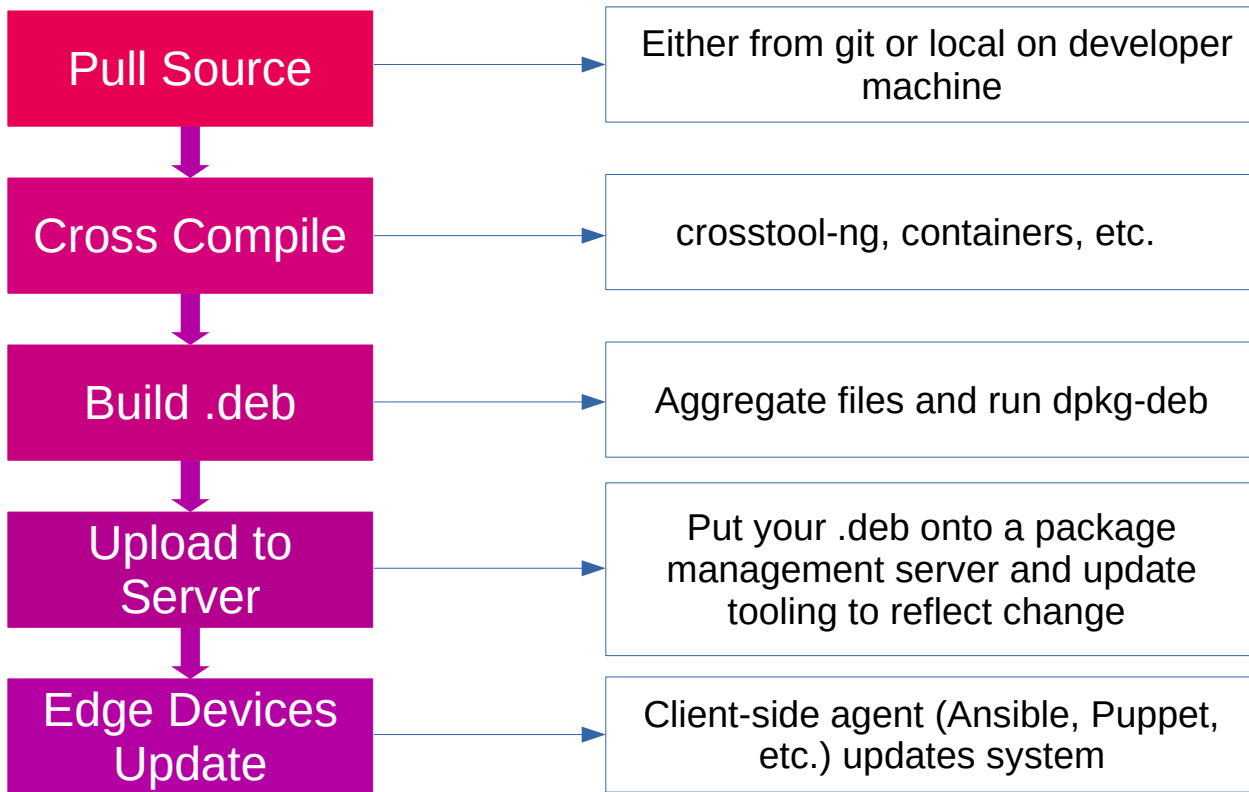
- Why should I do this?
 - Debian vs. Yocto Build Processes
 - The Debian Blueprint
- Managing High Configurability
 - Exercising the Layer-based Architecture
 - Integrating Yocto into App Development



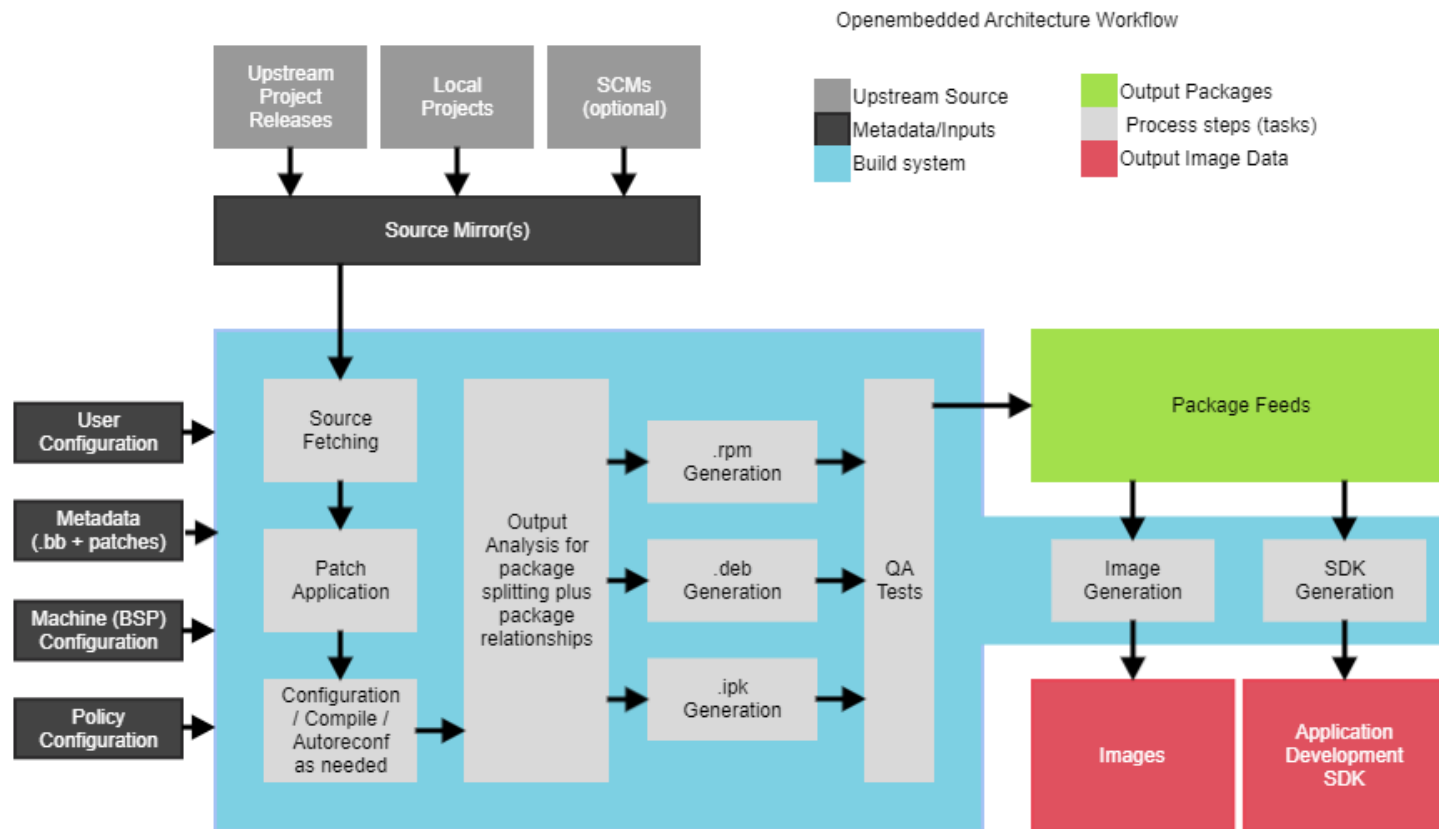
Debian vs Yocto Build Process

- Yocto can still build Debian packages (deb, ipk, & rpm)
- Output of a Yocto build is a system image
- Debian steps are disjointed from one another
- These principles can be applied beyond migrating from Debian

Debian Build Process

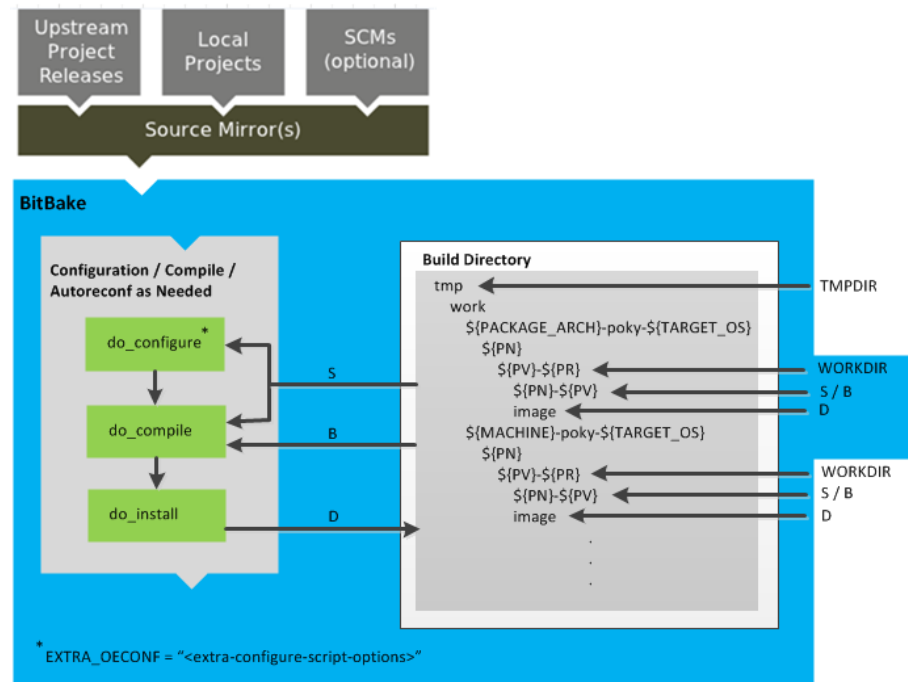


Yocto Build Process



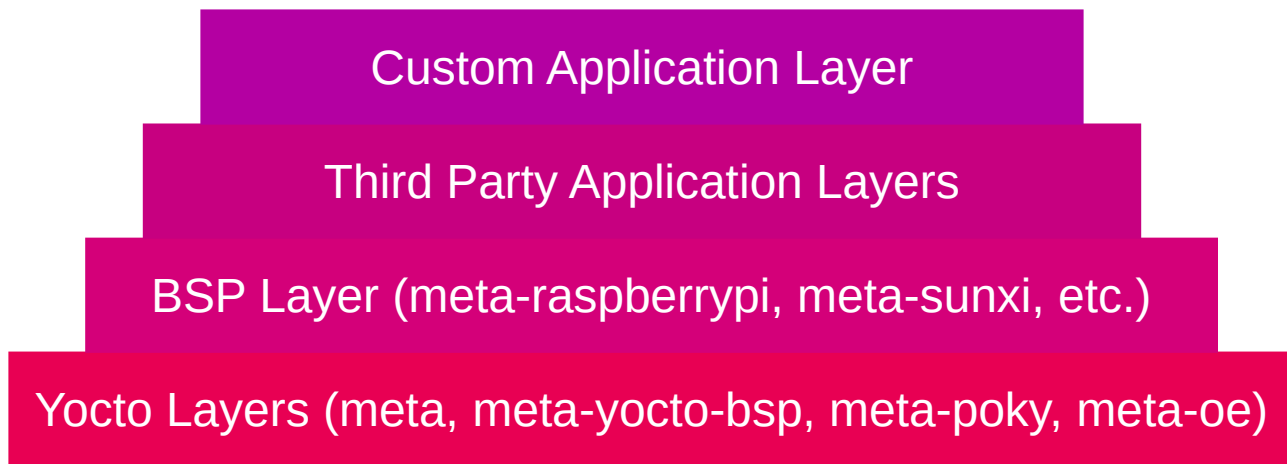
Using the Blueprint

- `do_configure`
 - Managing patch files
- `do_compile`
 - Use your app developers
 - Understand the environment variables
- `do_install`
 - Utilize your Debian install file



Highly Configurable System

- Flexibility to adapt the system to your needs
- Simpler provisioning process



The Migration Framework

3. Migrate Application Developers

- Incorporate them into the migration process
 - Utilize devtool & AUTOREV

2. Integrate Your Application Layer

- Create recipes for each of your applications
 - Use Debian as your blueprint

1. Make it Boot

- Determine kernel and u-boot requirements
 - Choose Yocto release to build from
- Consider the update mechanism and integrate

Thank You

- Connect with me for questions
- Thank you to everyone in the Yocto community

Additional Resources

- Chris Simmonds Debian or Yocto Project?
<https://youtu.be/iDlIXa8SzUg>
- Yocto Project Mega-Manual
<https://www.yoctoproject.org/docs/3.1/mega-manual/mega-manual.html>



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gainesmitch2@gmail.com



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