

postmarketOS: Reliability in 2026

2026-01-31 — @ollieparanoid

Wallpaper "Sward" by dikasp 😊

FOSDEM 2025:



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“ Through many discussions we have concluded that our main goal for 2025 is:
Improve the reliability of postmarketOS!

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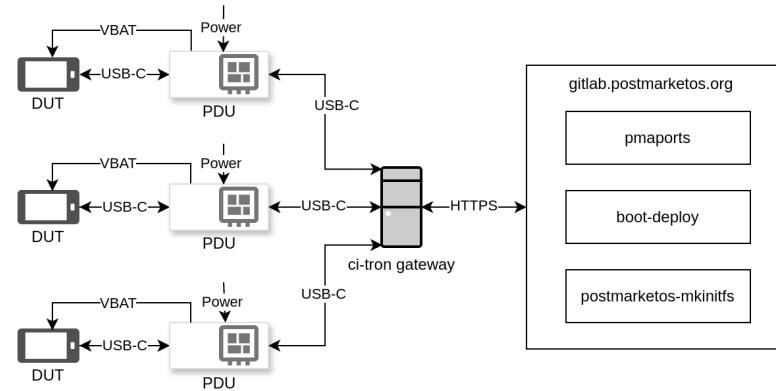
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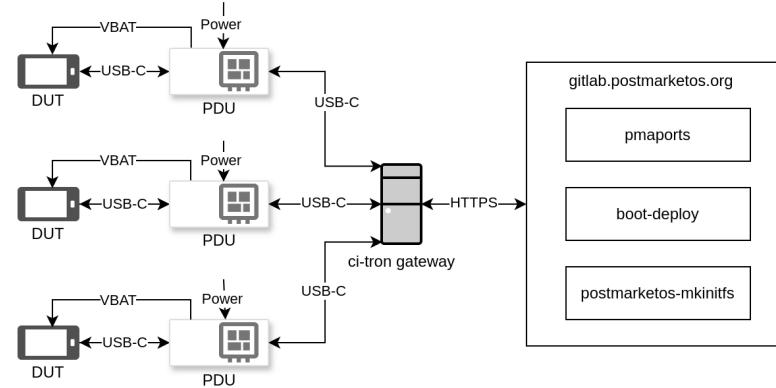
- nightly repositories 

- 2023-11 Plasma Mobile
- 2025-08 Mesa
- 2025-12 Phosh
- 2025-12 Desktop (currently modemmanager, libqmi, upower, flatpak, systemd, polkit, dbus, libcamera)
- 2026-01 KDE (WIP, will replace previous plamo repo)
- 2026-01 GNOME
- thanks to @PureTryOut, @fossdd, @Aelin!

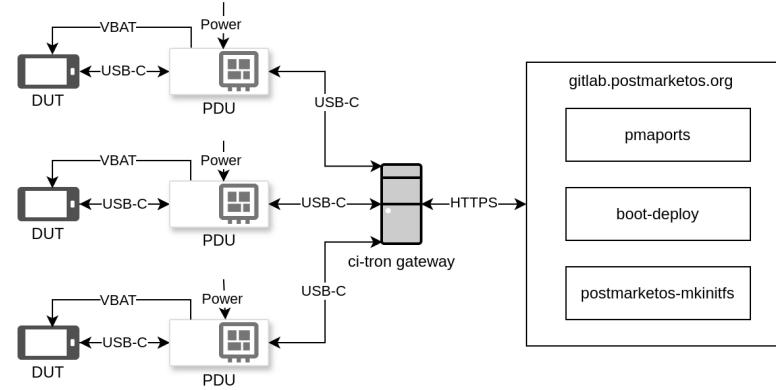
- CI-tron ✓



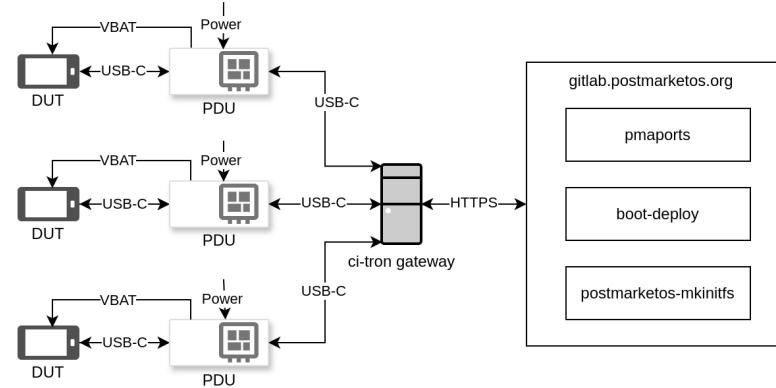
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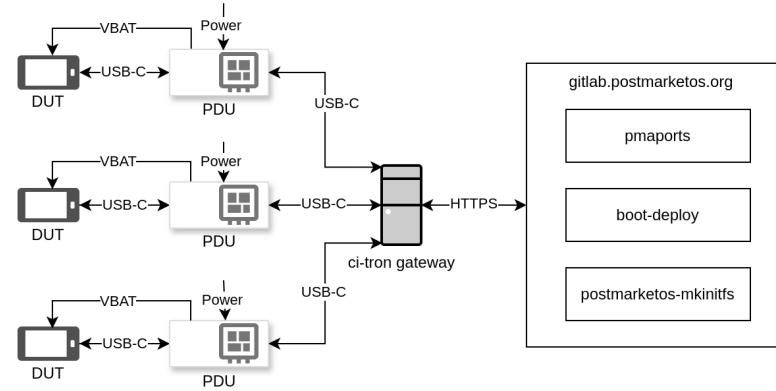
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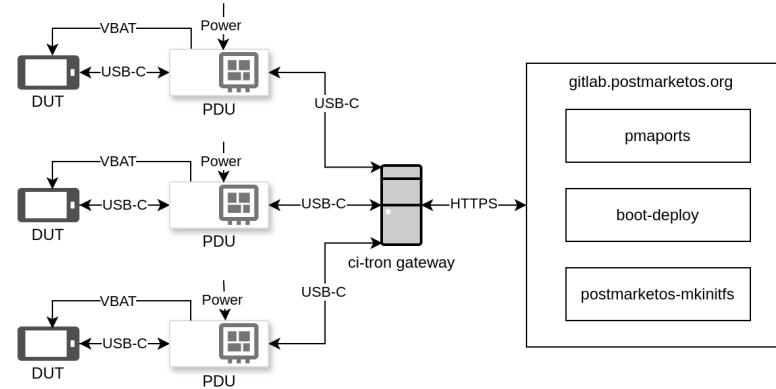
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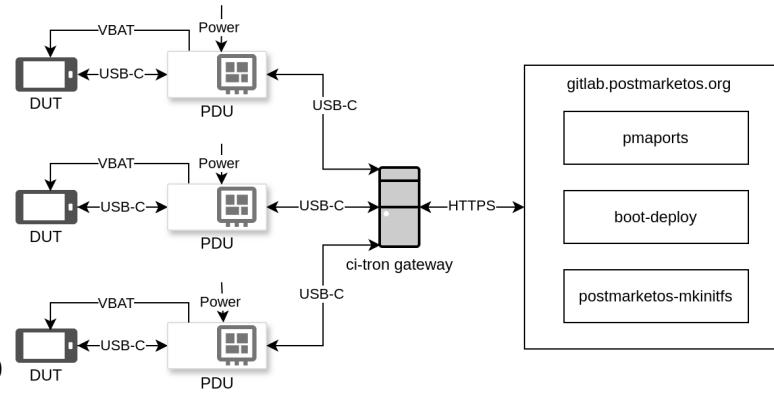
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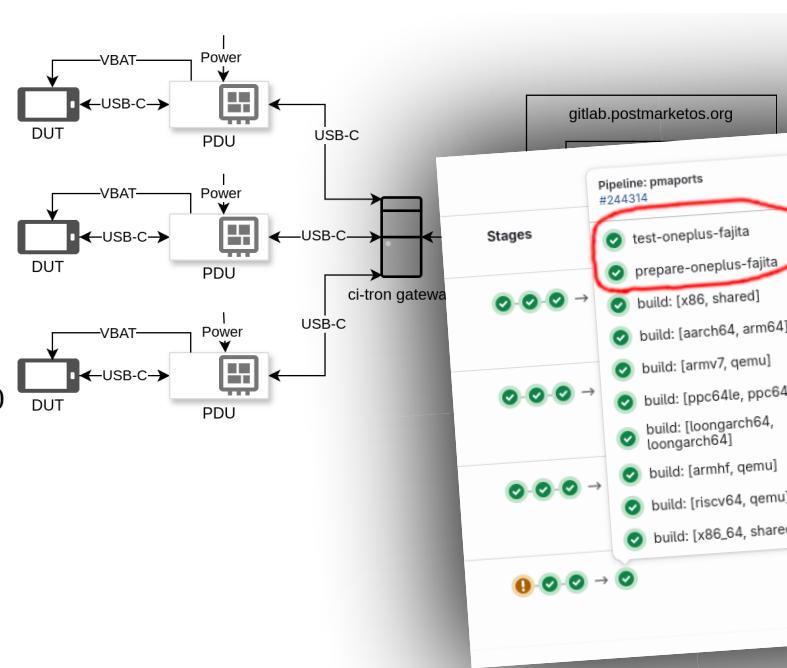
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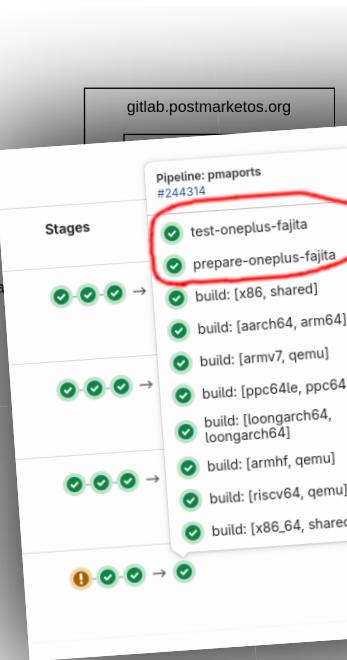
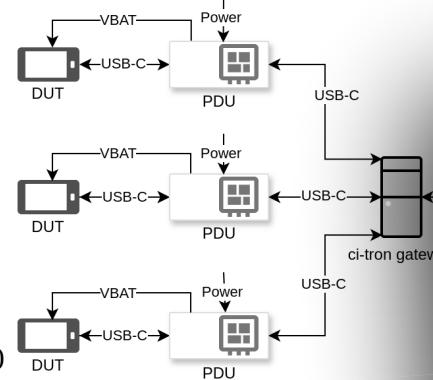


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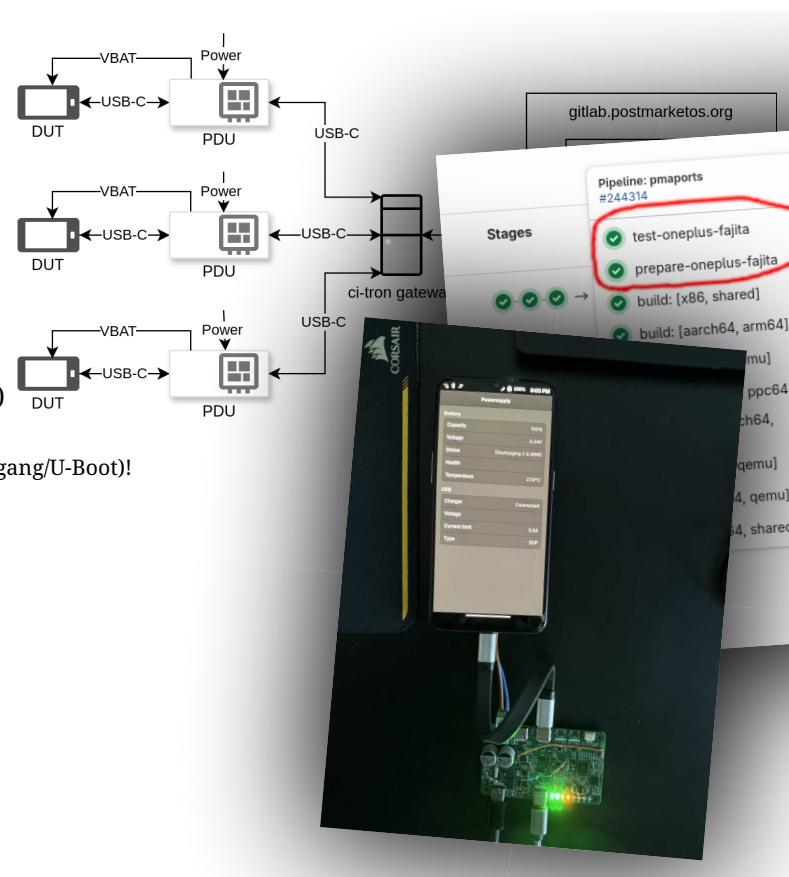
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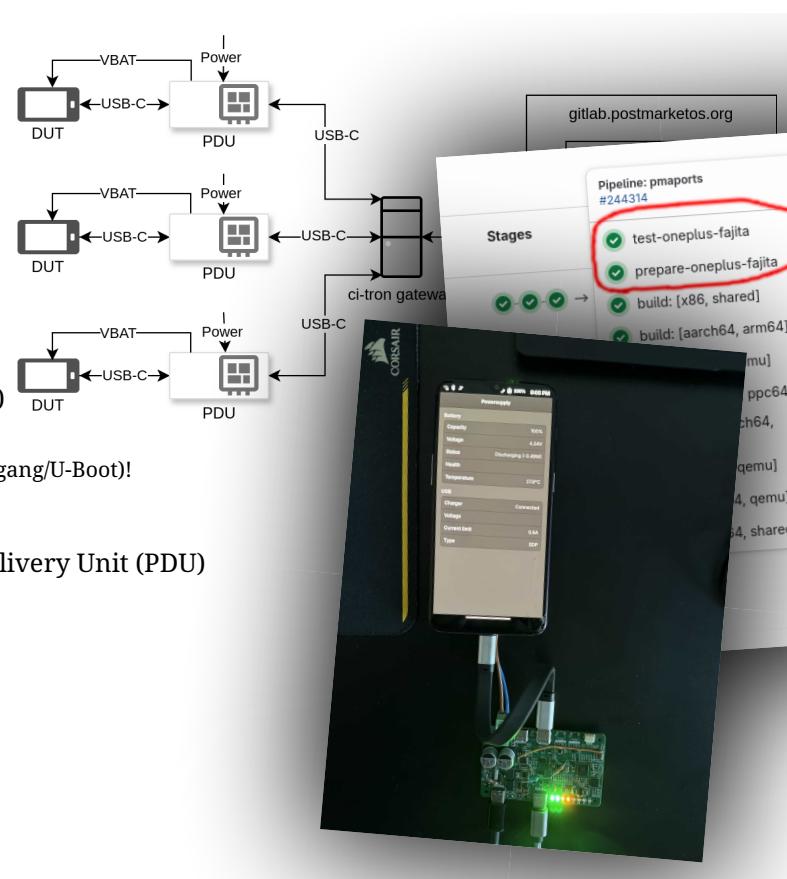
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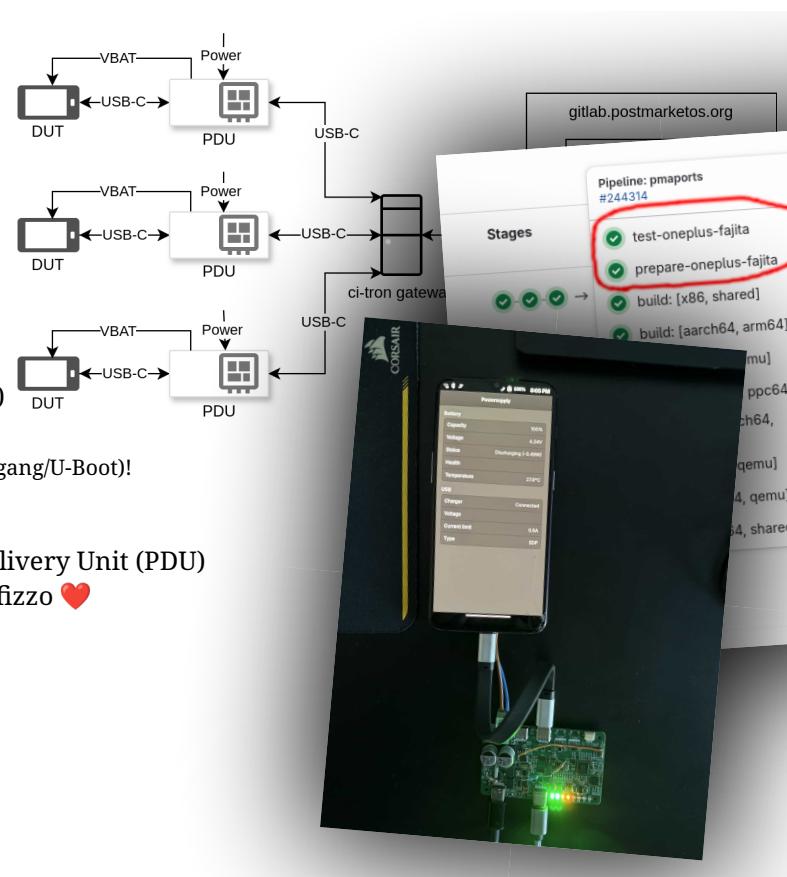


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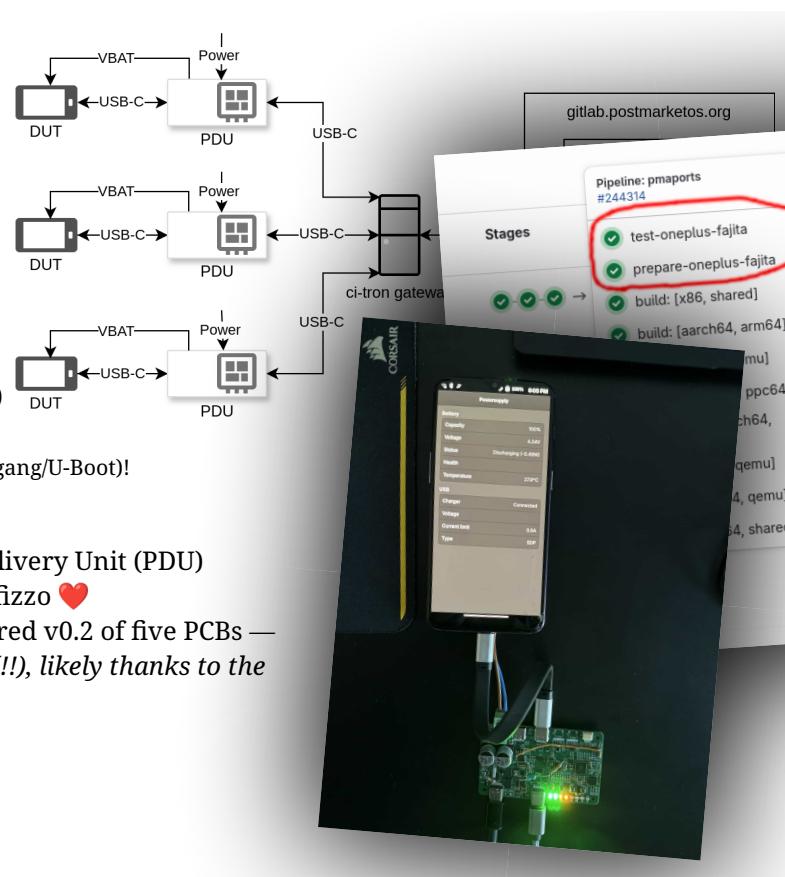


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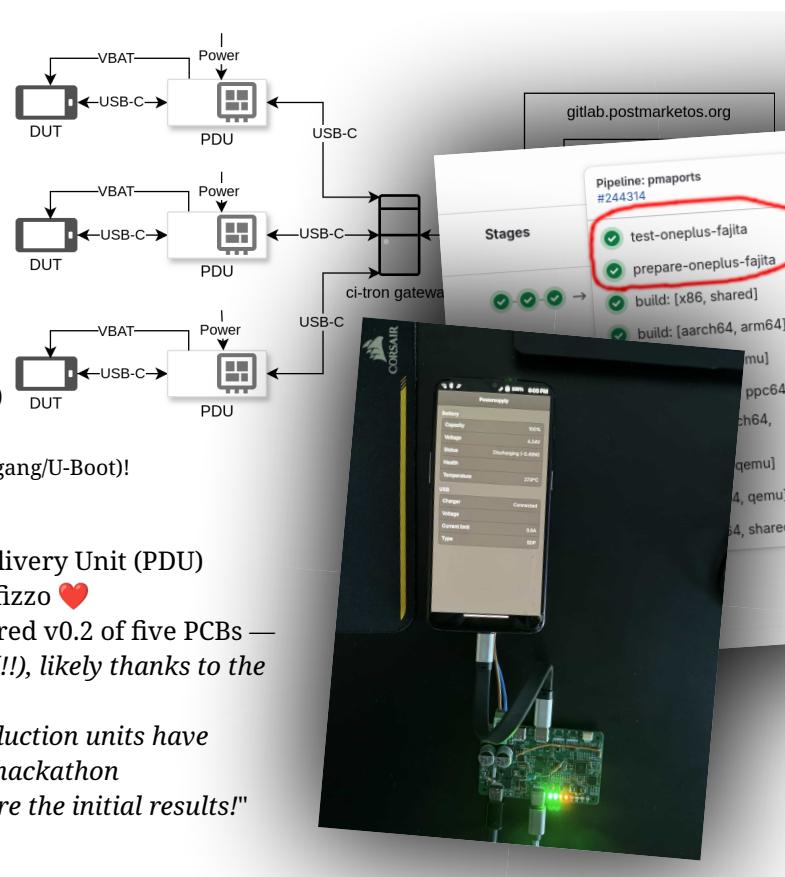


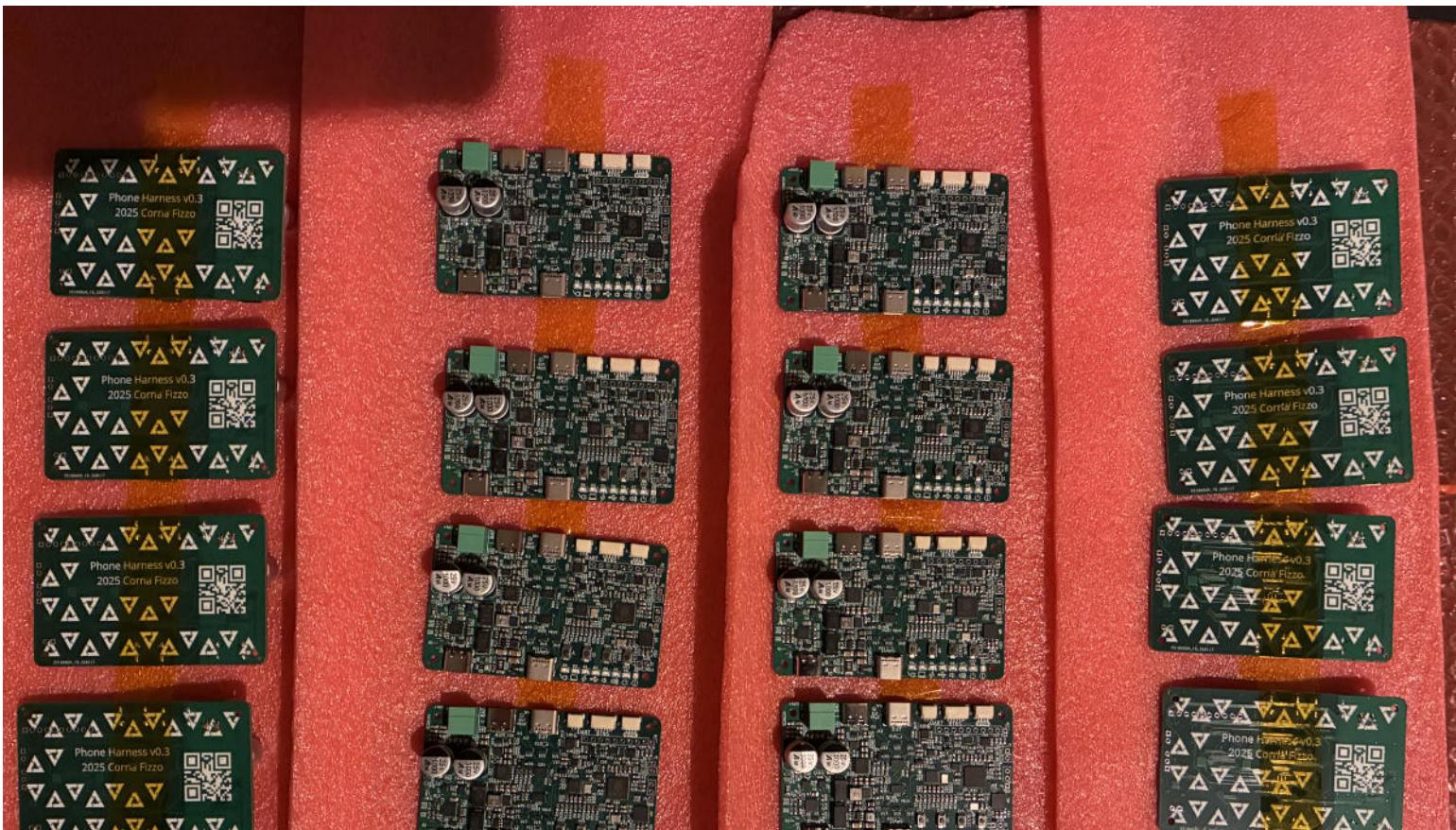
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- 2026-01-26 v0.3: *"[...] the first batch of the production units have just arrived! We'll start setting them up in the hackathon we're doing after #FOSDEM and we'll soon share the initial results!"*





Automaate!!!!

Yay!!!

Where can I visit it in Action and See for myself how "Phone"-Automation should be done?



pabloyoyoista
@pabloyoyoista

@zeroday @postmarketOS we will work on them *after* FOSDEM. If we are lucky though, we might have some demo ready for Sunday at postmarketOS booth, but no promises



Zeroday Podcast (stefan)
@zeroday@podcasts.social

@pabloyoyoista @postmarketOS

PLZ not
^n^

I was reading it correctly, you just misunderstood me.

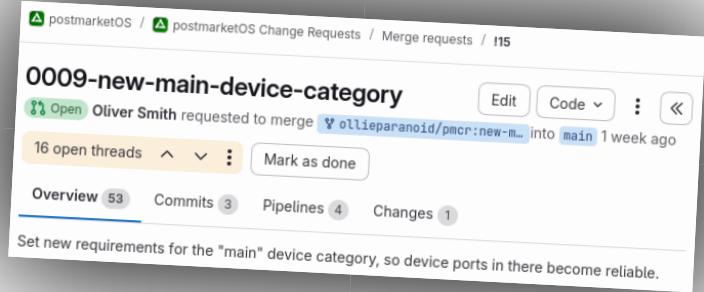
I wanna see them in action, ask a lot of stupid questions, touch them and maybe lick one for the lolz ...



Finishing the puzzle 

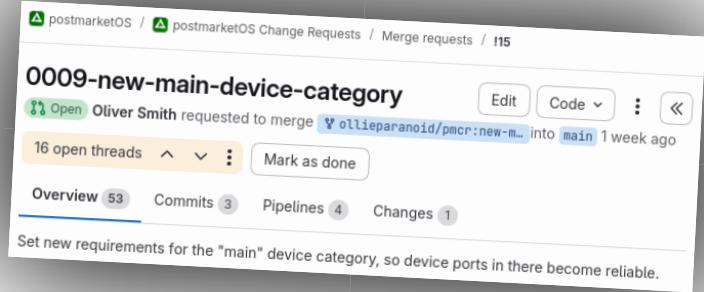
Finishing the puzzle

- PMCR-0009: new *main* device category



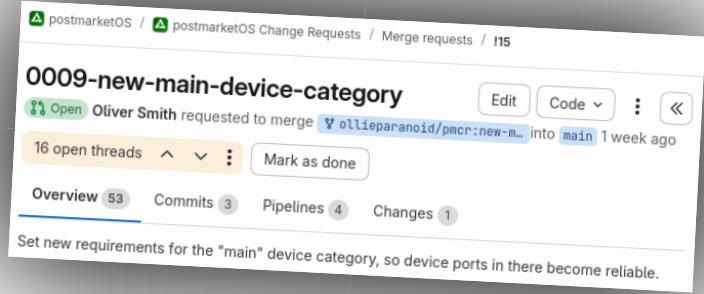
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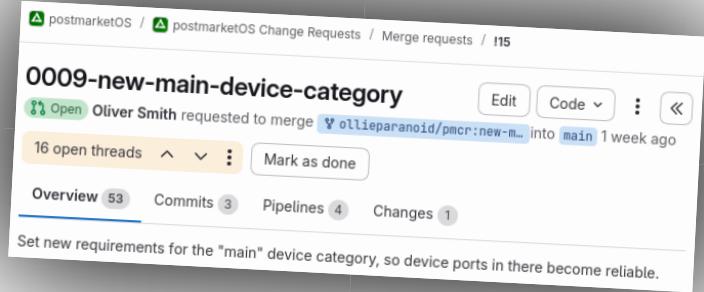
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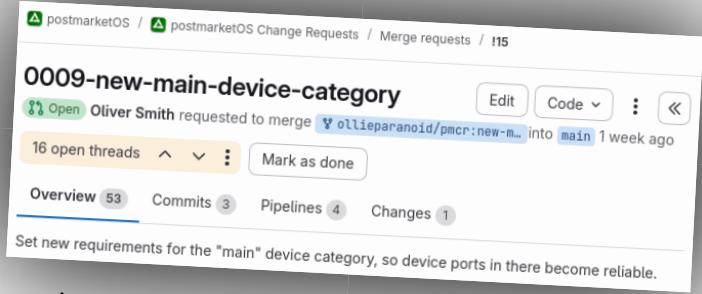
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 - 2 hackspaces are working towards this



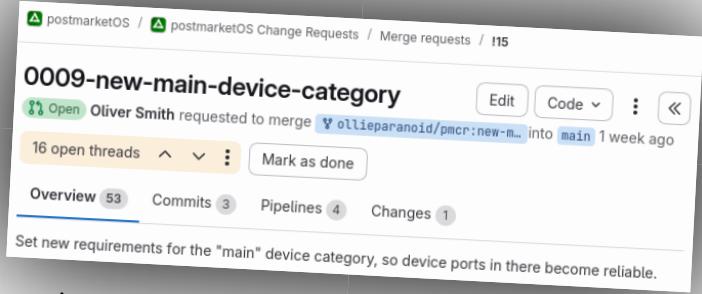
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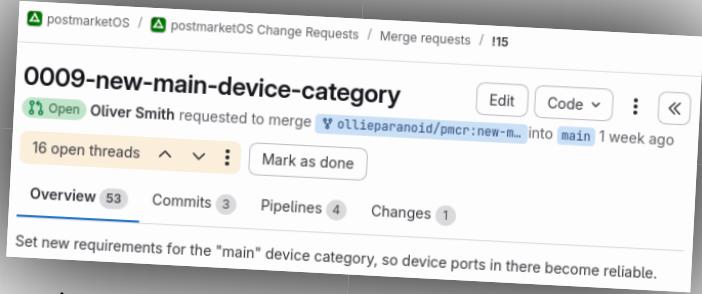
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- Add way more tests



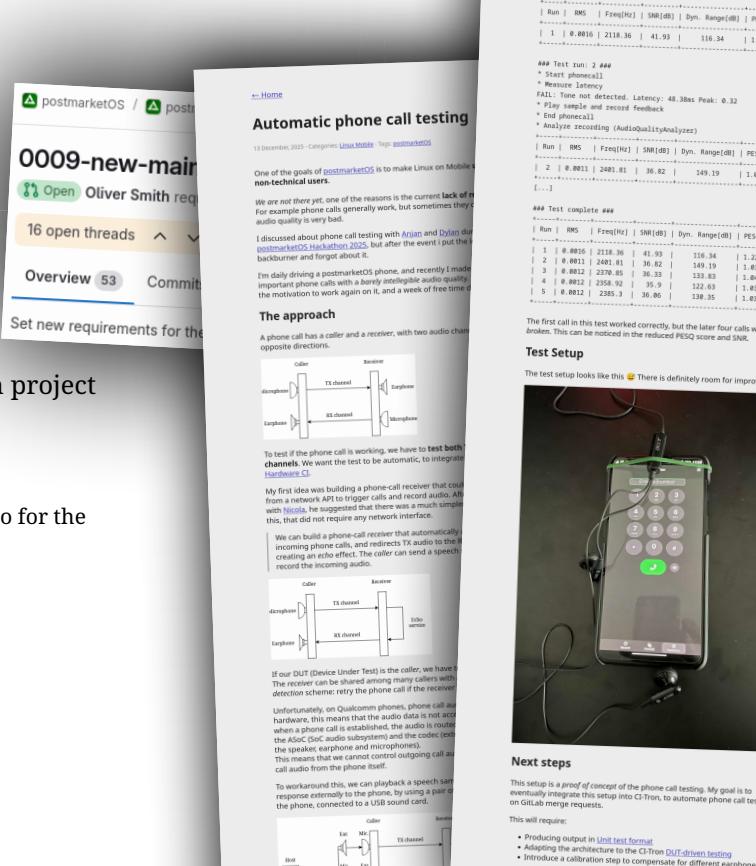
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 - incrementally test all important device features



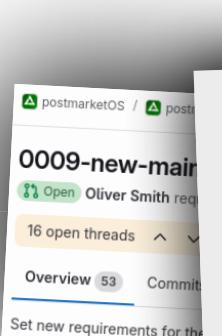
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- Test more versions



0009-new-main

Oliver Smith requested this thread

16 open threads

Overview 53 Commit

Set new requirements for the

[Automatic phone call testing](#)

13 December, 2015 - Categories: [Linux Mobile](#) Tags: [postmarketos](#)

One of the goals of [postmarketOS](#) is to make Linux on Mobile a non-technical users.

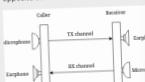
We are not there yet, one of the reasons is the current lack of reliable phone calls generally work, but sometimes they do. audio quality is very bad.

I discussed about phone call testing with [Anjan](#) and [Dylan](#) during [postmarketOS Hackathon 2015](#), but after the event I put the backburner and forgot about it.

I'm daily driving a postmarketOS phone, and recently I made important phone calls with a pretty intelligible audio quality. The motivation to work again on it, and a week of free time.

The approach

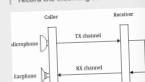
A phone call has a caller and a receiver, with two audio channels opposite directions.



To test if the phone call is working, we have to test both channels. We want the test to be automatic, to integrate [HATServer](#).

My first idea was to build a phone-call receiver that could trigger an API to trigger calls and record result. After talking with [Nicola](#), he suggested that there was a much simpler way, that did not require any network infrastructure.

We can build a phone-call receiver that automatically increments calls, and references TX-Audio to the RX channel, creating an echo effect. The caller can send a speech recording the incoming audio.



If our DUT (Device Under Test) is the caller, we have to share the receiver. The receiver can be shared among many callers with the detection scheme: retry the phone call if the receiver is busy.

Unfortunately, on Qualcomm phones, phone call audio hardware, this means that the audio data is not accessible when a phone call is established. It is not possible to route the audio from the speaker and the microphone to the speaker, earphone and microphones.

This means that we cannot control outgoing call audio from the phone.

To workaround this, we can playback a speech sample response externally to the phone, by using a pair of speakers, the phone, connected to a USB sound card.



This will require:

- Producing output in [Junit test format](#)
- Adapting the architecture to the CI-Tron [DUT-driven testing](#)
- Introduce a calibration step to compensate for different earphone

Test run 2

- Start phonecall
- Record interval
- FAIL: Tone not detected. Latency: 48.38ms Peak: 0.32
- Play sample and record feedback
- End phonecall
- Analyse recording [AudioQualityAnalyzer]

| Run | RMS | Freq(Hz) | SNR(dB) | Dyn. Range(dB) | PESQ |
|-----|--------|----------|---------|----------------|------|
| 1 | 0.0016 | 2118.36 | 41.93 | 116.34 | 1.31 |
| 2 | 0.0011 | 2401.81 | 36.82 | 149.19 | 1.08 |

Test complete

| Run | RMS | Freq(Hz) | SNR(dB) | Dyn. Range(dB) | PESQ |
|-----|--------|----------|---------|----------------|------|
| 1 | 0.0016 | 2118.36 | 41.93 | 116.34 | 1.31 |
| 2 | 0.0011 | 2401.81 | 36.82 | 149.19 | 1.08 |
| 3 | 0.0011 | 2370.85 | 36.33 | 133.83 | 1.04 |
| 4 | 0.0012 | 2358.92 | 35.9 | 122.63 | 1.03 |
| 5 | 0.0012 | 2385.3 | 36.86 | 130.35 | 1.03 |

The first call in this test worked correctly, but the later four calls were failing. This can be noticed in the reduced PESQ score and SNR.

Test Setup

The test setup looks like this. There is definitely room for improvement.



Next steps

This setup is a proof of concept of the phone call testing. My goal is to eventually integrate this setup into CI-Tron, to automate phone call tests on GitHub merge requests.

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- Add way more tests
 - incrementally test all important device features
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- Test more versions
 - merge requests in postmarketOS repos (✓)

Automatic phone call testing

One of the goals of postmarketOS is to make Linux on Mobile a non-technical user.

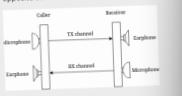
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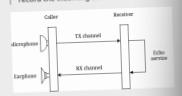
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To test if the phone call is working, we have to test both channels. We want the test to be automatic, to integrate [HATServer](#).

My first idea was building a phone-call receiver that could trigger an API to trigger calls and record result. After talking with [Nicola](#), he suggested that there was a much simpler way, that did not require any network infrastructure.

We can build a phone-call receiver that automatically increments calls, and references TX-Audio to the RX channel, creating an echo effect. The caller can send a speech recording the incoming audio.

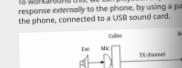


If our DUT (Device Under Test) is the caller, we have to share the receiver among many callers. The receiver can be shared among many callers with a detection scheme: retry the phone call if the receiver is busy.

Unfortunately, on Qualcomm phones, phone call audio hardware, this means that the audio data is not accurate when a phone call is established. The audio is noise when the phone is connected to the earpiece and the collector (between the speaker, earphone and microphones).

This means that we cannot control outgoing call audio from the phone.

To workaround this, we can playback a speech sample response externally to the phone, by using a pair of speakers, connected to a USB sound card.



This will require:

- Adapting output in [test-test-formal](#)
- Adapting the architecture to the CI-Tron [DUT-driven testing](#)
- Introduce a calibration step to compensate for different earphone

Finishing the puzzle

- **PMCR-0009: new *main* device category**
 - new requirement: automated HW testing!
- Set up automated test farms
 - 2 hackspaces are working towards this
 - Luca plans to set one up at Fairphone as his own project
- Add way more tests
 - incrementally test all important device features
 - one example: [calls over VoIP/VoWiFi](#) (thanks @fizzo for the proof-of-concept!)
- Test more versions
 - merge requests in postmarketOS repos (✓)
 - nightly repos (e.g. nightly modemmanager!)

[postmarketOS](#) / [postmarketOS](#)

0009-new-main

 Open Oliver Smith requested this

16 open threads  Overview 53 Commit 13 December, 2023 Categories: [Linux Mobile](#) Tags: [postmarketOS](#)

Set new requirements for the main device category

Automatic phone call testing

13 December, 2023 Categories: [Linux Mobile](#) Tags: [postmarketOS](#)

One of the goals of [postmarketOS](#) is to make Linux on Mobile a non-technical users.

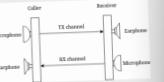
We are not there yet, one of the reasons is the current lack of infrastructure. For example phone calls generally work, but sometimes they sound audio quality is very bad.

I discussed about phone call testing with [Anjan](#) and [Dylan](#) during [postmarketOS Hackathon 2023](#), but after the event I put the idea in the backburner and forgot about it.

I'm daily driving a postmarketOS phone, and recently I made some important phone calls with a pretty intelligible audio quality. I'm motivated to work again on it, and a week of free time is available.

The approach

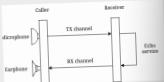
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Unfortunately, on Qualcomm phones, phone call audio hardware, this means that the audio data is not accessible when a phone call is established. The audio is routed to the speaker, microphone and the codec (between the speaker, earphone and microphones).

This means that we cannot control outgoing call audio from the phone.

To workaround this, we can playback a speech sample response externally to the phone, by using a pair of speakers connected to a USB sound card.



This will require:

- Producing output in [Junit test format](#)
- Adapting the architecture to the CI-Tron [DUT-driven testing](#)
- Introduce a calibration step to compensate for different earphones

Test run: 2

- Start phonecall
- Record latency
- FAIL: Tone not detected. Latency: 48.38ms Peak: 0.32ms
- Play sample and record feedback
- End phonecall
- Analyse recording [AudioQualityAnalyzer]

| Run | RMS | Freq(Hz) | SNR(dB) | Dyn. Range(dB) | PESQ |
|-----|--------|----------|---------|----------------|------|
| 1 | 0.0016 | 2118.36 | 41.93 | 116.34 | 1.32 |
| 2 | 0.0011 | 2401.81 | 36.82 | 149.19 | 1.08 |

Test complete

| Run | RMS | Freq(Hz) | SNR(dB) | Dyn. Range(dB) | PESQ |
|-----|--------|----------|---------|----------------|------|
| 1 | 0.0056 | 2118.36 | 41.93 | 116.34 | 1.25 |
| 2 | 0.0011 | 2401.81 | 36.82 | 149.19 | 1.08 |
| 3 | 0.0011 | 2370.85 | 36.33 | 133.83 | 1.04 |
| 4 | 0.0012 | 2358.92 | 35.9 | 122.63 | 1.03 |
| 5 | 0.0012 | 2385.3 | 36.86 | 130.35 | 1.03 |

The first call in this test worked correctly, but the later four calls were failing. This can be noticed in the reduced PESQ score and SNR.

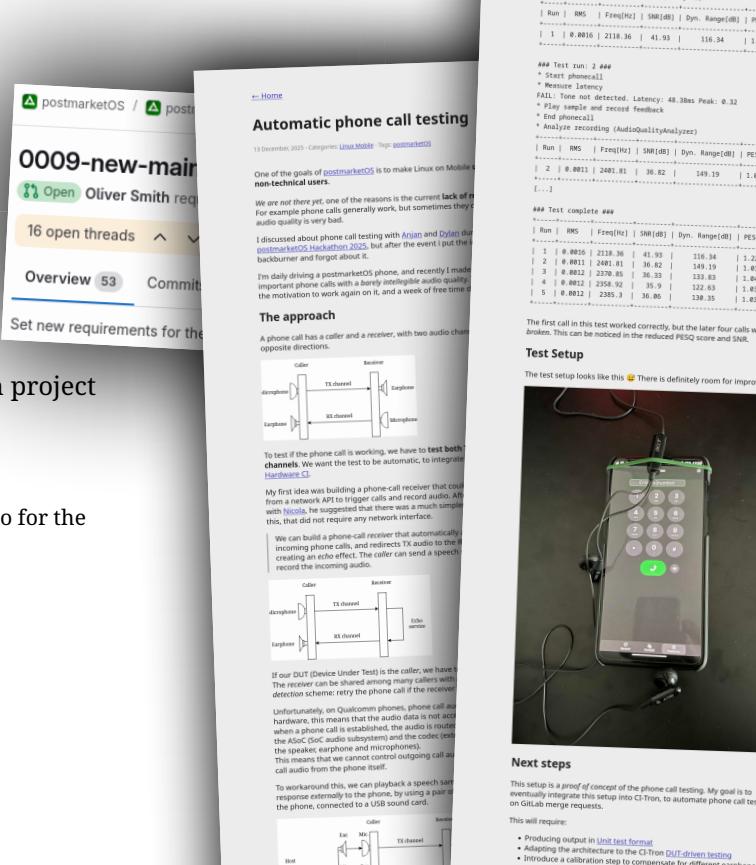
Test Setup

The test setup looks like this. There is definitely room for improvement.



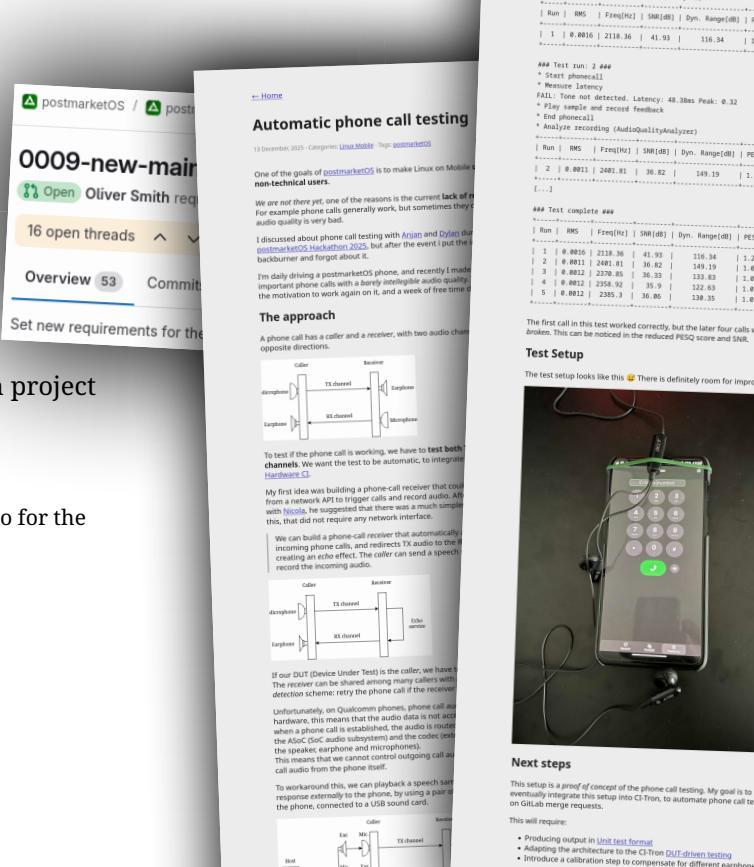
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 - merge requests in postmarketOS repos (✓)
 - nightly repos (e.g. nightly modemmanager!)
 - current edge and current stable (e.g. v25.12)



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Finishing the puzzle

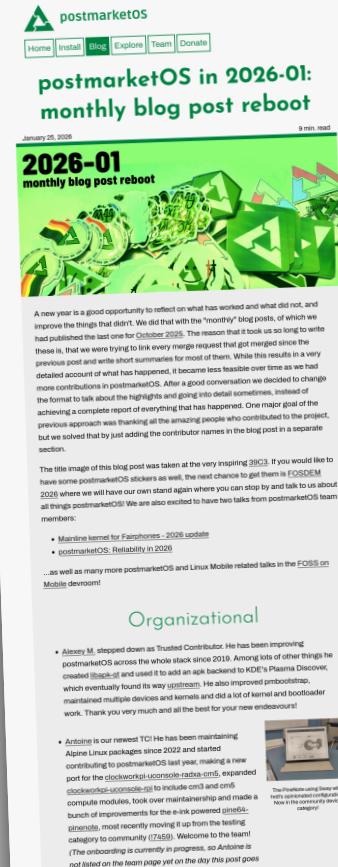
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Expect more news soon

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January 25, 2009 3 min. read

2026-01 monthly blog post reboot

A new year is a good opportunity to reflect on what has worked and what did not, and improve the things that didn't. We did have the "monthly" blog posts, of which we had published the last one for January 2005. The reason that it took us so long to write these is, that we were trying to fit every merge request that got merged since the previous post and write short summaries for most of them. While this results in a very detailed report of what has happened, it became less feasible over time as we had more contributions in postmarketOS. After a good conversation we decided to change the format to talk about the highlights and going into detail sometimes, instead of achieving a complete report of everything that has happened. One major goal of the previous approach was thanking all the amazing people who contributed to the project, but we solved that by just adding the contributor names in the blog post in a separate section.

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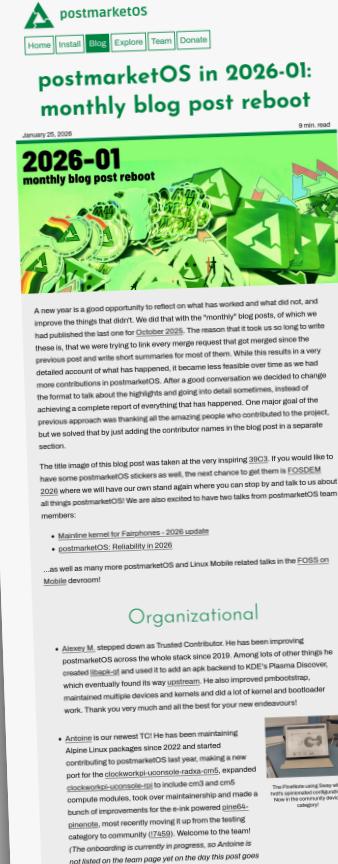
Organizational

- [Alessey M.](#) stepped down as Trusted Contributor. He has been improving postmarketOS across the whole stack since 2018. Among lots of other things he created [task-91](#) and used it to add an apk backend to KDE's Plasma Discover, which eventually found its way [systemtray](#). He also improved [systemtray](#), maintained multiple devices and kernels and did a lot of kernel and bootloader work. Thank you very much and all the best to your new endeavour!
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Get involved!



The screenshot shows a blog post titled "2026-01: monthly blog post reboot" from January 20, 2026. The post discusses the reboot of the monthly blog post series. It includes a large image of a green and white sticker with the text "postmarketOS" and a logo. The post content reflects on the challenges of maintaining a monthly blog post format and the evolution of the project. It also mentions the FOSDEM 2026 event and the postmarketOS team members. The footer of the blog post includes a "Read more" link and a "3 min. read" indicator.

postmarketOS

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January 20, 2026 | 3 min. read

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 - Matrix: #hardware-ci:postmarketos.org
 - IRC: #postmarketos-hwci on OFTC

The screenshot shows a blog post titled "2026-01 monthly blog post reboot" from January 20, 2026. The post discusses the reboot of the monthly blog post series, mentioning the challenges of merging many small pull requests and the shift to a more focused format. It also highlights the team's work on the Matrix and IRC channels. The post concludes with a list of upcoming topics and a photo of a laptop with a "postmarketOS" sticker.

postmarketOS

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postmarketOS in 2026-01: monthly blog post reboot

January 20, 2026

2026-01 monthly blog post reboot

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postmarketOS in 2026-01: monthly blog post reboot

January 25, 2009

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The Freshdesk using Sway with kwin5 session configuration. Note the window title "Freshdesk" and the window icon.

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- Stand in building UD level 2, we have stickers and demos!



Thanks to... ❤️

- [postmarketOS team](#) and in general all contributors
- Everyone working on [Alpine Linux](#) or one of the many upstream projects we use
- Peter for [LINMOB.net](#), [LinuxPhoneApps.org](#), [MCF](#) work and a lot more
- [NLnet](#) for powering some of our work with grants
(and not just us, other Linux Mobile projects too!)
- Everybody who donates to postmarketOS
<https://postmarketos.org/donate>



The screenshot shows a blog post titled "postmarketOS in 2026-01: monthly blog post reboot" from January 25, 2026. The post features a green header with the title and a green banner at the bottom with the text "2026-01 monthly blog post reboot". The main content discusses the challenges of writing monthly blog posts and the decision to reboot the series. It includes a small image of a green robot-like character.



Thanks to... ❤️

- [postmarketOS team](#) and in general all contributors
- Everyone working on [Alpine Linux](#) or one of the many upstream projects we use
- Peter for [LINMOB.net](#), [LinuxPhoneApps.org](#), [MCF](#) work and a lot more
- [NLnet](#) for powering some of our work with grants
(and not just us, other Linux Mobile projects too!)
- Everybody who donates to postmarketOS
<https://postmarketos.org/donate>
- And of course: *thank you for listening!*

