XI'AN · HYPERSCALE FOR RADIX

WEEK 42 · 12 OCT 2026

12–18 Oct 2026

Hyperscale Weekly

Split the work, not the world

CURRENT MILESTONE

Milestone 2 · Radix Engine

Porting the Radix Engine so Scrypto runs across shards

Week 11 · since August 2026

Previously: flightofthefox had swept the VM for correctness — fee holds, cross-shard lock cycles and co-hosted validator seating.

A big, hands-on week: flightofthefox pushed 124 commits, largely hardening the networking layer behind a new backend and tightening the rules that decide cross-shard results. In chat, he also laid out his full plan for how history and archiving will work in a sharded world.

124	+26k −13k	317	34+
-19% vs last wk	+74% vs last wk		
COMMITS	LINES CHANGED	FILES TOUCHED	DAY COMMIT STREAK

COMMITS / DAY  peak 33/day · 6/7 days active

WHAT FLIGHTOFTHEFOX BUILT

A new network engine matures

flightofthefox spent most of the week on the iroh networking backend: relays for home networks, NAT testbeds, benchmarks against the old backend, and strict budgets on who gets answered. Getting this right means validators can run behind ordinary home internet.

'see "The Triage" on hyperscale.rs

Verdicts, not votes

The rules for cross-shard results were tightened so a certificate alone can never decide an outcome, and every claim a block makes about another shard must be backed by that shard's own signed verdict. This keeps cross-shard transactions honest by construction.

'see "The Generals" on hyperscale.rs

Pruning with proof

Old data can now be safely swept away once a block's own frontier allows it, with each deletion merged into one tidy proof. Validators keep less, prove what they kept, and sync faster.

'see "The Archive" on hyperscale.rs

THE BOTTOM LINE

STANDOUT CHANGE

The iroh networking backend is nearly production-ready, including relays and testbeds that prove validators can talk across ordinary home networks.

WHAT'S NEXT

Likely next: finishing the verdict/claims plumbing across shards and making the iroh backend the production default.

Written by AI from public commits, the community chat and hyperscale.rs — may contain mistakes.

More of what flightofthefox built

The week had more stories than one page could hold.

THE STORIES, CONTINUED

Shard boundaries get teeth

Reshapes, terminal records and shard boundaries were fenced off — a shard can't be reshaped while its termination record stands, and rows from before a boundary can't be misread. Fewer ways for splits and merges to go wrong.

'see "The Will" on hyperscale.rs

ALSO THIS WEEK

- A container-based testbed now seats a whole committee across different home-network setups.
- Unused cross-shard data older than a boundary is now provably discardable.
- The gossip layer was rebuilt so a false copy can't block later true copies.
- The iroh probe got a plain-English guide for testing between two home networks.

Written by AI from public commits, the community chat and hyperscale.rs — may contain mistakes.

From the community

What people are saying, and the words behind the work.

HEARD IN THE CHAT

The mood: The chat was dominated by a long, thoughtful discussion on archiving history and how gateways will serve data in a sharded world — plus the usual asking about when a public testnet will land.

> *"the great old one's ways are unknowable. do not let your mind linger on PR #171, lest you are willing to lose it"*
>
> — FLIGHTOFTHEFOX, IN THE COMMUNITY TELEGRAM

FLIGHTOFTHEFOX EXPLAINED

Archiving in a sharded world

Archive nodes will be a config of the normal client, listening to shard header gossip and batching history into object storage — validators can't carry old data because shuffling them with terabytes of history would break everything.

Permissionlessness has limits

Permissionless doesn't mean the network owes anyone answers — a shard's 128 validators have finite bandwidth, so archivists will likely bond something of value to register as their admission ticket to queries.

Babylon's data weight

Babylon validators carry nearly a terabyte of disk for under 20 GB of actual state — he suspects it was just an MVP that was never improved, not compliance.

Native blueprints can wait

On porting things like Ociswap pools to hs-vm: there are many months of fundamental work before those topics reach the top of the list.

THIS WEEK'S CONCEPT

The Generals — *The two generals put down their messengers.* The week's deepest thread was making cross-shard commitment purely mechanical: outcomes follow from facts already signed on-chain, never from a message someone could forge or misplace.

hyperscale.rs/generals

JARGON, DECODED

iroh — A modern Rust networking library for connecting nodes, even behind home routers.

NAT — The router technology in home networks that can block direct connections between machines.

Verdict — A shard's signed statement of the outcome of a transaction it executed.

ZOOM OUT

The bigger picture

Where the work landed, and the map to read along on hyperscale.rs.

MOMENTUM · LINES CHANGED / WEEK



last 8 weeks · newest right

THIS WEEK'S WORK



97% Rust 3% Config

WHERE THE WORK LANDED

network-iroh · The Triage
new network backend hardened and benchmarked

node · The Crash Lab
fault gates and scenario wiring configured

execution · The Generals
cross-shard verdict and claim rules tightened

shard · The Will
boundary and terminal-record rules fenced off

THE FULL PICTURE

The System
The whole sharded design at a glance.

The Journey
One transaction's trip through the network.

The Clock
Consensus-attested time across independent shards.

The Census
The leaderless beacon of validators, stake and shards.

The Overlap
Why two conflicting blocks can never both commit.

The Generals
All-or-nothing cross-shard commits, computed not voted.

The Archive
Every published byte is preserved or provably expired.

The Library
All state in one merkle tree; a shard is a subtree.

The Will
How in-flight transactions settle when a shard dies.

The Lottery
Random, ever-moving committees; proven cheats are jailed.

The Triage
Under overload, urgent traffic never waits for bulk.

The Governor
Validator entry is re-priced every epoch, like a market.

The Crash Lab
The simulator that replays any failure byte-for-byte.

The Proof
Proving safety with maths, not just tests.

The Asterisks
Every design's trade-offs — including Hyperscale's own.

THE ROAD TO MAINNET

M1	M2	M3	M4	M5	M6
Adaptive Sharding	Radix Engine	Gateway & API	Validator GUI	Migration	Live support
done	~5 mo	~3 mo	~3 mo	~3 mo	12 mo

Now: Milestone 2 · Radix Engine — Week 11 · since August 2026. Since day one: 5,563 commits — one developer, fully in public.

LINKS

WEBSITE
hyperscale.rs

DISCUSS THIS ISSUE ON X
x.com/i/status/2112046484841546082

CODE (PUBLIC)
github.com/hyperscalers/hyperscale-rs

MILESTONE PROPOSAL (PDF)
hyperscale.rs/xian_proposal.pdf

COMMUNITY (TELEGRAM)
t.me/hyperscale_rs

AUTHOR
flightofthefox

scan for hyperscale.rs

Questions? flightofthefox is always happy to discuss in the community Telegram — t.me/hyperscale_rs.

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