The StarGazer — Vol. 2 - Subspace Network

By Subspace Network

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Subspace Network Ecosystem Update February 2023 Edition

Captain's log: Stardate 47634.44

Jeremiah Wagstaff

Chief Hacker at Subspace Labs

While we've been a bit more quiet than usual these last few months, a lot has been brewing behind the scenes. Some of our ambassadors are calling this the calm before the storm.

During this time we've added five full-time team members, all industry veterans coming from Near, Protocol Labs, Dfinity, Xapo, and OpenSea.

We've also been making solid progress on the Subspace protocol. Our research team has fully defined our v2.3 consensus, codenamed dilithium. We've begun auditing this protocol with a variety of third-party researchers and firms. Our engineering team has also been hard at work on preparing for the imminent launch of our Gemini III public stress test.

We have very ambitious plans for Subspace in 2023. There will be a heavy focus on building a strong foundation and capacity for the continued growth of the Subspace Network Ecosystem as we develop stronger processes that will allow us to scale into a much larger project.

New Contributors!

Stefano Pepe

Head of Product — LinkedIn → https://www.linkedin.com/in/stefanopepe/

Our new Head of Product, Stefano, has a distinguished background in Crypto/Blockchain. He joins Subspace Labs following almost three years as a founding member of NEAR Protocol.

He's a passionate Blockchain advocate and has been involved in distributed ledger technology since 2013. He'll lead our Product development pipeline

Rahul Subramaniyam

Consensus Lead — LinkedIn → https://www.linkedin.com/in/rahul-subramaniyam-2213441/

Rahul is a seasoned engineer with expertise in consensus algorithms, threshold signatures, P2P networking, and cryptography. Rahul was previously at Google, VMware, and DFINITY. He was one of the early team members who built DFINITY's consensus and P2P layers in the stack.

Rahul is an expert in networking/distributed systems: embedded systems/kernel, implementing TCP from scratch, L2/L3 network protocols, SDN.

Danielle Evans

Talent Lead — LinkedIn → https://www.linkedin.com/in/dmhevans/

Danielle joins Subspace Labs as our new Talent Lead. She is a global recruiting leader who builds teams and strategies to connect skilled people to rewarding careers in Web3, SaaS, and pre-IPO startups.

With a background in open source, design, arts/entertainment and the nonprofit sector, she is a DEI champion in purpose-driven organizations that value openness and collaboration.

Fradique Villalobos

Community Lead — LinkedIn → https://www.linkedin.com/in/fradique-gonz%C3%A1lez-villalobos-ab6a89249/

Fradique joins Subspace Labs as our new Community Lead after spending time at the Ethereum Foundation, OpenSea and most recently at Arttrade.

His passion for developing robust and rich community experiences makes him a great fit to help lead the enrichment and growth of the Subspace Community.

Maxim Kon

Compliance Manager — LinkedIn → https://www.linkedin.com/in/maxim-kon/

Maxim is a compliance expert who joins Subspace Labs with 6+ years of experience assisting crypto companies like Xapo, Crypto Finance, Copper, Valour, and Lirium navigate the complex world of regulations and compliance.

Before crypto, Maxim was working in the traditional banking sector for 7+ years.

Subspace Research

Dilithium Consensus

Our research team has formally defined our new version 2.3 consensus protocol, code-named *dilithium*. This includes the first draft of an academic research paper → https://forum.subspace.network/t/research-style-paper-on-subspace-consensus/1192, a formal specification → https://subspacelabs.notion.site/Subspace-Consensus-Specification-v2-3-274a730b53eb4c93a8d879b90de532ce, and a detailed presentation → https://youtu.be/S60OLuW-fe0 given by our research engineer, Dariia Porechna. We are now working with our affiliate researchers, Security Research Labs, and Supranational to audit the full security and ASIC resistance of *dilithium*.

Dilithium combines the underlying proof-of-space from the *Chia* protocol with erasure coding and KZG commitments to produce a very light-weight, secure, and energy efficient variant of proof-of-archival storage (PoAS) consensus.

Over the last three months we have also begun to build out an affiliate research team, led by Dr. Chen Feng, who is Principal Research Chair in Blockchain at the University of British Columbia. We're also working more formally and frequently with PhD students, professors, and industry researchers across projects and institutions.

Research Partners

Dr. Chen Feng

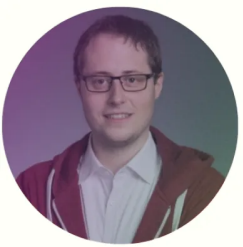
University of British Columbia

Dr. Barak Shani

formerly Matter Labs

Shashank Agrawal

Coinbase Research



Joachim Neu

PhD Student at Stanford University

Gemini III

Our engineering team has been diligently working to prepare our protocol for the launch of our public stress test for Gemini III. This will begin as a non-incentivized network to continue to test our pro-

tocol on a live network and engage our growing community. Unlike previous phases, the features of Gemini III will continue to evolve over time.

At launch, the key upgrade will be the standard usage of our Distributed Storage Network (DSN) for new nodes to sync the chain and for new farmers to sync their plots, finally resolving the farmer's dilemma presented in the original Subspace white paper. Soon thereafter we plan to release support for our domains framework for optimistic execution. This will feature a handful of core domains allowing for payments, storage, and cross-domain communication. We are also working diligently to build a bi-directional bridge to Ethereum, with other router domains to follow.

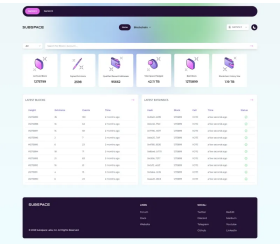
During this time, we will also be starting another protocol implementation audit with SR Labs and begin implementing our new consensus. Once Dilithium is fully deployed and audited, we will transition Gemini III from a public stress test to our final incentivized test network. Gemini III will then serve as a long-running test network until we are fully-prepared to flip the switch to mainnet.

Alongside the amazing work we are doing on extending our protocol, we are also making the transition towards more formal and rigorous engineering practices. As part of that effort, we are cur-

rently building an Engineering Handbook, which we plan to showcase as a best-in-class example of how an open source Web3 engineering team should operate.

Product at Subspace

Since our last update, we surpassed a major milestone in the product roadmap with the release of our in-house open-source block explorer, a key component for the mainnet beta launch.



This early version of the Subspace block explorer is designed to address the imminent needs of the farmers, helping them ensure they are producing blocks on the correct chain and generating rewards. Thanks to the block explorer, farmers will now be able to measure their farming performance and rewards. The next goal in the product roadmap is to upgrade our block explorer to support executors to measure node performance and rewards.

Additionally, we've been working diligently on the latest release of our Farming CLI to have this ready for Gemini III. The Farming CLI simplifies and automates Farmer/Executor tasks for Subspace, a two-sided marketplace. It reduces the friction of offering blockspace, helps collect rewards, and encourages better community participation.

What's Next for Product

As the product area develops, we'll focus on increasing visibility into our product roadmap and priorities.

Our early goals will be updating the product roadmap and opening it up to the community to define further. Initially, we'll focus on our farmers, then executors and builders. The products receiving this "upgrade" first will be the explorer and the CLI, both of which should be ready for the upcoming version of Gemini.

At this stage, the Product Engineering Team will continue to focus on fast iteration and adaptability rather than intentional and long-term plans. So we're building strong communication bridges with our users and our community to help support that process.

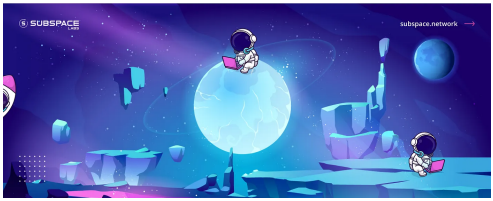
Subspace Propulsion

The Ecosystem Team kicked off to a promising start for 2023 with community and marketing strategies aligned to the greater Subspace Network vision.

Ambassador Program

Our Ambassador Program → https://subspace-network-ambassadors.notion.site/ is an important element of the Subspace Network that will accelerate our vision of a community-led ecosystem. By the end of 2023, we hope to have Subspace representation in every country worldwide.

In Q4 2022, we received 1.6k+ applications for the new cohort of our Ambassador Program. Despite the high number of applicants, the evaluation committee was able to hand-select 40 Apprentice Ambassadors. While we are thrilled by the overwhelming interest, we limited the number to 40 to ensure we can achieve our immediate goal — activate our open-source ecosystem by focusing on working with tech-savvy ambassadors.



The Subspace Network Forum

The Subspace Network forum → https://forum.subspace.network/ is a critical component in our mission to create a truly decentralized, open-source blockchain protocol. Our Community Team plans to launch several initiatives to drive participation in the Subspace Network Forum this quarter involving every team member at Subspace Labs.

Our research team and partners will take the first steps and start holding open discussions in our forum to encourage community members to learn and contribute.

Additionally, the Subspace Network Ambassadors will migrate their discussions around proposals and contributions from private Discord channels to the forum. Through this initiative, they aim to increase the visibility and transparency of their contributions to the Subspace ecosystem.

Join our Engineering Team in Slack!

If you want to stay up-to-date on the engineering team's ground-breaking work, join our Slack channel! Last year, our engineers moved their discussions to Slack, which is open to the public. Do note, however, that the channel is primarily for transparency and is read-only for now.

Join the Subspace Labs Engineering Slack channel by filling out the form below and wait for an email invitation:

https://forms.gle/Yo8onAJj1TwyoMcg7

Thank you for the continued support and we look forward to seeing you in our community!

Let's connect!

Website — https://www.subspace.network → https://www.subspace.network/
Discord — https://discord.gg/subspace-network
Telegram — https://t.me/subspace_network
GitHub — https://www.github.com/subspace
Twitter — https://www.twitter.com/NetworkSubspace