

ETC Cooperative

2022 Q3 Report

November 11th, 2022



Sections

- 1 Core-Geth development
- 2 Hyperledger Besu development
- 3 Public RPC endpoints billing and usage
- 4 Gnosis Safe for ETC
- 5 Research
- **5** Finance

Core-Geth development



Development Erigon development

Erigon is a go-ethereum fork, a prototype client using differential designs for database and RPC.



ETC support has been implemented and its first successful flight has taken place. Full synchronization on ETC took a few days, and uses about **160 GB**.



Cross-client tests will be further incorporated, but are already largely running and passing.



Development Hyperledger Besu development

7 releases during Q3

During Q3 Besu development work was focused on three topics.

- Peering problems analysis. Certain peering problems with geth/core-geth clients were detected during this quarter which lead us to investigate profoundly the implementation of the devp2p protocol.
- > **Supply chain attacks protection**. To increase security across binary distributions sha-256 checksum has been added to all transitive dependencies and signature validation is expected to be added soon. This is still under discussion on GitHub.
- Cross client testing. Along with the core-geth team we have been working on setting up ETC specific reference tests. This work will set the basis for new clients onboarding.

Community engagement.

> **Hyperledger Member Summit and Global Forum**. Bob Summerwill and Diego López León attended to this event tightening the relationship with the Hyperledger Foundation and the open source community

Gnosis Safe for ETC

In Q3 the following features have been configured and tested for Gnosis Safe which was been started at Q2:

- Add/modify of safe owners.
- Allow developers to use Safe modules.
- > Small rebranding for ETC.
- > Deployment supports **Classic** chain.
- Applied patch for HD wallets invalid derivation path issue, where ETC app on Ledger couldn't be utilised.

We also started working on the new fork etclabscore/web-core, which is the new UI for Gnosis Safe, so that we can release it once ready.

Documentation **ETC**

A website for "Risk Evaluation of 51-Percent Attacks on Ethereum Classic" has been created by Isaac, so as community can further trust ETC chain.

- https://meowsbits.github.io/51-percent-docs/

Risk Evaluation of 51-Percent Attacks on Ethereum Classic

This document provides an analysis of the context and estimates of risk of Proof of Work finality fraud (51-percent attacks) on Ethereum Classic (ETC).

Summary

The following chart and table provide rough estimates for current expected attack costs and revenues. Estimates are derived from the configurable values below, along with a constant block time. The Net with MESS (USD) column can be understood as a minimum payout from fraud that the attacker would need to break even given the cost of the attack

13.5	Block Time (Seconds)
2.56	Block Reward (ETC)
27.72	USD/ETC
1.0099	Hashrate Efficiency Ratio

ETC Cooperative

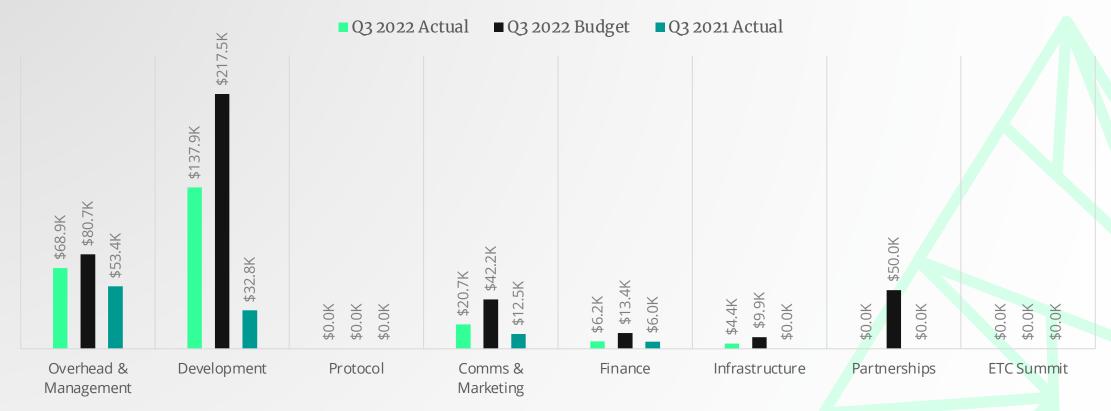
etccooperative.org



Expenditures in \$US

	Q3 2022 Actual	Q3 2022 Budget	Variance \$ Q3 2022 vs Q3 2022 Budget	Q3 2021 Actual	Variance \$ Q3 2022 vs Q3 2021
Overhead & Management	\$68,898	\$80,719	\$(11,820)	\$53,436	\$15,463
Development	\$137,910	\$217,500	\$(79,590)	\$32,806	\$105,104
Protocol	\$0	\$0	\$0	\$0	\$0
Comms & Marketing	\$20,744	\$42,233	\$(21,489)	\$12,500	\$8,244
Finance	\$6,219	\$13,375	\$(7,156)	\$6,000	\$219
Infrastructure	\$4,370	\$9,900	\$(5,530)	\$0	\$4,370
Partnerships	\$0	\$50,000	\$(50,000)	\$0	\$0
ETC Summit	\$0	\$0	\$0	\$0	\$0
Total Expenditures	\$238,141	\$413,726	\$(175,585)	\$104,742	\$133,399
Non-cash Items	\$766	\$0	\$766	\$0	\$766
Total Operating Expenses	\$238,907	\$413,726	\$(174,819)	\$104,742	\$134,165

- Q3 actual costs were significantly lower than budget, mainly due to differences in FTE (headcount) and money allocated for grants, which will likely be deferred until 2023.
- > Q3 2022 actual costs compared to Q3 2021 were about double, mainly due to the additional core developers in 2022.
- > Non-cash-items are related to FX.

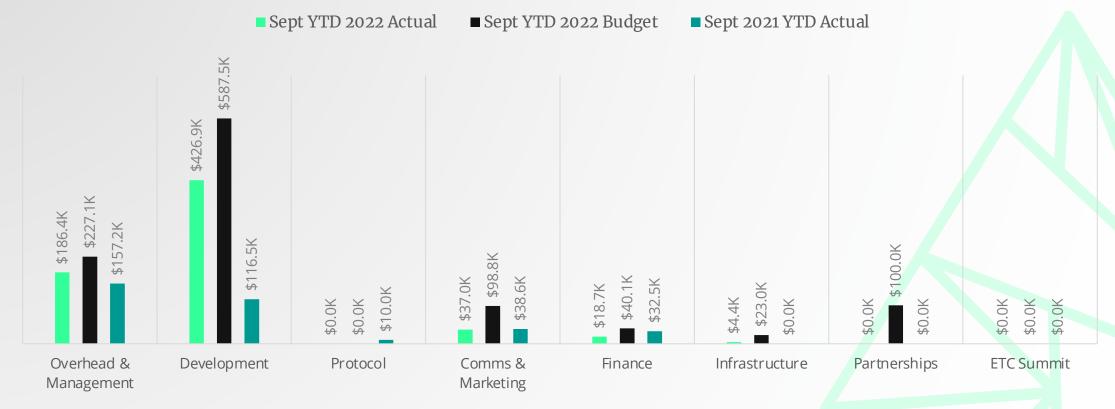


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Expenditures in \$US

	Sept YTD 2022 Actual	Sept YTD 2022 Budget	Variance \$ Sept YTD vs Sept YTD Budget	Sept 2021 YTD Actual	Variance \$ Sept 2022 YTD vs Sept 2021 YTD
Overhead & Management	\$186,389	\$227,056	\$(40,667)	\$157,179	\$29,210
Development	\$426,894	\$587,500	\$(160,606)	\$116,464	\$310,429
Protocol	\$0	\$0	\$0	\$10,000	\$(10,000)
Comms & Marketing	\$36,964	\$98,829	\$(61,865)	\$38,569	\$(1,605)
Finance	\$18,652	\$40,125	\$(21,473)	\$32,511	\$(13,858)
Infrastructure	\$4,370	\$22,980	\$(18,610)	\$0	\$4,370
Partnerships	\$0	\$100,000	\$(100,000)	\$0	\$0
ETC Summit	\$0	\$0	\$0	\$0	\$0
Total Expenditures	\$673,269	\$1,076,490	\$(403,221)	\$354,724	\$318,545
Non-cash Items	\$766	\$0	\$766	\$0	\$766
Total Operating Expenses	\$674,035	\$1,076,490	\$(402,455)	\$354,724	\$319,311

- > YTD expenses are lower than budget, due to deviations from the original 2022 plan. There has been no grant program yet and it will likely be deferred until 2023 (100K of partnerships budgeted). There is one less developer, than originally budgeted for and the comms work and position was not filled until the beginning of Q4.
- > YTD expenses are significantly higher than in 2021, as the team was very lean and most programs had been put on hold.
- Non-cash items are related to FX.



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Net (Loss)/Income in \$US

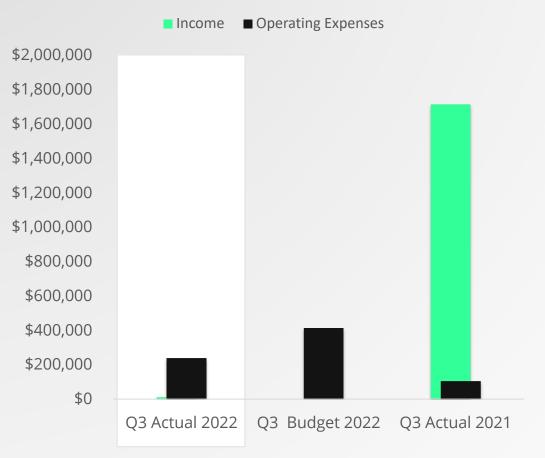
	Q3 Actual 2022	Q3 Budget 2022	Q3 Actual 2021
Income	\$11,229	\$0	\$1,714,608
Operating Expenses	\$238,907	\$413,726	\$104,742
Net (Loss)/Income	\$(227,678)	\$(413,726)	\$1,609,866
Non-cash items	\$766	\$0	\$0
Adjusted Net Income	\$(226,912)	\$(413,726)	\$1,609,866

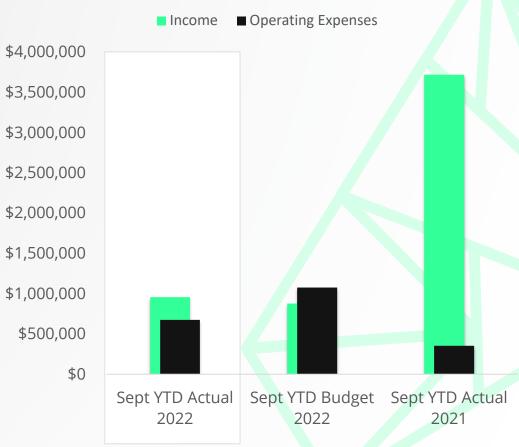
Net (Loss)/Income in \$US

	Sept YTD Actual 2022	Sept YTD Budget 2022	Sept YTD Actual 2021
Income	\$956,928	\$878,485	\$3,719,305
Operating Expenses	\$674,035	\$1,076,490	\$354,724
Net (Loss)/Income	\$282,893	\$(198,005)	\$3,364,582
Non-cash items	\$766	\$0	\$0
Adjusted Net Income	\$283,659	\$(198,005)	\$3,364,582

- > Net Income for the period was slightly higher than budget and significantly lower than 2021. The variance with budget can be attributed to lower expenses. The variance with 2021 is due to the funding from Grayscale ending in Q1 2022 compared to a full year of income in 2021, as well as lower expenses in 2021. As at September 30, 2022, the ETC Coop held 8,163 ETC.
- > The \$11K of income in Q3 2022 is due to an under-accrual of revenue in Q1 2022.







Financial Positions in \$US

			 			
	30-Sep-22	30-Jun-22	31-Mar-22	31-Dec-21	31-Dec-20	31-Dec-19
Assets						
Cash & Cash Equivalents	\$5,332,011	\$5,592,352	\$5,446,437	\$4,689,209	\$303,313	\$146,318
ETC (at book value) ¹	\$78,115	\$78,115	\$78,115	\$78,115	\$78,115	\$154,363
Accounts Receivable	\$0	\$0	\$0	\$0	\$0	\$12,057
Due from Grayscale	\$(0)	\$(0)	\$356,004	\$377,733	\$51,914	\$18,808
Prepaid Expenses & Deposits		\$0	\$0	\$0	\$0	\$2,250
Total Assets	\$5,410,126	\$5,670,466	\$5,880,555	\$5,145,057	\$433,341	\$333,796
Liabilities						
Accounts Payable & Accrued Liabilities	\$34,800	\$37,383	\$25,046	\$22,208	\$18,507	\$44,393
Due to Grayscale	\$0	\$0	\$0	\$0	\$0	\$(1,000)
Total Liabilities	\$34,800	\$37,383	\$25,046	\$22,208	\$18,507	\$43,393
Equity						
Retained Earnings	\$5,122,541	\$5,122,541	\$5,122,541	\$414,834	\$290,403	\$661,632
Net Income/(Loss) for the year	\$252,785	\$510,543	\$732,968	\$4,708,015	\$124,431	\$(371,229)
Total Equity	\$5,375,326	\$5,633,084	\$5,855,509	\$5,122,849	\$414,834	\$290,403
Total Liabilities & Equity	\$5,410,126	\$5,670,466	\$5,880,555	\$5,145,057	\$433,341	\$333,796
	45,410,125	45,070,400	+5,000,555	45,145,057	4-133,3-11	4333,733
ETC at Market Value ¹	\$226,359	\$121,792	\$385,946	\$278,521	\$46,284	\$72,540
Liquid assets ²	5,558,370	5,714,143	5,832,382	4,967,730	349,597	218,858

¹Book value is the value when the ETC was originally purchased. Market value is the value at the end of the reporting period (prices from Yahoo finance) ²Liquid assets consists of Cash & Cash equivalents plus ETC at market value.

- > There have been no significantly changes in the balance sheet from December 31, 2021.
- > Accounts payable and accrued liabilities consist of some staffing costs and their reimbursable expenses.
- > ETC at Market value has increased significantly, due to rising crypto prices, however prices remain very volatile



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