# GStreamer CI for embedded platforms

**Olivier Crête**

# Who am I ?

- GNOME contributor since 2000

- GStreamer developer since 2007

- Multimedia Lead @ Collabora

# Why do we CI ?

- To test automatically

- To prevent regressions

- To test in a reproduceable way

# What do we build today?

- Debian x86-64

- Fedora x86-64

- Cross compiled mingw32 & mingw64

- iOS

- MacOS

- Android

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# But what do we test?

- Debian x86-64

- Fedora x86-64


- But most people use GStreamer on embedded systems

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- Debian x86-64

- Fedora x86-64

- But most people use GStreamer on embedded systems

# What's not really tested

- GStreamer OMX

- Hardware codecs

- Capture devices

- KMS integration

- Zero copy paths

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# Our prototype

# Required components

- A GStreamer build

- An embedded system
  - Raspberry Pi, an odd system

# Setting up the build: cross-building

- Requires a sysroot

- We used debos (see ELCE presentation)
  - Creates Debian based sysroots

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# Setting up the build: Cerbero

- Built using Cerbero

- Created a custom config

  - Toolchain

  - Sysroot location

  - Special variant; R

# Setting up the boards

- Using the Linaro Automated Validation Architecture (LAVA)

    - Flashes boards

    - Boots boards

    - Connects to boards

    - Resets boards

# Setting up LAVA?

- Collabora has a LAVA instance

  - 16 boards

- Including a Raspberry Pi 2B

# Setting up LAVA

- Kernel

- Sysroot

- Config

# Testing Process

- Build

- Trigger LAVA

- LAVA boots device

- Device downloads GStreamer artifact

- Device runs tests

- Device sends result back to LAVA

- LAVA sends result back to Jenkins

# LAVA – Jenkins integration

- Using command line "lqa"

- Sends request

  - with callback URL

- Using Jenkins plugin
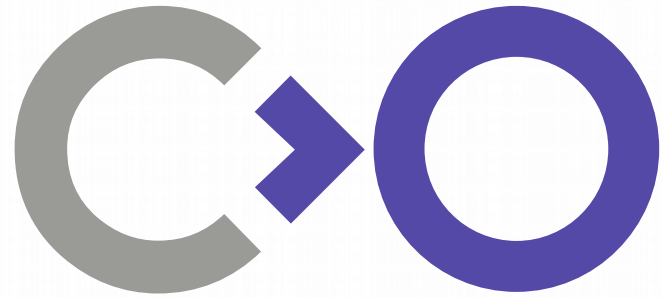
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# Next steps

# More platforms

- A standard Linux platform

  - V4L2 based

- An embedded use-cases test suite for Gst-Validate

# Thank you

- Omar Akkila

  - Did all the work

- Nicolas Dufresne, Guillaume Tucker, Sjoerd Simons

- Configs:

  - https://gitlab.collabora.com/users/rakko/projects

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# Thank you!

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