



Cyberscope

# Audit Report

## **CY9NI**

July 2023

Network     ARBITRUM

Address     0xb521a48f233f71c29d0683143340de5bf68f952d

Audited by   © cyberscope

# Analysis

● Critical ● Medium ● Minor / Informative ● Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

# Diagnostics

● Critical ● Medium ● Minor / Informative

Severity	Code	Description	Status
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L20	Succeeded Transfer Check	Unresolved

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## Review

Contract Name	Cy9niToken
Compiler Version	v0.8.19+commit.7dd6d404
Optimization	200 runs
Explorer	<a href="https://arbiscan.io/address/0xb521a48f233f71c29d0683143340de5bf68f952d">https://arbiscan.io/address/0xb521a48f233f71c29d0683143340de5bf68f952d</a>
Address	0xb521a48f233f71c29d0683143340de5bf68f952d
Network	ARBITRUM
Symbol	C9
Decimals	8
Total Supply	100,000,000,000

## Audit Updates

Initial Audit	17 May 2023 <a href="https://github.com/cyberscope-io/audits/blob/main/cgi/v1/audit.pdf">https://github.com/cyberscope-io/audits/blob/main/cgi/v1/audit.pdf</a>
Corrected Phase 2	21 Jun 2023 <a href="https://github.com/cyberscope-io/audits/blob/main/cgi/v2/audit.pdf">https://github.com/cyberscope-io/audits/blob/main/cgi/v2/audit.pdf</a>
Corrected Phase 3	18 Jul 2023 <a href="https://github.com/cyberscope-io/audits/blob/main/cgi/v3/audit.pdf">https://github.com/cyberscope-io/audits/blob/main/cgi/v3/audit.pdf</a>

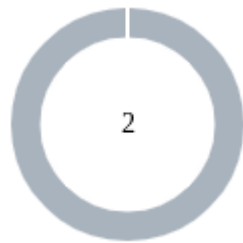
**Corrected Phase 4**

24 Jul 2023

## Source Files

Filename	SHA256
<b>Cy9niToken.sol</b>	4e23686ac8ffa776a1bae81a7e976a633c11bc917f652db677a3cdabf18fcbe4

## Findings Breakdown



● Critical	0
● Medium	0
● Minor / Informative	2

Severity	Unresolved	Acknowledged	Resolved	Other
● Critical	0	0	0	0
● Medium	0	0	0	0
● Minor / Informative	2	0	0	0

## L04 - Conformance to Solidity Naming Conventions

<b>Criticality</b>	Minor / Informative
<b>Location</b>	Cy9niToken.sol#L218,371,376,377,378
<b>Status</b>	Unresolved

### Description

The Solidity style guide is a set of guidelines for writing clean and consistent Solidity code. Adhering to a style guide can help improve the readability and maintainability of the Solidity code, making it easier for others to understand and work with.

The followings are a few key points from the Solidity style guide:

1. Use camelCase for function and variable names, with the first letter in lowercase (e.g., myVariable, updateCounter).
2. Use PascalCase for contract, struct, and enum names, with the first letter in uppercase (e.g., MyContract, UserStruct, ErrorEnum).
3. Use uppercase for constant variables and enums (e.g., MAX\_VALUE, ERROR\_CODE).
4. Use indentation to improve readability and structure.
5. Use spaces between operators and after commas.
6. Use comments to explain the purpose and behavior of the code.
7. Keep lines short (around 120 characters) to improve readability.

```
function WETH() external pure returns (address);
uint256 private constant _tTotal = 1e11 * 1e8
string private constant _name = "Cy9ni"
string private constant _symbol = "C9"
uint8 private constant _decimals = 8
```

### Recommendation

By following the Solidity naming convention guidelines, the codebase increased the readability, maintainability, and makes it easier to work with.



Find more information on the Solidity documentation

<https://docs.soliditylang.org/en/v0.8.17/style-guide.html#naming-convention>.

## L20 - Succeeded Transfer Check

<b>Criticality</b>	Minor / Informative
<b>Location</b>	Cy9niToken.sol#L874
<b>Status</b>	Unresolved

### Description

According to the ERC20 specification, the transfer methods should be checked if the result is successful. Otherwise, the contract may wrongly assume that the transfer has been established.

```
erc20token.transfer(owner(), balance)
```

### Recommendation

The contract should check if the result of the transfer methods is successful. The team is advised to check the SafeERC20 library from the [Openzeppelin library](#).

# Functions Analysis

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
<b>IERC20</b>	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>Context</b>	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
<b>Ownable</b>	Implementation	Context		
		Public	✓	-
	owner	Public		-
	_checkOwner	Internal		
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner

	_transferOwnership	Internal	✓	
<b>IUniswapV2Factory</b>	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
<b>IUniswapV2Router01</b>	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-
	removeLiquidityETH	External	✓	-
	removeLiquidityWithPermit	External	✓	-
	removeLiquidityETHWithPermit	External	✓	-
	swapExactTokensForTokens	External	✓	-
	swapTokensForExactTokens	External	✓	-

	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
<b>IUniswapV2Router02</b>	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
<b>Cy9niToken</b>	Implementation	IERC20, Ownable		
		Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-

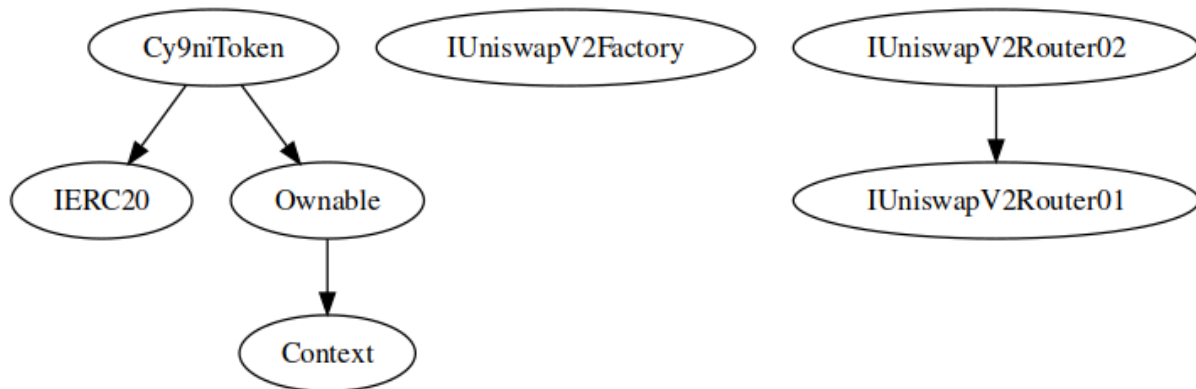
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	_spendAllowance	Internal	✓	
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	setCooldown	External	✓	onlyOwner
	isExcludedFromReward	Public		-
	totalFees	Public		-
	deliver	Public	✓	-
	reflectionFromToken	Public		-
	tokenFromReflection	Public		-
	excludeFromReward	Public	✓	onlyOwner
	includeInReward	External	✓	onlyOwner
	excludeFromFee	External	✓	onlyOwner
	includeInFee	External	✓	onlyOwner
	setBuyFee	External	✓	onlyOwner
	setSellFee	External	✓	onlyOwner
	setTransferFee	External	✓	onlyOwner
	updateRouter	External	✓	onlyOwner

	setMaxWallet	External	✓	onlyOwner
	setMaxBuyAmount	External	✓	onlyOwner
	setMaxSellAmount	External	✓	onlyOwner
	setTreasuryWallet	External	✓	notZeroAddress onlyOwner
	setTeamWallet	External	✓	notZeroAddress onlyOwner
	setPotWallet	External	✓	notZeroAddress onlyOwner
	claimStuckedTokens	External	✓	onlyOwner
		External	Payable	-
	_reflectFee	Private	✓	
	_getValues	Private		
	_getTValues	Private		
	_getRValues	Private		
	_getRate	Private		
	_getCurrentSupply	Private		
	_takeTeam	Private	✓	
	_takeTreasuryAndPot	Private	✓	
	calculateTaxFee	Private		
	calculateTeamFee	Private		
	calculateTreasuryFee	Private		
	calculatePotFee	Private		
	removeAllFee	Private	✓	
	setBuy	Private	✓	
	setSell	Private	✓	

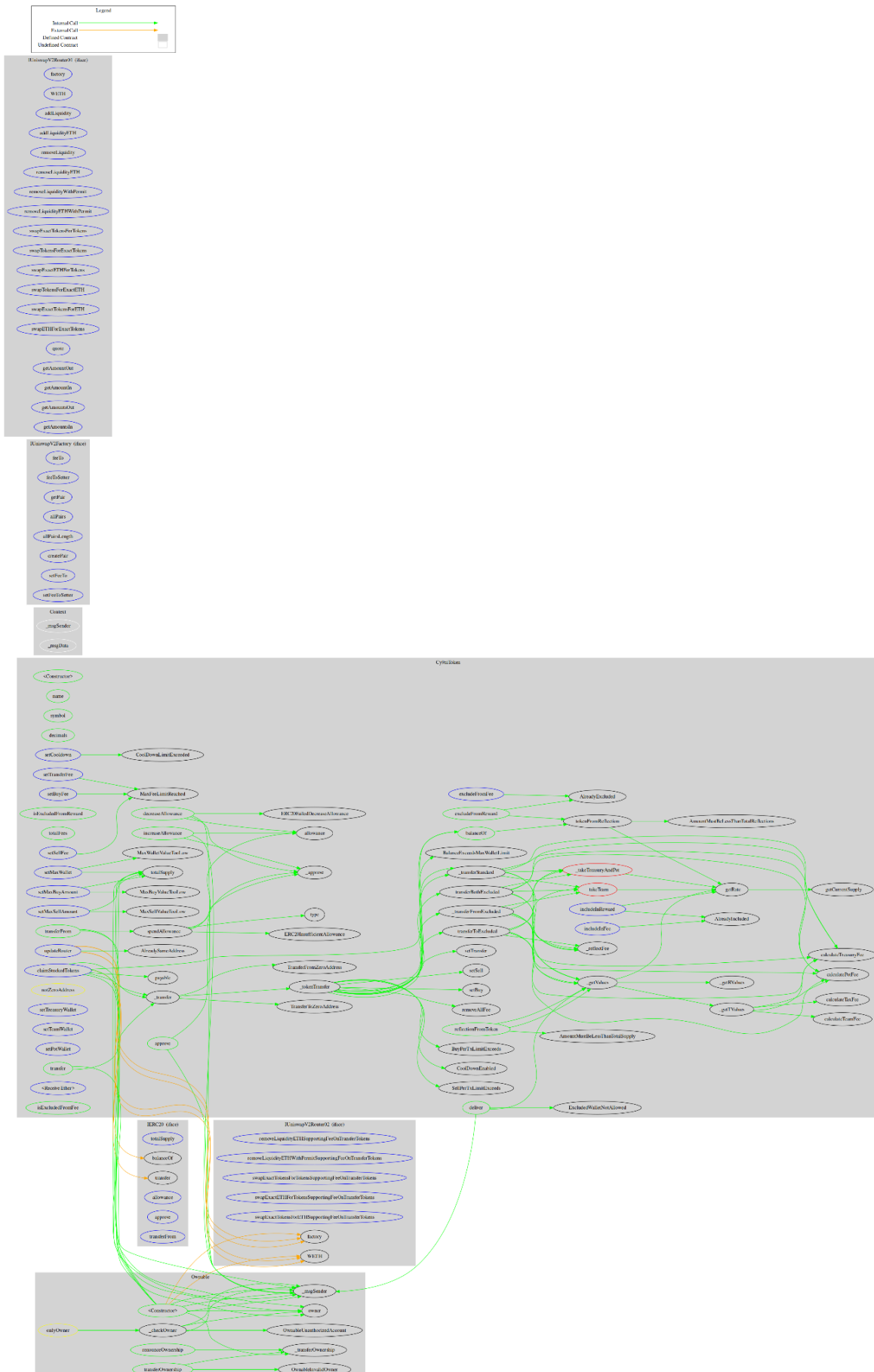
	setTransfer	Private	✓	
	isExcludedFromFee	Public		-
	_approve	Private	✓	
	_transfer	Private	✓	
	_tokenTransfer	Private	✓	
	_transferStandard	Private	✓	
	_transferToExcluded	Private	✓	
	_transferFromExcluded	Private	✓	
	_transferBothExcluded	Private	✓	



## Inheritance Graph



# Flow Graph



## Summary

CY9NI contract implements a token mechanism. This audit investigates security issues, business logic concerns, and potential improvements. CY9NI is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler errors or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. There is also a limit of max 20% fees.

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Blockchain technology and cryptographic assets present a high level of ongoing risk. Cyberscope's position is that each company and individual are responsible for their own due diligence and continuous security. Cyberscope's goal is to help reduce the attack vectors and the high level of variance associated with utilizing new and consistently changing technologies and in no way claims any guarantee of security or functionality of the technology we agree to analyze. The assessment services provided by Cyberscope are subject to dependencies and are under continuing development. You agree that your access and/or use including but not limited to any services reports and materials will be at your sole risk on an as-is where-is and as-available basis. Cryptographic tokens are emergent technologies and carry with them high levels of technical risk and uncertainty. The assessment reports could include false positives, false negatives and other unpredictable results. The services may access and depend upon multiple layers of third parties.

## About Cyberscope

Cyberscope is a blockchain cybersecurity company that was founded with the vision to make web3.0 a safer place for investors and developers. Since its launch, it has worked with thousands of projects and is estimated to have secured tens of millions of investors' funds.

Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.



**The Cyberscope team**

<https://www.cyberscope.io>