Geode Blockchain FAQ

WHY SUBSTRATE?

Charles Hoskinson, Founder at Cardano said, "**It's what ETH 2.0 probably should have been.**" (June 21st, 2021. On the Lex Friedman Podcast episode #192).

Polkadot is built on Substrate, as are all their parachains and all the new Cardano Partner Chains.

Substrate is a **modular SDK** for building blockchains in Rust with a number of advantages …

- ✓ **Created by an Ethereum co-founder**, Gavin Wood.
- ✓ Substrate is **EVM compatible**.
- ✓ Substrate has a large array of modules offering significant **capabilities**.
- ✓ Substrate is written in Rust which is **memory safe**.
- ✓ The Babe consensus mechanism is **Byzantine Fault Tolerant**.
- ✓ Consensus and finality are separate offering **speed** and additional **security**.
- ✓ Nominated Proof of Stake offers **two layers of security**: The staked Validators themselves, and a layer of Nominators who stake on the Validators they think will do the best job and are the most trustworthy.
- ✓ Substrate is **well thought-out and audited code**.

HOW DOES GEODE COMPARE TO OTHER LAYER ONE CHAINS?

Geode Blockchain has significant capability thanks to the underlying Substrate code and our go-to-market approach…

- ✓ **More capable than Ethereum**, Solana, Avalanche & Others
- ✓ **Forkless runtime upgrades** - Complex coordination across Validator nodes is not necessary at all. WASM runtimes mean that upgrades to the runtime code are seamless, immediate and automatic after a community vote. Nodes automatically begin using the new runtime code. Nodes may update their baseline code at their leisure without network interruption or risk..
- ✓ **1000 Transactions per Second** (TPS) on L1 alone - Scaling vis L2 rollups is available to bring a theoretical 1 Million TPS with 1000 L2 Chains.
- ✓ **Fast & cheap dApp deployment** - Smart contracts can be written in either Solidity or Ink and compiled for substrate. Once compiled, your smart contracts can be deployed on chain in less than 30 seconds for less than you would pay on other chains.
- ✓ Make your own **Tokens**, create **DAOs** and membership societies, and **NFTs** quickly and easily.
- ✓ Practical dApps that **replace centralized giants** with smart contracts that take no profit.
- ✓ **Easy access** to all the native dApps and 3rd party dApps **all in one place**.

HOW ARE YOU GROWING THE DEVELOPER COMMUNITY?

Geode is **already attracting** a robust developer community building **practical dApps across diverse industries**. Our program is working so well that we plan to keep it as-is even after VC funding is in place. Geode attracts third party developers with a program that includes:

- ✓ Coin grants
- ✓ Program management assistance
- ✓ Code reviews
- ✓ Mentorship in both technical and business aspects
- ✓ Frequent communication
- ✓ Training and education
- ✓ Development assistance in exchange for revenue share or other considerations

WHAT IS GEODE'S GOVERNANCE STRUCTURE?

Geode's governance structure includes a Council, a Technical Committee and the Community at large. The **Council protects the community** by diverting malicious code proposals, and **encourages community growth** through treasury proposals, bounties and tips. The **Technical Committee handles emergency runtime code upgrades** and repairs by fast tracking critical updates to an immediate community vote. The Geode **Community at large must approve EVERY runtime upgrade**. Conviction Voting is where community members can multiply their vote by locking up their tokens for various durations ensuring that **whales cannot dominate any vote**.

HOW MANY TRANSACTIONS PER SECOND CAN GEODE HANDLE?

Geode is built on Substrate which allows for **1000 TPS** as a standalone layer one. (see **these benchmarks** and **this article**). Layer 2 chains can scale that rate (in theory) as they join in, rolling up transactions for registration on Geode. For example, a single Layer 2 chain also built on Substrate can roll up 1000 transactions per second into a single transaction on Geode. Total transactions per second (theoretical maximums) then become, for example:

- ✓ 100 L2 chains: 100,983 TPS, or
- ✓ 1000 L2 chains: > 1M TPS

That being said, Geode is more interested in **offloading computation and storage to other chains** via bridging, rather than racking up thousands of L2 chains. Why? Eventual congestion of the system makes fees higher and that makes users unhappy. **We believe that in a future Internet of Chains (IOC), Layer 1 chains like Geode will more likely offload some work to their own L2 chains, and some work to other L1-L2 chain systems**.

IS GEODE BLOCKCHAIN'S CODE AUDITED?

Geode is built on Substrate (audited code) with alterations only in a small number of specific constants. Geode's code is open source and available for review at our GitHub: **https://github.com/geodechain**. A full audit of the chain code and all native smart contracts will be contracted with this seed round.

HOW IS IDENTITY HANDLED ON GEODE?

Identity on Geode is based on your **account public key**. Additionally, users can **opt in for an on-chain identity** using their legal name and optionally have their documents verified by other users who act as **bonded identity registrars**. Apps like Geode Social, Geode Marketplace and Geode Private Messaging offer **usernames** similarly to Web2 apps where users can choose any identity or brand they like, as long as it is still available.