



Living on Master:

Using Yocto Project, Jenkins and LAVA for a rolling release

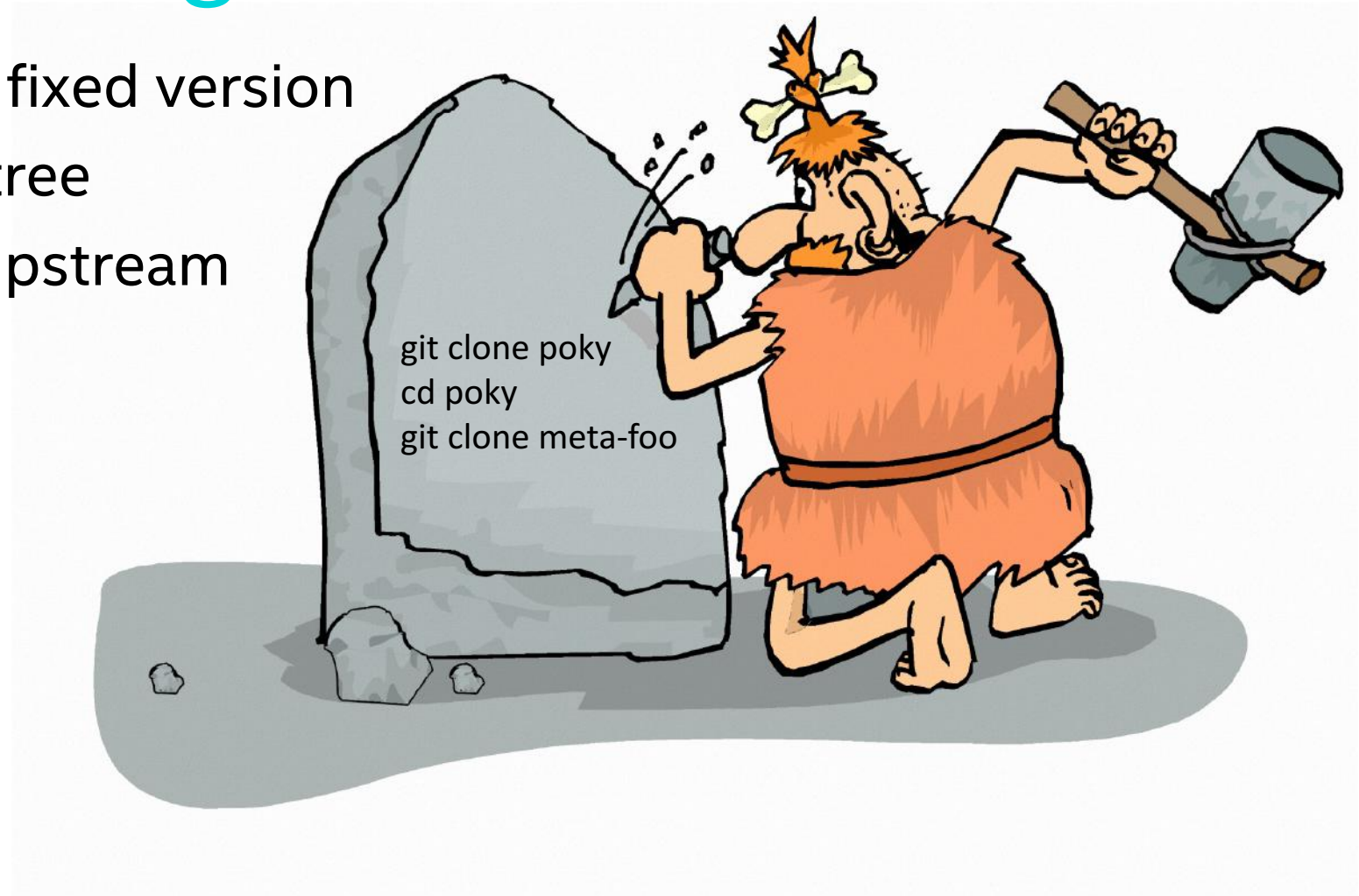
Tim Orling
Intel Open Source Technology Center

You're doing it all wrong.

Here's why.

Traditional Approach: “Fork It and Forget It”

- Pin upstream at a fixed version
- Make changes in tree
- No patches sent upstream



Traditional Approach: “Fork It and Forget It”

- Obsolete from day one
- Upstream never stops
- Huge technical debt



Follow the Linux* kernel release model

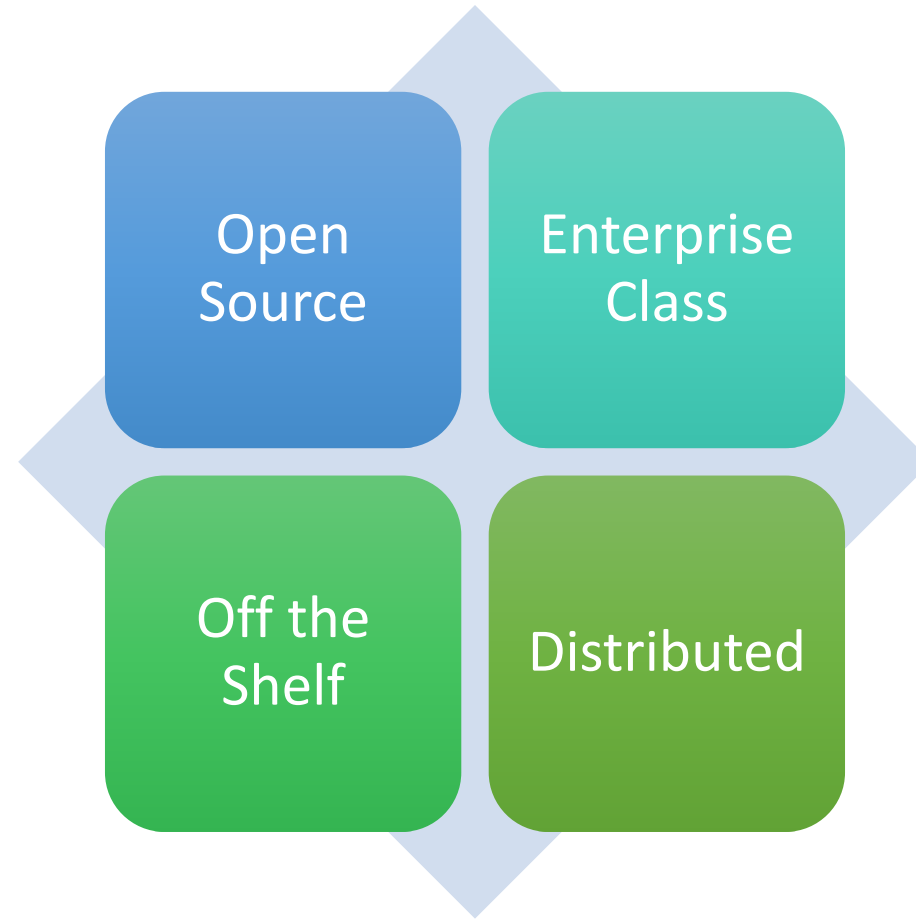
- <http://www.kroah.com/log/blog/2018/02/05/linux-kernel-release-model/>
- Upstream First
- Backport to stable branches
- Constantly moving code-base



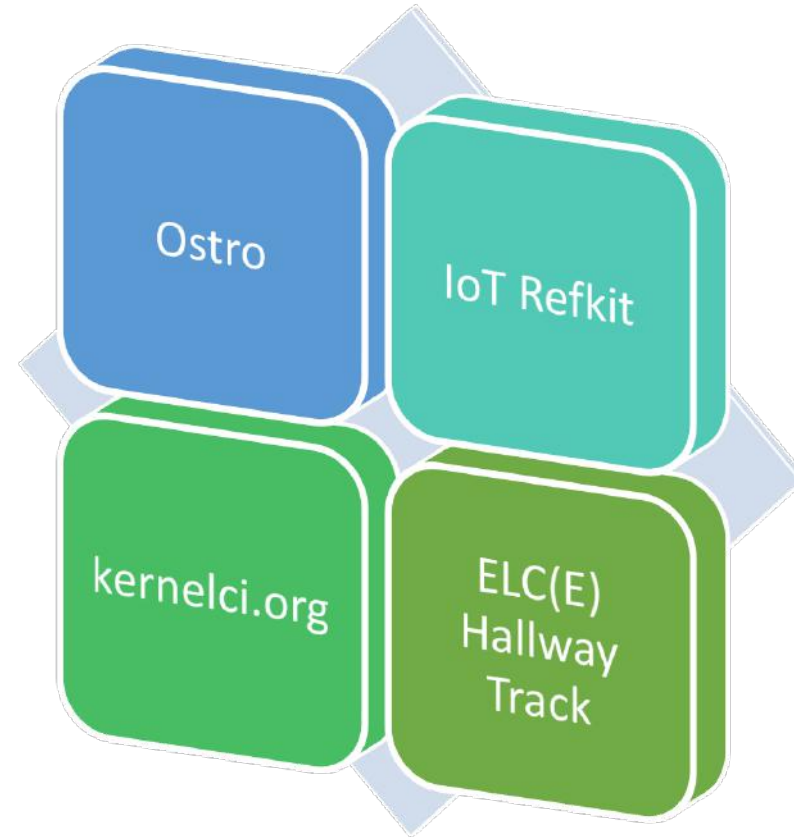
Everyone has their own solution

Time to share.

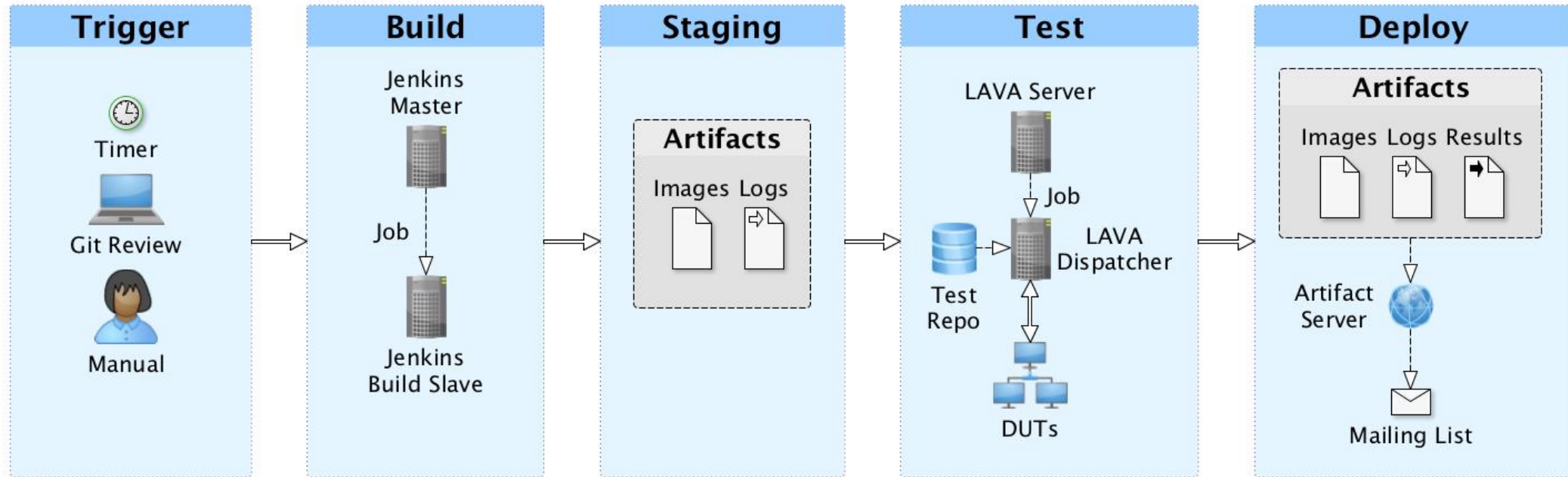
Motivations



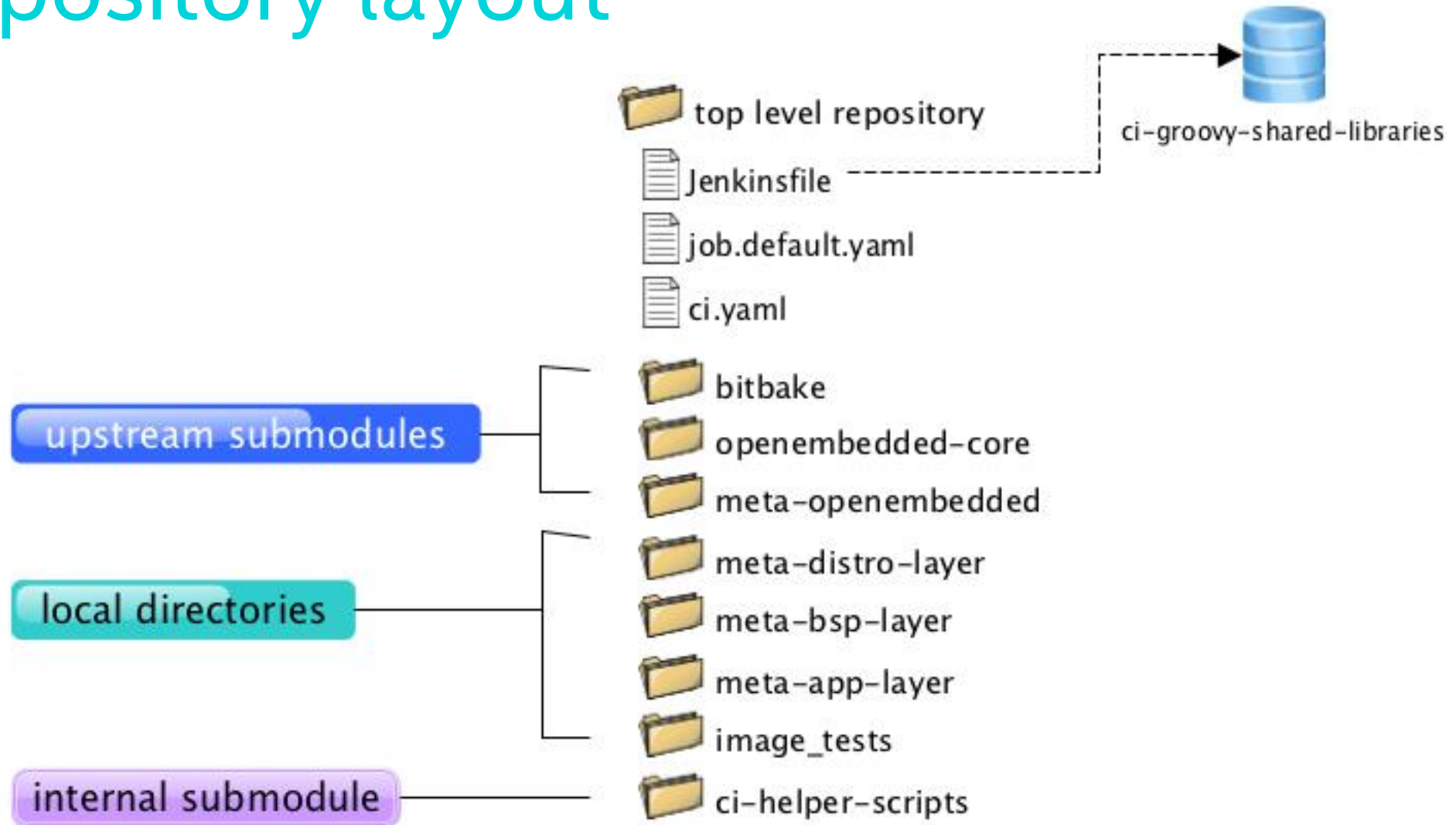
Inspirations



System overview

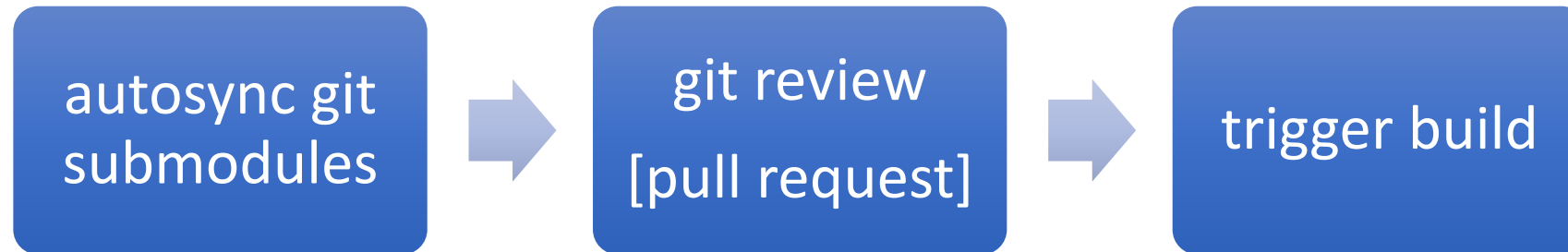


Repository layout



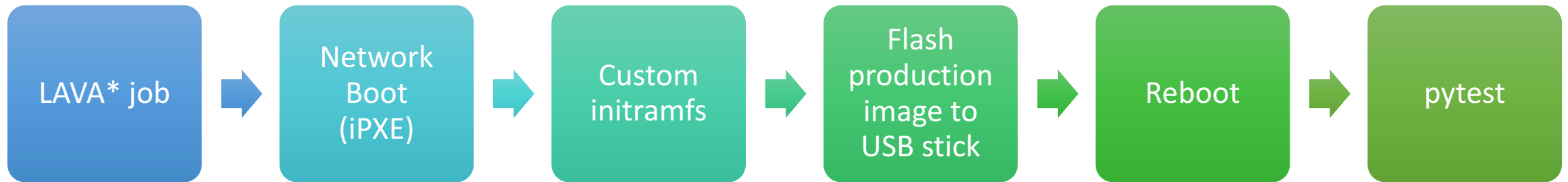
Use automation to stay up to date

- Continuous Integration job runs daily



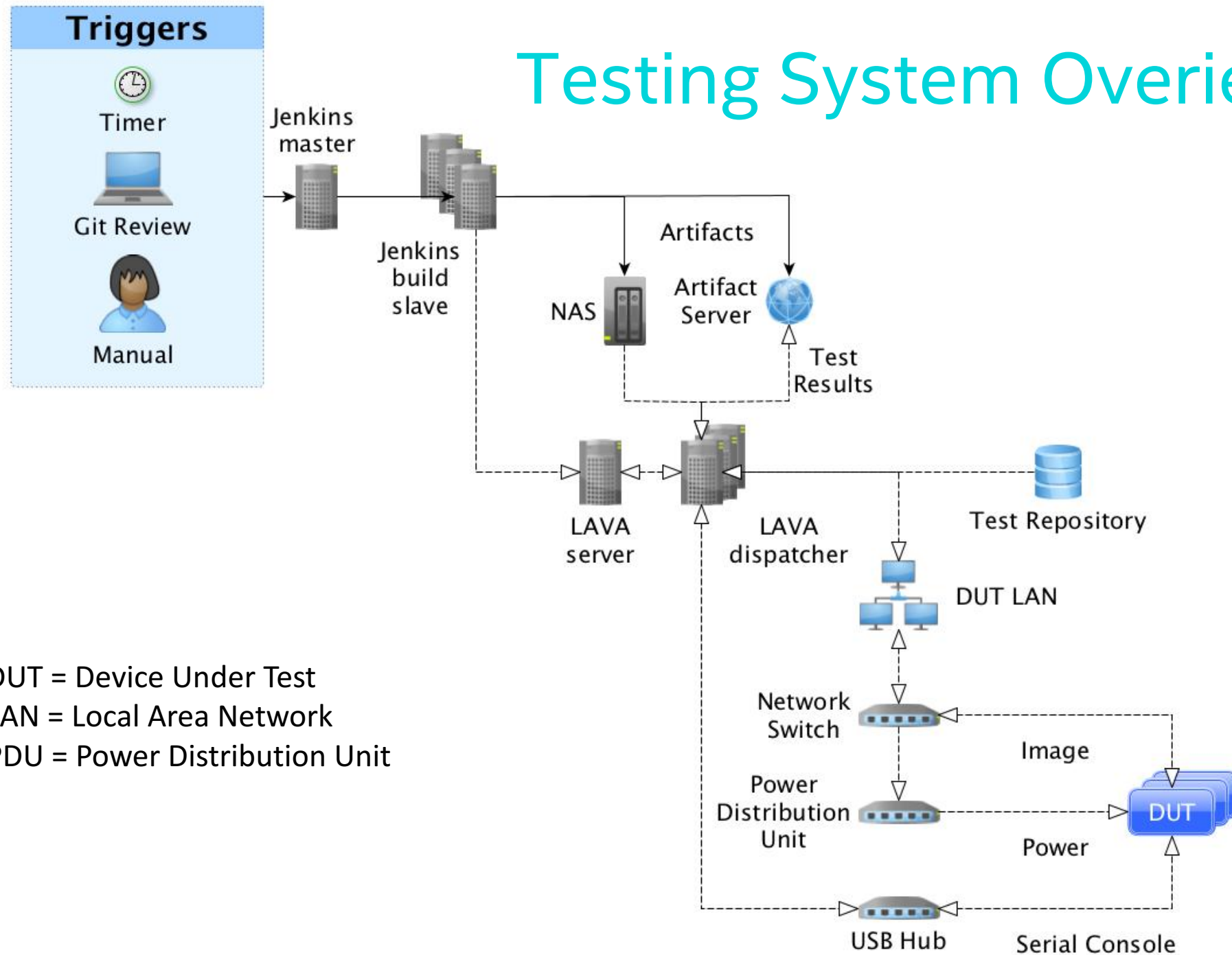
Testing production images

- Tests run on every build



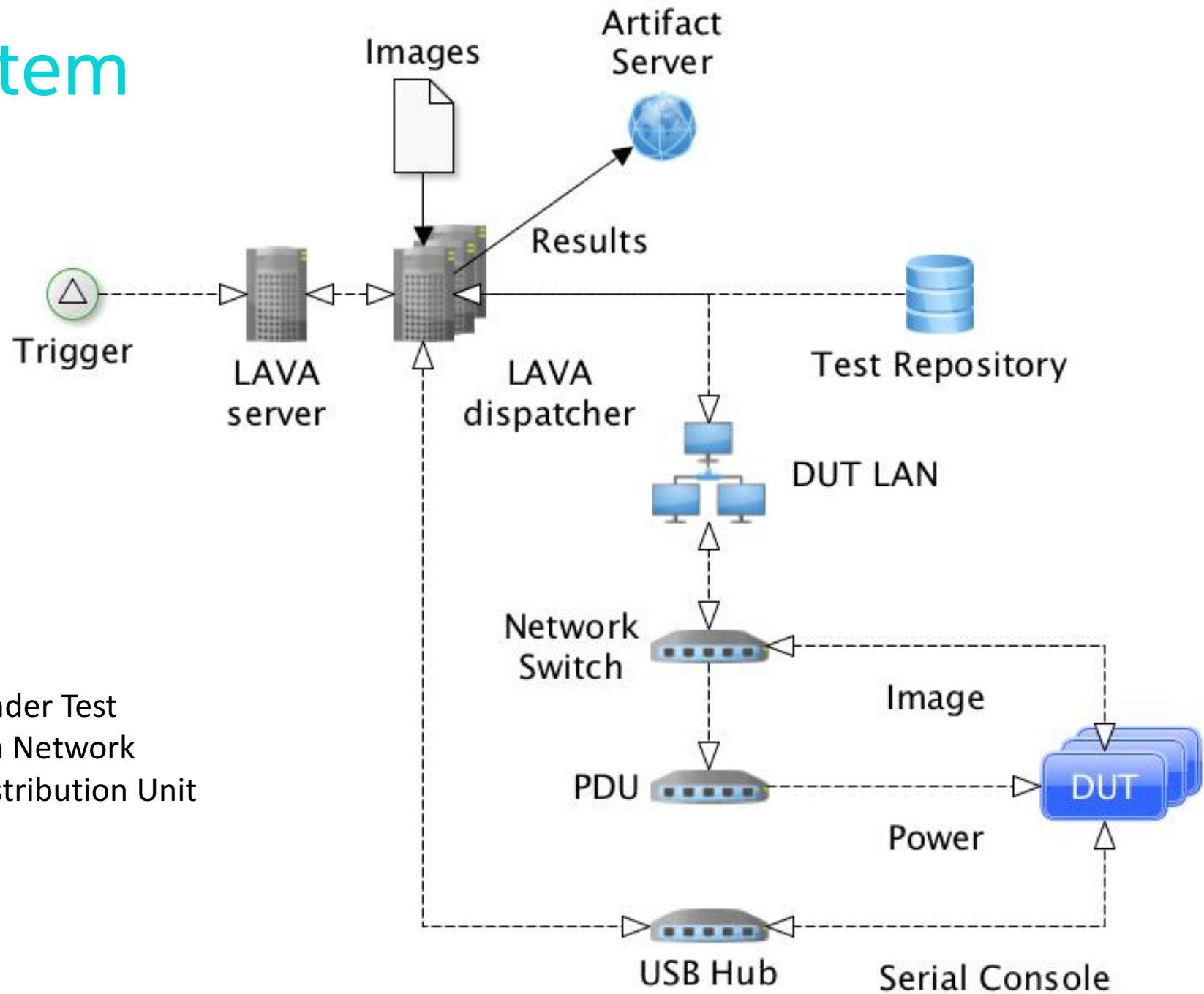
pytest is an Open Source testing framework

Testing System Overview



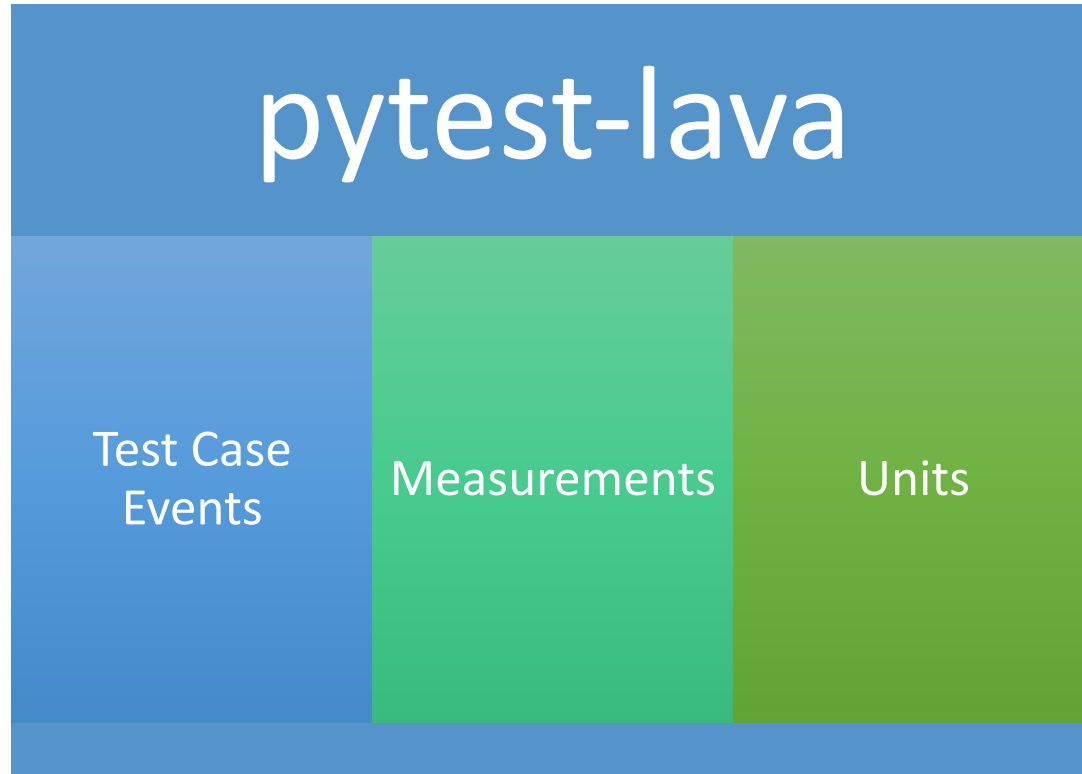
DUT = Device Under Test
LAN = Local Area Network
PDU = Power Distribution Unit

Testing System



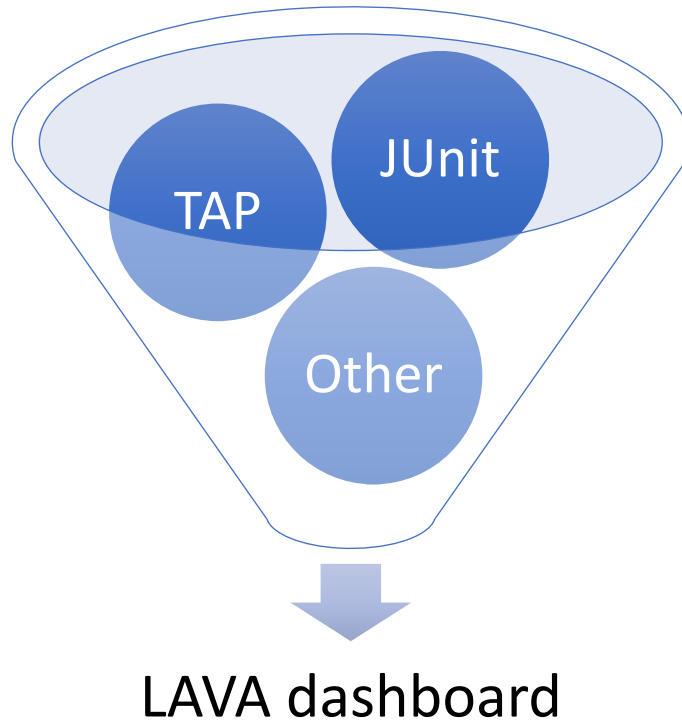
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Next Steps



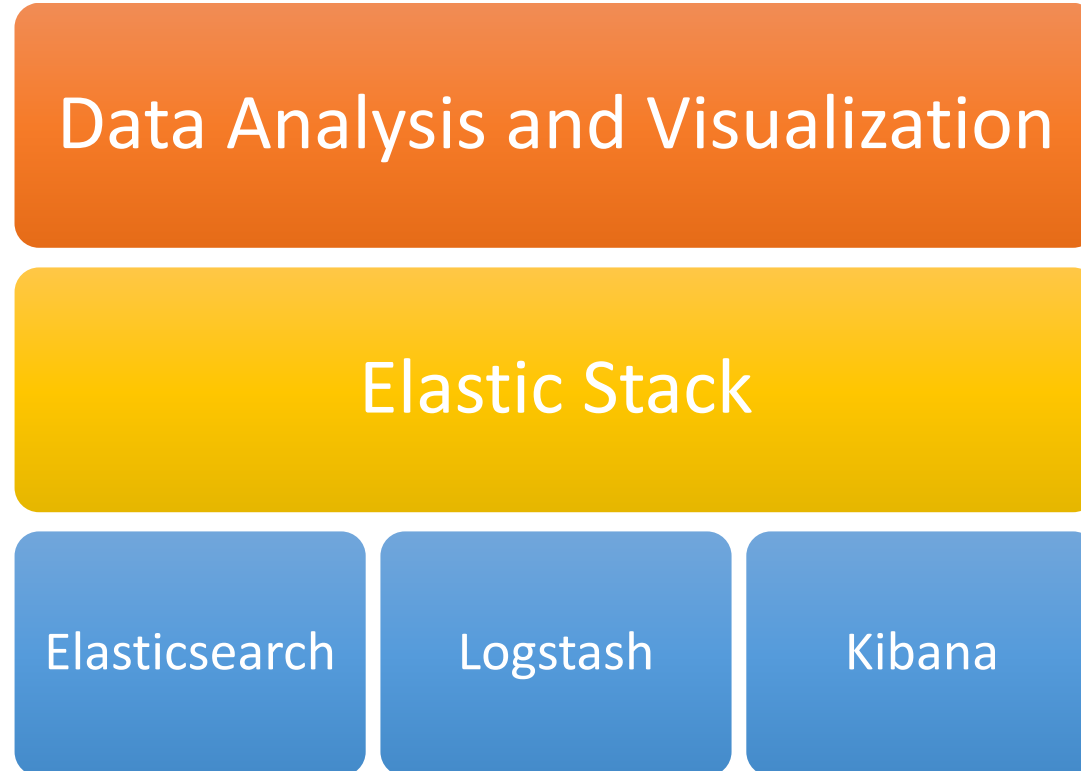
- Test Case events working well
- Measurements and Units under development
- Need to complete internal Open Sourcing process

Next Steps



- Industry Standard Result Formats
 - Test Anything Protocol
 - JUnit.xml

Next Steps



Let's do this.

Moving forward.

Reference Enterprise Class System

End-to-End Complete

- Orchestrated containers?
 - “Easy” to deploy
 - “Effortless” to replicate
- Internal Layer Index
- Jenkins Master
- Artifact server
- Data Visualization

Public LAVA server

- Share and Re-use test definitions
- Distributed LAVA dispatchers
 - Containerized
 - Better HW coverage
 - Each site focuses on platforms they care about



Questions?

Reference

- <https://validation.linaro.org>
- <https://github.com/Linaro/lava-server>
- <https://github.com/Linaro/lava-dispatcher>
- <https://pytest.org>
- <https://github.com/pytest-dev>
- <https://git.linaro.org/lava-team/refactoring.git/>
- <https://kernelci.org>
- <https://jenkins.io>
- <https://www.elastic.co/>
- <https://lists.yoctoproject.org/listinfo/automated-testing>

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