

Presented by

Neil Williams

Date

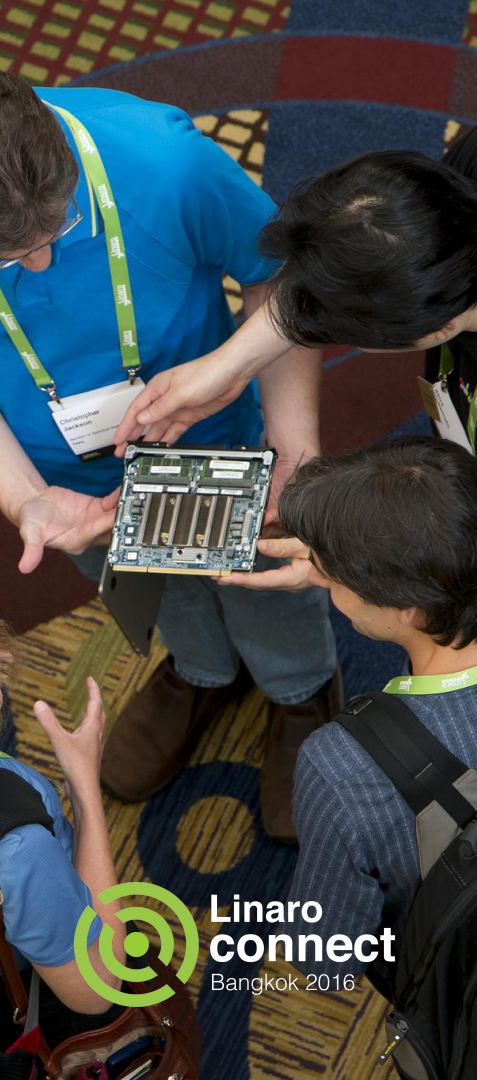
BKK16-210 March 8, 2016

Event

Linaro Connect BKK16

Migrating to the pipeline

Using the new dispatcher design



Migrations have begun!

- Overview
- What can LAVA now do for me?
- Redesigning your tests
- Timescales
- Working with the new dispatcher

Overview

- New framework now in production & Debian
 - validation.linaro.org - 2016.2
- Evaluate test objectives & re-design
 - Defaults and assumptions removed
 - Test writer given more rope
 - Submissions must be explicit
- Base for future development
- New structures for results and charting

What is pipeline LAVA able to do?

- QEMU
- U-Boot
- iPXE
- LXC
- ADB & fastboot
- UEFI Menu
 - (certain devices only)
- Secondary connections
- Secondary media
- VLANd
- BBB, Panda, Cubietruck, Arndale
- x86
- Nexus4, 9 & 10
- Mustang & HiKey
- Pending: FVP models, VE/Juno and D02

Redesigning your tests

- Talk to us & coordinate via Steve
 - Crazy ideas, things you've never been able to do in LAVA, workarounds you want to avoid
- Look at the objective of the test
 - Ignore the old methods
- New frontends
 - Customised data extraction and improved feedback
 - Possible bisect support

Timescales

- During 2016
 - Migration of validation.linaro.org to pipeline jobs only
 - Complete device coverage
 - Complete job coverage
- During 2017
 - Block submission of old dispatcher jobs
 - Deletion of all bundles and reports, deletion of job data resulting from JSON submissions.
 - Removal of old dispatcher codebase

Working with the new dispatcher

- Deploy, boot & test
- Pipeline structure of each job is exposed
- Protocols
- Queries & Charts
- Timeouts
- Basis for active development
 - Docs and use cases needed

A simplified pipeline

1 - deploy

1.1 - download initramfs, kernel, dtb

1.2 - apply LAVA test shell scripts to ramdisk

2 - boot

2.1 - interrupt U-Boot and send commands

3 - test

4 - finalize

Protocols

- Whenever a shell is not available or appropriate
- Accessed from the dispatcher codebase
 - Specific API support
- API calls can be made outside the test shell
- Used for the Multinode coordinator, VLANd and ADB - more are likely.

Be explicit in your test job - 1

- Use comments
- How to deploy
 - tmpfs, tftp, fastboot
 - OS
- Timeouts
 - job
 - action
 - connection

Be explicit in your test job - 2

- Boot method:
 - U-Boot, iPXE, fastboot
- Commands:
 - NFS, ramdisk
- Compression
 - ramdisk-header
- `bootz` **or** `bootm`
- Prompts

Adding Resources

- All config is in the database
 - XMLRPC, Web UI or YAML download.
- Test Plan
 - Used to create use-case documentation
- Standard images and functional tests
- LAVA user mailing list
- Similar job queries

Changes in support

- Removing hidden magic
 - NFS rootfs needs to be packaged at /
 - Prompts must be declared in advance
 - Specify compression methods explicitly
 - Specify bootz or bootm
- No 'target' in submission, device-type only
 - Use device tags

Ongoing Development

- Pipeline is the base for future development
- Submission schema will have small changes
 - Bug fixes and additional support
- Subscribe to the support mailing lists
 - lava-announce (read only)
 - linaro-validation
 - lava-users
 - Mailman lists @ [lists.linaro.org](mailto:lists@lists.linaro.org)

Questions

- For specific advice for your team, talk to us
 - **Before** you start writing new jobs so that your needs can be coordinated with the needs of other teams
 - Tell us what you would like to do as well as what you need to do
- Arrange a meeting where desirable
 - at BKK16 or via hangouts after return