Cyberscope

Audit Report

CY9NI

July 2023

SHA256 4e714d4ba914479dd9d5b9efd24a8f1a03e5ebbf0f9f82bdffb6e051da1a7a32

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

Table of Contents

Review

Testing Deploy	https://testnet.bscscan.com/address/0x3dd2f78b81a68ebb04ce1705dc18102f1f29ece7

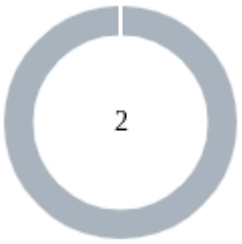
Audit Updates

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

Source Files

Filename	SHA256
contracts/C9.sol	4e714d4ba914479dd9d5b9efd24a8f1a03e5ebbf0f9f82bdffb6e051da1a7a32

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

Criticality	Minor / Informative
Location	contracts/C9.sol#L218,371,376,377,378
Status	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 = 1e12 * 1e9
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

Criticality	Minor / Informative
Location	contracts/C9.sol#L874
Status	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**
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
Ownable	Implementation	Context		
		Public	✓	-
	owner	Public		-
	_checkOwner	Internal		
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner

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

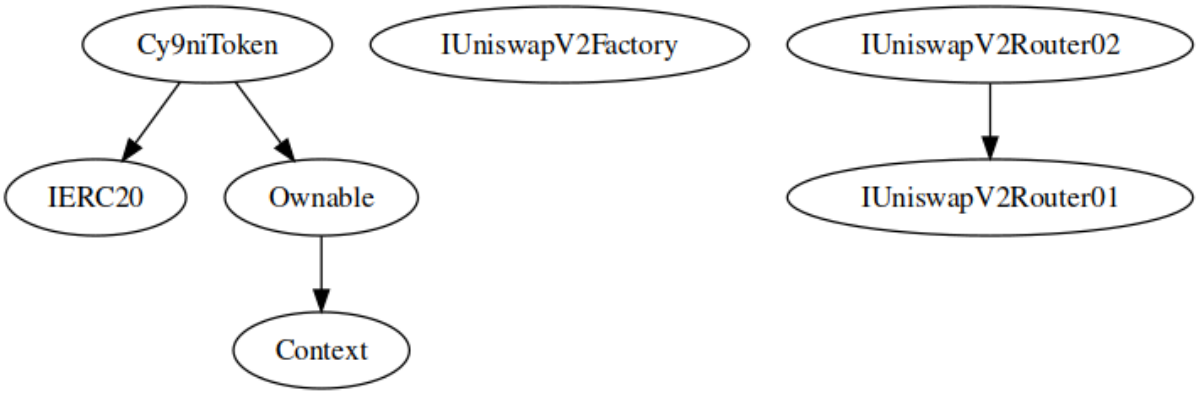
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
IUniswapV2Router02	Interface	IUniswapV2 Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
Cy9niToken	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

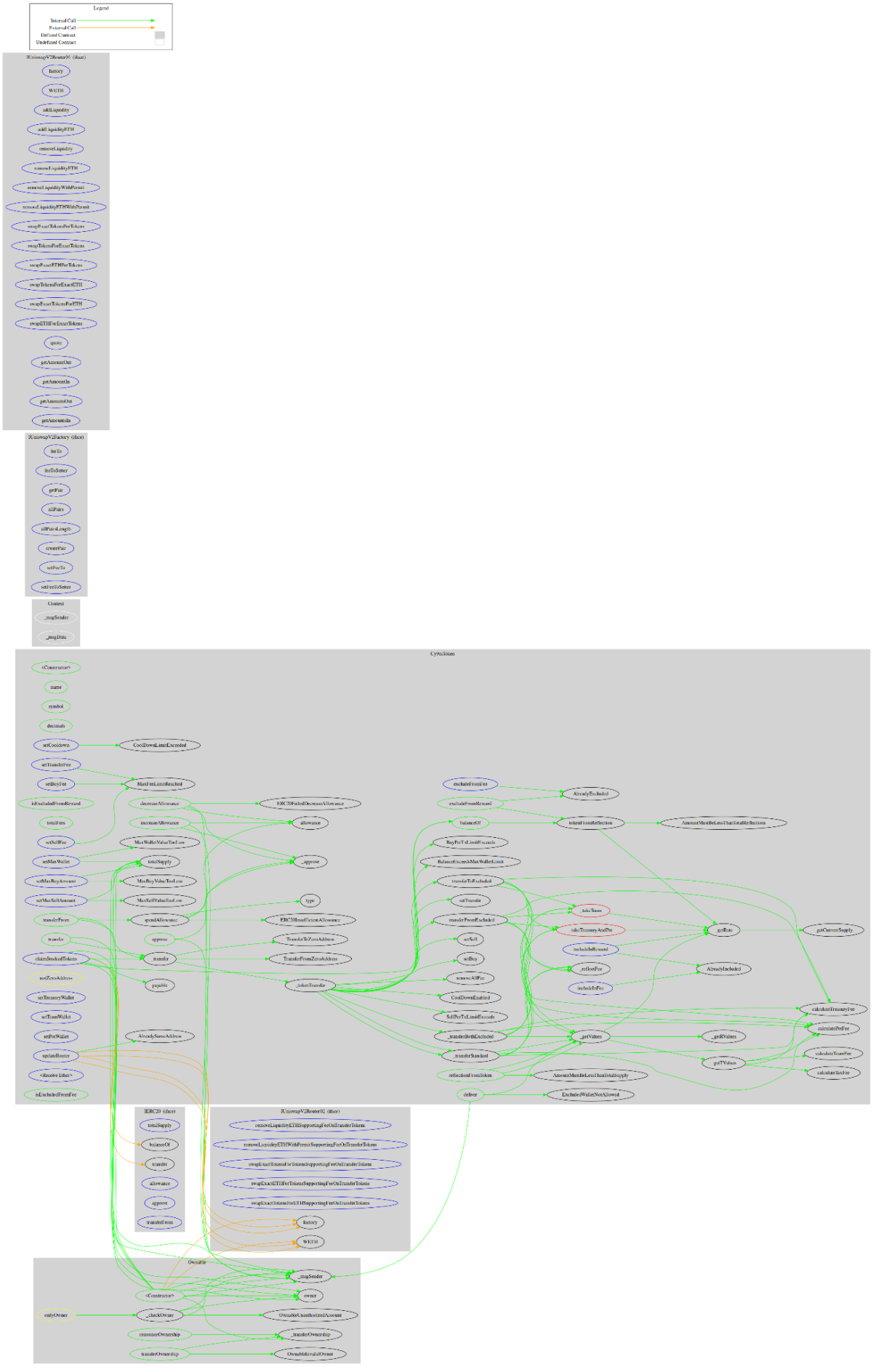
	setMaxWallet	External	✓	onlyOwner
	setMaxBuyAmount	External	✓	onlyOwner
	setMaxSellAmount	External	✓	onlyOwner
	setTreasuryWallet	External	✓	notZeroAddress onlyOwner
	setTeamWallet	External	✓	notZeroAddress onlyOwner
	setPotWallet	External	✓	notZeroAddress onlyOwner
	claimStuckedTokens	External	✓	onlyOwner
		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


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
IUniswapV2Router01 (iface)
factory
WETH
addLiquidity
addLiquidityETH
removeLiquidity
removeLiquidityETH
removeLiquidityWithPermit
removeLiquidityETHWithPermit
swapExactTokensForTokens
swapTokensForExactTokens
swapExactETHForTokens
swapTokensForExactETH
swapExactTokensForETH
swapETHForExactTokens
quote
getAmountOut
getAmountIn
getAmountsOut
getAmountsIn
IUniswapV2Factory (iface)
feeTo
feeToSetter
getPair
allPairs
allPairsLength
createPair
setFeeTo
setFeeToSetter
Context
_msgSender
_msgData
CyberToken
<Constructor>
name
symbol
decimals
setCooldown
CoolDownLimitExceeded
setTransferFee
setBuyFee
MaxPerLimitReached
decreaseAllowance
ERC20FailedDecreaseAllowance
isExcludedFromReward
increaseAllowance
allowance
totalFees
setSellFee
MaxWalletValueTooLow
setMaxWallet
totalSupply
_approve
setMaxBuyAmount
MaxBuyValueTooLow
setMaxSellAmount
MaxSellValueTooLow
transferFrom
spendAllowance
type
ERC20InsufficientAllowance
transfer
approve
TransferToZeroAddress
claimStuckedTokens
_transfer
TransferFromZeroAddress
notZeroAddress
payable
setTreasuryWallet
_tokenTransfer
setTeamWallet
setPotWallet
AlreadySameAddress
updateRouter
<Receive Ether>
isExcludedFromFee
excludeFromFee
AlreadyExcluded
excludeFromReward
balanceOf
tokenFromReflection
AmountMustBeLessThanTotalReflections
BuyPerTxLimitExceeds
BalanceExceedsMaxWalletLimit
transferToExcluded
setTransfer
takeTeam
transferFromExcluded
takeTreasuryAndPot
getRate
getCurrentSupply
setSell
includeInReward
setBuy
_reflectFee
AlreadyIncluded
removeAllFee
includeInFee
CoolDownEnabled
SellPerTxLimitExceeds
calculateTreasuryFee
_transferBothExcluded
_getValues
_getRValues
calculatePotFee
_transferStandard
_getTValues
calculateTeamFee
reflectionFromToken
AmountMustBeLessThanTotalSupply
calculateTaxFee
deliver
ExcludedWalletNotAllowed
IERC20 (iface)
totalSupply
balanceOf
transfer
allowance
approve
transferFrom
IUniswapV2Router02 (iface)
removeLiquidityETHSupportingFeeOnTransferTokens
removeLiquidityETHWithPermitSupportingFeeOnTransferTokens
swapExactTokensForTokensSupportingFeeOnTransferTokens
swapExactETHForTokensSupportingFeeOnTransferTokens
swapExactTokensForETHSupportingFeeOnTransferTokens
factory
WETH
Ownable
_msgSender
<Constructor>
owner
onlyOwner
_checkOwner
OwnableUnauthorizedAccount
renounceOwnership
_transferOwnership
transferOwnership
OwnableInvalidOwner

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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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

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