KISHIELD

Security Audit

UtilityCRO Token

May 19, 2022

Table of Contents

Audit Summary

This report has been prepared for UtilityCRO Token on the Cronos network. KISHIELD provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Ensuring contract logic meets the specifications and intentions of the client without exposing the user's funds to risk.
- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Thorough line-by-line manual review of the entire codebase by industry experts.

Project Overview

Token Summary

Parameter	Result
Address	0x30078453DEaD93bdBC31b9A18AC0a6ece171F459
Name	UtilityCRO
Token Tracker	UtilityCRO (UCRO)
Decimals	9
Supply	50,000,000
Platform	Cronos
compiler	v0.7.4+commit.3f05b770
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	https://cronos.org/explorer/address/0x30078453DEaD93bdBC31b9A18AC0a6ece171F459/contracts
Url	www.utilicro.com

Main Contract Assessed

Name	Contract	Live
UtilityCRO	0x30078453DEaD93bdBC31b9A18AC0a6ece171F459	Yes

Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
Unencrypted Private Data On-Chain	Complete	Complete	Low / No Risk
Code With No Effects	Complete	Complete	Low / No Risk
Message call with hardcoded gas amount	Complete	Complete	Low / No Risk
Hash Collisions With Multiple Variable Length Arguments	Complete	Complete	Low / No Risk
Unexpected Ether balance	Complete	Complete	Low / No Risk
Presence of unused variables	Complete	Complete	Low / No Risk
Right-To-Left-Override control character (U+202E)	Complete	Complete	Low / No Risk
Typographical Error	Complete	Complete	Low / No Risk
DoS With Block Gas Limit	Complete	Complete	Low / No Risk
Arbitrary Jump with Function Type Variable	Complete	Complete	Low / No Risk
Insufficient Gas Griefing	Complete	Complete	Low / No Risk
Incorrect Inheritance Order	Complete	Complete	Low / No Risk
Write to Arbitrary Storage Location	Complete	Complete	Low / No Risk
Requirement Violation	Complete	Complete	Low / No Risk
Missing Protection against Signature Replay Attacks	Complete	Complete	Low / No Risk
Weak Sources of Randomness from Chain Attributes	Complete	Complete	Low / No Risk

Vulnerability	Automatic Scan	Manual Scan	Result
Authorization through tx.origin	Complete	Complete	Low / No Risk
Delegatecall to Untrusted Callee	Complete	Complete	Low / No Risk
Use of Deprecated Solidity Functions	Complete	Complete	Low / No Risk
Assert Violation	Complete	Complete	Low / No Risk
Reentrancy	Complete	Complete	Low / No Risk
Unprotected SELFDESTRUCT Instruction	Complete	Complete	Low / No Risk
Unprotected Ether Withdrawal	Complete	Complete	Low / No Risk
Unchecked Call Return Value	Complete	Complete	Low / No Risk
Outdated Compiler Version	Complete	Complete	Low / No Risk
Integer Overflow and Underflow	Complete	Complete	Low / No Risk
Function Default Visibility	Complete	Complete	Low / No Risk

Contract Ownership

The contract ownership of UtilityCRO is not currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

The current owner is the address 0x1cbc0a73febd27f1bfd9c5867ff30ecefdc3624a which can be viewed from:
HERE

The owner wallet has the power to call the functions displayed on the priviliged functions chart below, if the owner wallet is compromised this privileges could be exploited.

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

Important Notes To The Users:

- The owner cannot mint tokens after intial deployment.
- The owner cannot access users balances.
- The owner cannot blacklist users.
- Once the owner renounces ownership of the contract, none of the following are applicable.
- The owner can enable/disable Trading.
- The owner can change the max tx amount without restrictions.
- The owner can change the max wallet amount without restrictions.
- The owner can change the buy/sell fees amount without restrictions.
- The owner can add/remove addresses from fees, limits and rewards.
- The owner can change the swapBack settings including enable/disable the swapback and setting the swapThreshold.
- The owner can change the rewards distributor criteria including the minPeriod, minDistribution and distributorGas.
- No high-risk Exploits/Vulnerabilities Were Found in token Source Code other than owner privileges.

Audit Passed

Technical Findings Summary

Classification of Issues

Severity	Description
High	Exploits, vulnerabilities or errors that will certainly or probabilistically lead towards loss of funds, control, or impairment of the contract and its functions. Issues under this classification are recommended to be fixed with utmost urgency
Medium	Bugs or issues with that may be subject to exploit, though their impact is somewhat limited.Issues under this classification are recommended to be fixed as soon as possible.
Low	Effects are minimal in isolation and do not pose a significant danger to the project or its users. Issues under this classification are recommended to be fixed nonetheless.
Info	Consistency, syntax or style best practices. Generally pose a negligible level of risk, if any.

Findings

Severity	Found
High	0
Medium	0
Low	0
Info	4
Total	4

Findings

Variables could be declared as constant

ID	Severity	Contract	Function
01	Informational	UtilityCRO	Variables burnAddress, maxSellAmount, totalSellFee

Description

Gas Optimization. Variables that are never changed could be declared as constant.

Recommendation

We recommend declaring those variables as constant.

Public function that could be declared external

ID	Severity	Contract	Function
02	Informational	UtilityCRO	Functions dividendsPerShareAccuracyFactor,routerAddress, DEAD, RewardToken, ZERO, _totalSupply, routerAddress.

Description

Gas Optimization. Public function that could be declared external

Recommendation

Public functions that are never called by the contract should be declared external to save gas.

Missing events arithmetic

ID	Severity	Contract	Function
03	Informational	UtilityCRO	Missing events for setDistributionCriteria, changeFees

Description

Functions that change critical arithmetic parameters should emit an event.

Recommendation

Emit corresponding events for critical parameter changes.

Unused Variable

ID	Severity	Contract	Function
04	Informational	UtilityCRO	Variable swapAndLiquifyByLimitOnly, RewardToken

Description

Variables are never used in the contract logic in a meaningful way.

Recommendation

We recommend deleting this variable.

Priviliged Functions (onlyOwner)

Function Name	Parameters	Visibility
authorize	address adr	public
unauthorize	address adr	public
transferOwnership	address adr	public
changeTxLimit	none	external
changeWalletLimit	none	external
changeRestrictWhales	none	external
changeIsFeeExempt	none	external
changeIsTxLimitExempt	none	external
changeIsDividendExempt	none	external
changeFees	none	external
changeFeeReceivers	none	external
changeSwapBackSettings	none	external
changeDistributionCriteria	none	external
changeDistributorSettings	none	external
tradingStatus	bool newStatus	public
swapBack	none	internal

Statistics

Liquidity Info

Parameter	Result
Pair Address	0x30727357Ae5123976156D2e9b0a08dFB99ccA4c2
UCRO Reserves	7,015,292 UCRO
CRO Reserves	27,519 CRO
Liquidity Value	$5,364 USD

Token (UCRO) Holders Info

Parameter	Result
UCRO Percentage Burnt	0.00%
UCRO Amount Burnt	0 UCRO
Top 10 Percentage Own	75.45%
Top 10 Amount Owned	37,725,000 UCRO
Top 10 Aprox Value	$4073.75 USD

LP (UCRO/CRO) Holders Info

Parameter	Result
UCRO/CRO % Burnt	0.00%
UCRO/CRO Amount Burnt	0 UCRO/CRO
Top 10 Percentage Owned	99.82%
Top 10 Amount Owned	4.21 UCRO/CRO
Locked Tokens Percentage	38.1%
Locked Tokens Amount	1.676 UCRO/CRO

* All the data diplayed above was taken on-chain at block 2842545
* The tokens on industry-standard burn wallets are not included on the top 10 wallets calculations

Liquidity Ownership

The token does not have liquidity at the moment of the audit, block 2842545

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