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Hardware in the loop pipelines for testing - for everyone!

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A space for folks looking for solutions to achieve the missing e2e test coverage for their Linux distributions. A Hardware in The Loop (HiTL) pipeline that can test changes directly on the hardware and provide instant feedback to any CI/CD loop. The system I intend to present can:

Run tests on actual hardware DUTs (Device Under Test)

Controlled from the outside using a device/jig running standardized open-source tools/test frameworks.

Scalable, by default, can be integrated with CI/CD tools.

And, completely open-source. Hardware, firmware, and software.

The system enables us to remove humans and instead let the machines automate the testing process to release software not as fast as possible but as confidently as possible. This is what a Hardware-in-the-loop (HiTL) pipeline can do for you.

Anyone expecting to start a jig or already has built a HiTL pipeline can join the discussion, sharing what not to do, the pitfalls to avoid, and, crucially, using the work we have already done to build better, more scalable test systems.

This BoF session would kick off with the work we have done up until now to fully automate releases of embedded OS for more than 30+ boards. It will follow up with feedback as well as looking for folks to help us build this further.

The aim: Each and every Linux developer can be enabled to develop, test, and patch their distributions at home and contribute back.

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