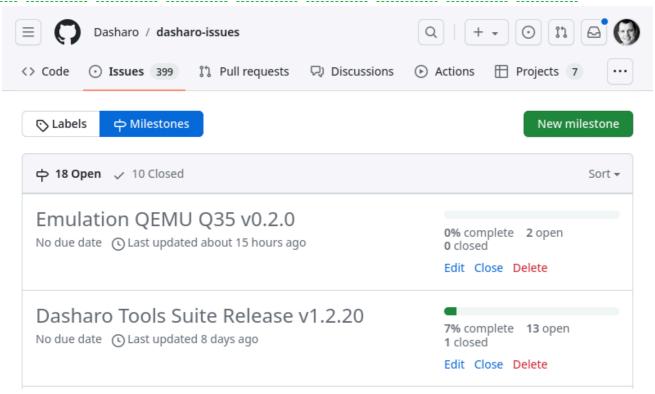


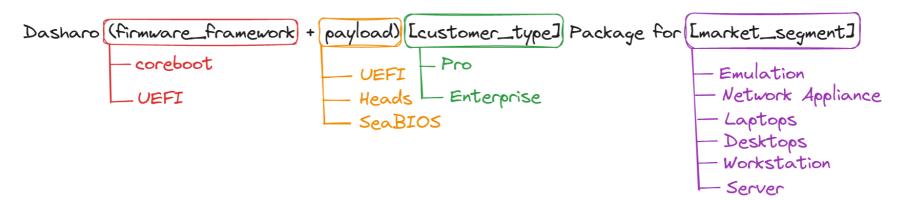




Please note that the roadmap for the Dasharo Community Support Program is subject to change and may not represent final release candidates or end of support dates. This roadmap is intended to provide guidance and direction for the program's development, but is not a guarantee of specific timelines or outcomes. For more information on release candidates or release dates, please contact the Dasharo Team directly.

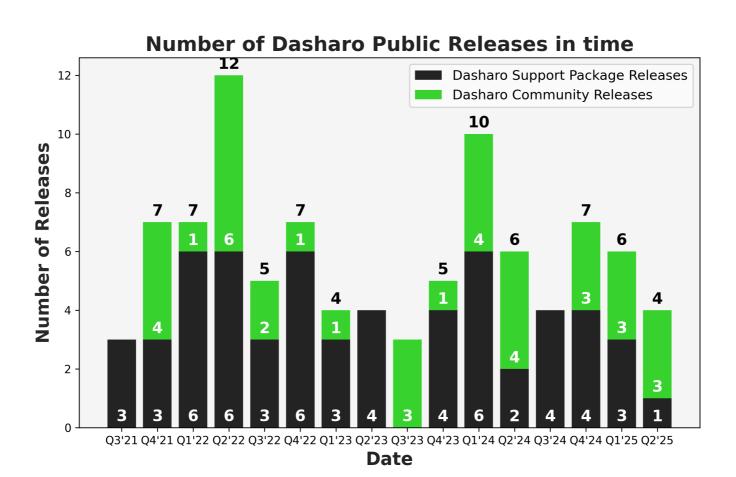
- For those watching this presentation first time we really encourage to look at past videos to get better context and understanding of the format.
 - DUG#9, DUG#8, DUG#7, DUG#6, DUG#5, DUG#4, DUG#3, DUG#2, DUG#1

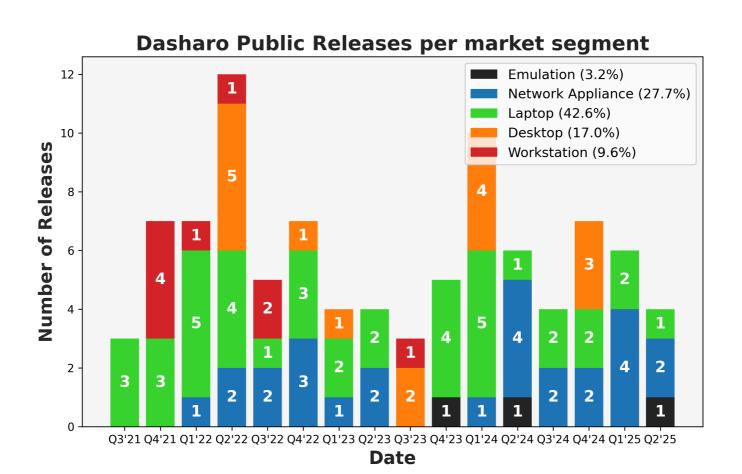




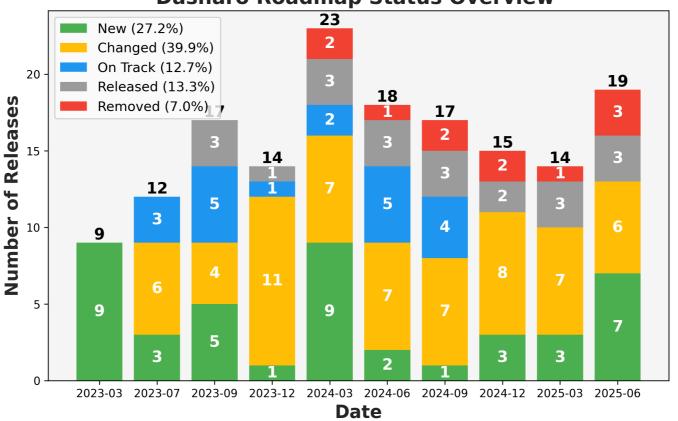
- In short Dasharo Pro Package (DPP)
- Dasharo (coreboot+UEFI) Pro Package for Desktop
- Dasharo (coreboot+Heads) Pro Package for Laptops
- Dasharo (coreboot+SeaBIOS) Enterprise Package for Network Appliance

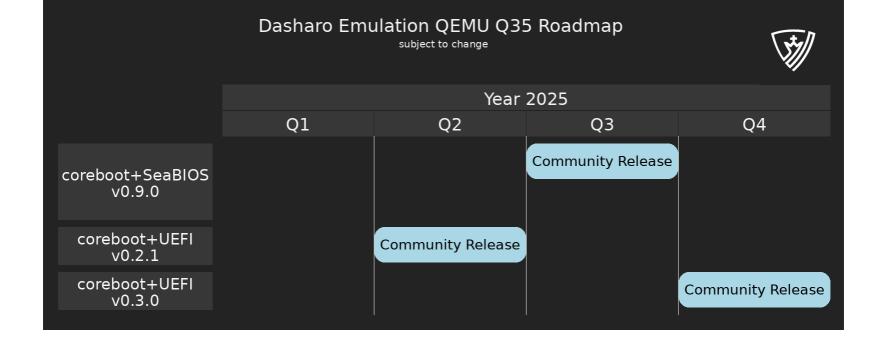
More details about it can be found in previous editions of the talk e.g. DUG #9.





Dasharo Roadmap Status Overview





- coreboot+SeaBIOS still waiting for its prime time, it is connected with transition to OSFV, which we are very hesitant to do because it is quite a lot of work and we have other projects
- GitHub Milestone Link to QEMU Q35 (coreboot+SeaBIOS) v0.9.0
- GitHub Milestone Link to QEMU Q35 (coreboot+UEFI) v0.3.0 which potentially could be scheduled this year.

QEMU Q35 V0.2.1 SBOM

- Dasharo coreboot fork based on 25.03 revision b8e6b3eb
- Dasharo EDKII fork based on edk2-stable202502 revision e8cd1856
- Dasharo iPXE fork based on 2024.07 revision 63ed3e35

What is inside?

- The Local APIC timer is now used instead of the HPET
- Boot time improvements some measurements show 50% bump

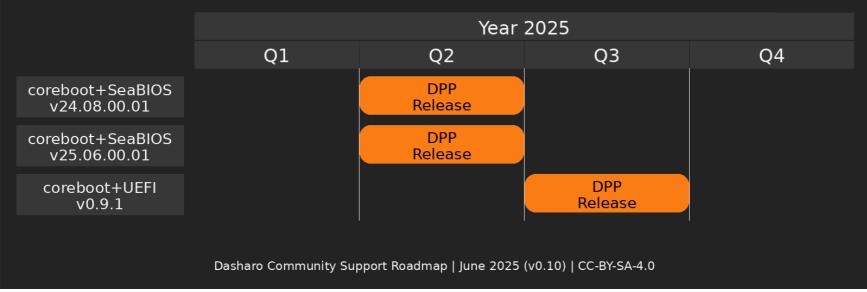
Known issues

Measured Boot PCR values don't match the TPM measurement log (#1354)

Dasharo Network Appliance PC Engines apu2/3/4/6 Roadmap

subject to change





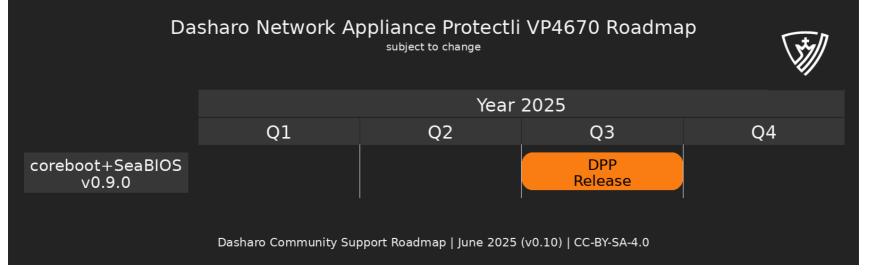
- We successfully released v24.08.00.01. More details later.
- v24.12 and v25.03 were replaced with v25.06 release.
- Work on v25.06.00.01 will happen in Q3'25.

PC Engines apu2/3/4/6 v24.08.00.01 SB0M

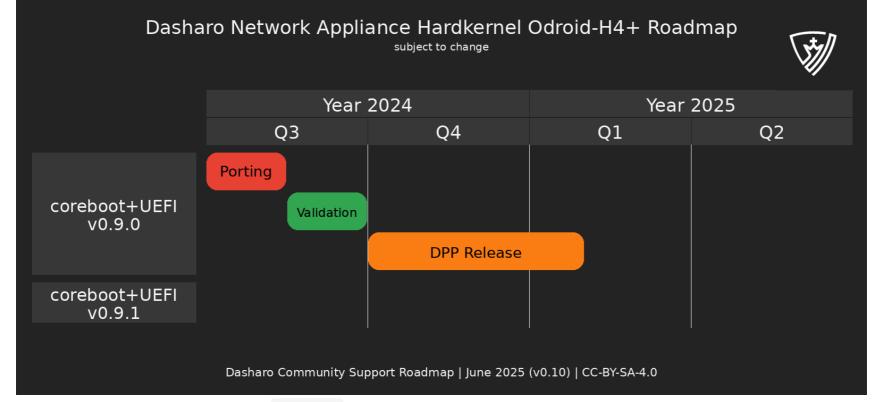
- coreboot based on 24.08 revision fadbc031
- Dasharo Patchqueue Initiative based on 24.08.00.01 revision d944bc39
- SeaBIOS based on rel-1.16.3.1 revision ac9eb800
- sortbootorder based on v24.08.00.01 revision 6188b4f4
- iPXE based on 2024.08 revision 301644ab
- AMD binary blobls remain the same.

What is inside?

- Support for improved version of SeaBIOS rel-1.16.3.1
- sortbootorder update to v24.08.00.01
 - fixed various compilation issues to make it compatible with new compiler
 - QEMU support needed for validation under OSFV



- TrenchBoot Support was released
- Unfortunately Dasharo release requires quite a lot of resources to be invested in validation, because of that we keep delaying this.
- Although we still discussing it because we see at least two issues with it:
 - Intel TXT doesn't work on VP4670 closed as invalid.
 - Hangs during microcode update it was identified as kernel issue and needs testing.
- Milestone link

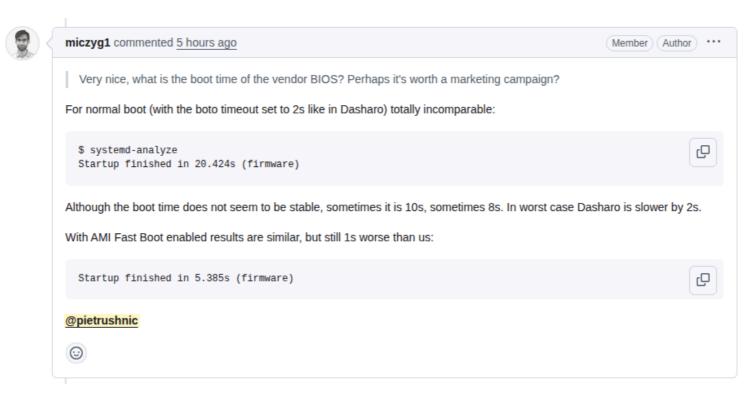


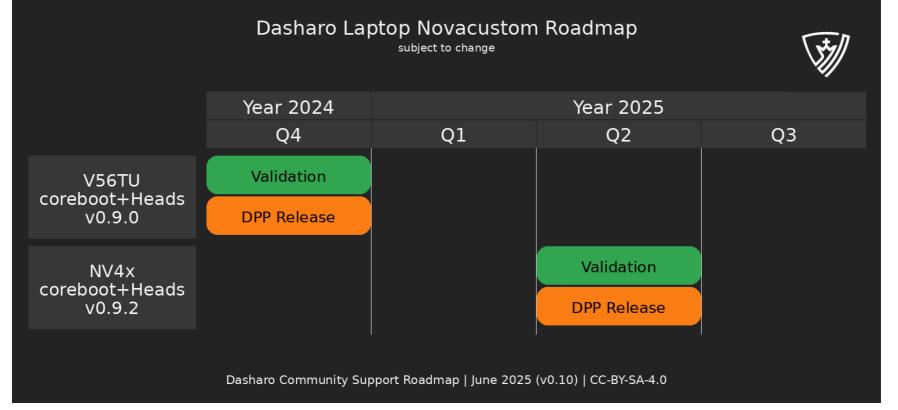
- We already started work on v0.9.1
- It would cover some interesting features we will look into on next slide.
- Milestone link

Hardkernel Odroid-H4 (coreboot+UEFI) v0.9.1

Due by September 3, 2025 Last updated 3 hours ago 44% complete Overview: https://docs.dasharo.com/variants/hardkernel_odroid_h4/overview/ Open 5 Closed 4 Dasharo (coreboot+UEFI) for Odroid H4+ is not reproducible bug firmware hardkernel_odroid_h4 needs review #1250 · pietrushnic opened on Feb 22 In-Band ECC on Odroid H4 enhancement hardkernel odroid h4 \Box 5 #1276 · frafra opened on Mar 22 Perform tests on Odroid H4+ Ultra hardkernel_odroid_h4 #1277 · pietrushnic opened on Mar 22 Add 4x1 bifurcation support for netcard on ODROID H4 enhancement hardkernel_odroid_h4 \square 2 #1281 · miczyg1 opened on Mar 24 Can't delete signature of enrolled EFI file from DB as it's not shown bug firmware hardkernel odroid h4 needs review \Box 4 #1365 · m-iwanicki opened last week

Boot time performance improvements





- Dasharo (coreboot+Heads) for NV4x v0.9.2 was released according to plan.
- This year we have no other plans for releasing Dasharo (coreboot+Heads). Next release will be planned for 2026 when time will come.

Novacustom NV4x 12th Gen v0.9.2 SBOM

- (UPDATED) Dasharo heads fork based on v0.2.1 revision da9b8ed9
- Intel Management Engine version v16.1.30.2307
- Intel Flash Descriptor version v1.0
- Intel Firmware Support Package version ADL-P C.1.75.10
- Intel microcode version ADL L0/R0 0x00000433 revision microcode-20230808
- (UPDATED) Intel microcode version RPL J0/Q0 0x00004121 revision microcode-20240514

What is inside?

- Introduced Quiet Mode for reduced technical output in logs
- Added TPM extend operations logging while maintaining quiet mode
- Added support for GPG Admin/User PIN output grabbing for Nitrokey HOTP verification
- Integrated EFF Diceware short wordlist v2 for easier passphrase generation
- Introduced automatic Secrets App reset logic for Nitrokey 3
- Unified and enhanced passphrase generation logic in recovery shell
- Quiet Mode now logs all technical details to /tmp/debug.log instead of showing them in the console
- Improved TPM2 primary handle debugging and error handling
- Refactored the OEM Factory Reset process to clarify mode-based security implications
- Improved kexec boot configuration handling with enhanced security warnings
- Transitioned from ash shell to bash for improved scripting consistency
- Suppressed unnecessary grep errors for missing /etc/config.user
- Resolved logging inconsistencies when performing TPM resets
- Fixed Secure App PIN handling during Nitrokey 3 re-ownership

What is inside?

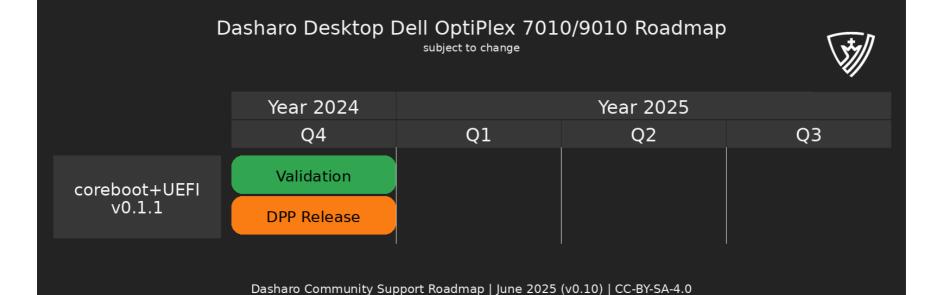
- Corrected Diceware dictionary parsing and selection method for unbiased passphrase generation
- Eliminated redundant USB Security dongle detection messages
- Add missing TPM PIRQ route for NV41
- Integrate downcoring and hyper-threading options in Alder Lake SoC

Fixes

- Power button doesn't work in Qubes
- Reproducibility problems with liberypto and libtss2

Known issues

- Hotkeys (e.g KEY_PLAYPAUSE) are not implemented in Qubes OS
- Existing Qubes installation is not found as bootable after transition back to EDK2



- TrenchBoot Support was released
- Exactly the same situation as with Protectli VP4670.
- No release plans at this point.



- EOL for Dasharo support for MSI PRO Z690-A is 2026 EOY.
- This year there are two upcoming releases: DPP and DCR.
- Support will most likely end next year unless there will be enough renewal to support next release, but since that hardware is no longer sold we are concern it would not be the case.



■ The same situation as with Z690-A.



Unfortunately, we have no new plans.



CHANGELOG

- (NEW) QEMU Q35 v0.3.0 planned for Q4'25
- (NEW) QEMU Q35 v0.2.1 planned for Q2'25
- (RELEASED) QEMU Q35 v0.2.1 planned for Q2'25
- (CHANGED) QEMU Q35 v0.9.0 planned for Q2'25
- (RELEASED) PC Engines apu2/3/4/6 Dasharo (creboot+SeaBIOS) v24.08.00.01 planned for Q4'24
- (REMOVED) PC Engines apu2/3/4/6 Dasharo (coreboot+SeaBIOS) v25.03.00.01 planned for Q3'25
- (REMOVED) PC Engines apu2/3/4/6 Dasharo (coreboot+SeaBIOS) v25.12.00.01 planned for Q2'25
- (NEW) PC Engines apu2/3/4/6 Dasharo (coreboot+SeaBIOS) v25.06.00.01 planned for Q2'25
- (CHANGED) PC Engines apu2/3/4/6 Dasharo (coreboot+UEFI) v0.9.1 planned for Q2'25
- (CHANGED) Protectli VP4670 planned for Q2'25
- (CHANGED) Hardkernel Odroid-H4 Dasharo(coreboot+UEFI) v0.9.1 planned for Q2'25
- (RELEASED) NV4x Dasharo (coreboot+Heads) v0.9.2 planned for Q1'25
- (REMOVED) NV4x Dasharo (coreboot+SeaBIOS) v1.7.2.x planned for Q1'25
- (NEW) MSI Z690-A v1.1.5 planned for Q3'25
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- (CHANGED) MSI Z690-A v1.2.0 planned for Q2'24
- (NEW) MSI Z690-A v1.3.0 planned for Q3'25
- (NEW) MSI Z790-A v0.9.3 planned for Q3'25
- (CHANGED) MSI Z790-A v1.0.0 planned for Q2'24
- (NEW) MSI Z790-A v1.1.0 planned for Q3'25

- (CHANGED) QEMU Q35 v0.9.0 planned for Q1'25
- (NEW) PC Engines apu2/3/4/6 Dasharo (coreboot+SeaBIOS) v25.03.00.01 planned for Q3'25
- (NEW) PC Engines apu2/3/4/6 Dasharo (coreboot+SeaBIOS) v25.12.00.01 planned for Q2'25
- (CHANGED) PC Engines apu2/3/4/6 Dasharo (coreboot+UEFI) v0.9.1 planned for Q1'25
- (CHANGED) PC Engines apu2/3/4/6 Dasharo (creboot+SeaBIOS) v24.08.00.01 planned for Q4'24
- (CHANGED) Protectli VP4670 planned for Q1'25
- (RELEASED) Hardkernel Odroid-H4 Dasharo(coreboot+UEFI) planned for Q4'24
- (NEW) Hardkernel Odroid-H4 Dasharo(coreboot+UEFI) v0.9.1 planned for Q2'25
- (RELEASED) V56TU Dasharo (coreboot+Heads) v0.9.0 planned for Q4'24
- (CHANGED) NV4x Dasharo (coreboot+Heads) v0.9.2 planned for Q1'25
- (REMOVED) NV4x Dasharo (coreboot+SeaBIOS) v1.7.2.x planned for Q1'25
- (RELEASED) Dell OptiPlex 7010/9010 v0.1.1 planned for Q4'24
- (CHANGED) MSI Z690-A v1.2.0 planned for Q1'24
- (CHANGED) MSI Z790-P v1.0.0 planned for Q1'25
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- (NEW) QEMU Q35 v24.08.00.01 planned for Q1'25
- (REMOVED) PC Engines apu2/3/4/6 Dasharo (creboot+SeaBIOS) legacy planned for Q4'24
- (CHANGED) PC Engines apu2/3/4/6 Dasharo (coreboot+UEFI) v0.9.1 planned for Q4'24
- (CHANGED) PC Engines apu2/3/4/6 Dasharo (creboot+SeaBIOS) v24.08.00.01 planned for Q3'24
- (CHANGED) Protectli VP4670 planned for Q4'24
- (REMOVED) MinnowBoard Turbot Dasharo(coreboot+UEFI) planned for Q3'24
- (CHANGED) Hardkernel Odroid-H4 Dasharo(coreboot+UEFI) planned for Q4'24
- (NEW) V56TU Dasharo (coreboot+Heads) v0.9.0 planned for Q4'24
- (NEW) NV4x Dasharo (coreboot+Heads) v0.9.2 planned for Q1'25
- (CHANGED) NV4x Dasharo (coreboot+SeaBIOS) v1.7.2.x planned for Q1'25
- (CHANGED) Dell OptiPlex 7010/9010 v0.1.0 planned for Q3'24
- (RELEASED) MSI Z690-A v1.1.4 planned for Q4'24
- (CHANGED) MSI Z690-A v1.2.0 planned for Q4'24

- (RELEASED) MSI Z790-P v0.9.2 planned for Q4'24
- (CHANGED) MSI Z790-P v1.0.0 planned for Q4'24

