

1. Overview

This document holds the result of the CIP-5 checklist for the Celo L1 chain. It was filled out by DeFiSafety under a CGP-2 grant.

Celo is a solid L1 chain. Much of this report may soon become obsolete because Celo is looking to convert to an L2 and become more modern and in touch. Still, this is valid information as of writing.

This checklist is complete and with few areas of concern. Probably the biggest is developer support. The team appears thin and interest in the chain appears less than ideal. This makes response to questions slower than one would like.

Areas of concern in this checklist are highlighted.

2. Author Contact Information

Checklist author Name	Rex Hygate
Comp.xyz user name	RexShinka
Relationship between the author and the network	None
Relationship between the author and compound community (For example, a CGP grant)	This checklist is being written under a CGP 2 <u>grant</u> .

3. General Network Information

Celo is scaling Ethereum with real-world solutions, leading a thriving new digital economy for all. Our mission is to build a regenerative digital economy that creates conditions of prosperity for all. We're ready for a world where more for all is made real. Where equal access is table stakes. Where collecting wealth is all about collective wealth. And where coordination with purpose leads to real-world change.

3.1. Network Name: Celo L1

Network Name	Celo
Chain ID	42220 0xa4ec

June 2024

Website	https://celo.org/
Documentation	https://docs.celo.org/
ChainList.org	https://chainlist.org/?search=celo&testnets=true
Gas Token	Celo

3.2. Celo TVL

Celo TVL is just 149.7m



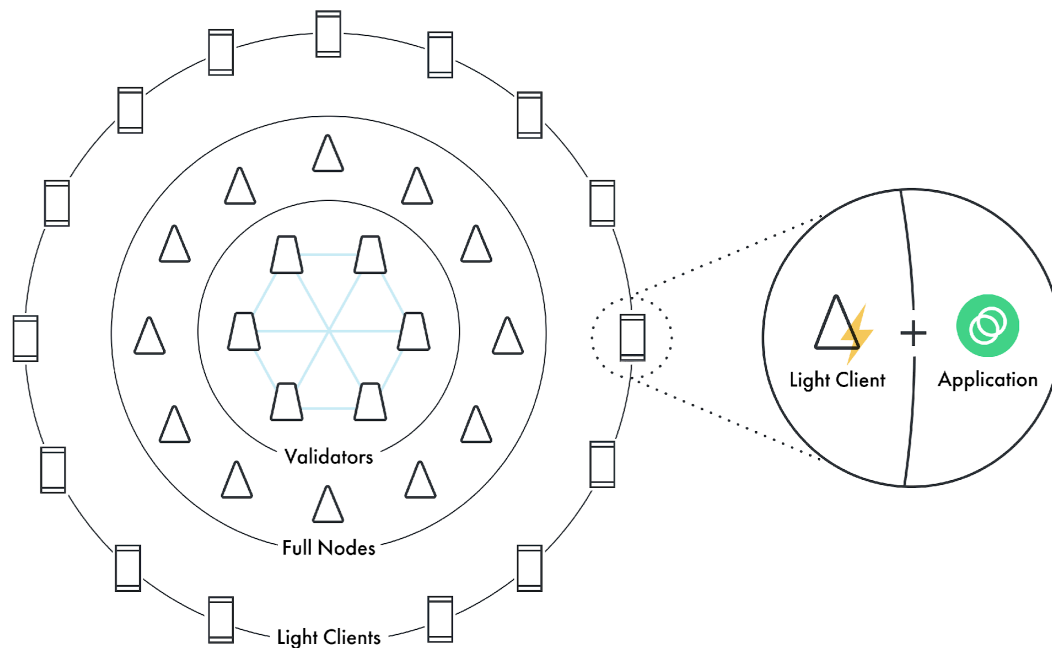
<https://defillama.com/chain/Celo>

3.3. TestNet

Test Network Name	Celo Baklava Testnet
Chain ID	62320 0xf370
ChainList.org	https://chainlist.org/?search=celo&testnets=true
Gas Token	Eth

4. Network Architecture & Decentralization

Celo is an open cryptographic protocol that allows applications to make transactions with and run smart contracts in a secure and decentralized fashion. The Celo blockchain code has shared ancestry with Ethereum and maintains full EVM compatibility for smart contracts. However, it uses a Byzantine Fault Tolerant (BFT) consensus mechanism (Proof-of-Stake) rather than Proof-of-Work and has different block format, transaction format, client synchronization protocols, and gas payment and pricing mechanisms.



4.1. Validators

Validators gather transactions received from other nodes and execute any associated smart contracts to form new blocks, then participate in a Byzantine Fault Tolerant (BFT) consensus protocol to advance the state of the network. Since BFT protocols can scale only to a few hundred participants and can tolerate at most a third of the participants acting maliciously, a proof-of-stake mechanism admits only a limited set of nodes to this role.

5. Bridge Architecture & Decentralization

Celo was started in 2020 as a standalone blockchain. At this time, bridges were quite rare. For this reason, Celo did not create their own bridge. Now, in 2024 they use a number of independent third-party bridges and cross chain messaging systems. Each is independent of the Celo blockchain.

The result of this situation is a very decentralized bridge architecture. Each bridge is standalone.

6. EVM Equivalence

Celo has a high level of equivalency to Ethereum mainnet, but we are unsure exactly how up to date it is. There are some [differences](#).

Are block times the same?	NO , 5 seconds
Are there different transaction types?	No
Does it include native account abstraction?	Not at this time.
What precompiles are removed and added?	All are included, described here .
What notable EIPs on Ethereum are missing on the chain?	Not clear
What opcodes are not included?	DIFFICULTY, GASLIMIT
What new opcodes are added?	None indicated
Are gas costs per opcode the same?	No, much smaller

7. Supporting Infrastructure

Is there Etherscan support?	Yes Celoscan and Blockscout
Are there public RPCs?	Yes
What wallet providers provide support?	There are a number .
Is there Hardhat support?	Yes
Is there Foundry support?	Yes
Is the network available on Safe Wallet (app.safe.global)?	Yes

8. Monitoring & Emergency Contingencies

Is the Forta network utilizable?	Not at the time of writing, no
Is OpenZeppelin Defender utilizable?	Yes
Please list the communication details for those to contact in case of network emergency	Just Discord
Does the network offer a way to enforce transactions (i.e., without relying on a coordinator) and/or an escape hatch mechanism?	As Celo L1 is an ethereum based L1, this is not an issue.

8.1. Bridge Failure Consequence? (Frozen, self-stake, other)

This is not an issue as Celo is an L1 with no bridge actions integrated. The third party bridges may fail and have impacts, but these are quite distributed and will not directly impact the L1

9. Risk Assessment

Link any available audits that have been completed.	List of Audits
Share the network roadmap	Celo roadmap involves an L2 transition
L2Beat.com url for the network if available	Not applicable

9.1. DeFiSafety Chain Review

Celo was built and documented with a strong team, though the existing team seems a lot smaller. Documentation is strong and consistent. Testing and security is good. They have a strong set of audits. There is a bug bounty, but it is self managed and there is no financial ceiling mentioned.

9.2. Access Controls

As this is an L1, there is a smaller need for contracts on their side. However no information on access controls was found.

9.3. Dev Responsiveness

Dev responsiveness was weak. My questions were not responded to. Within 24 hours, on the dev channel, there were responses but only simple basic responses. I think the support team on Discord is thin.

10. DeFi & Liquidity

[DeFi TVL](#) as of writing is \$143, including very big names.

10.1. Deployed Dexes

Name	TVL
Uniswap	\$29.7m
Curve DEX	\$20.4m
UbeSwap	\$2.5m
Mobius Money	\$0.5m

10.2. Oracle Providers

Celo being a mature chain has a selection of [Oracles](#).



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Oracle Name	Type	Health link
<u>Celo Reserves</u> (run by Celo governance CELO/USD)	Push	None
Chainlink Feed	Push	Example health link
<u>Band Protocol</u>	Pull	None found
Pyth	Pull	Example Health Links
Redstone Oracles	Push and Pull	Example Health Links
Supra	Push and Pull	Example Health links
Witnet	Pull	Example Health links