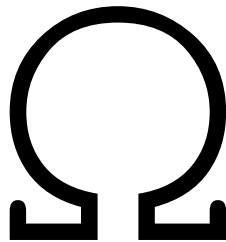


Toucan Protocol

Audit and Code Review Report

October 21, 2022 to December 1, 2023

December 12, 2023



Team Omega

`Teamomega.eth.limo`

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Summary

Toucan Protocol (toucan.earth) is building on-chain infrastructure for buying, selling and retiring carbon credits. Omega (teamomega.eth.limo) is an auditing firm specializing in Solidity Audits.

Since August 2022, Omega has done code reviews for updates of the code. The current document summarizes the results of these reviews.

The Toucan Protocol code base was audited in a series of audits by ByteRocket and Omega:

- <https://byterocket.com/audit/toucan-protocol> on October 8, 2021
- <https://byterocket.com/audit/toucan-protocol-nct> on June 8, 2022
- <https://byterocket.com/audit/toucan-protocol-retirement-certificates> on July 11, 2022
- <https://github.com/OmegaAudits/audits/blob/main/202208-Toucan-Celo-Bridge.pdf> on July 11, 2022

Since the last audit report from July 2022, Omega has done a series of code reviews on updates of the protocol. These code reviews started from the following commit from our 2022 report:

```
c1d89a2a7e9655e9fab7b0be7a48f6256309c043
```

Up to the commit from November 30, 2023

```
088da2f2f3db6878d59309d26aa0e610c89c8342
```

In total, Omega has done 12 separate code reviews. We provide a list below.

The methodology we used in the reviews was the same as we use for our audits - i.e. we carefully examined the code changes, looking principally for security flaws but also giving feedback on optimization or organization of the code.

Disclaimer

This report makes no statements or warranties about utility of the code, safety of the code, suitability of the business model, regulatory regime for the business model, or any other statements about fitness of the contracts to purpose, or their bug free status. The audit documentation is for discussion purposes only.

Code reviews

	date	title	Commit hash
1	December 1, 2023	Hyperlane v3 migration	088da2f2f3db6878d59309d26aa0e610c89c8342
2	October 25, 2023	CarbonProjects bugfix	6a85c1ab06cf858b038a0b4439726d70cd4f6605
3	October 4, 2023	Puro retirements	25328f4ab254ace21cd39e994109f40b399307fc
4	August 14, 2023	Puro bridge MVP	da0e613a523fdf46b64bc2030744c103d0230cc4
5	July 24, 2023	Pool filtering+Atomsic redeem&retire	3da27204da61f9919d749956a668b103e7429585
6	June 7, 2023	Multi-registry support	f4276c859b034ce5b7764c6c3642a1ee582c0327
7	March 10, 2023	Regen bridge contract	d24e4c7779b36f278e9c93cad4f9be091281ae08
8	March 8, 2023	Data contracts updates	4d8b7b4bbeb894dfec9bc53466ab22d054ac7149
9	January 25, 2023	EcoRegistry tokenization (+Immunefi fix)	4f7fc6f8c32d3c57cae6366eae9948ffc8d08930
10	December 20, 2022	TCO2 rebalancing	2f12510c7aa1b48ef7be2d6a70d9cc28e01eadbc
11	November 4, 2022	Pool fixes and contract size improvements	3f0d2eb5c13202e4e3a5fa52c82f3b674c236c91
12	October 21, 2022	Bridge burn/mint and defractionalization	6a96ee15c6aba782fa18ecba939509e654624dc1