Validating made light and simple

The future client experience

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Nimbus:
Ethereum network participation for everyone

An easy, efficient, and high performing ethereum client
The future ethereum client experience must be informed by its current and future users.
Current Users

Individual / Solo Stakers

Professional Node Operators
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Professional Node Operators' expectations are changing.

Nimbus team had the opportunity to interact directly with over 12 Node operators running operations from different countries.
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I. Each node operator ran between 2500-7000 validators
II. Operate from specific countries/regions
III. Offer staking-as-a-service to individual customers
IV. Servicing the need for operating infrastructure at scale as part of liquid staking operations
V. Increasingly looking to service the staking needs of institutions operating in their jurisdictions
Node Operators optimise for reliability and scale.

Key measures of success

I. Uptime (redundancy)
II. Reward performance
III. Operating efficiency
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Evaluate clients based on

I. Stability
II. Reward performance
III. Fit with their current setup
IV. Release communication and rhythm
V. Client team communications/respondiveness
VI. Testing rigour and variety
Desired client evolution?
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Greater flexibility, proven interoperability.
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Integrated Beacon Node and Validator Client
AVAILABLE

Run the Nimbus Beacon Node with other Validator Clients (LH, VOUCH)
AVAILABLE

Nimbus Beacon Node with Web3signer / Remote Signer
AVAILABLE
Professional Node Operators

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- Integrated Beacon Node and Validator Client: AVAILABLE
- Run the Nimbus Beacon Node with other Validator Clients (LH, VOUCH): AVAILABLE
- Nimbus Beacon Node with Web3signer / Remote Signer: AVAILABLE
- Nimbus validator client with other Beacon Node implementations: AVAILABLE (BETA)
Professional Node Operators

An advanced Validator Client that also improves redundancy

Introducing features that enable Node operators to protect against malicious internal actors or infrastructure failures.
An advanced Validator Client that also improves redundancy

I. Features inspired by the secret shared validators research

II. Address non-trivial risks for operators who run large number of validators

A. Rogue employees
B. Malicious infrastructure providers
C. Infrastructure failures
An advanced Validator Client that also improves redundancy

I. Splitting the sysadmin staff in sub-teams, so that a sub-team has access to only a portion of every key.

II. Distributing portions of keys in several different infrastructure providers.
An advanced Validator Client that also improves redundancy

Challenge:

This requires the necessary organization changes introducing tighter server access controls and administration sub-teams.

Possible solution:

A new kind of remote keystore where each item is sent for signing to multiple web3signer instances.

Extending to profit maximization with multiple beacon nodes
Individuals
High potential, but held back

Recent research by Hester Bruikman and Aqeel Mohammad from Status, indicates that there is high degree of interest in ‘independently’ participating in the network but held back by perceived limited options, high skills barrier and information spread.
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I. Is there a non-CLI option please?

II. Don’t have 16 or 32 Eth, so how could I participate independently?

III. Information is scattered across forums, Discord servers and client documentation
Let’s acknowledge the current efforts to address these challenges.
Nimbus is contributing to this effort.
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Nimbus + Status

Abstracting complexity away and providing choice - key to future participation

We believe the future client experience for Individuals must lower the technical skills barrier so that more individuals can participate in the network.

Abstracting complexity away with a visual interface (no CLI 😞) could bring new participants to the network.
Nimbus Node Management
Is coming to Status Desktop

A simple, integrated staking experience being built by the Status team.
A simpler and seamless setup experience for execution + consensus client

The complexity of running a node has increased relatively as one needs to ensure all components of the node are working well in tandem!

Execution Client + Beacon Node + Validator Client + MEV (optional)
A simpler and seamless setup experience for execution + consensus client

In the spirit of abstracting complexity away from individual users, Nimbus is working on an Execution client which will be easy to use with the Nimbus Consensus client (also usable independently).
Participate in other ways

Light Web3 Proxy

ethOS + Nimbus working on a native and embedded proof of concept

Ethereum JSON-RPC proxy that uses the beacon chain light client sync protocol to verify the data supplied by any Ethereum node in order to deliver a new type of ultra light Ethereum client.
Participate in other ways

Ethos Web3 Proxy

Light Web3 Proxy

I. Set up a light web3 proxy on your phone

II. Point your wallet to the proxy which gets the state root from the LC network

III. Proxy can now request balance and 'proof' from any provider/untrusted node

IV. Proxy checks proof against state root and verifies the balance.

V. Allows one to trust data from any untrusted source, as proxy performs verification on the fly
Want to learn more about the Light Web Proxy?
In conclusion, the future client experience will be different for individuals and node-operators. Focus on simplicity + flexibility.
Thank you!

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