TrenchBoot

Technical Showcase

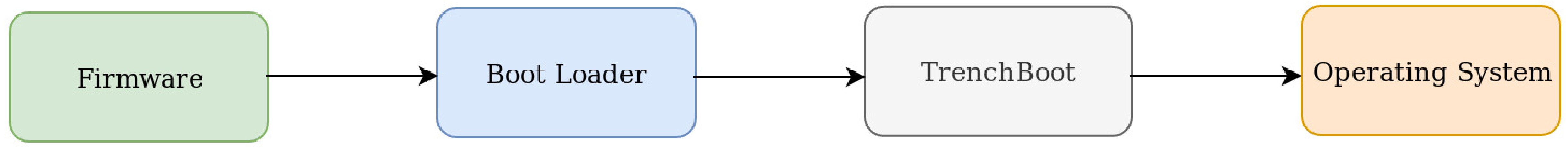
CE Workgroup Linux Foundation / Embedded Linux Conference Europe

Less-insecure Virtual Firewall Appliance

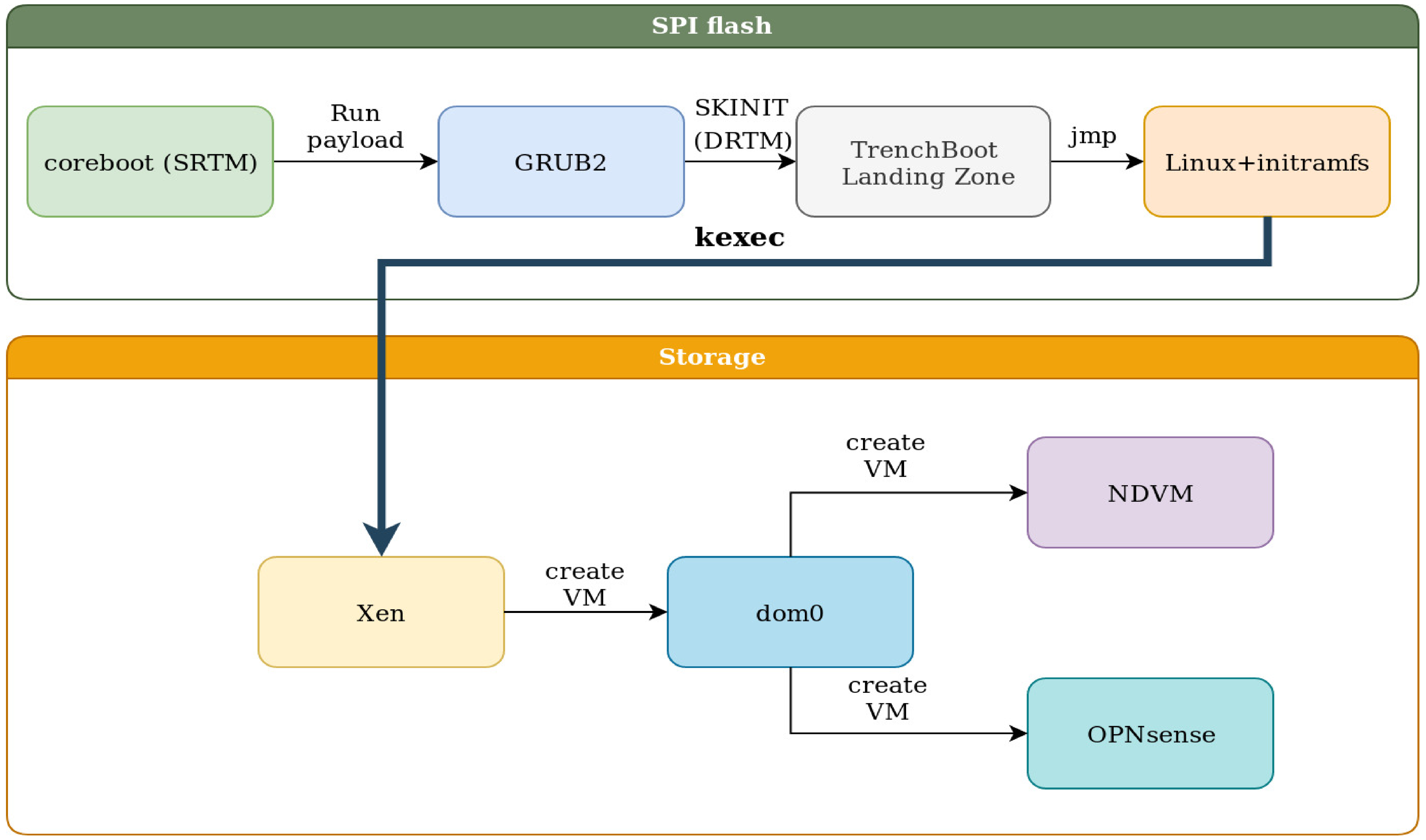
Piotr Król | coreboot, TrenchBoot, OpenEmbedded, Xen, OpenXT

What is demonstrated

Theory



Practice



Hardware Information

- PC Engines apu2 with AMD Jaguar CPU GX- 412 TC
- Infineon Trusted Platform Module (TPM 2.0) SLB 9665

What was improved

Description

- Unifying framework for Boot Integrity Technologies (BIT)
- Advanced Measurement Collection
- Extensible, Fine Grained Verification
- Remote Attestation

Security & Assurance Use Cases

- Secure Over-The-Air (OTA) Updates
- Boot with Static + Dynamic Root of Trust
- Verify BIOS, firmware, hypervisor, OS
- TPM-signed Measurements

Components

- Coreboot-fast, secure, open-source firmware with SRTM
- GRUB2 patched to initiate AMD Secure Launch
- Open-source TrenchBoot Landing Zone implementation for AMD
- Go libraries extensible measurement enforcement + Linux kernel patched as AMD Secure Loader
- Xen Hypervisor
- NDVM (Network Driver VM) provides isolation that separate NIC and its driver from security critical firewall

Source code or detail technical information availability

- http://github.com/TrenchBoot
- http://openxt.org
- http://github.com/flihp/meta-measured