

# Engineering

## Organisation + Roles

**casper**

Mark Greenslade  
December '23

**Internal**  
teams

**External**  
relationships

# Internal

Core Protocol

R&D

DeFi

Integrations

SRE/DevOps

Advocacy

## Core Protocol

- **Ed Hastings**
  - Major centre of gravity change
  - Attended ACTUS DC
  - Synced with R&D team
- **Domino effect**
  - Engineer migration
  - A List = 5 ... B List = 4
  - PREPARATION not solicitation !
- **Roadmap**
  - If 1.5 then clear 1.6, 1.7, 2.0, 2.1, 2.2, 2.3
  - 2.3 = design space optimised
  - Crypto-economics needs a lot of work
  - DeFi supports needs focus + dog-fooding
  - ZK proof verification optimisation is essential

## R&D

- **Team composition**
  - Head + Assistant
  - Applied Cryptographer -> awaiting hiring
  - 5 engineers
  - 1 intern
- **Focus H1 2024**
  - L1 light client
  - L1 node FFI extensions
  - L2 Rollup ... Kairos
  - ZK-WASM integration discovery
  - ACTUS ZK Gateway

## DeFi

- **DeFi Integration Support**
  - Build up L1 primitives from ground up
  - Algo Stable | LSD | AMM | Perps ...etc
  - Series of mini projects
- **Advanced end-to-end prototypes**
  - L1 stress test
  - L2 integration feasibility
  - Rich content
    - Advocacy group
    - Developer portal

## Integrations

- **Eco-System Growth Support**
  - E.G. Nes-Tech
  - Inevitable technical support requirement
  - Proposal assessments
- **Can be random time sink**
  - Smart contract learning friction
  - SDK friction -> has improved
  - Caused issues at Labs
- **4 person team**
  - 1 lead engineer
  - 3 support engineers



## Advocacy

- **Advocates = engineers**
  - Need deep platform knowledge
  - Not just smart contracts
  - Not just documentation
- **Showcase DApps**
  - 4/5 examples
  - Defi | Supply Chain | Notarisation ... etc
  - Allows advocates to do engineering
  - Identify pain points & best practise
  - Rich content for developer portal
- **Events**
  - Themed Hackathons -> Employment

## SRE/DevOps

- **Cross cutting**
  - All engineering groups require support
  - DEV, TEST, PROD
- **Core Protocol Testing**
  - Spinning up 200 node networks is expensive
  - L2 infra -> increase complexity and cost
- **R&D Testing**
  - Spinning up ZK prover clusters is expensive
  - Specialist DevOps skillset
- **Other**
  - Small footprint ATM -> is going to change
  - Initial team size: 3 person

# External

## Partners

- **External solution partners**
  - Software houses
  - Professional teams
  - Independent devs
- **Categorisation Framework**
  - Tier 1, 2, 3
  - Sub-Categories:
    - Capabilities
    - Track record ... e.g. by TVL
    - Cross organisational fit

Tier 1

core protocol | r&d | auditor

Tier 2

indexer | sdk | wallet

Tier 3

dapp | explorer | other

## Tier 1

- **Core Protocol**
  - Predominantly software houses
  - E.G. Casper Labs
  - E.G. Teonite
- **R&D**
  - Ad-Hoc entities
  - E.G. Lita Foundation
  - E.G. Vlinder
- **Auditors**
  - E.G. Halbourn
  - E.G. Independents

## Tier 2

- **Software Development Kits**
  - C#, C++, Javascript, Go, Python, Rust
  - Companies, small teams, individuals
- **Validators**
  - Types: professional | enthusiast
- **Wallets**
  - Types: hardware | software | mpc
  - Companies, small teams
- **Chain Auditing & Indexation**
  - E.G. MAKE -> typescript + postgresql -> api
  - E.G. StormEye -> k8s + kafka + java -> api
- **Explorers**
  - E.G. cspr.live | scansper

## Tier 3

- **Media Partners**
  - Internal | Shark Media
  - Channels -> TG | X | LinkedIn ... etc
- **Developer Documentation**
  - Internal + Casper Labs
  - Multi-media documentation types:
    - Formal
    - Narrative



**Internal**  
teams

**External**  
relationships

# Engineering

## Organisation + Roles

**casper**

Mark Greenslade  
December '23