

# LPC 2025 netdev track

# LPC 2025 - agenda

Infrastructure update (and netdev foundation)

Random thoughts and rants

Process.. discussion..

# LPC 2025 - netdev infra

Patchwork

Build testing

Linters

Software  
kselftest

Hardware  
kselftest

AI reviews



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# LPC 2025 – netdev foundation

## Sponsors



# LPC 2025 – netdev foundation

<https://github.com/linux-netdev/foundation>

- charter
- project proposals (Issues)
- operating procedures
- members

**Please participate!**

## TSC

- Simon Horman (chair)
- Andrew Lunn
- David S. Miller
- Eric Dumazet
- Jakub Kicinski
- Johannes Berg
- Kuniyuki Iwashima
- Paolo Abeni
- Willem de Bruijn

# LPC 2025 – netdev foundation

## Projects

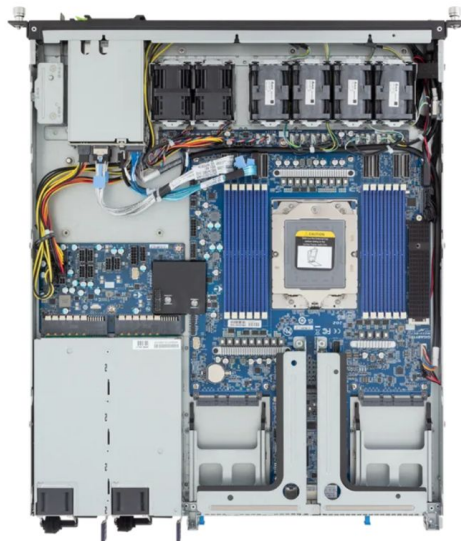
- miscellaneous (Plausible subscription)
- CI migration / HW lab (funded)
- embedded kselftests (pause, WoL) (WIP)
- hosted lore+lei (under discussion)
- patchwork improvements (under discussion)

# LPC 2025 - netdev foundation

CI migration

5x  
(5x \$10,000)

Hosted by:



## E163-Z34-AAH1 [Rev. 3.x](#)

Edge Server - AMD EPYC™ 9005/9004 - 1U UP 2-Bay Gen5 NVMe/SATA/SAS-4 Titanium

[Networking](#) [Edge](#) [Hybrid/Private Cloud Server](#)

- Single AMD EPYC™ 9005/9004 Series Processors
- 12-Channel DDR5 RDIMM, 12 x DIMMs
- Dual ROM Architecture
- 1 x 1Gb/s LAN port via Intel® I210-AT
- 2 x 2.5" Gen5 NVMe/SATA/SAS-4 hot-swap bays
- 1 x M.2 slot with PCIe Gen3 x4 interface
- 2 x FHHL PCIe Gen5 x16 slots
- 2 x OCP NIC 3.0 PCIe Gen5 x16 slots
- 1+1 1300W 80 PLUS Titanium redundant power supplies

Ordering Numbers: 6NE163Z34DR000ACH1\*

AMD  
EPYC



Add to Quote

☐ Compare

☐ Save

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# LPC 2025 - CI updates

## HW selftests

- as announced in April '24 all drivers in “Supported” state must run upstream tests
- NIPA integration work this year
  - automatic stability assessment
- first vendor reporting results 🎉

Hardware  
kselftest

# LPC 2025 - HW selftests

<https://netdev-ci-results.intel.com>

Intel Netdev-CI Results Browser	
From: 12 / 06 / 2025	To: 12 / 12 / 2025
Today	Yesterday
Last 7 days	
net-next-hw-2025-12-12--00-00	
2 device(s) • 258 tests • 112 passed • 84 failed • 62 skipped	
net-next-hw-2025-12-11--16-00	
2 device(s) • 258 tests • 96 passed • 108 failed • 54 skipped	
net-next-hw-2025-12-11--08-00	
2 device(s) • 258 tests • 106 passed • 84 failed • 68 skipped	
net-next-hw-2025-12-11--00-00	
2 device(s) • 258 tests • 107 passed • 85 failed • 66 skipped	
net-next-hw-2025-12-10--16-00	
2 device(s) • 258 tests • 108 passed • 84 failed • 66 skipped	
net-next-hw-2025-12-10--08-00	
2 device(s) • 154 tests • 88 passed • 20 failed • 46 skipped	
net-next-hw-2025-12-10--00-00	
2 device(s) • 154 tests • 88 passed • 20 failed • 46 skipped	
net-next-hw-2025-12-09--16-00	
2 device(s) • 154 tests • 88 passed • 20 failed • 46 skipped	
net-next-hw-2025-12-09--08-00	
2 device(s) • 154 tests • 88 passed • 20 failed • 46 skipped	

# LPC 2025 - HW selftests

<https://netdev.bots.linux.dev/status.html>

Branch	Remote	Time	Tests	Result
<a href="#">net-next-hw-2025-12-12--00-00</a>		12/12/2025, 9:00:14 AM		
	<a href="#">virt-driv-hw-dbg</a>	41m 30s	<a href="#">16 / 0 / 1</a>	fail
	<a href="#">metal-fbnc-qemu-dbg</a>	37m 42s	<a href="#">25 / 0 / 0</a>	pass
	<a href="#">virt-driv-hw</a>	38m 9s	<a href="#">10 / 0 / 1</a>	fail
	<a href="#">metal-driv-hw-dbg</a>	34m 29s	<a href="#">17 / 0 / 0</a>	pass
	<a href="#">metal-driv-hw</a>	13m 30s	<a href="#">17 / 0 / 0</a>	pass
	<a href="#">metal-fbnc-qemu</a>	12m 14s	<a href="#">25 / 0 / 0</a>	pass
	<a href="#">intel-ice</a>	8m 3s	<a href="#">8 / 0 / 0</a>	pass
	<a href="#">intel-ice</a>	8m 3s	<a href="#">8 / 0 / 0</a>	pass
summary	8 remotes	41m 30s	<a href="#">126 / 0 / 2</a>	pending

# LPC 2025 - HW selftests

<https://netdev.bots.linux.dev/devices.html>

Test case status												
Group	Test	Subtest										
selftests-drivers-net-hw	csum-py											
selftests-drivers-net-hw	csum-py	csum-ipv4-rx-tcp	99%					51%	65%		94%	97%
selftests-drivers-net-hw	csum-py	csum-ipv4-rx-tcp-invalid	99%						99%			
selftests-drivers-net-hw	csum-py	csum-ipv4-rx-udp	98%						99%			
selftests-drivers-net-hw	csum-py	csum-ipv4-rx-udp-invalid	98%						99%	99%		
selftests-drivers-net-hw	csum-py	csum-ipv4-to-udp-csum-offload						52%	67%			
selftests-drivers-net-hw	csum-py	csum-ipv4-to-udp-zero-checksum						52%	67%			
selftests-drivers-net-hw	csum-py	csum-ipv6-rx-tcp	99%						99%			
selftests-drivers-net-hw	csum-py	csum-ipv6-rx-tcp-invalid		99%					99%	99%		
selftests-drivers-net-hw	csum-py	csum-ipv6-rx-udp							99%	99%		
selftests-drivers-net-hw	csum-py	csum-ipv6-rx-udp-invalid		99%					99%	99%		
selftests-drivers-net-hw	csum-py	csum-ipv6-to-udp-csum-offload						52%	67%			
selftests-drivers-net-hw	csum-py	csum-ipv6-to-udp-zero-checksum						52%	67%			
selftests-drivers-net-hw	devlink-port-split-py											
selftests-drivers-net-hw	devlink-rate-to-bw-py											
selftests-drivers-net-hw	devlink-rate-to-bw-py	devlink-rate-to-bw-test-no-to-mapping-bandwidth										
selftests-drivers-net-hw	devlink-rate-to-bw-py	devlink-rate-to-bw-test-to-mapping-bandwidth										
selftests-drivers-net-hw	devmem-py								42%	49%		
selftests-drivers-net-hw	devmem-py	devmem-check-rx							50%	55%		
selftests-drivers-net-hw	devmem-py	devmem-check-tx							45%	56%		
selftests-drivers-net-hw	devmem-py	devmem-check-tx-chunks							45%	57%		
selftests-drivers-net-hw	ethtool-extended-state-sh											
selftests-drivers-net-hw	ethtool-mm-ah											
selftests-drivers-net-hw	ethtool-mon-sh											
selftests-drivers-net-hw	ethtool-sh										100%	100%
selftests-drivers-net-hw	hw-stats-13-gre-ah											
selftests-drivers-net-hw	hw-stats-13-sh											
selftests-drivers-net-hw	iou-zork-py								48%	63%		
selftests-drivers-net-hw	iou-zork-py	iou-zork-test-zork							51%	68%		
selftests-drivers-net-hw	iou-zork-py	iou-zork-test-zork-large-chunks										
selftests-drivers-net-hw	iou-zork-py	iou-zork-test-zork-one-shot							51%	66%		
selftests-drivers-net-hw	iou-zork-py	iou-zork-test-zork-rss							51%	65%		



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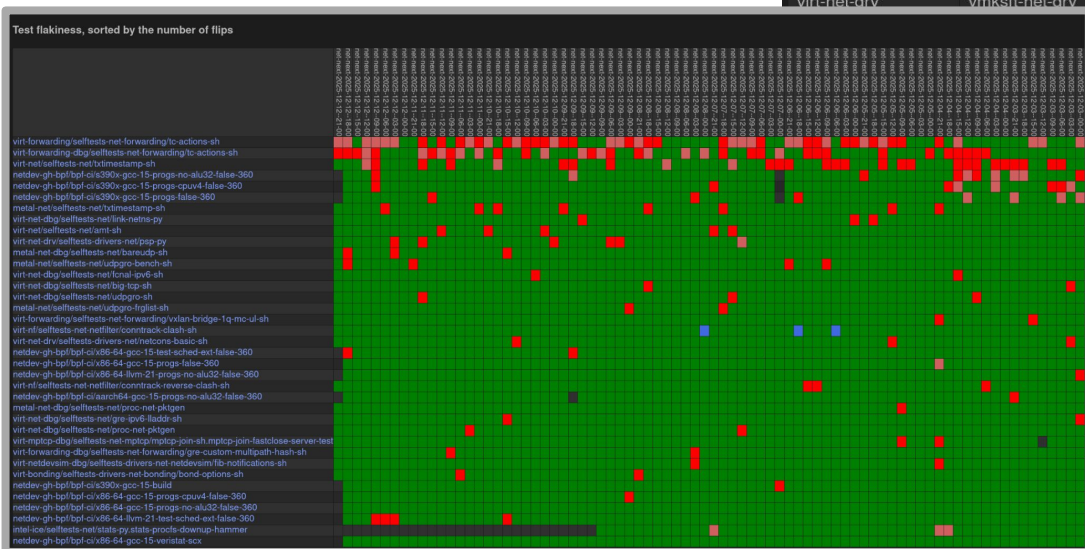
AI reviews



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# LPC 2025 - flake frequency summary

<https://netdev.bots.linux.dev/status.html>



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## Flakiest tests

Remote	Executor	Test	Flakes (by week: this, 1, 2, 3 ago)				Ignored
			this	1	2	3	
virt-net	vmkfst-net	txtimestamp-sh	14	21	4	0	yes
metal-net	vmkfst-net	txtimestamp-sh	7	1	2	0	
virt-net	vmkfst-net	amt-sh	5	1	1	0	
virt-drv-hw-dbg	vmkfst-drv-hw-dbg	ring-reconfig-py	4	2	0	0	
virt-net-drv	vmkfst-net-drv	psp-py	4	1	0	0	
		s390x-gcc-15-progs-false-360	3	2	0	0	yes
		udpgr-bench-sh	3	0	1	0	
		s390x-gcc-15-progs-cpuv4-false-360	2	4	0	0	yes
		conntrack-reverse-clash-sh	2	3	3	0	yes
		netcons-basic-sh	2	1	1	0	
		rss-ctx-py	2	1	1	2	
		udpgr-frglst-sh	2	1	0	0	
		s390x-gcc-15-progs-no-alu32-false-360	1	9	0	0	yes
		vxlan-bridge-1q-mc-ul-sh	1	5	2	0	
		rss-ctx-py	1	2	1	4	
		tso-py	0	4	0	1	
		arp-ndisc-evict-nocarrier-sh	0	1	10	0	
		so-peek-off	0	1	7	0	
		ring-reconfig-py	0	1	2	1	
		napi-threaded-py	0	1	2	1	
		queues-py	0	1	2	1	
		s390x-gcc-15-progs-false-360	0	1	1	1	yes
		devmem-py	0	0	4	2	
		fib-rule-tests-sh	0	0	3	1	
		conntrack-reverse-clash-sh	0	0	1	1	yes
		s390x-gcc-15-progs-cpuv4-false-360	0	0	1	6	yes
		s390x-gcc-15-progs-no-alu32-false-360	0	0	1	4	yes
		bond-macvlan-ipvlan-sh	0	0	0	7	yes
reminder			31	17	40	18	
total			84	81	90	50	

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# LPC 2025 - CI updates - linters

## Linters

- there is a lot of them
- ingest\_mdir now works more than less

```
series_format
Full series WARNING Series does not have a cover letter

ynl
Full series OKAY
Generated files up to date; no warnings/errors; no diff in generated;

source_inline
Patch 1 OKAY Was 0 now: 0
Patch 2 OKAY Was 0 now: 0
Patch 3 OKAY Was 0 now: 0

verify_fixes
Patch 1 OKAY No Fixes tag
Patch 2 OKAY No Fixes tag
Patch 3 OKAY No Fixes tag

verify_signedoff
Patch 1 OKAY Signed-off-by tag matches author and committer
Patch 2 OKAY Signed-off-by tag matches author and committer
Patch 3 OKAY Signed-off-by tag matches author and committer

shellcheck
Patch 1 OKAY No shell scripts touched, skip
Patch 2 OKAY No shell scripts touched, skip
Patch 3 OKAY No shell scripts touched, skip

pylint
Patch 1 OKAY Errors before: 0 (+warn: 8) this patch: 0 (+warn: 8)
Patch 2 OKAY Errors before: 0 (+warn: 8) this patch: 0 (+warn: 8)
Patch 3 OKAY Errors before: 0 (+warn: 8) this patch: 0 (+warn: 8)

yamllint
Patch 1 OKAY No YAML files touched, skip
Patch 2 OKAY No YAML files touched, skip
Patch 3 OKAY No YAML files touched, skip

ruff
Patch 1 OKAY Errors before: 2 ; this patch: 2
Patch 2 OKAY Errors before: 2 ; this patch: 2
Patch 3 OKAY Errors before: 2 ; this patch: 2
```



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# LPC 2025 - AI code reviews

Chris Mason's review prompts:

<https://github.com/masoncl/review-prompts.git>

netdev UI:

<https://netdev-ai.bots.linux.dev>

patchwork check: ai-review

The screenshot shows the NIPA AIR AI Review Service for Kernel Patches interface. At the top, there's a header with the logo, the name "NIPA AIR", and the subtitle "AI Review Service for Kernel Patches". On the right, there are three buttons: "All users" (checked), "Token Configured", and "Light Mode Dark Mode". Below the header is a "Service Status" section with a table showing the current state of the service:

QUEUE SIZE	QUEUED	IN PROGRESS	COMPLETED	ERRORS	TOTAL COST
0	0	0	5	0	\$28.49

Below the status table is a navigation bar with four tabs: "Review History", "Recent Reviews" (selected), "Query Review", and "Submit Review". Under the "Recent Reviews" tab, there's a list of reviews. A checkbox "With feedback only" is checked. The list shows five reviews, each with a commit hash, repository name, patch count, hash, reviewer, model, duration, cost, and status. The first review is highlighted in green.

Commit Hash	Repository	Patches	Hash	Reviewer	Model	Duration	Cost	Status
ec50ef38-f845-453e-b9df-abf6eb1a69de	netdev/net	(1 patches)	Hash: 43b27d1bd88a	netdev CI	us.anthropic.claude-opus-4-5-20251101-v1.0	7m 43s	\$5.85	Has feedback
f1cc392d-6f7e-4b3c-a6ce-63da78398884	netdev/net	(3 patches)	Patchwork: 1028185	netdev CI	us.anthropic.claude-opus-4-5-20251101-v1.0	13m 11s	\$6.56	done
3f9740cc-f61f-4c5e-8d89-cbdf6a1806d	netdev/net	(1 patches)	Patchwork: 1031931	netdev CI	us.anthropic.claude-opus-4-5-20251101-v1.0	7m 54s	\$8.41	done
4fc7b542-0b0a-43fb-92fa-a2acaa5ec966	netdev/net	(2 patches)	Patchwork: 1032053	netdev CI	us.anthropic.claude-opus-4-5-20251101-v1.0	7m 4s	\$3.59	done
288db892-20b4-4766-8e5b-1d1cec697c44	netdev/net	(1 patches)	Patchwork: 1032475	netdev CI	us.anthropic.claude-opus-4-5-20251101-v1.0	3m 58s	\$4.09	done

# LPC 2025 – random rants

Fact: maintainers spend more than 10% of their time reviewing patches from one-time contributors touching obscure sub-systems accounting for less than 1% of the total code base [1]. Why?

- the subsystem code is obscure (big surprise;)
- high potential risk of supply chain/social engineering or other impacting misbehaviours
- (some) subsystems (still) have users
- lower level of trust due to no prior history and no CI coverage.

[1] source: Dilbert's made-up numbers <https://youtu.be/NEBvCLevBBQ?si=ooF10NSzpFPjkgU3>

# LPC 2025 – random rants [II]

One-time contributions to obscure subsystems are on the rise:

- feed by fuzzers and AI code assistants
- looking for visibility (career paths)
- the more obscure the subsystem the more opportunities for out of context changes



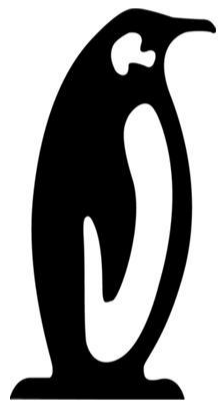
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# LPC 2025 – why is relevant to you

The netdev backlog is never too small. Every reviews count:

- saving that 1% maintainers time could make time for actually get `_your_` patch reviewed
- being an active reviewer is a excellent first step towards larger contributions
- thoughts like “that patch is so obviously wrong it's not worth mentioning” can cause such patch being applied (maintainers are humans after all ;)

Just please avoid unconditional rubber stamp tags tag bring no value. A few words describing why/how you reviewed and/or tested the patch always help.



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