HYPERSCALE-RS · THE BUILDER'S LOG

WEEK #27
9–15 Nov 2026

Hyperscale Weekly

Split the work, not the world

THIS WEEK'S WORK

Hardening shard chains so bad timing can never split agreement

Adaptive Sharding	54%
Foundations & reliability	34%
The new VM	11%

Previously: flightofthefox had the new VM enforcing that contracts can only read cross-shard state that was actually proven and served to them.

After last week's VM work, flightofthefox swung back to the shard machinery itself — the rules that keep dozens of parallel chains in agreement about who's in charge and when. It was a week of tightening certificate rules and rehearsing rare failure days in the simulator, with the VM still ticking along in the background.

20	+2.1k −722	37	0
-89% vs last wk	-88% vs last wk		
COMMITS	LINES CHANGED	FILES TOUCHED	DAY COMMIT STREAK

COMMITS / DAY



peak 16/day · 2/7 days active

WHAT FLIGHTOFTHEFOX BUILT

Clocks lose their power to certificates

flightofthefox rewrote how nodes accept quorum certificates so a certificate counts by the epoch it was signed for, never by a node's own clock. That removes a whole family of timing-based disagreements before they can fork a chain.

'see "The Clock" on hyperscale.rs

A taller fence against forks

The chain's 'highest certified block' now only rises through a strict gate — refusing halted certificates, capping restarts, and holding a certificate until its own committee's window opens. A restart can no longer drag agreement backwards.

'see "The Overlap" on hyperscale.rs

Rehearsing the rarest days, faster

Fast simulations now guard the shard-split message packing and data-fetching rules, and a pending fork scenario can find its rebuilt host by placement. Rare disasters are cheaper to deliberately rehearse.

'see "The Crash Lab" on hyperscale.rs

THE BOTTOM LINE

STANDOUT CHANGE

Certificates are now judged purely by the epoch they were signed for, so a lying or drifting clock can no longer change what counts as agreed.

WHAT'S NEXT

Likely next: finishing the fetch-grace and sync floors around adopted certificates, plus more simulator coverage for the fork scenarios.

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: Mostly morning greetings and jokes; one member asked when a beta version of hyperscale.rs is coming.

> *“whoever invented quantum computers is the worst. why can’t we just have nice things like BLS”*
>
> — FLIGHTOFTHEFOX, IN THE COMMUNITY TELEGRAM

THIS WEEK’S CONCEPT

The Clock — *A clock made of votes.* The biggest share of the week went into making epoch-signed facts — not local time — decide which certificates count, so every honest node derives the same answer from the same evidence.

hyperscale.rs/clock

JARGON, DECODED

High QC — The latest quorum-signed certificate a node keeps as its high-water mark of agreed history.

Halt bridge — The rule that decides when a chain’s stop counts, judged by the epoch it was signed in.

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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



95% Rust 5% Config

WHERE THE WORK LANDED

node · The Clock
certificate acceptance rules reworked

shard · The Overlap
high-QC gate and restart floors

scenarios · The Crash Lab
fast sims guarding split and sync rules

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 FOUR PARTS

54%	11%	–	1%	34%
Adaptive Sharding done Aug 2026	The new VM	Indexing & APIs	Validator tooling & testnet	Foundations & reliability

Share of lines changed this week, by part; shared groundwork counts as Foundations & reliability. Since day one: 6,138 commits — one developer, fully in public.

LINKS

WEBSITE
hyperscale.rs

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x.com/i/status/2122193226605928663

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

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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