From Technology to Product
Maturing the RISC-V Ecosystem

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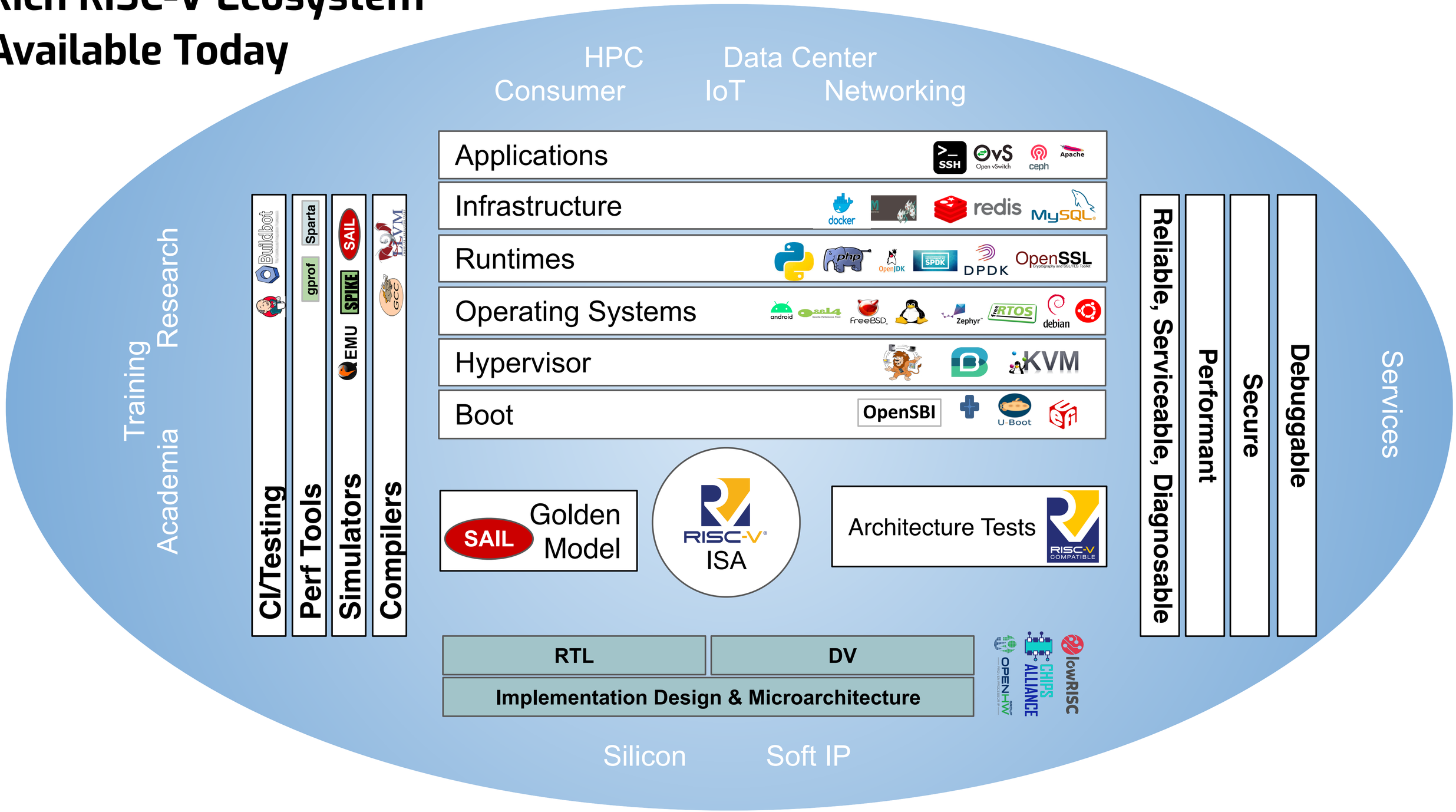
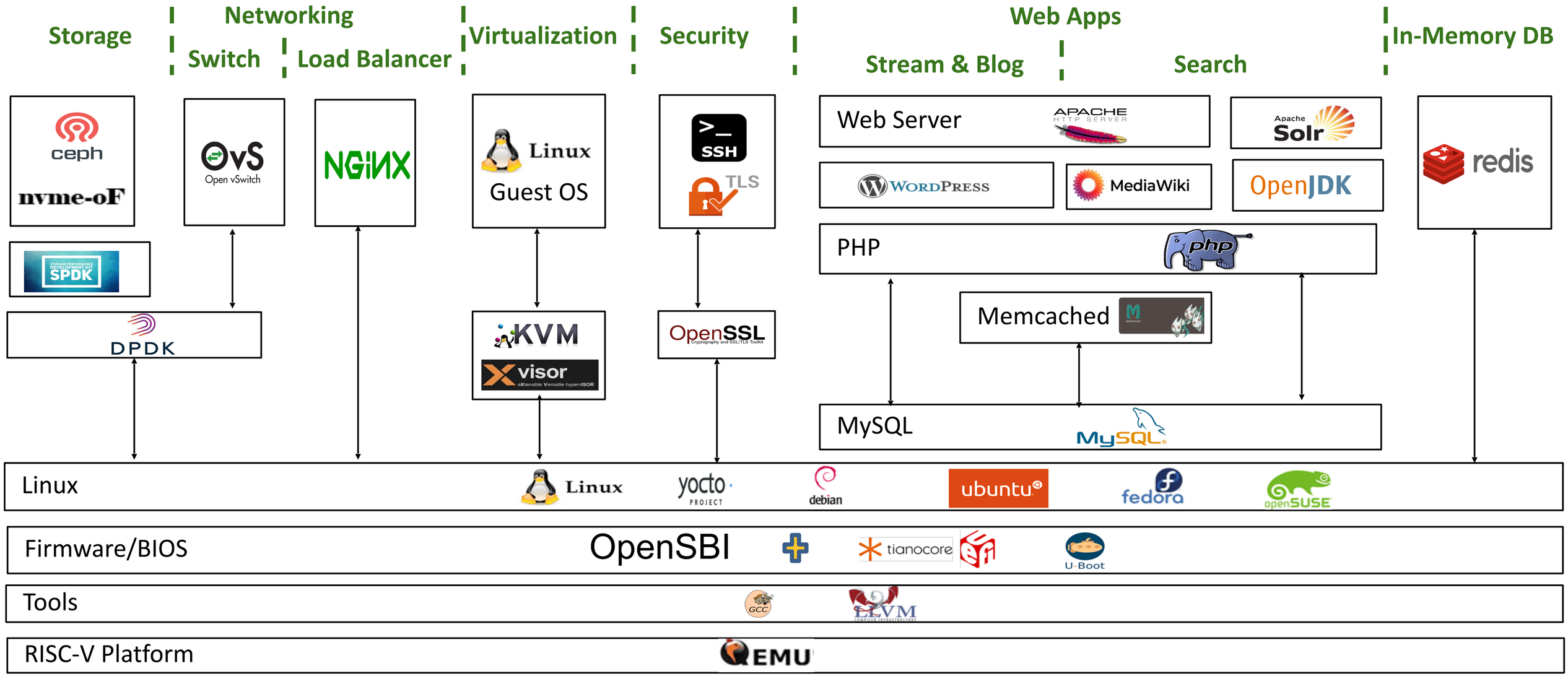
Rich RISC-V Ecosystem Available Today



Software Stack Examples



RISC-V®

Addressing stakeholder needs in the ecosystem

Architecture Development and Co-Optimization

Emulators & Simulators

Compilers & Debuggers

Performance Analysis and Modelling Tools

Pre-Silicon Verification

Foundation Software

Performance Libraries

Managed Runtimes

Operating Systems

Software Enablement for Adopters, Independent Software Vendors, and End-Users

The three principles of the RISC-V ecosystem

Simplified workflow for end-to-end performance

Performance Modelling

Collaboratively built easy-to-use performance modelling framework for RISC-V

SPARTA modelling framework

QEMU

Performance Analysis

Performance monitoring built into the architecture and enabled by the best-in-class analysis tools

Optimised code-speed

Cross-vendor collaboration provides optimised open source compilers and runtimes

Modularity + Customisation = Innovation

Modular ISA

Vendor-defined (custom) ISA extensions

Created policies for naming of custom instructions to support **coexistence** across common open-source tools.

Tools and simulators

Community-adoped policies for including **publicly documented** vendor-defined extensions in key open-source tools.

RISC-V Profiles will enhance the usability.

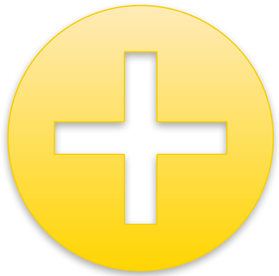
Dynamic discovery

Multiple mechanisms to select **optimised code paths** are fully implemented in libraries and the Linux kernel

Optimised cache management, cryptography, and string functions are **just the beginning**.

OpenJDK19 will natively support RISC-V

RISC-V compiler support merged on March 24th, 2022



https://github.com/openjdk/jdk/commit/5905b02c0e2643ae8d097562f181953f6c88fc89

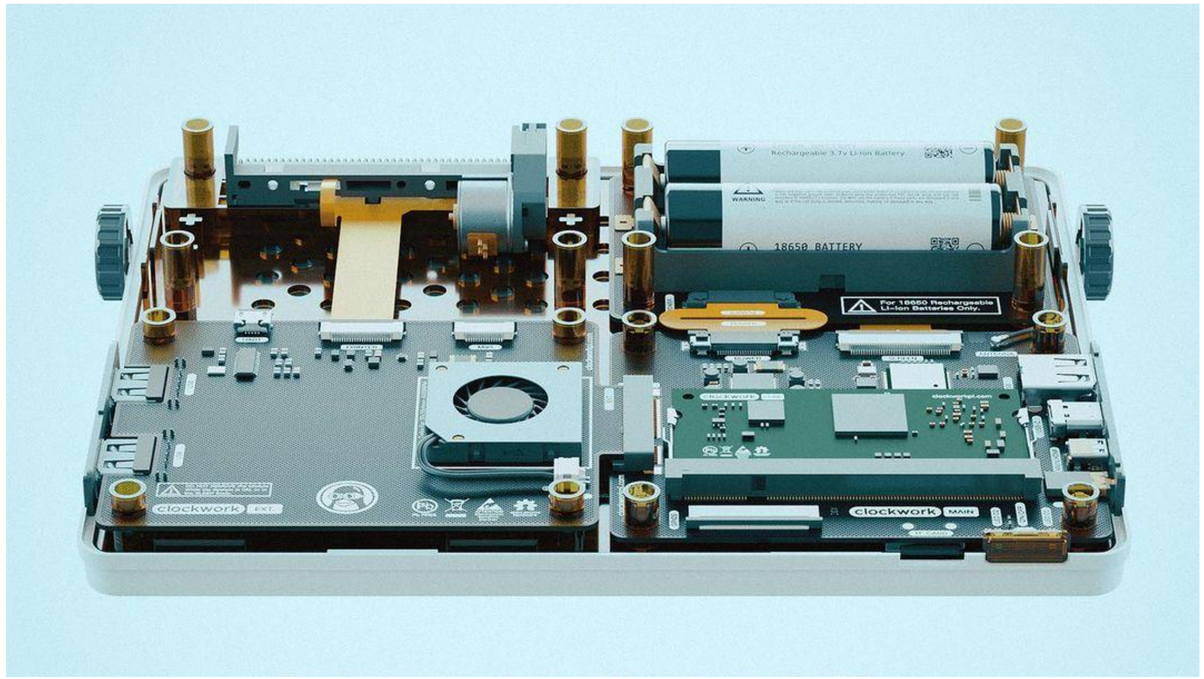
Android 12 running on RISC-V with optimised AI performance

https://chipsalliance.org/announcement/2022/04/21/alibaba-cloud-announced-progress-in-porting-android-functions-onto-risc-v/

https://www.techradar.com/news/alibaba-cloud-is-close-to-getting-android-working-on-risc-v-silicon

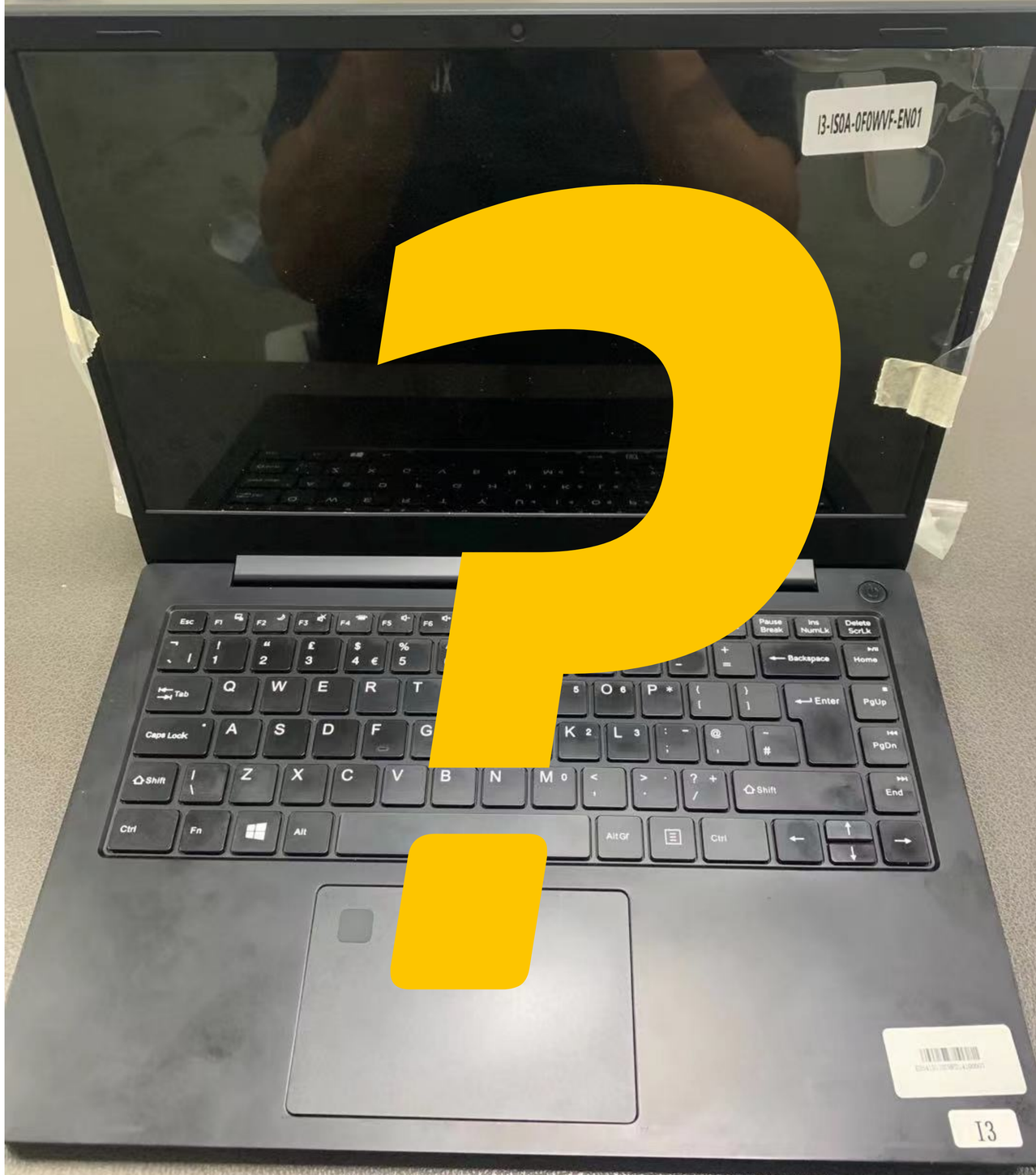
ClockworkPI announced the DevTerm R-01

A turnkey development kit for educators and hobbyists



https://www.hackster.io/news/clockwork-pi-launches-highly-experimental-risc-v-variant-of-its-compact-devterm-portable-pc-021ad546e675

Will we see the first RISC-V laptop released in 2022?



Thank you!

https://lists.riscv.org/g/software

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