Quarterly Community Report

State of Solana Q2 2024

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Key Insights

- **Pump.fun, a gamified token launch platform, collected $48 million in total Q2 fees.** Raydium was a major beneficiary of pump.fun – its average daily volume increased by 77% QoQ to $867 million, and its TVL grew by 46% QoQ to $991 million.

- **Dialect and the Solana Foundation launched Solana Actions and Blockchain Links (Blinks),** enabling users to preview and execute transactions directly in various digital environments, starting with X (formerly Twitter).

- **Institutional builders are continuing to choose Solana for payments use cases.** PayPal expanded PYUSD to Solana, leveraging token extensions such as confidential transfers, and Stripe announced it would support payments on Solana.

- **Several Solana ecosystem teams unveiled scaling solutions that enable users to remain on the L1,** including ZK compression by Light Protocol and Helius and the MagicBlock Engine by MagicBlock.

- **Spam transactions from memecoin activity and Ore mining led to network congestion in early Q2.** An Agave update to leverage stake-weighted Quality of Service alleviated the issue and also introduced a new structural demand for SOL.

Primer

Solana ([SOL](#)) is an integrated, open-source blockchain with the goal of synchronizing global information at the speed of light. Solana optimizes for latency and throughput, sacrificing some verifiability. It seeks to accomplish this through features such as its novel timestamp mechanism called [Proof-of-History](#) (PoH), block propagation protocol [Turbine](#), and parallel transaction processing. Since mainnet launch in March 2020, several network upgrades have brought further network performance and resilience, including [QUIC](#), [stake-weighted Quality of Service](#) (QoS), and [local fee markets](#).

Network and ecosystem development and growth are supported by the non-profit [Solana Foundation](#), [Solana Labs](#), as well as many third-party organizations, including [Anza](#), [Colosseum](#), [Helius](#), and [Superteam](#). Solana Labs has raised over $335 million in [private](#) [and public](#) token sales. The Solana ecosystem features a growing set of projects across many sectors, including DeFi, consumer, DePIN, and payments.

[Website](#) / [X (Twitter)](#)

Key Metrics

Solana Key Metrics Overview

	Metric	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024
Financial	Circulating Market Cap	$7.5B (7.6%)	$8.8B 17.0%	$43.7B 394.8%	$90.0B 106.2%	$67.7B (24.8%)
	Total Economic Value (USD)	$3.4M (8.7%)	$4.2M 21.0%	$17.7M 324.2%	$141.3M 699.7%	$267.7M 89.5%
Network	Avg Daily Fee Payers	151.0K 15.4%	95.6K (36.7%)	191.0K 99.9%	594.2K 211.0%	899.6K 51.4%
	Avg Tx Fee (USD)	$0.0002 (8.6%)	$0.0002 4.4%	$0.0021 917.6%	$0.0141 588.6%	$0.0221 56.5%
	Active Validators	1,881 11.9%	1,984 5.5%	2,020 1.8%	1,706 (15.5%)	1,504 (11.8%)
Ecosystem	DeFi TVL (USD)	$0.3B (8.0%)	$0.4B 32.3%	$1.5B 302.7%	$4.9B 231.9%	$4.5B (8.6%)
	Avg Daily DEX Volume	$0.0B (20.1%)	$0.0B (1.5%)	$0.4B 957.4%	$1.4B 227.2%	$1.7B 28.1%
	Avg Daily NFT Volume	$2.4M (35.6%)	$1.1M (56.7%)	$4.8M 356.8%	$7.6M 58.6%	$3.4M (55.6%)
	Total Raised in Ecosystem	$10.6M (47.6%)	$7.8M (26.5%)	$57.1M 637.2%	$138.8M 143.0%	$112.8M (18.7%)

Data as of: June 30, 2024
Source: Messari, DefiLlama, CryptoSlam!, Dune (@ph0rt0n, @jito), Flipside (@ph0rt0n), Dune (@ilemi - Solana DEX Metrics), Raydium, Blockworks Research
Note: Percentages in italics reflect QoQ changes. Total Economic Value measures tx fees and MEV to validators. Avg tx fees only consider non-vote fees and txs. Total Raised in Ecosystem sums fundraising amounts for projects built primarily on Solana.

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Ecosystem Analysis

Solana Ecosystem Overview

Metric	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024
DeFi TVL (USD)	$0.3B *(8.0%)*	$0.4B *32.3%*	$1.5B *302.7%*	$4.9B *231.9%*	$4.5B *(8.6%)*
Avg Daily DEX Volume	$0.0B *(20.1%)*	$0.0B *(1.5%)*	$0.4B *957.4%*	$1.4B *227.2%*	$1.7B *28.1%*
Stablecoin Market Cap	$1.5B *0.4%*	$1.5B *(1.1%)*	$1.8B *21.0%*	$2.8B *55.0%*	$3.1B *7.6%*
DeFi Diversity	19 *5.6%*	19 *0.0%*	14 *(26.3%)*	9 *(35.7%)*	9 *0.0%*
Liquid Staking Rate	2.6% *5.8%*	2.8% *7.7%*	4.5% *63.2%*	5.3% *17.3%*	6.4% *21.5%*
Avg Daily NFT Volume	$2.4M *(35.6%)*	$1.1M *(56.7%)*	$4.8M *356.8%*	$7.6M *58.6%*	$3.4M *(55.6%)*
Avg Daily cNFTs Minted	106.9K *3369.5%*	442.2K *313.5%*	422.6K *(4.4%)*	2,825.4K *568.6%*	858.0K *(69.6%)*
Total Raised in Ecosystem	$10.6M *(47.6%)*	$7.8M *(26.5%)*	$57.1M *637.2%*	$138.8M *143.0%*	$112.8M *(18.7%)*
Projects Funded in Ecosystem	8 *(20.0%)*	7 *(12.5%)*	15 *114.3%*	30 *100.0%*	47 *56.7%*
Avg Weekly Active Eco Devs	534 *(13.7%)*	459 *(14.1%)*	404 *(11.9%)*	398 *(1.5%)*	358 *(10.2%)*

Data as of: June 30, 2024
Source: DefiLlama, Messari, Artemis, CryptoSlam!, Flipside (@ph0rt0n), Top Ledger, Dune (@ilemi - Solana DEX Metrics), Raydium
Note: Percentages in italics reflect QoQ changes. Liquid staking rate divides liquid staking TVL (SOL) by total staked (SOL).

An Incomplete Map of the Solana Ecosystem

Data as of: June 30, 2024
Note: The list of projects is not comprehensive.

DeFi

Solana's DeFi TVL fell by 9% QoQ to $4.5B, but grew by 26% QoQ in SOL terms
Solana DeFi TVL (USD) by protocol and total DeFi TVL (SOL)

TVL (as of 6/30/24)	
Raydium QoQ Change	$991M 46.1%
Kamino Finance QoQ Change	$942M (25.6%)
Jupiter QoQ Change	$429M 11.7%
Drift QoQ Change	$352M 1.9%
Marginfi QoQ Change	$345M (55.7%)
Solend QoQ Change	$324M (7.6%)
Other QoQ Change	$1.1B 0.1%

Data as of: June 30, 2024
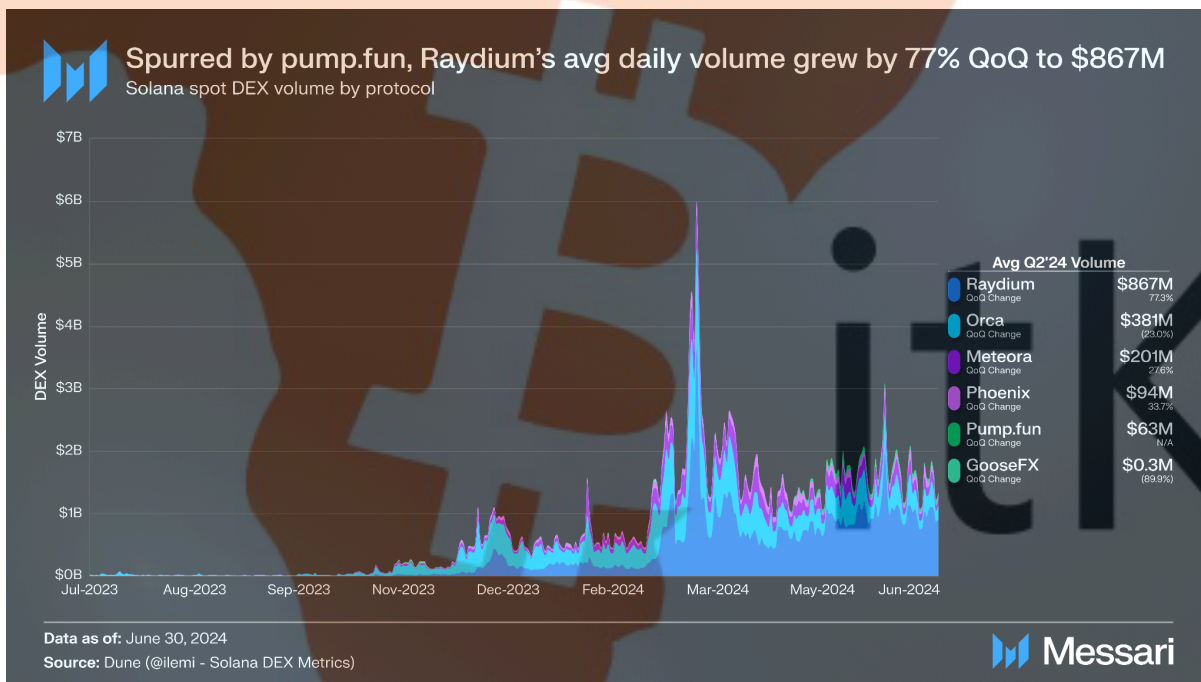Source: DefiLlama, Messari, Raydium
Note: DeFi TVL includes borrows.

Solana's DeFi TVL fell by 9% QoQ to $4.5 billion, ranking it fourth among networks. However, DeFi TVL denominated in SOL grew by 26% QoQ, indicating the USD-denominated drop may have been driven more by token price depreciation than capital outflow.

Lending

Kamino Lend's TVL fell by 26% QoQ to $942 million. The drop followed strong growth in March spurred by its announcement of a future points snapshot. Kamino launched its token on April 30, airdropping 7.5% of the total supply. KMNO ended the quarter with a $33 million market cap, with 10% of the supply circulating. During Q2, Kamino also added support for token extensions, enabled borrowers to repay debt with collateral assets, and released a notifications feature powered by Dialect.

After significant growth in H2'23, MarginFi's lending protocol lost TVL market share in H1'24. Its TVL fell by 56% QoQ to $341 million, largely stemming from over $200 million in withdrawals within a 24-hour period in April. The outflow was a response to Twitter drama and the resignation of MarginFi's leader Edgar Pavlovsky, who cited internal disputes. MarginFi's points program has been running for over a year, with some users also frustrated by the lack of a token launch. Nevertheless, MarginFi successfully processed all withdrawals during the turmoil and saw some deposits later return. During Q2, MarginFi also introduced its Liquidity Layer and improved its onboarding experience.

DEXs

Spurred by pump.fun, Raydium's avg daily volume grew by 77% QoQ to $867M

Solana spot DEX volume by protocol

Avg Q2'24 Volume	
Raydium QoQ Change	$867M 77.3%
Orca QoQ Change	$381M (23.0%)
Meteora QoQ Change	$201M 27.6%
Phoenix QoQ Change	$94M 33.7%
Pump.fun QoQ Change	$63M N/A
GooseFX QoQ Change	$0.3M (89.9%)

Data as of: June 30, 2024
Source: Dune (@ilemi - Solana DEX Metrics)

DEX volume reduced slightly compared to peak activity in March but maintained elevated levels. Average daily spot DEX volume grew by 32% QoQ to $1.6 billion. DEX activity has continued to be driven by memecoin trading, with WIF, MEW, POPCAT, and GME among the top 10 tokens by Q2 token pair trading volume.

In Q2, the memecoin meta shifted to pump.fun, a gamified token launch platform that became one of the most widely discussed applications across crypto. In Q2, it collected an average of $525,000 in daily fees. Near the end of May, several celebrities began launching their own tokens on pump.fun, sparking a celebrity memecoin craze, which drew some controversy.

Pump.fun's popularity spawned forks such as Dexscreener's Moonshot, Whales Market's whales.meme, and Meme Royale.

Raydium has been a major beneficiary of pump.fun, as all the liquidity from pump.fun bonding curves is transferred to Raydium once the token hits a market cap threshold. Raydium's average daily volume increased by 77% QoQ to $867 million, raising its market share from 40% in Q1 to 54%. Its DeFi TVL also grew by 46% QoQ to $991 million, becoming Solana's top DeFi protocol by TVL. During Q2, Raydium also released its V3 UI and launched a new constant product AMM program.

Jupiter remained the primary Solana trade source, accounting for 51% of Q2 spot DEX volumes. However, its market share fell throughout the quarter to 37% by the last week, which was surpassed by Raydium's market share of 38%. Notable Jupiter updates from this quarter include:

- Metropolis: At the end of June, Jupiter announced Metropolis, its V3 swap protocol upgrade. New features include instant routing support for new tokens on Raydium, Meteora, and Orca; a dynamic slippage setting; an improved token search function; new token list labels; and a streamlined UX for warnings.
- Tokenomics update proposal: Jupiter founder meow shared a proposal to reduce JUP's total supply by 30%, with 30% reductions to both the team supply and future airdrop emissions.
- GUM: In late May, Jupiter announced its Giant Unified Market (GUM) initiative, partnering with RWA token issuers, market makers, and investors to bring more types of assets onchain.
- Ultimate acquisition: In late April, Jupiter acquired mobile wallet Ultimate and its team to power its planned Jupiter Mobile app.

Jupiter perps averaged $370 million in daily trading volume, a 13% QoQ increase. Other main perps exchanges include:

- Drift: Drift's average daily perps volume fell by 11% QoQ to $127 million. In mid-May, the Drift Foundation released the DRIFT token, airdropping 12% of its total supply. The token governs Drift DAO, which consists of a Realms DAO that elects a security council and governs general protocol development as well as a Futarchy DAO for distributing grants. DRIFT ended the quarter at a $76 million market cap, with around 17% of the token circulating.
- Zeta: Zeta's average daily perps volume grew by 212% QoQ to $82 million. In mid-May, it announced a $5 million fundraise led by Electric Capital and its plans to build an app-specific rollup on top of Solana. At the end of the quarter, Zeta launched its token, airdropping 10% of its total supply. ZEX ended the quarter at a $18 million market cap, with around 16% of the token circulating.

- FlashTrade: After its full [launch](#) last quarter, FlashTrade gained traction at the end of Q2, averaging $104 million daily volume in March.

Stablecoins
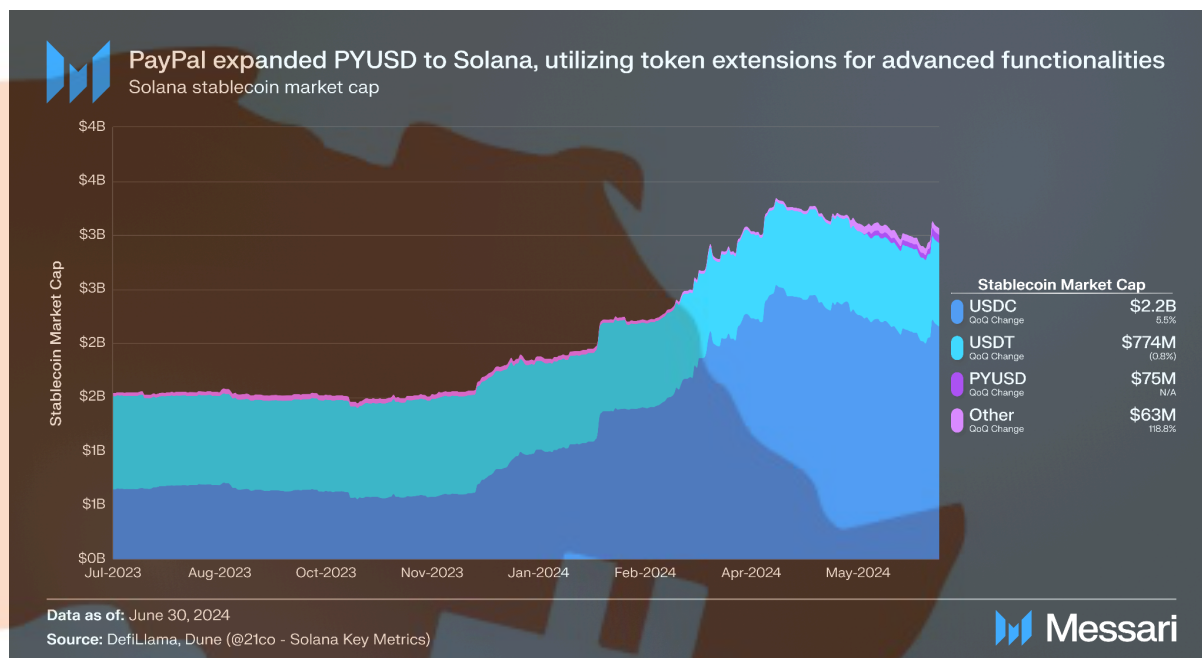
Solana's stablecoin market cap grew by 8% QoQ to $3.1 billion, ranking it 6th among networks.

At the end of May, PayPal [expanded](#) its [PayPal USD](#) (PYUSD) stablecoin to Solana, joining only Ethereum as a supported network. The stablecoin, issued by Paxos, was approved by the New York State Department of Financial Services. Beyond low transaction costs and high throughput, PayPal [cited](#) token extensions as a key reason for deploying on Solana.

PYUSD features several extensions, notably confidential transfers. This feature enables transfer token amounts to remain hidden from everyone except the transfer source, destination, and an optional third-party auditor that can be added by the issuer. Confidential transfers are not yet live on Solana, as they require the activation of further [syscalls](#). PayPal also highlighted memo fields and transfer hooks, which enable developers to add programmable logic to transfers.

PYUSD ended the quarter with a $75 million circulating market cap on Solana, albeit with a relatively concentrated [distribution](#). While the token has officially launched, it's still awaiting integrations to enable more adoption. Already, centralized exchanges are working to incorporate token extensions so they can support PYUSD. Just after quarter end, several Solana dApps, including [Jupiter](#) and [Kamino](#) (along with an incentives [campaign](#)), onboarded PYUSD.
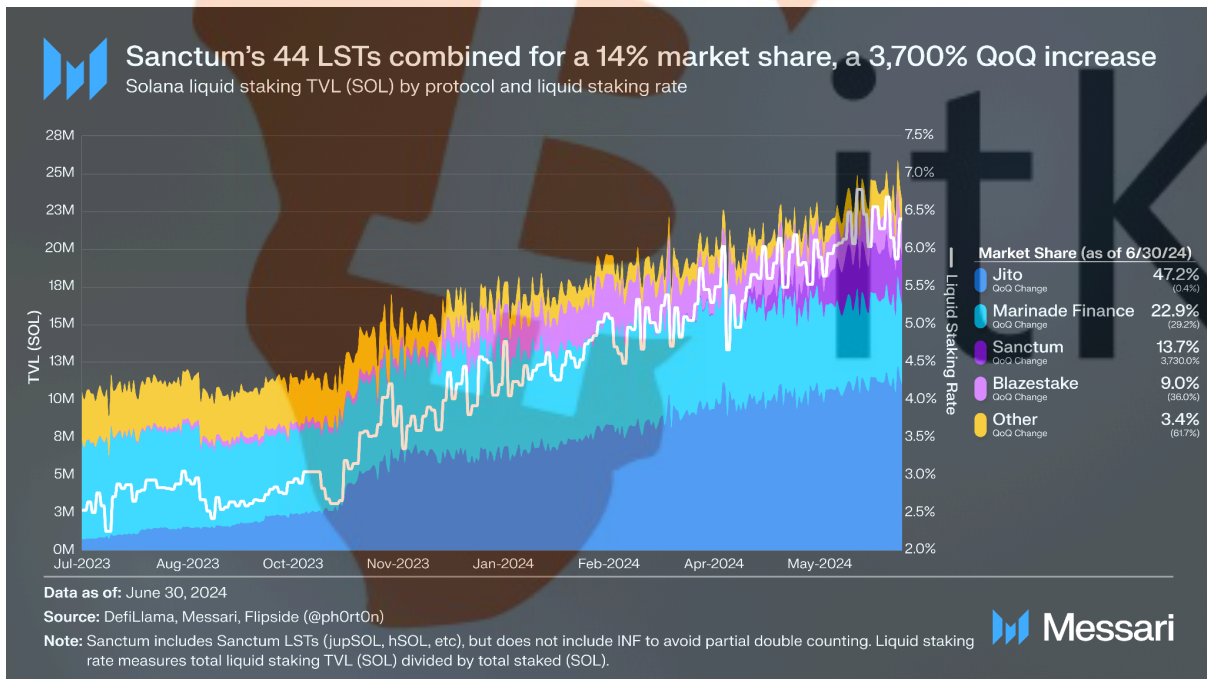
Regardless of these developments, USDC remained the dominant stablecoin on Solana, growing its Solana market cap by 5.5% QoQ to $2.2 billion. Circle [expanded](#) its Web3 services to Solana in June, bringing its [Programmable Wallets](#) and [Gas Station](#) features. These APIs

enable developers to embed secure, multichain wallets into their apps and sponsor transaction fees on behalf of users. The rollout will occur in phases, with future releases supporting NFT transfers and program interactions.

Other notable DeFi-related events include:

- RWA: Parcl's token launch, BAXUS's $5 million raise, AgriDex's $5 million raise, etherfuse's MXNe launch, MetaWealth's Solana migration, elmnt's tokenized commodities introduction, Drift and Ondo's partnership, Bridgesplit's closed beta launch, VNX and Sygnum Bank's collaboration, and Velo and Solana Foundation's partnership.
- Bitcoin-related: Zeus Network's $8 million raise and token launch, Wormhole's WBTC launch, 21BTC's launch, and Zeus Network's alpha testnet launch of APOLLO.
- Restaking: Picasso's restaking launch, Composable's Mantis introduction, and Solayer's restaking introduction.
- Other: Ellipsis Labs' $20 million raise, DFlow's beta launch, C3's launch, Adrena's perps introduction, Ranger Finance's perps aggregator introduction, Photon limit orders launch and stimmies, Lifinity Sandglass launch, Bullpen's Telegram bot release, RugCheck Token Verification launch, Prism V4's launch, and Coinhall's Solana integration.

Liquid Staking

Sanctum's 44 LSTs combined for a 14% market share, a 3,700% QoQ increase
Solana liquid staking TVL (SOL) by protocol and liquid staking rate

Market Share (as of 6/30/24)
Jito 47.2% (QoQ Change 0.4%)
Marinade Finance 22.9% (QoQ Change 29.2%)
Sanctum 13.7% (QoQ Change 3,730.0%)
Blazestake 9.0% (QoQ Change 36.0%)
Other 3.4% (QoQ Change 61.7%)

Data as of: June 30, 2024
Source: DefiLlama, Messari, Flipside (@ph0rt0n)
Note: Sanctum includes Sanctum LSTs (jupSOL, hSOL, etc), but does not include INF to avoid partial double counting. Liquid staking rate measures total liquid staking TVL (SOL) divided by total staked (SOL).

Solana's liquid staking rate (the percent of staked SOL that is liquid-staked) increased by 22% QoQ to 6.4%. With 65% of eligible SOL supply staked, the liquid staking rate needs to continue growing to enable an ecosystem built on yield-bearing SOL.

Since launching last quarter, Sanctum has quickly gained adoption, with Sanctum LSTs accounting for almost 14% of Solana LST market share, a 3,700% QoQ increase. Its adoption was accelerated by several market structure shifts, namely stake-weighted QoS (SWQoS). To help alleviate network congestion issues in April, a Solana network upgrade further leveraged SWQoS. SWQoS incentivizes applications and infrastructure providers to run a validator and accumulate stake to provide a better UX for their users.

As a result, several projects have launched their own validators, including Jupiter, Drift, DRiP, and Helius. Along with other projects, these four also launched single-validator LSTs to improve distribution and offer unique perks. For example, DRiP distributes free Droplets to hausSOL holders, and dSOL is available as collateral on Drift.

Solana also does not currently support a native functionality for validators to return block rewards (base and priority transaction fees) to delegators. This native functionality only exists for inflationary rewards. Historically, this has not mattered much, since fees used to constitute around 1% of total validator rewards (excluding MEV). But since the end of March, the share has risen to 5-10%, spurring validators to redistribute fees to compete on APY. To do so, many validators have chosen to use a single-validator LST, due to its simpler fee redistribution mechanism.

LSTs are also experimenting with different methods of distributing staking rewards. For example, Cubik's iceSOL distributes all staking rewards to public goods funding on Cubik. wifSOL DCAs all staking rewards into WIF and distributes the WIF back to delegators.

In total, Sanctum has 44 LSTs, after adding over 20 LSTs in Q2. The abundance of LSTs is only possible because of Sanctum Infinity, a multi-LST liquidity pool that allows supported LSTs to tap into each other's liquidity. Top Sanctum LSTs by stake include Jupiter's jupSOL (2.3 million SOL), Helius's hSOL (403,000 SOL), and Solana Compass' compassSOL (340,000 SOL).

In early April, Sanctum announced a $6.1 million raise led by Dragonfly. It later launched points program Sanctum Wonderland, where participants could collect pets representing LSTs and level them up via community quests. In early June, it introduced CLOUD, announcing a future airdrop and token sale via Jupiter's LFG and Meteora Alpha Vault.

Jito's jitoSOL remained Solana's LST leader. Its supply grew 22% QoQ to almost 1.1 million SOL, giving it a 47% market share. The community is currently discussing a governance proposal to begin transitioning the management of the Jito Stake Pool to StakeNet. StakeNet is an open-source protocol for decentralizing Solana staking pool operations. The proposed transition would bring increased transparency, enhanced security, greater efficiency, and community governance to Jito.

Marinade's mSOL supply fell by 13% QoQ to 5.3 million SOL, giving it a 23% market share. Its native staking product, Marinade Native, has an additional 2.7 million SOL. In mid-June, Marinade unveiled its Stake Auction Marketplace, where validators can bid on staked SOL. The feature will be rolled out in phases, with the live marketplace expected to go live in Q3'24.

Consumer

NFTs
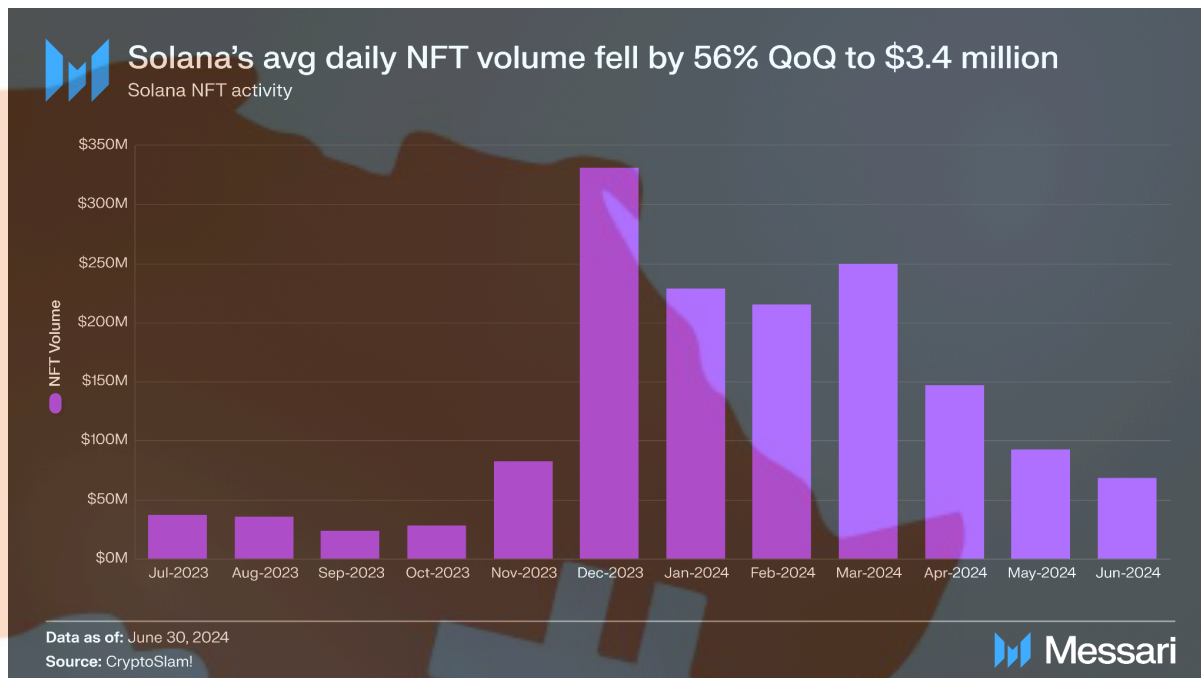
NFT volume declined after renewed activity at the end of 2023 and into 2024. The average daily NFT volume fell by 56% QoQ to $3.4 million. NFT marketplace trends reversed this quarter, with Magic Eden reclaiming the majority share of organic volume, up from 25% to 59%. On the other hand, Tensor's market share fell from 71% to 35%.

In early April, the Tensor Foundation released the TNSR token, airdropping 14.8% of the total supply. Its market share since the token release was 31%. TNSR ended the quarter with a $73 million market cap and around 13% of the total supply circulating. Magic Eden has continued to run its rewards program ahead of an expected token launch.

Mads Lads was the top collection by total trading volume at 230,000 SOL. Right at the end of the quarter, an address bought 59 Mad Lads for around 5,600 SOL ($800,000). Other top collections by Q2 volume include Solana Monkey Business (104,000 SOL), Tensorians (91,000 SOL), Froganas (74,000 SOL), and Famous Fox Federation (51,000 SOL).

The majority of Solana NFTs are minted via Metaplex NFT standards. At the beginning of April, Metaplex launched a new NFT standard called Core. Core uses a single account design for cost and performance optimizations and a flexible plugin system for further customization. The first external plugin launched was the Oracle plugin, which enables digital assets to react to real-world data.

At the end of May, Metaplex introduced MPL-404, a hybrid token standard protocol built in collaboration with Mutant Labs, which pioneered the SPL-404 standard. Known as "hybrid

DeFi," the token standard aims to bring more liquidity to NFTs while retaining their unique qualities.

Other NFT-related events include SharkyFi's SHARK [launch](#), Exchange Art's token [announcement](#), Artrade's [introduction](#) and Picasso [sale](#), Garden Labs' [release](#) of its owner-editable metadata program, 3.land's open-sourced cNFT [minter](#), and Claynosaurz's [selection](#) as a Collision Choice Awards finalist.
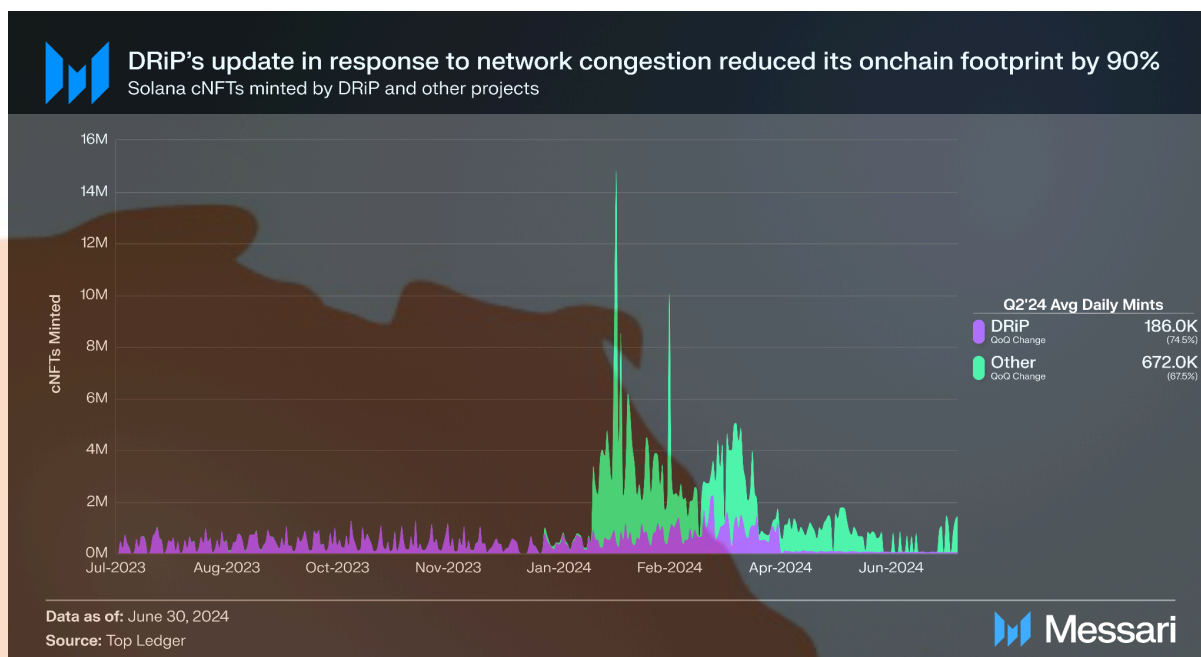
Social and Creator Platforms
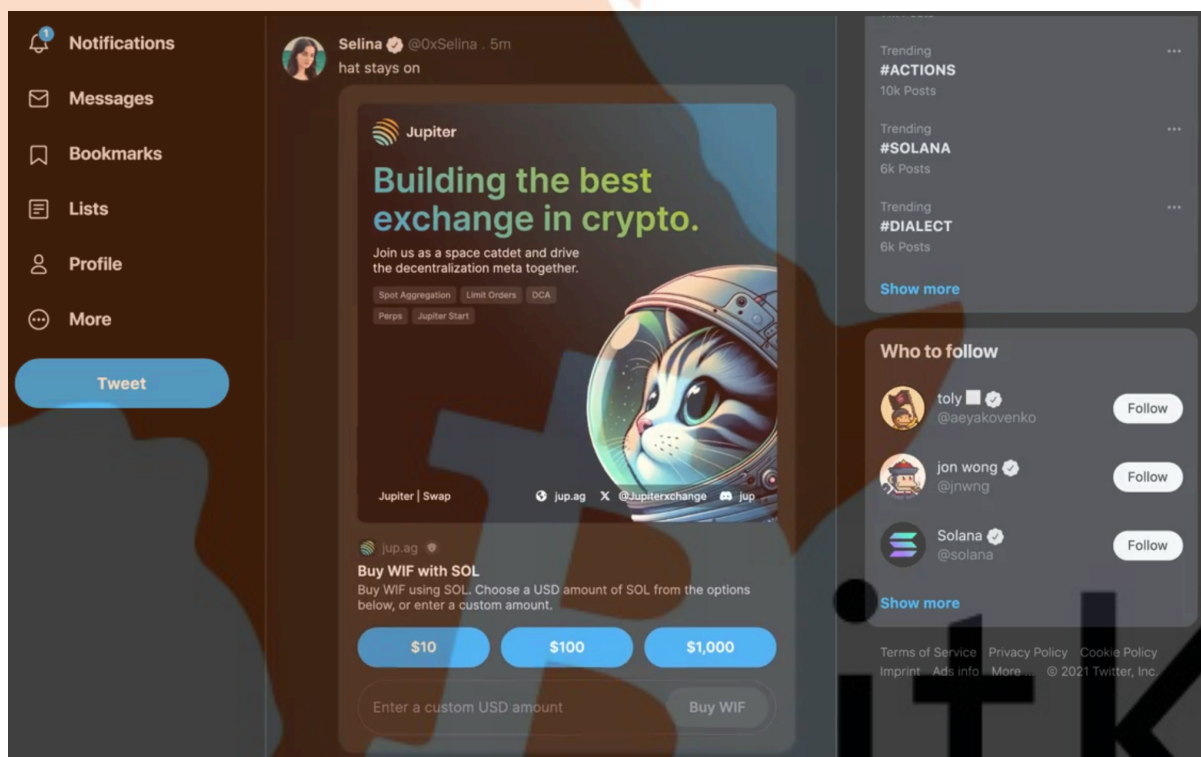
At the end of June, Dialect and the Solana Foundation [launched](#) [Solana Actions and blockchain links](#) (blinks). Solana Actions are APIs that enable Solana transactions to be previewed, signed, and executed from various digital environments via QR codes, buttons, widgets, and URLs.

Blinks are sharable links that convert Solana Actions into metadata-rich URLs. These links allow supported clients, such as browser extension wallets or bots, to display enhanced capabilities, enabling immediate transaction previews in wallets or expanded interactive buttons. At the moment, only blinks from [registered partners](#) will unfurl directly on Twitter. Users also need to enable blinks in their browser extension wallet's settings for blinks to unfurl.

Many top Solana projects have [created](#) blinks, including Jupiter, Tensor, Sphere, and TipLink. Blink builders can apply for micro-grants via a [Superteam Earn](#) track (up to $1,000 per grant) or larger grants directly from the [Solana Foundation](#) (distributing up to $400,000 in total).

DRiP's update in response to network congestion reduced its onchain footprint by 90%
Solana cNFTs minted by DRiP and other projects

Data as of: June 30, 2024
Source: Top Ledger

Along with other applications, DRiP's UX was harmed by the network congestion in early April. In mid-April, it released an update to address this. Rather than distributing every collectible to users by default, DRiP now only mints collectibles onchain if a user claims them. As a result, its average daily cNFTs minted fell by 90%.

In mid-April, DRiP onboarded Todd McFarlane, a comic book artist for The Amazing Spider-Man and the creator of Spawn. A 1 of 1 digital scan of original artwork from Spawn #1 was sold for over 110 SOL ($16,000) in an auction on DRiP. Other creators onboarded to DRiP in Q2 include Rockstar Games artist Stephen Bliss, wallstreetbets, and singer Jason Derulo.

Other consumer-related events include:

- Solana Labs' Bond: In mid-June, Solana Labs launched customer loyalty platform and API Bond. By enabling brands to easily launch NFTs and integrate blockchain-based payment rails, it aims to open new revenue streams, provide product provenance and authenticity, enhance customer insights, and preserve data privacy.

- Audius Updates: Audius is a music streaming platform aiming to redistribute power back to artists. At the end of June, it launched live streaming of payments, enabling artists to instantly receive track and album payments to Coinbase or other Solana wallets. Soon after, it announced licensing agreements with all the major U.S. Performing Rights Organizations (PROs).

- Other: Cupcake's beta launch, Only1's $1.3 million fundraise led by Newman Group, Solarplex's acquisition by Forward Research of the Arweave ecosystem, dReader's Cubik grants round distributing $40,000 to comic creators, Access Protocol's transferrable subscriptions feature release, Crowny's app launch, GigHub's launch, Nina's iOS app release, and Popset's introduction.

Gaming

While some onchain games are building fully on Solana mainnet, others have opted for scaling solutions for customizability and higher performance. In Q2, several projects announced Solana-based scaling frameworks designed for games:

- MagicBlock: In mid-June, MagicBlock unveiled MagicBlock Engine, a framework for enhancing performance and VM customizability without sacrificing composability. The Engine deploys "ephemeral rollups," temporary runtimes that settle state on Solana when they close. All programs and accounts still live on Solana mainnet but are essentially mirrored to the ephemeral rollup. The temporary runtimes can utilize a custom SVM validator optimized for speed and other configurables like gasless transactions. The entire lifecycle of an ephemeral rollup is abstracted away from the user, who still transacts and holds assets on Solana mainnet. While the MagicBlock Engine was built for full onchain games, the team noted that it has already garnered interest from non-gaming projects.
- Sonic: In mid-June, Sonic announced a $12 million fundraise led by Bitkraft and launched its testnet. Sonic is a Layer-2 stack, enabling game-specific rollups that share a sequencer network and settle on Solana. Sonic leverages the SVM, while also supporting EVM code via its HyperGrid interpreter.

In early May, Solana Labs partnered with Google Cloud to bring its Web3 gaming development API GameShift to Google Cloud game developers. After exiting beta last quarter, GameShift added several new features this quarter, including asset crafting, in-game token support, and developer wallets.

Other gaming-related developments from Q2 include Star Atlas' Surge launch, STEPN's partnership with Adidas, Blockasset's partnership with the UFC, Aurory's Seekers of Tokane early access launch, Nyan Heroes token launch and esports partnerships, Solana Speedrun 3 game jam, Photo Finish LIVE's Virtual Kentucky Derby and Pace Advantage partnership, Blessed Burgers' Burger Game, Chomp's open beta launch, BetDEX's updates, Portals' airdrops, Bladerite developer Seeds Labs' $12 million fundraise, MON Protocol's Solana integration, The Backwoods' launch, SolForge Fusion launch, Solana Games Ambassador Program creators, Lowlife Forms' tease, Valannia's gameplay tease, and Love Monster's planned Solana expansion,

DePIN

Solana is becoming a hub for DePIN applications, hosting Helium, Hivemapper, Render, and Teleport, among others.

Notable Q2 events include:

- Helium Licensing Program: In mid-June, Helium Mobile announced a licensing program for its tech stack, allowing third-party manufacturers to produce and sell hotspot devices. The program aims to generate licensing fees and expand the network of

Helium Mobile hotspots, reducing reliance on T-Mobile. After the quarter ended, the Helium Foundation announced the expansion of the Helium Network beyond wireless.

- Shaga Raise: Shaga, a P2P network for gaming computers, announced a $1 million fundraise led by Arca near the end of June. Shaga previously was a track winner in the Solana Foundations' Q3'23 Hyperdrive Hackathon and is currently in closed beta.

- Io.net's Token Launch and Criticism: In mid-June, decentralized GPU aggregator io.net launched its token IO, along with a Binance Launchpool and community airdrop. IO ended the quarter at a $325 million market cap with just over 10% of the total supply circulating. Earlier in the quarter, the project faced criticism over the number of GPUs it displayed on its UI. Just two days before the token launch, its CEO stepped down, with the former COO taking his place.

- Ambient Raise: In May, Ambient announced a $2 million seed round led by Borderless Capital. Ambient also announced that it had acquired PlanetWatch, a decentralized environmental monitoring network. In Q3, Ambient plans to migrate the PlanetWatch token and network from Algorand to Solana and launch a new mobile app and upgraded backend.

- Teleport in Austin: After launching in its first city last quarter (College Station, Texas), decentralized rideshare protocol Teleport went live in Austin, Texas, near the end of May.

- Roam Migration: At the beginning of April, decentralized WiFi network Roam announced its migration to Solana. The Roam app later went live on the Solana Mobile dApp store.

Payments

With low transaction costs, sub-second finality, and a network of several thousand nodes, Solana promises to help power mainstream payment flows — so says Visa, which expanded its USDC settlement pilot to Solana in Q3'23.

Notable events from Solana-native payments infrastructure companies and applications this quarter include:

- Stripe Crypto Payments: At its 2024 keynote, Stripe announced that it would reintroduce support for crypto payments in the summer. It will initially support USDC payments on Solana, Ethereum, and Polygon.

- TipLink Updates: In its 2024 keynote, TipLink unveiled two new products. The TipLink Wallet Adapter creates an in-browser wallet linked to a user's Google account, eliminating the need for traditional wallet browser extensions and seed phrases. The Wallet Adapter is already integrated with several Solana apps, including Jupiter, DRiP, Tensor, Drift, Sphere, and Helio. TipLink also introduced TipLink Pro, a suite of tools enabling developers to distribute tokens through campaigns.

- Sphere Updates: In May, Sphere [introduced](#) the Offload Wallet, enabling users to instantly offramp by sending USDC to a wallet address tied to a connected bank account. It also launched SphereBot, which allows payment flow directly from Telegram. Lastly, its on/offramp product left private beta and became [available](#) to all users in June.

- Helio Shopify Pay Plugin Update: In April, Solana Labs [turned off](#) credit card payments for Solana Mobile Chapter 2, with payments now solely powered by the Solana Pay Shopify plugin. Since preorders opened for Chapter 2 in January, the plugin has helped save Solana Labs over [$1 million](#) in fees compared to traditional payment methods. Payments platform Helio [unveiled](#) a set of new features to the plugin, which it [started managing](#) in December. New features include:

    - Multi-token payments, enabling buyers to spend in hundreds of tokens which are automatically swapped via Jupiter to the merchant's preferred currency

    - Support for additional stablecoins beyond USDC, including PYUSD, EURC, and USDY

    - Improved UI with faster transaction confirmations and automatic offramping

    - Loyalty programs with cNFT airdrops, Discord memberships, and discounts for NFT holders

- Coinflow Labs Raise: At the end of May, payment infrastructure provider Coinflow Labs [announced](#) a $2.25 million raise led by CMT Digital. Coinflow Labs helps companies integrate blockchain-based payments, with clients including Solana Labs and Audius.

- Other developments: Decaf's on/offramp [launch](#), Code's [launch](#) on Google Play, Phantom's [integration](#) of Meso for onramping, Brazil's digital bank Nubank's [support](#) for Solana, and XPOS's Solana [integration](#).

Infrastructure

Notable infrastructure-related events from Q2 include:

- ZK Compression: Light Protocol and Helius [introduced](#) scaling primitive ZK Compression at the end of June. ZK Compression [functions](#) similarly to compressed NFTs: it stores account data in an offchain Merkle tree in the ledger data and posts its root onchain. However, it works for any token or account, not just NFTs. Furthermore, it uses SNARKs to compress Merkle proofs, making verification more efficient. Helius co-founder Mert [shared](#) that the state cost for an airdrop to 1 million addresses is $50 with ZK Compression compared to $260,000 without it. Beyond enabling new application use cases, ZK Compression may also provide an alternative to [Solana's state](#) for certain types of state-hungry applications. One tradeoff, at least in the short-term, is a reliance on indexers to ensure access is readily available to compressed accounts and associated data. In times of high traffic, this dependency could lead to [the inability to](#)

update the Merkle tree. However, this will likely be a non-issue over the longer term as economic incentives and an open-source indexer implementation lead to more indexer options. ZK Compression is currently live on testnet.

- Squads Fundraise and Fuse Launch: In mid-June, Squads Labs announced a $10 million fundraise led by Electric Capital and the public beta launch of Fuse. Fuse is a mobile-first smart wallet that replaces seed phrases and single key pairs with multi-factor authentication. Each wallet is a 2/3 smart wallet controlled by a local device key (secured by Apple Face ID), a 2FA key (encrypted and stored in iCloud or a cold wallet), and recovery keys (other wallets or an email). It also features spending limits, key rotation, and gas abstraction for improved security and UX. Fuse is powered by the same multisig protocol as Squads, which secures over $10 billion in value.

- Modular SVM: The SVM has been gaining adoption as an alternative to the EVM for L2s, appchains, and other environments. At the end of June, Anza released a new SVM crate to make it easier to use the SVM outside of Solana mainnet. The crate modularizes the SVM, decoupling lower-level SVM components from the rest of Agave's validator runtime. Other SVM-related initiatives and projects announced in Q2 include the formation of SVM-focused developer shop ABK Labs by a former Solana Foundation employee, the testnet launch of SVM Bitcoin L2 Yona Network, the introduction of MagicBlock's and Sonic's Solana scaling solutions, and the whitepaper release of Solana SVM rollup framework Lollipop by Popsicle Network and MultiAdaptive.

- Bonsol Introduction: In late April, Anagram introduced the open-source verifiable compute system Bonsol. Leveraging the risc0 toolchain, Bonsol enables developers to execute verifiable computations over private and public data and integrate the results into Solana programs.

- Arcium Introduction and Fundraise: In May, Arcium (formerly known as Elusiv) announced a $5.5 million fundraise led by Greenfield Capital and launched its private incentivized testnet. Arcium is a parallelized confidential computing network that enables developers to run encrypted computations.

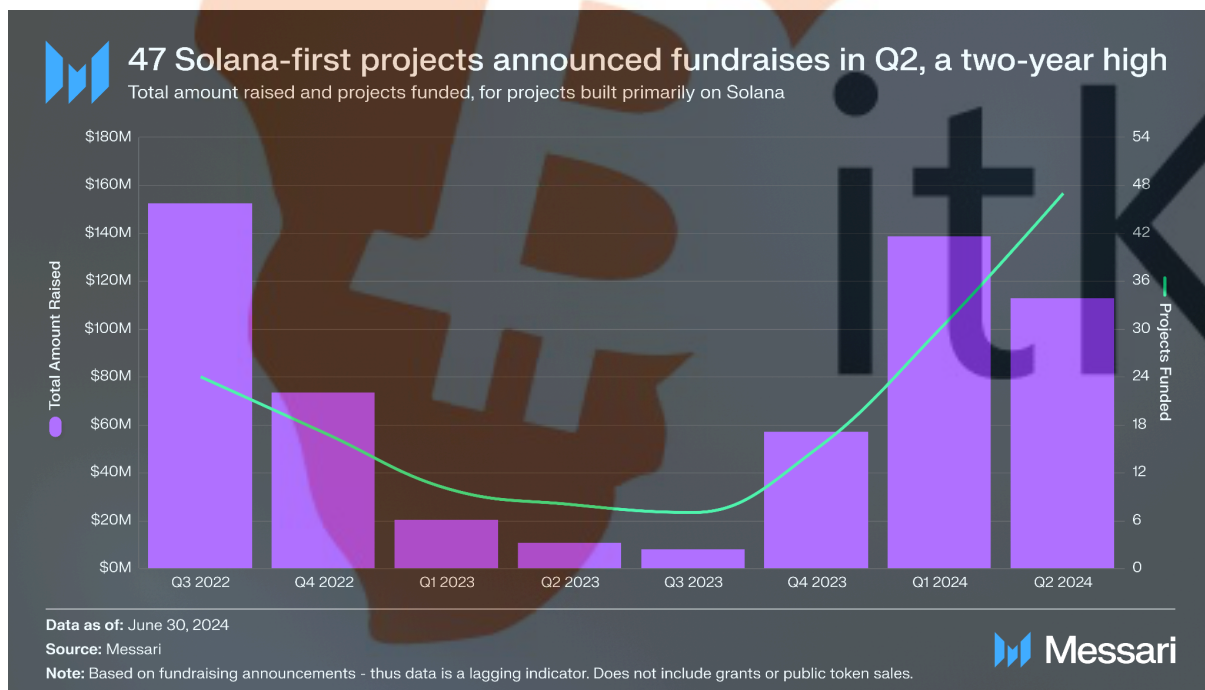Other developments include:

- Wallets and Fintech Apps: Phantom's acquisition of embedded wallet provider Bitski, Coinbase Wallet's Solana DEX integration powered by Jupiter, Kraken's Kraken Wallet launch with Solana support, Portal's Solana integration, Backpack Wallet's update, Moongate's sign-in with Apple ID feature, Infinex's Solana integration, Squads Labs' partial acquisition of Fibonacci Finance's codebase, Safeheron's Solana integration, SwissBorg's Solana integration, xPortal's Solana integration, and Orbit's launch.

- Interoperability and Modularity: Wormhole's token launch, LayerZero's Solana integration, Mayan's $3 million seed round, deBridge's points program and token

introduction, Neon EVM's upgrade, Entangle's Solana integration, Jupiter's integration of deBridge into its bridging widget, and Eclipse's integration of Neon EVM's Neon Stack.

- Developer Tooling: Anchor 0.30.0 release, Trident's launch, RugCheck's API release, NovaNet's testnet, Spiderswap's public API release, LiteSVM's program tester release, Lighthouse Protocol's documentation and integration with Blowfish, Flare's launch, Mollusk's program test harness release, and Triton's Vixen release.

- Explorers and Data: SolanaFM's 2.0 update, Rated's Solana integration, Bubblemaps' Solana integration, Top Ledger's grant from The Graph Foundation, Solscan's new transfers tab, Reclaim Protocol's Solana integration, SonarWatch's validator launch, and SlamNet's introduction.

- AI: DainTrader's launch, Wayfinder's PRIME caching, and Gather AI's incentivized beta,

- Governance and Identity: MetaDAO's futarchy-as-a-service platform launch and adoption from Drift, Deans List, and FutureDAO, Wormhole's grant received to bring Worldcoin's World ID to Solana, Bonfida's and Civic's quadratic voting feature, and Civic Pass' token extensions integration.

- Oracles: Switchboard's $7.5 million raise and Pyth's Solana pull oracle release.

Growth

47 Solana-first projects announced fundraises in Q2, a two-year high
Total amount raised and projects funded, for projects built primarily on Solana

Data as of: June 30, 2024
Source: Messari
Note: Based on fundraising announcements - thus data is a lagging indicator. Does not include grants or public token sales.

After an enduring bear market, Solana ecosystem funding is picking back up. Forty-seven projects building primarily on Solana announced funding rounds in Q2, a two-year high. The projects raised a combined $113 million, a 19% QoQ decrease. From Q4'23 to Q2'24, Solana projects raised $309 million, compared to $39 million in the three quarters previous.

Hackathons and Accelerators

After [unveiling](#) itself in Q1, Colosseum hosted its first hackathon, [Renaissance](#), from March 4 to April 8. The hackathon garnered 1,071 submissions from over 8,300 participants in over 95 countries. Top prize [winners](#) across each track were:

- Grand Champion ($50,000): [Ore](#), a digital currency mined from a novel Proof-of-Work (PoW) mechanism. Ore [launched](#) in early April and became Solana's [top program](#) by transactions. As miners [competed](#) to land their mining transactions on the network, their efforts exacerbated Solana's network congestion issues, detailed in the Network Usage section further below. Ore mining has been on pause since mid-April to focus on developing a V2, which aims to [implement](#) a new, less gameable PoW [algorithm](#) and introduce ORE staking to better align miner incentives with the project.
- Consumer Apps First Prize ($30,000): [Banger](#), a marketplace to buy and sell screenshots of tweets.
- Crypto Infrastructure Track First Prize ($30,000): [High TPS Client](#), a modded Solana client built by the [Rakurai](#) team with scheduling and pipeline optimizations.
- Gaming Track First Prize ($30,000): [Meshmap](#), a crowdsourced 3D map of the world built for augmented and mixed reality games and applications.
- DeFi and Payments Track First Prize ($30,000): [Urani](#), an intent-based trading suite aiming to protect against toxic MEV.
- DePIN Track First Prize ($30,000): [Blockmesh](#), an open network where users can monetize excess bandwidth.
- DAOs and Communities Track First Prize ($30,000): [DeTask](#), an AI-enabled product development platform.

Colosseum also runs an accelerator with a venture capital arm – to qualify, participants must win one of its hackathons. In mid-May, Colosseum [announced](#) the 10 Renaissance winners that were accepted into its first accelerator cohort. These include Ore, Banger, High TPS Client, Meshmap, Urani, Blockmesh, as well as:

- [DBunker](#), a financial derivatives platform for DePIN projects.
- [DeCharge](#), a DePIN network for electrical vehicle charging.
- [Torque](#), a protocol for builders to deploy marketing strategies onchain.
- [Runepunk Legends](#) (formerly known as Legends of the Sun), an old-school combat battle arena game with onchain wagering.

At the end of the quarter, Colosseum [announced](#) that it raised a $60 million fund to continue supporting early-stage Solana builders.

Many projects and organizations, including [DRiP](#), [Wormhole](#), and [several](#) [Superteam communities](#), conducted [Renaissance side tracks](#) on Superteam Earn, distributing over $140,000 in additional rewards.

The Solana Foundation also sponsored a [Renaissance Continuation track](#) for the [Bonkathon](#), offering $50,000 in total prizes to builders expanding on their Renaissance submissions. The Bonkathon was a hackathon sponsored by Bonk DAO and hosted by [Radiants](#) on Align by [Phase Labs](#). It offered $350,000 in total [prizes](#), with winners from the 314 [submissions](#) set to be announced by mid-September.

Other Q2 hackathons and accelerators include Solana Labs' [ongoing](#) [incubator](#), the [Kumekathon](#), the Solana Summit [hackathon](#), Metaplex's [Startup Program](#), FluxBeam's Token Extensions [hackathon](#), the SpringX Solana [Accelerator](#), the [Crossroads Content Sprint](#), and Superteam Germany's Berlin 24 Hour [hackathon](#).

Events

Q2 Events

- [Solana Crossroads](#), a conference powered by [Step Finance](#) in Istanbul with over 3,000 attendees.
- [IslandDAO](#), a month-long coworking space in Greece.
- [Solana Summit](#), a summit in Malaysia geared toward Solana founders and developers.
- Other: Hacker House [Dubai](#) and [London](#), Superteam Malaysia's [Startup Village](#), Supeteam UK's [Startup Village](#), Solana Summer Kickoff [events](#) in 60+ cities, side events at [NFTNYC](#) and [Consensus](#), and [SolVan](#).

Upcoming Events

- [Breakpoint](#): Tickets went [on sale](#) for the Solana Foundation's annual [Breakpoint](#) conference, which will take place in Singapore in late September. The Solana Foundation also announced five day-long [sister conferences](#) occurring the week of Breakpoint: [Block Zero](#), centered around Solana's validator community; [MEV and DeFi Day](#); the [Network State Conference](#); [Stakepoint](#), presented by Marinade; and a conference hosted by [DRiP](#). For those looking for even more events around Breakpoint, IslandDAO announced [ThailandDAO](#), a month-long coworking space in Thailand following Breakpoint. There's also the week-long [After Breakpoint Bali](#) event.
- [mtnDAO](#): The month-long coworking space is returning to Salt Lake City in August.
- Other: [Hacker House Hong Kong](#), [Bengaluru Startup Village](#) and [Hacker House](#), [Founders' Villa Season 2](#), and more [community meetups](#).

Grant Programs

- Cubik Grants Round 1: [Cubik](#) is a platform facilitating quadratic funding of public goods, similar to Gitcoin. In early April, it [announced](#) winners from its first round of [public good grant funding](#), which received over $100,000 in community donations from 3,500 contributors.
- Cubik Comic Kickstart Round: Cubik [launched](#) a funding round for comic creators along with dReader, with a $30,000 matching pool.

- BuildwithMonkes Grant Program: MonkeDAO reopened [applications](#) to its grants program, with [renewed](#) funding from the Solana Foundation and Metaplex.
- Solana Arts Ambassador Program: The Solana Foundation [extended](#) funding and announced matched funding by Bonk DAO for the Solana Arts Ambassador Program to support Solana-based creatives.

Developer Workshops

Developer workshops and educational programs in Q2 include Turbin3's Q2 [Developer Institute](#), XFounders' Solana [bootcamp](#), Encode's coding [bootcamps](#), Ackee's School of Solana [Season 5](#), RareSkills' 60 Days of Solana [course](#), Heavy Duty Builders' Spanish developer [camp](#), Alyra's French developer [course](#), Comets of Web3's Romanian developer [program](#), and applications for M Accelerator's [program](#).
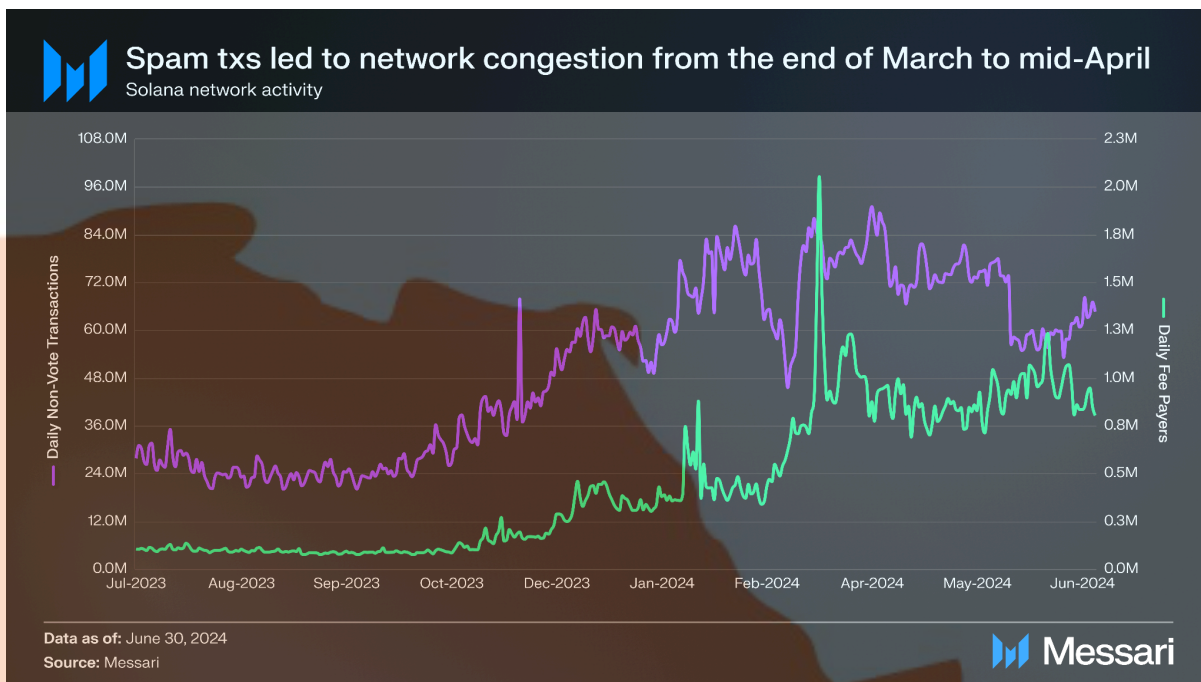
Media

Two new Solana-focused newsletters launched in Q2: Blockworks' daily Lightspeed [newsletter](#) and Solfate's bi-weekly Solfate Snapshot [newsletter](#).
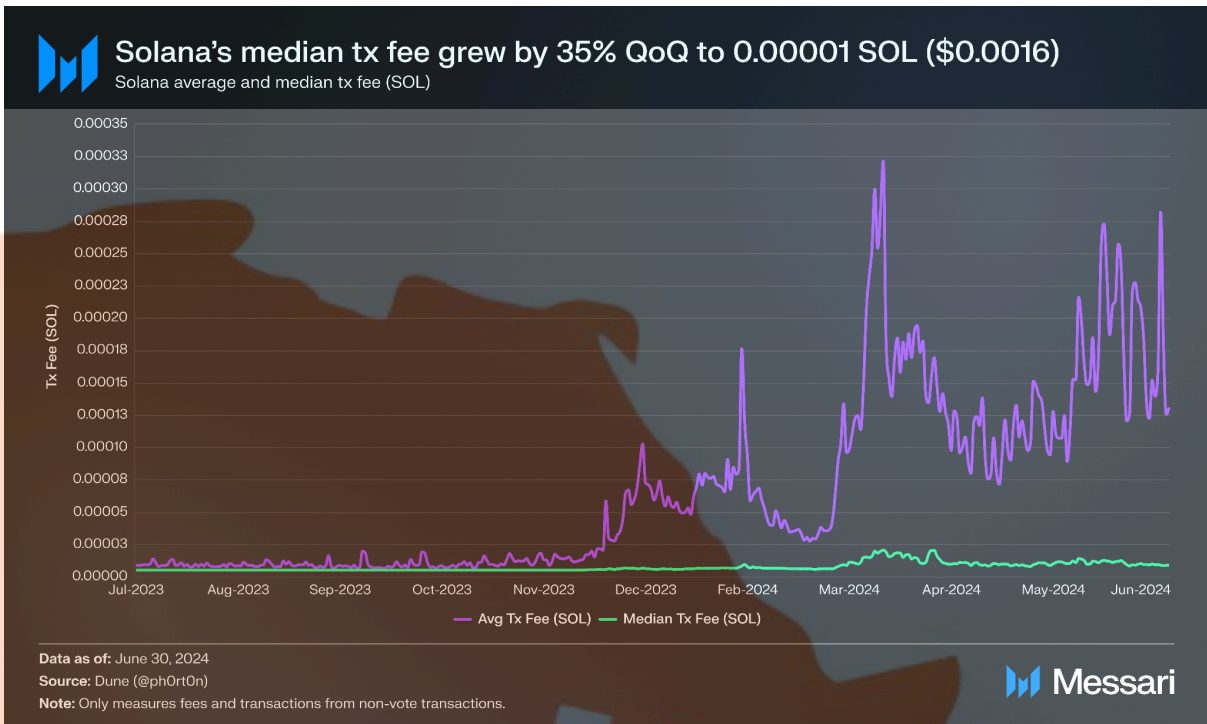
Network Analysis

Usage

Solana Network Usage Overview

Metric	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024
Avg Daily Non-Vote Transactions	33.1M *(10.2%)*	24.7M *(25.2%)*	40.7M *64.7%*	69.5M *70.7%*	70.1M *0.8%*
Avg Daily Vote Transactions	313.4M *(1.8%)*	361.9M *15.5%*	287.5M *(20.6%)*	169.6M *(41.0%)*	140.5M *(17.1%)*
Avg Daily Fee Payers	151.0K *15.4%*	95.6K *(36.7%)*	191.0K *99.9%*	594.2K *211.0%*	899.6K *51.4%*
Avg Daily Signers	0.3M *(12.8%)*	0.2M *(21.9%)*	0.4M *75.1%*	0.9M *110.0%*	1.4M *54.3%*
Avg Daily New Fee Payers	47.4K *196.3%*	11.4K *(76.0%)*	31.5K *176.4%*	115.3K *266.4%*	247.1K *114.3%*
Avg Tx Fee (USD)	$0.0002 *(8.6%)*	$0.0002 *4.4%*	$0.0021 *917.6%*	$0.0141 *588.6%*	$0.0221 *56.5%*
Avg Tx Fee (SOL)	0.000010 *(6.5%)*	0.000009 *(4.4%)*	0.000025 *175.2%*	0.000096 *279.9%*	0.000141 *46.6%*
Median Tx Fee (USD)	$0.0001 *(7.1%)*	$0.0001 *5.1%*	$0.0003 *195.5%*	$0.0009 *188.3%*	$0.0016 *69.9%*
Median Tx Fee (SOL)	0.000005 *(0.2%)*	0.000005 *(0.0%)*	0.000005 *0.7%*	0.000008 *52.8%*	0.000010 *34.7%*

Data as of: June 30, 2024
Source: Messari, Artemis, Dune (@ph0rt0n), Flipside (@ph0rt0n)
Note: Percentages in italics reflect QoQ changes. Avg tx fees only consider non-vote fees and txs.

Spam txs led to network congestion from the end of March to mid-April
Solana network activity

Data as of: June 30, 2024
Source: Messari

Network activity, measured by non-vote transactions and fee payers, maintained elevated levels throughout Q2'24 after its growth in Q4'23 and Q1'24. Average daily fee payers increased by 51% QoQ to 900,000, and average daily new fee payers grew by 114% QoQ to 247,000. Average daily non-vote transactions remained flat QoQ at 70 million.

At the end of Q1 into Q2, spam transactions from memecoin trading and Ore mining led to network congestion issues. Transactions were being dropped at a higher rate, and those that were processed took longer than usual. Because these dropped transactions are not visible onchain, it is difficult to measure the number of total transaction requests and their land rate. As such, the above data only includes processed transactions (successful and failed). Congestion issues seemed to dissipate by mid-April, when Ore paused its mining program, and network upgrades were rolled out. The Performance, Upgrades, and Roadmap section below covers more details about the root cause of the congestion and fixes.

Solana's median tx fee grew by 35% QoQ to 0.00001 SOL ($0.0016)
Solana average and median tx fee (SOL)

Data as of: June 30, 2024
Source: Dune (@ph0rt0n)
**Note:** Only measures fees and transactions from non-vote transactions.

The increase in network activity drove up transaction fees, though Solana still remained cheaper than most other ecosystems with meaningful activity. The average transaction fee increased by 47% QoQ to 0.00014 SOL ($0.022). The median transaction fee increased by 35% QoQ to 0.00001 SOL ($0.0016).
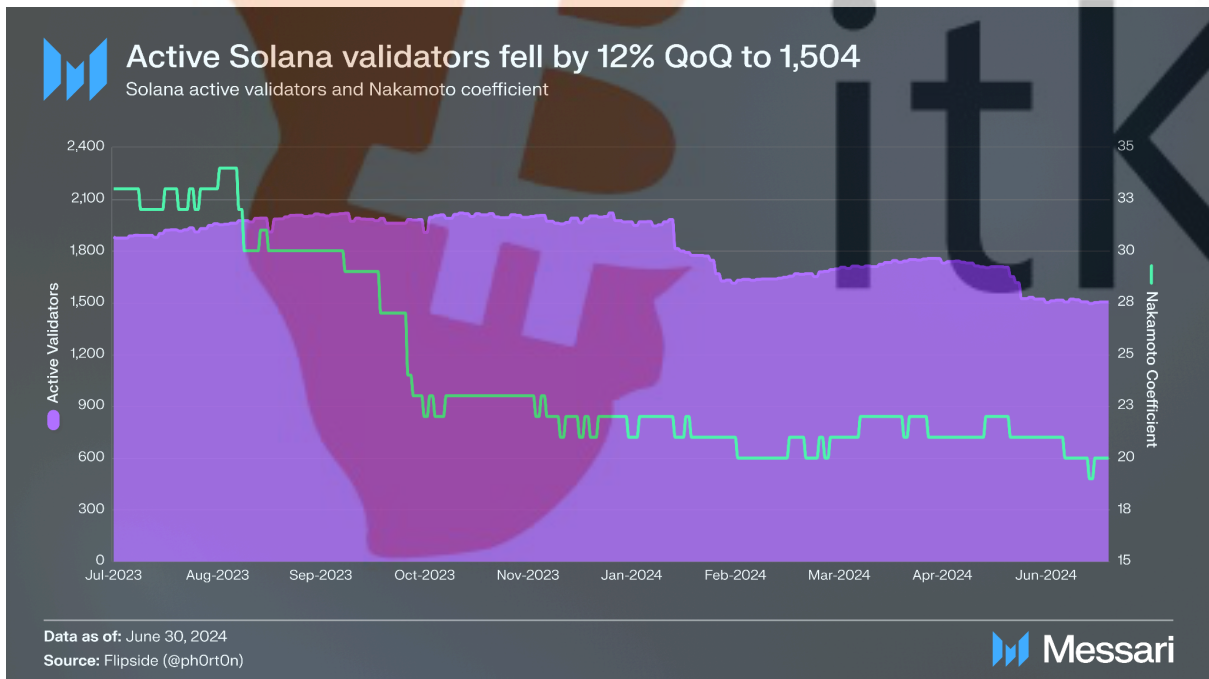
Security and Decentralization

Solana Network Security and Decentralization Overview

Metric	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024
Active Validators	1,881 *11.9%*	1,984 *5.5%*	2,020 *1.8%*	1,706 *(15.5%)*	1,504 *(11.8%)*
Total Staked (USD)	$7.5B *(12.2%)*	$8.7B *15.9%*	$39.3B *354.3%*	$72.8B *85.3%*	$53.0B *(27.2%)*
Total Staked (SOL)	395.7M *(1.4%)*	404.9M *2.3%*	386.0M *(4.7%)*	359.6M *(6.9%)*	378.2M *5.2%*
Nakamoto Coefficient	33 *3.1%*	29 *(12.1%)*	22 *(24.1%)*	22 *0.0%*	20 *(9.1%)*
Unique Validator Hosting Countries	31 *14.8%*	34 *9.7%*	34 *0.0%*	37 *8.8%*	41 *10.8%*
Hosting Country Nakamoto	2 *0.0%*	2 *0.0%*	2 *0.0%*	2 *0.0%*	2 *0.0%*
Unique Validator Hosting Data Centers	285 *7.1%*	312 *9.5%*	309 *(1.0%)*	321 *3.9%*	304 *(5.3%)*
Hosting Data Center Nakamoto	6 *0.0%*	6 *0.0%*	7 *16.7%*	6 *(14.3%)*	8 *33.3%*

Data as of: June 30, 2024
Source: Flipside (@ph0rt0n), Messari
Note: Percentages in italics reflect QoQ changes.

SOL staked rebounded, up 5% QoQ to 378M ($53B)
Solana total staked in USD and SOL

Data as of: June 30, 2024
Source: Flipside (@ph0rt0n), Messari
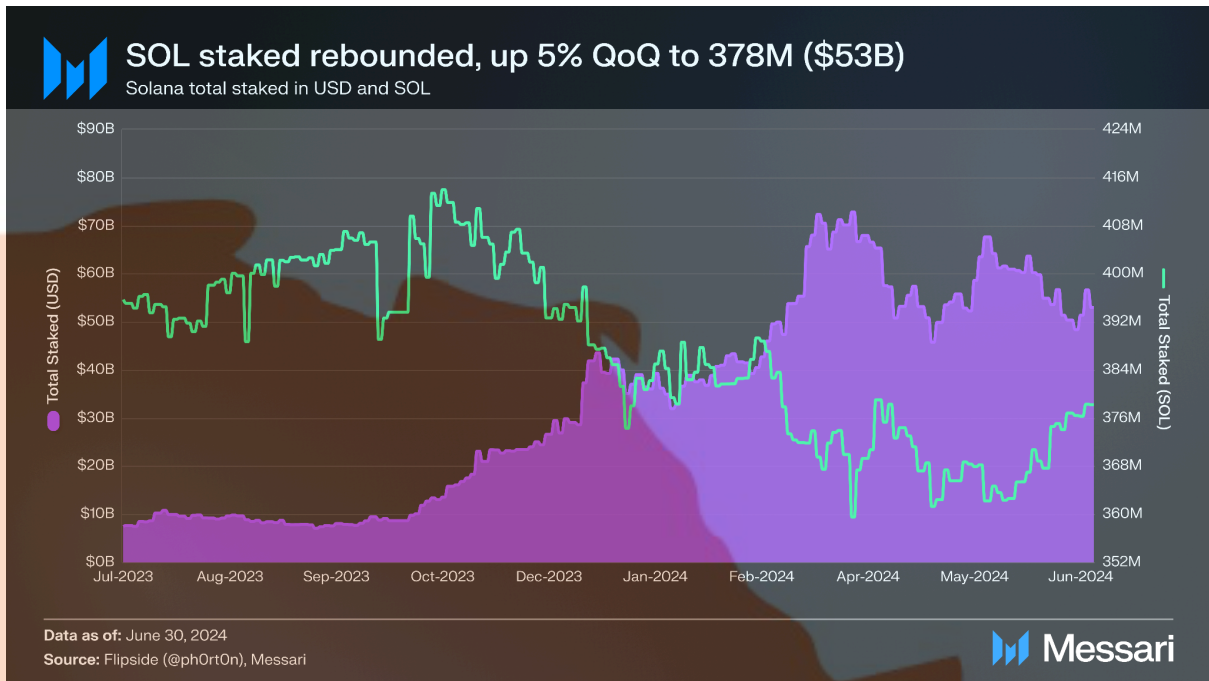
Staked SOL decreased by 5% in Q4'23 and then 7% in Q1'24, largely driven by the FTX Estate unstaking its tokens as they unlocked. However, the amount of SOL staked rebounded at the end of Q2, finishing up 5% QoQ to 378 million SOL. This may have been the result of SOL sold by the FTX Estate being restaked. Due to SOL's price depreciation, staked SOL in USD terms fell by 27% QoQ to $53 billion, trailing only Ethereum.

Active Solana validators fell by 12% QoQ to 1,504
Solana active validators and Nakamoto coefficient

Data as of: June 30, 2024
Source: Flipside (@ph0rt0n)

Solana's Nakamoto coefficient continued to hover in the low 20s following a drop in H2'23. The decrease came as a result of FTX Estate's unstaking, as Alameda/FTX staked to a wide spread

of validators. While ending the quarter at 20, Solana's quarter-end Nakamoto coefficient still remains above the median of other networks.

The Nakamoto coefficient is the minimum number of nodes needed to break liveness. The metric can also be measured across other dimensions important to the resilience of a validator network, including distribution of stake by location, hosting provider, and clients.

Solana network's 1,504 active validators are hosted in 41 countries, up 11% QoQ and 32% YoY. At the end of last year, Solana was nearing 33% of its stake in the United States but has since dropped to 21%. With the United Kingdom at 13%, Solana has a geographic Nakamoto coefficient of 2. Solana validators are hosted in 304 unique data centers, down 5% QoQ. However, its data center Nakamoto coefficient increased by 33% QoQ to 8.

With the rise in retail DEX trading, there have been more malicious MEV opportunities. Different actors across the stack – validators, delegators, RPCs, and apps – have taken efforts to mitigate this. Notably, Jito Labs announced in early March that it would suspend the mempool offering in its validator client, which is run by 80% of network stake. Since then, private mempool offerings have sprouted up, attempting to recapture this opportunity.

In June, the Solana Foundation announced that it removed a group of validators from its Solana Foundation Delegation Program (SFDP) for participating in sandwich attacks via the private mempools. The SFDP aims to bootstrap new validator operators and improve network decentralization by matching outside stake 1:1 up to 100,000 SOL and covering voting costs for the first year (100% covered costs in the first three months, 75% in the next three, 50% in the third three, and 25% in the final three). Validators have to pass an application, which includes KYC, and be outside the superminority of stake (top ⅓) to be eligible.

As of mid-June, the SFDP contributed 48 million in stake (13% of the total staked) to over 1,100 participating validators (71% of the total validator count). While no longer eligible for SFDP stake, the validators can still operate on the network and receive stake from other delegators. In total, the move redelegated around 0.5% of total network stake.

On the same day, the Jito Foundation proposed to blacklist validators participating in private mempools from its stake pool, which delegates 11.5 million SOL. The proposal references an investigation that found that around 30 validators in its stake pool (10%) are engaged in such activities. The proposal is in active discussion.

To bring more transparency to the issue, GhostLogs released a real-time dashboard tracking sandwiches. As the dashboard notes, validators that include sandwich transactions are not necessarily complicit as it could be a transaction forwarded to them from a prior leader. Stakewiz also added warnings on its validator dashboard to the 51 validators it believes are participating in private mempools.

Performance, Upgrades, and Roadmap

Spam transactions from memecoin activity and Ore mining led to network congestion issues at the end of Q1 into Q2. Anza [released](#) the V1.17.31 update in mid-April to alleviate issues. One of the main [changes](#) was leveraging [Stake-Weighted Quality of Service](#) ([SWQoS](#)). The feature [enables](#) validators to allocate the majority of their bandwidth to staked connections. The "virtual stake" serves as a quality signal for the leader, helping it determine which connections to listen to. SWQoS was implemented in 2022, but the V1.17.31 update made several [changes](#), including classifying nodes with less than 15,000 staked SOL as "unstaked." While the solution has potential [centralization](#) [concerns](#) and [benefits](#) RPCs and exchanges, it also introduces a new [structural demand](#) for the SOL token and aligns incentives for apps built on the chain.

After a phased rollout, the [V1.18 update](#) reached a supermajority of validator stake in mid-June. The main new feature in V1.18 was the anticipated [update](#) to Solana's [transaction scheduler](#), which is responsible for building blocks. The previous implementation had [limitations](#) leading to [non-deterministic](#) transaction ordering and inclusion. In other words, it was not guaranteed that transactions with higher priority fees would be ordered accordingly or have a higher probability of block inclusion. Instead, ordering and inclusion partially relied on variance and FIFO, which incentivized spam. To address these issues, a central scheduler thread was introduced, which receives incoming transactions and assigns them to one of four threads for processing. Several validators have reported [higher](#) [block rewards](#) compared to the cluster average since enabling the optional scheduler update.

Beyond improvements to the Agave client, the network is set to benefit from upcoming clients being written from scratch. Notably, Jump Crypto is developing Firedancer in C. Its first iteration, Frankendancer, went [live](#) on testnet in Q4'23 and will undergo a $1 million bug bounty [program](#) starting in mid-July. Frankendancer uses Firedancer's code for networking functions, while still using the original Labs client code for runtime and consensus mechanisms. Firedancer engineers [noted](#) that Frankendancer addresses the networking issues Solana has faced, sharing their [findings](#) with Anza to improve the Agave client. In mid-May, Syndica [announced](#) that it has completed the gossip and accounts-db rewrites for its upcoming client Sig.
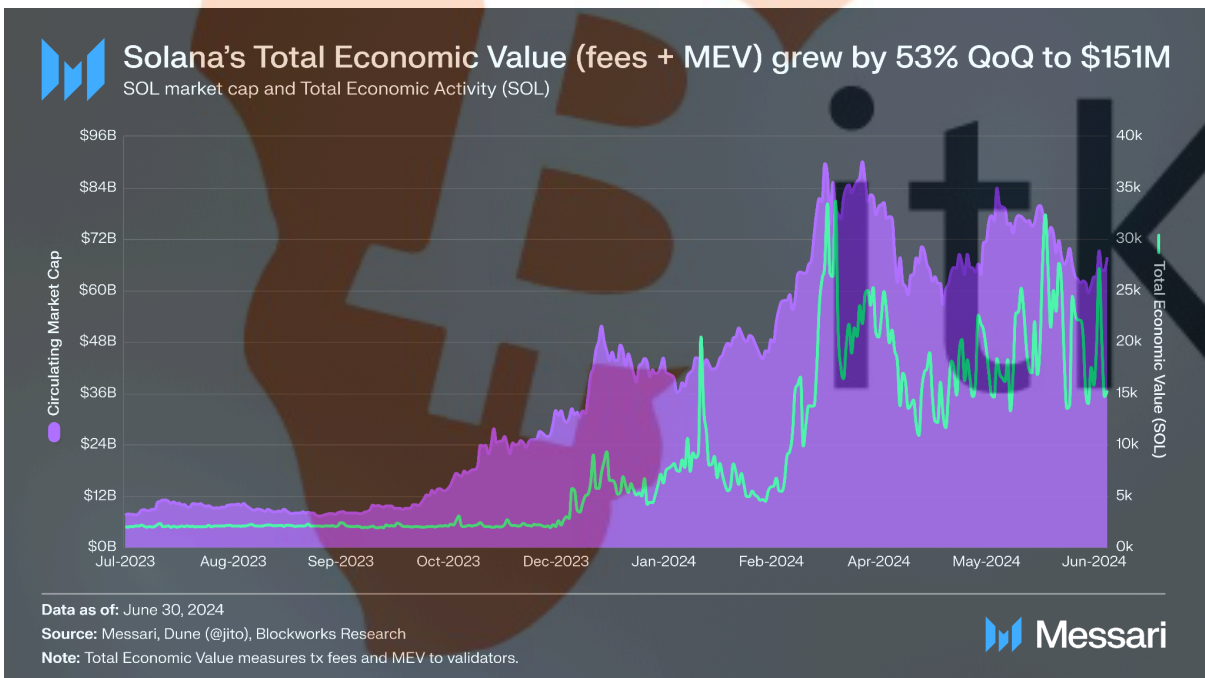
While Solana core developers have historically focused primarily on performance and scalability, several teams are beginning to tackle verifiability. Community validator operator Overclock began [unveiling](#) Mithril, a full node client aiming to lower hardware requirements needed to verify blocks. It's currently hoping for [16 GB RAM](#) – low enough for [at-home verification](#). The Tinydancer team has also been working to develop light clients for Solana. In mid-May, it [launched](#) its simplified payment verification (SPV) client on Solana testnet.

Financial Analysis

Solana Financial Overview

Metric	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024
Circulating Market Cap	$7.5B *(7.6%)*	$8.8B *17.0%*	$43.7B *394.8%*	$90.0B *106.2%*	$67.7B *(24.8%)*
Transaction Fees (USD)	$3.4M *(8.7%)*	$4.1M *18.7%*	$14.2M *248.5%*	$99.1M *595.6%*	$151.1M *52.5%*
Transaction Fees (SOL)	171.7K *(4.0%)*	187.8K *9.4%*	227.6K *21.2%*	685.3K *201.1%*	967.1K *41.1%*
MEV to Validators (USD)		$0.1M	$3.4M *4,357.9%*	$42.2M *1,133.0%*	$116.6M *176.4%*
MEV to Validators (SOL)		3.4K	40.5K *1,075.6%*	299.5K *638.7%*	746.7K *149.3%*
Genesis Supply Liquid	100.0% *0.0%*	100.0% *0.0%*	100.0% *0.0%*	100.0% *0.0%*	100.0% *0.0%*
Annualized Inflation	6.0% *(3.4%)*	5.8% *(3.7%)*	5.6% *(4.1%)*	5.2% *(7.1%)*	4.9% *(6.0%)*
Annualized Real Yield	0.8% *289.2%*	1.1% *30.9%*	1.1% *0.0%*	2.2% *103.9%*	2.2% *0.0%*
Eligible Supply Staked	70.6% *(3.6%)*	71.6% *1.5%*	66.3% *(7.4%)*	62.9% *(5.2%)*	65.1% *3.6%*

Data as of: June 30, 2024
Source: Messari, Staking Rewards, Dune (@jito), Solana Foundation
Note: Percentages in italics reflect QoQ changes.

Solana's Total Economic Value (fees + MEV) grew by 53% QoQ to $151M
SOL market cap and Total Economic Activity (SOL)

Data as of: June 30, 2024
Source: Messari, Dune (@jito), Blockworks Research
Note: Total Economic Value measures tx fees and MEV to validators.

SOL's market cap fell by 25% QoQ to $68 billion, following the broader market cooloff. It remained ranked 5th among all tokens in market cap, only behind BTC, ETH, USDT, and BNB. Solana's Total Economic Value, which measures all transaction fees and MEV to validators, increased by 41% QoQ in SOL terms to 967,000 ($151 million). Of this, 56% came from transaction fees, with the rest coming from MEV tips.

Currently, 50% of Solana transaction fees are burned, while the other half are distributed to the block producer. The burned tokens reduced Solana's annualized quarterly inflation rate from 5.2% to 4.9% in Q2.

However, at the end of May, SIMD-0096 was passed, which proposed to distribute 100% of the priority fee to validators, while continuing to burn 50% of the base fee. The rationale is to prevent out-of-protocol side deals with validators. Priority fees have accounted for the vast majority of transaction fees since activity picked up at the end of 2023. Thus, the amount of SOL burned will drop significantly after the implementation of SIMD-0096, which is currently pending testnet activation.

As noted above, validators do not currently have native functionality to share transaction fees (base and priority) with delegators. By default, most validators only share inflationary rewards and MEV tips. SIMD-0123 was proposed in May to enable native transaction fee distribution.

Several notable out-of-protocol events occurred with SOL in Q2, including the sale of FTX Estate's tokens and SOL ETF filings.

The FTX Estate has been auctioning off its 41 million locked SOL that it acquired from the Solana Foundation and Solana Labs. In early April, it was reported that the Estate sold 30 million SOL at $64 per token. At the end of April, a smaller sale of 1.8 million SOL at price points between $95 and $110 was reported. By the end of May, it was reported that the Estate had sold the last of its tokens, with one purchaser reportedly paying around $102 per token. Reported buyers among the sales have included Pantera Capital, Figure Markets, Galaxy Trading, and Neptune Digital. The tokens sold are subject to the same unlock schedules as the original purchases by Alameda and FTX. The average unlock date of the tokens is in Q4'25, with March '25 featuring by far the most unlocks of any month (at least 7.5 million tokens). Upcoming unlocks can be viewed on Solana Compass and Gelato.

After expectations for an ETH ETF by the end of May dissipated (the Polymarket market reached $0.06 in early May), the SEC seemingly reversed course and approved eight ETH ETFs on May 23. Afterward, people began speculating on which tokens could receive ETFs next, with many pointing to SOL. At the end of June, VanEck surprised the market by filing for a SOL ETF, which was followed by a filing by 21Shares. Some are skeptical that a SOL ETF can pass anytime soon, since there is no SOL CME futures market and the SEC alleged that SOL is a security in its June 2023 complaints against Binance and Coinbase. However, VanEck's Head of Digital Research Matthew Sigel argued that surveillance-sharing agreements with spot crypto exchanges could supplant the need for a futures market. He also stated that the filing is a bet on a change of leadership in D.C. The odds of a SOL ETF approval in 2024 are currently trading at $0.09 on Polymarket.

Closing Summary

Solana continued to be one of the major hubs of crypto activity in Q2. Its Total Economic Value (transaction fees and MEV) grew by 53% QoQ to $151 million, driven by retail DEX trading. Pump.fun, a gamified token launch platform, collected $48 million in total Q2 fees and was one of the most widely discussed applications across crypto.

However, the heightened activity led to network congestion issues at the end of Q1 into Q2. An update leveraging Stake-Weighted Quality of Service alleviated the issue in mid-April, and an upgrade to Solana's transaction scheduler in mid-June further improved its transaction processing capabilities. Several ecosystem teams also unveiled solutions to help Solana scale while keeping users on the L1, including ZK compression by Light Protocol and Helius and the MagicBlock Engine by MagicBlock.

While Solana has been the preferred network for retail users, it is also gaining institutional adoption, especially for payments use cases. PayPal expanded PYUSD to Solana, leveraging token extensions such as confidential transfers, and Stripe announced it would support payments on Solana.

At the end of the quarter, Dialect and the Solana Foundation launched Solana Actions and Blockchain Links (Blinks), aiming to transform how users interact with the blockchain. The solution enables users to preview and execute transactions directly in various digital environments, starting with Twitter.