

Mercury Embedded Linux (MEL)

A Yocto-Based Embedded OS, Sustained for Secure Operations

Trust and reliability for edge processing

- Maintained by U.S. citizens using U.S. infrastructure
- Optional upgrade to Mercury's RelianceOne™ for cyber survivability

- Shipping on Mercury Hardware



SOC and board vendors aren't in the business of building supported embedded Linux distributions, and most say so plainly. AMD's PetaLinux, for example, is documented as a tool for evaluation and prototyping, not production; it ships without necessarily including all the latest patches a fielded system needs, and the vendor's own guidance puts responsibility for meeting production security standards on the end product manufacturer. Every program that fields a reference build unmodified inherits that responsibility alone.

That responsibility has gotten harder to carry. CVE disclosures hit a record high in 2025, and AI-assisted vulnerability discovery is accelerating both sides of the fight, pushing disclosure volumes higher while cutting the time between a CVE going public and it being actively exploited. Defense and commercial customers alike are converging on the same requirement: systems that can be patched, and patched fast, for the life of the program.

Mercury's answer isn't to outsource that responsibility to an offshore distro vendor or hope a reference build holds up in the field. It's Mercury Embedded Linux (MEL), a production-grade Linux distribution that Mercury builds, tests, and sustains itself, so trust in the platform doesn't depend on a supply chain no one can see into.

Highlights

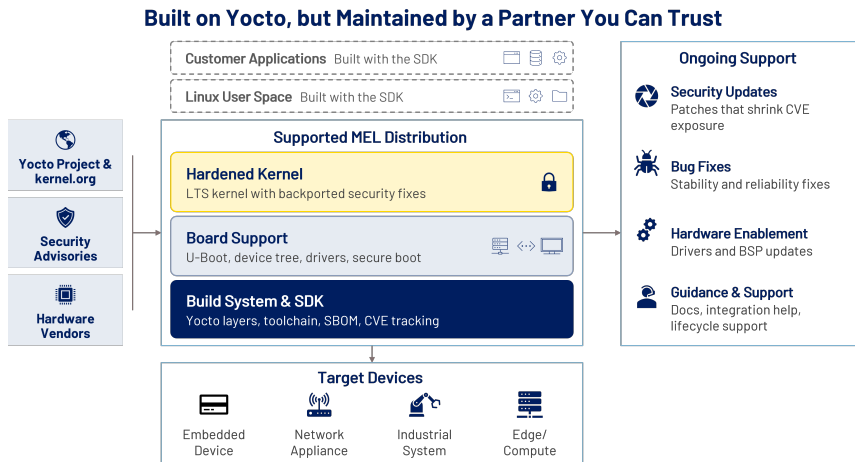
- Yocto-based and hardware-native for AMD/Xilinx, Intel, and NVIDIA platforms
- 10-year long-term support commitment with defined patch cadence
- Developed in compliance with NIST SP 800-218 Secure Software Development Lifecycle

Applications

- Mission computing and sensor processing
- Commercial and defense unmanned systems: drones, unmanned ground vehicles, and underwater/unmanned maritime vehicles
- Long-lifecycle embedded systems required sustained software support

SUPPORT AND MAINTENANCE SUBSCRIPTION

MEL is sold as a subscription, not a one-time software license. Each subscription covers the OS kernel and board vendor board support packages (BSPs). It also includes ready-made automation that plugs directly into a customer's existing build and test process, such as Ansible recipes for build machines, container recipes, and YAML files for automation workflows, so customers aren't left to script that integration themselves. Subscribers get named-user access to Mercury's support portal, Monday through Friday, 8 a.m. to 5 p.m., putting a direct line to the team sustaining the platform.



PATCH CADENCE & VULNERABILITY RESPONSE

Rather than an open-source distribution's unpredictable, self-managed patching, MEL runs on a defined, auditable cadence. All CVEs scoring CVSS ≥ 7 are addressed quarterly; critical CVEs (CVSS ≥ 9) receive emergency fixes outside the normal release cycle; and up to ten additional non-critical CVEs are remediated per year. Every release is developed in compliance with NIST SP 800-218 secure software development practices, giving programs a documented, auditable trail for supply-chain and cybersecurity reviews.

CYBER SURVIVABILITY WITH MEL + RELIANCEONE™

A quarterly cadence still leaves a window of exposure to vulnerabilities. RelianceOne closes this window in between updates. RelianceOne's runtime protection blocks the kernel-level exploit techniques attackers rely on, patched or not, cutting effective exposure by roughly 70%. It also addresses 46 of 49 applicable technical controls from the Risk Management Framework, enabling rapid build-test-assess cycles prior to deployment.



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