Build your governance easily

with OpenZeppelin Contracts

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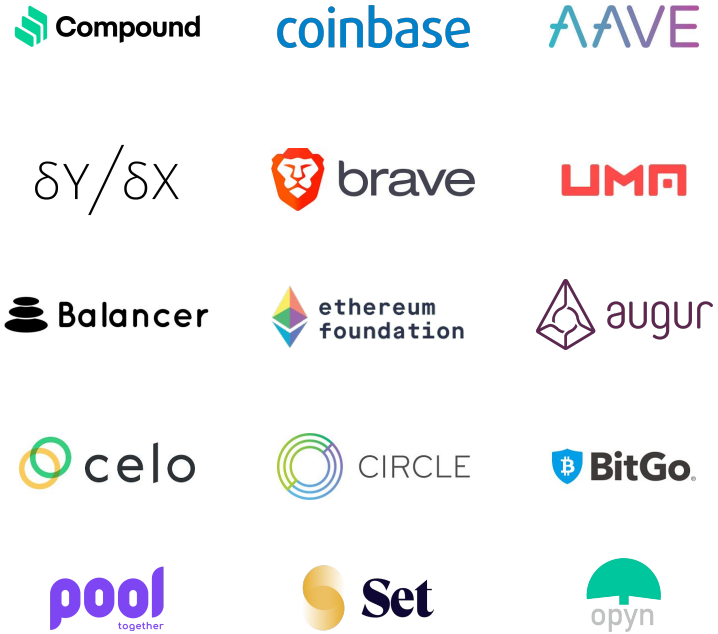
OpenZeppelin

Our mission is to protect the open economy

OpenZeppelin is a software company that provides **security audits** and **products** for decentralized systems.

Projects from any size — from new startups to established organizations — trust OpenZeppelin to build, inspect and connect to the open economy.



Security, Reliability and Risk Management

OpenZeppelin provides a complete suite of **security and reliability products** to build, manage, and inspect all aspects of software development and operations for Ethereum projects.

What is governance?

Governance is all the processes of interaction [...] over a social system [...].
It is done by the government of a state, by a market, or by a network.

Different types of governance

Off-chain governance

- A person (EOA), or a group of persons (Multisig), is in control,
- Community members can express their opinions,
- Pool results are non-bindings.

Example: https://sybil.org/

On-chain governance

- Specific governor contract is in control,
- Community members votes are submitted to this contract,
- Actions can only be taken if approved by a vote.

Example: https://compound.finance/governance

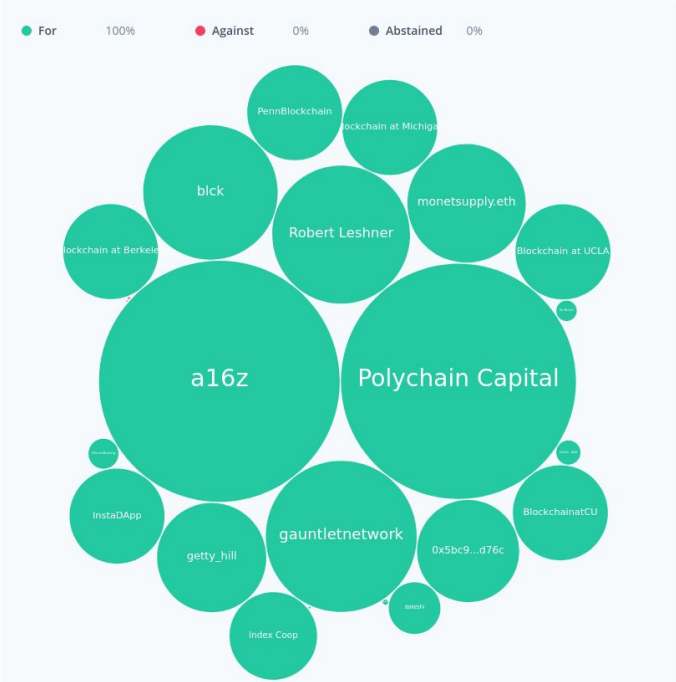
EXECUTED Endblock: 13025415

Add Collateral Factors for MKR, SUSHI, AAVE, YFI, & LINK

Voting has ended

ID 56 • Proposed by: getty_hill

Voting Created on Aug 9th, 2021



57.15% 1.53M votes cast

Participation rate

Votes

For	Against	Abstained
28 addresses		1.53M votes
a16z		321.06K
Polychain Capital		305.96K
gauntletnetwork		126.14K
Robert Leshner		105.13K
blck		100.07K
monetsupply.eth		77.51K

View all

Status history

Pending
Block number: 12992565

Active
Block number: 13005725

Succeeded
Block number: 13025425

Queued

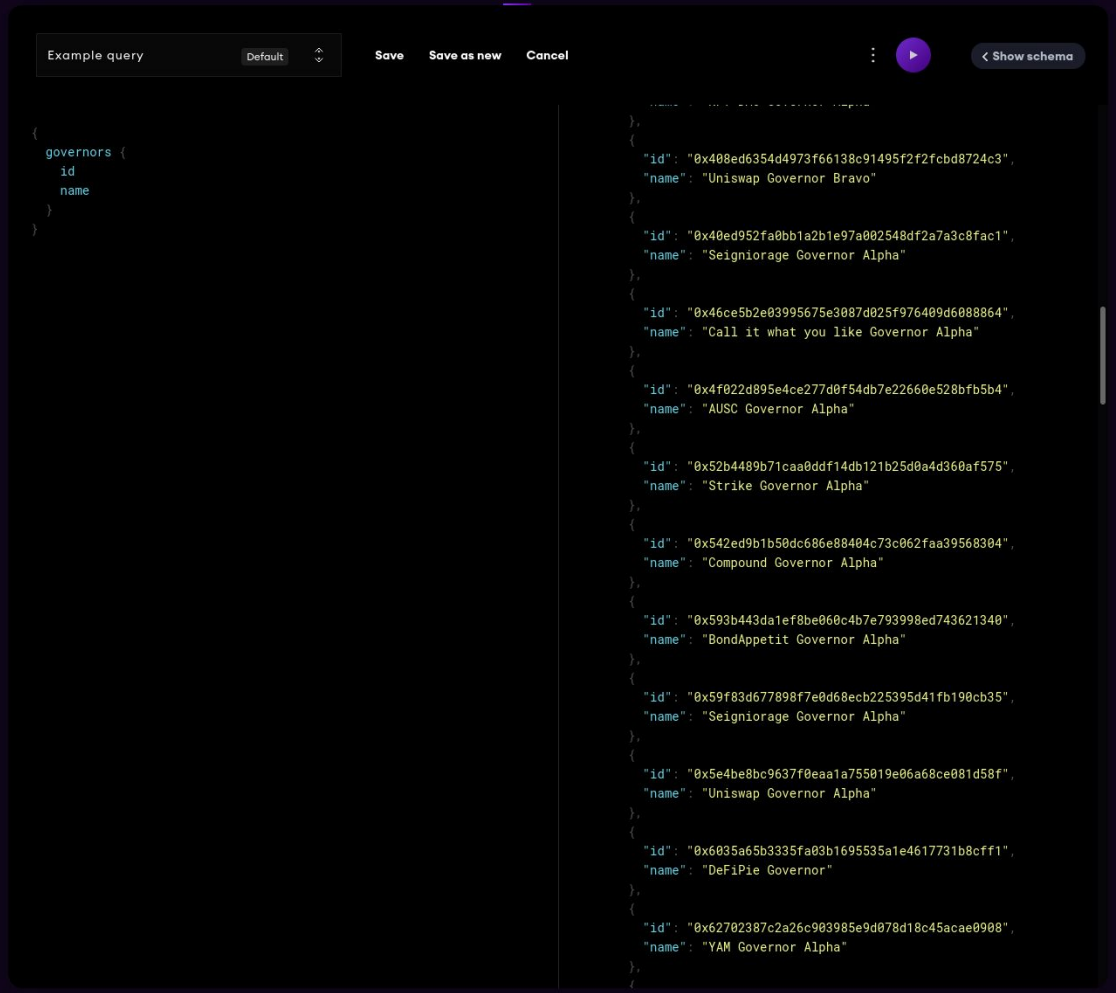
Compound Governors

Over 80 instances on mainnet:

- Governor Alpha;
- Governor Bravo;
- Variations of the above.

A lot of variations, a lot of incompatibilities:

- Event signatures;
- Function arguments;
- Behaviors.



Introducing OpenZeppelin Governor

Available since version 4.3.0

@openzeppelin/contracts/governance/Governor.sol
@openzeppelin/contracts/governance/extensions/...

Designed with modularity in mind

Just like ERC20, ERC721 and ERC1155.

The OpenZeppelin Governor system

Token
and
Governor (modular)
and
Timelock (optional)
and
Defender, Tally, TheGraph ...

Supported tokens: ERC20Votes (OZ), ERC20VotesComp (OZ), Comp (Compound)
Supported timelocks: TimelockController (OZ), Timelock (Compound)

More modules being worked on

Available in 4.4.0

- **Votes:** Where do the users get their voting power from?
- **Counting:** What options do users have when voting, and how are votes counted?
- **Timelock:** Perform operations through a timelock contract.
- **Settings:** Allow parameters updates through governor actions.
- **CompatibilityBravo:** Extended bravo compatibility

Waiting next release

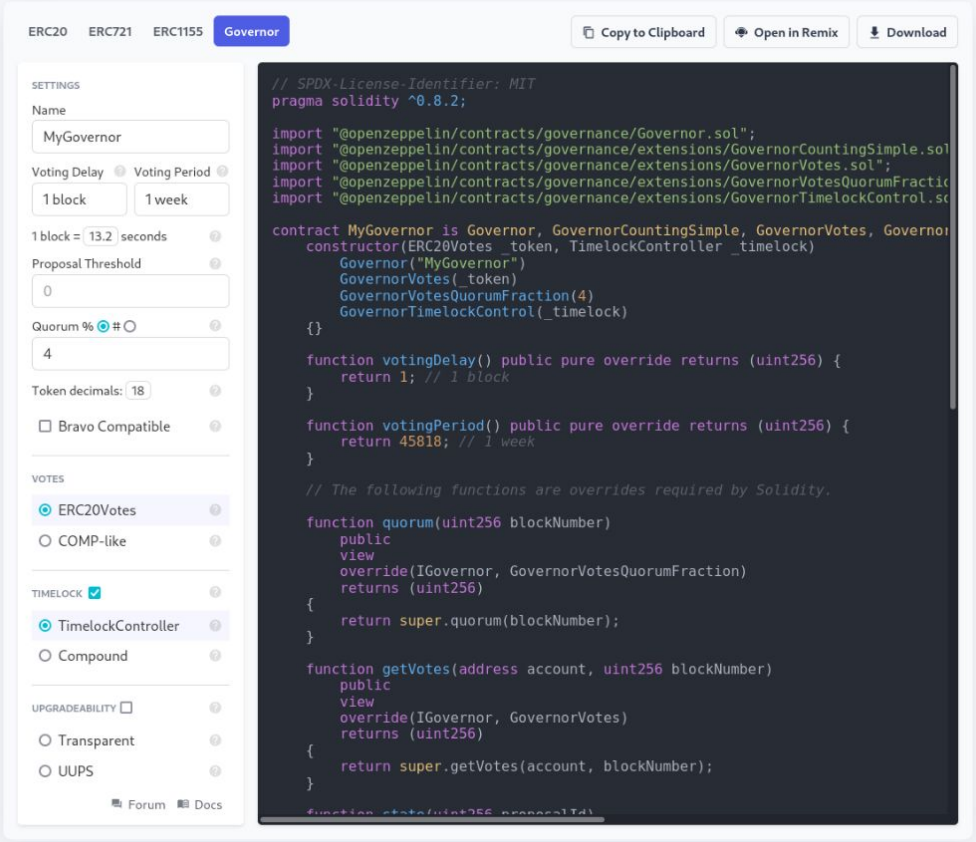
- **GovernorPreventLateQuorum:** Late quorum protection mechanism.

WIP Pull Requests

- **GovernorCountingScore:** Score based voting system.

Contracts Wizard

Use the interactive generator below to bootstrap your smart contract and learn about OpenZeppelin Contracts.



OpenZeppelin Governor

is supported in

@openzeppelin/subgraphs

@openzeppelin/contracts

docs.openzeppelin.com

forum.openzeppelin.com

defender.openzeppelin.com

Thank you!

Learn more

openzeppelin.com/**contracts**
forum.openzeppelin.com
docs.openzeppelin.com

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ETHEREUM
NAME SERVICE

Nick Johnson - nick@ens.domains

Overview

- What ENS is & how it works
- Why governance?
- How governance?
- Choosing a governance framework
- Future improvements

What is ENS?


Hello
my name is
0x112234455c3a32fd112
30c42e7bccd4a84e02010

What is ENS?

More than just names

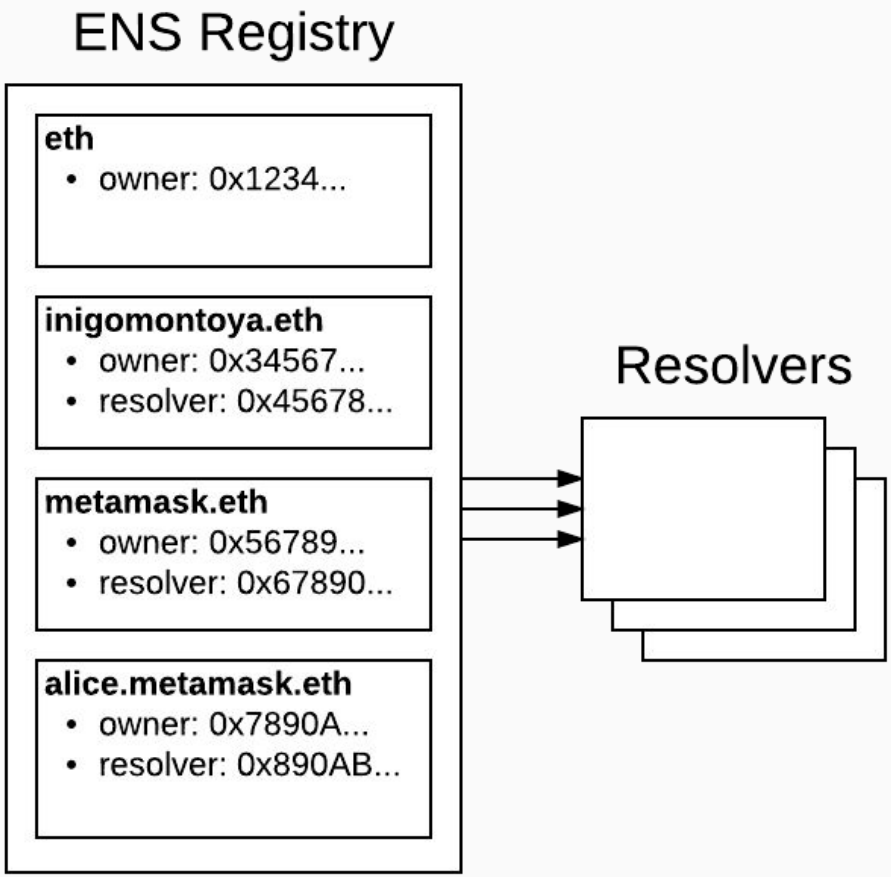
ENS names contracts and accounts, but also…

- Names distributed content in IPFS, arweave, etc.
- Provides decentralised identity (‘primary name’ and avatar)
- Much more!

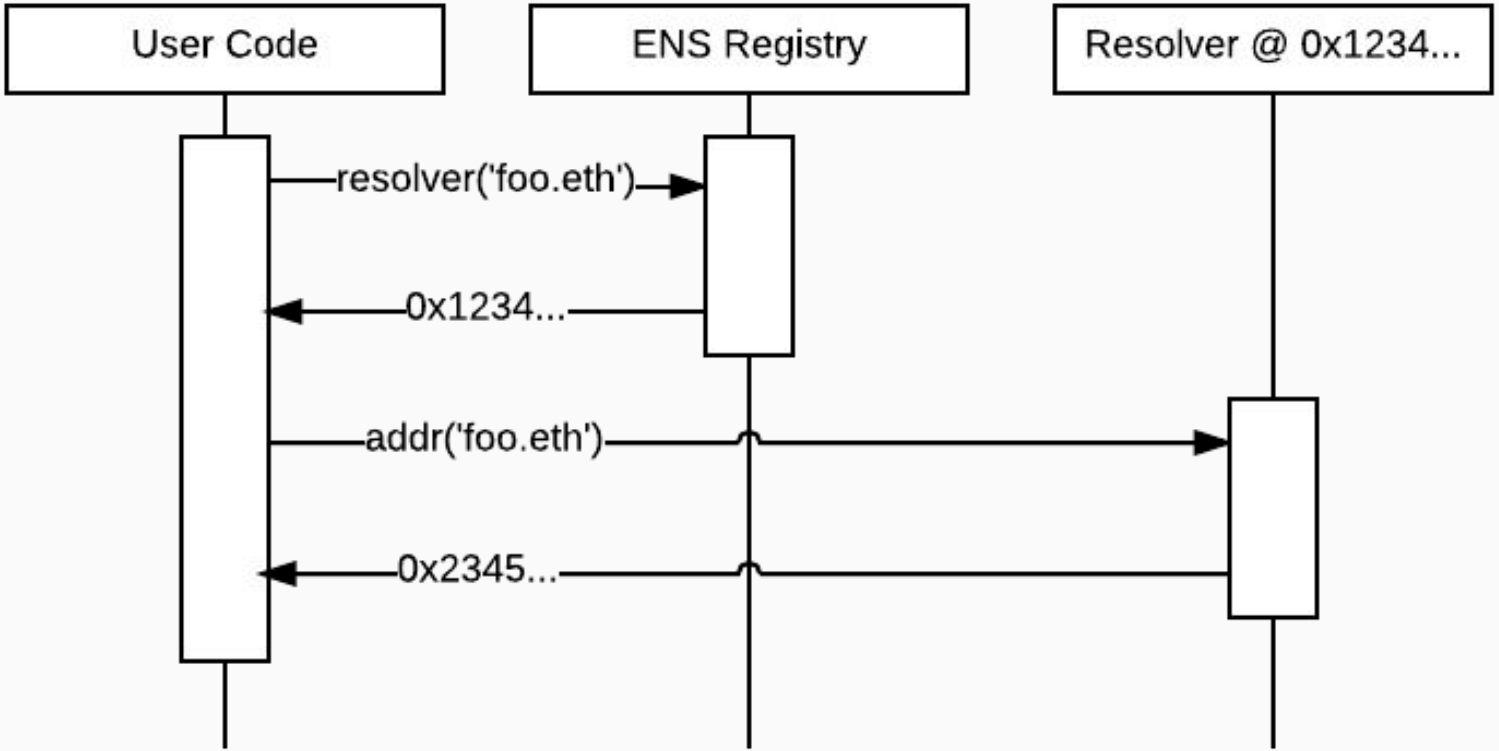
What is ENS, technically?

- eth
  - inigomontoya
    - wallet
  - metamask
    - alice
    - bob
  - oraclize

ENS Architecture



Resolving a name



Registrars in ENS

What is ENS, socially?

- A public good!
- Prioritises use over speculation
- “Principle of least surprise”
- Stability and sovereignty are paramount

Why governance?

- Change is the only constant.
- Minimise governance, but we can’t reach “governance zero”
- Some things need manual control:
  - ENS root: Ultimate power!
  - .eth registrar & controller
  - DNS integration
  - Pricing, parameters etc
  - Reverse namespace

$ENS and the airdrop

- 100MM tokens:
  - 50MM to the DAO
  - 25MM to contributors
  - 25MM to users (airdrop)
  - ~~1 to the dark lord on his dark throne~~
- Airdrop was per-account not per-name, based on length of ownership
- Tokens represent voting weight on ENS parameters & treasury

How governance?

- Security is paramount
  - So, no governance-by-multisig
  - A little extra overhead is worth it
- You can’t rage-quit a namespace
  - So, no Moloch-style DAO
- Money is not as important as people
  - We can take risks with one, but not the other

Choosing a governance framework

- Starting point: “Compound-style”
- Needs to be:
  - Well tested
  - Mature
  - Modular
  - Upgradeable
  - Customisable
  - Widely integrated
- OZ Governance gives us the best of both worlds

Components of the ENS DAO

- Token: OZ ERC20
  - + ERC20Votes
  - + Custom Merkle Airdrop
  - + Issuance
- Timelock: OZ TimelockController
- Governor: OZ Governor
  - Custom quorum denominator

https://github.com/ensdomains/governance

Future Improvements

- Preventing late-quorum attacks
- More flexible vote-counting
- L2 Voting + L1 execution
- Support for cancellation

Any questions?