



Cyberscope

Audit Report

HarmonyToken

September 2022

Type ERC20

Network ETH

Address 0xB8f78Ae3DF5C541657161194ddBd0c5b44D1BEe9

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Contract Review

Contract Name	Harmony
Compiler Version	v0.8.7+commit.e28d00a7
Optimization	200 runs
Licence	None
Explorer	https://etherscan.io/token/0xB8f78Ae3DF5C541657161194ddBd0c5b44D1BEe9
Symbol	HARM
Decimals	9
Total Supply	4,200,000,000,000
Domain	harmonytoken.org

Source Files

Filename	SHA256
contract.sol	4519de87eb7def06b3d15aa3bb00bacea58f13422c429d0eb7f473e2c783c2ac

Audit Updates

Initial Audit	18th September 2022
Corrected	

Contract Analysis

● Critical ● Medium ● Minor / Informative ● Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Unresolved
●	OCTD	Transfers Contract's Tokens	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Unresolved
●	ULTW	Transfers Liquidity to Team Wallet	Unresolved
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Unresolved

ULTW - Transfers Liquidity to Team Wallet

Criticality	minor / informative
Location	contract.sol#L425
Status	Unresolved

Description

The address 0x807d4436F22d3AAeF096Be582cDA53fd89D8C518 has the authority to transfer the contract's funds without limit. These funds have been accumulated from fees collected from the contract. The owner may take advantage of it by calling the `manualswap()` and `manualsend()` methods.

```
function manualswap() external {
    require(_msgSender() == _developmentAddress || _msgSender() ==
    _marketingAddress);
    uint256 contractBalance = balanceOf(address(this));
    swapTokensForEth(contractBalance);
}

function manualsend() external {
    require(_msgSender() == _developmentAddress || _msgSender() ==
    _marketingAddress);
    uint256 contractETHBalance = address(this).balance;
    sendETHToFee(contractETHBalance);
}
```

Recommendation

The contract could embody a check for the maximum amount of funds that can be swapped. Since a huge amount may volatile the token's price.

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.

Contract Diagnostics

● Critical ● Medium ● Minor / Informative

Severity	Code	Description	Status
●	L01	Public Function could be Declared External	Unresolved
●	L02	State Variables could be Declared Constant	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L05	Unused State Variable	Unresolved
●	L07	Missing Events Arithmetic	Unresolved

L01 - Public Function could be Declared External

Criticality	minor / informative
Location	contract.sol#L67,72,235,239,243,247,255,264,273,282,421,437,443,568,577,582,588,592,596
Status	Unresolved

Description

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

```
renounceOwnership
transferOwnership
name
symbol
decimals
totalSupply
transfer
allowance
approve
...
```

Recommendation

Use the external attribute for functions never called from the contract.

L02 - State Variables could be Declared Constant

Criticality	minor / informative
Location	contract.sol#L197,198,177,46
Status	Unresolved

Description

Constant state variables should be declared constant to save gas.

```
_developmentAddress  
_marketingAddress  
launchBlock  
_previousOwner
```

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor / informative
Location	contract.sol#L142,421,582,165,166,167,174,207,208,209
Status	Unresolved

Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow `_` at the beginning of the `mixed_case` match for private variables and unused parameters.

```
WETH
_tradingOpen
_swapEnabled
_name
_symbol
_decimals
_tTotal
_maxTxAmount
_maxWalletSize
...
```

Recommendation

Follow the Solidity naming convention.

<https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions>.

L05 - Unused State Variable

Criticality	minor / informative
Location	contract.sol#L46,170,195
Status	Unresolved

Description

There are segments that contain unused state variables.

```
_previousOwner  
_tOwned  
cooldown
```

Recommendation

Remove unused state variables.

L07 - Missing Events Arithmetic

Criticality	minor / informative
Location	contract.sol#L568,577,588,592
Status	Unresolved

Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
_redisFeeOnBuy = redisFeeOnBuy  
_swapTokensAtAmount = swapTokensAtAmount  
_maxTxAmount = maxTxAmount  
_maxWalletSize = maxWalletSize
```

Recommendation

Emit an event for critical parameter changes.

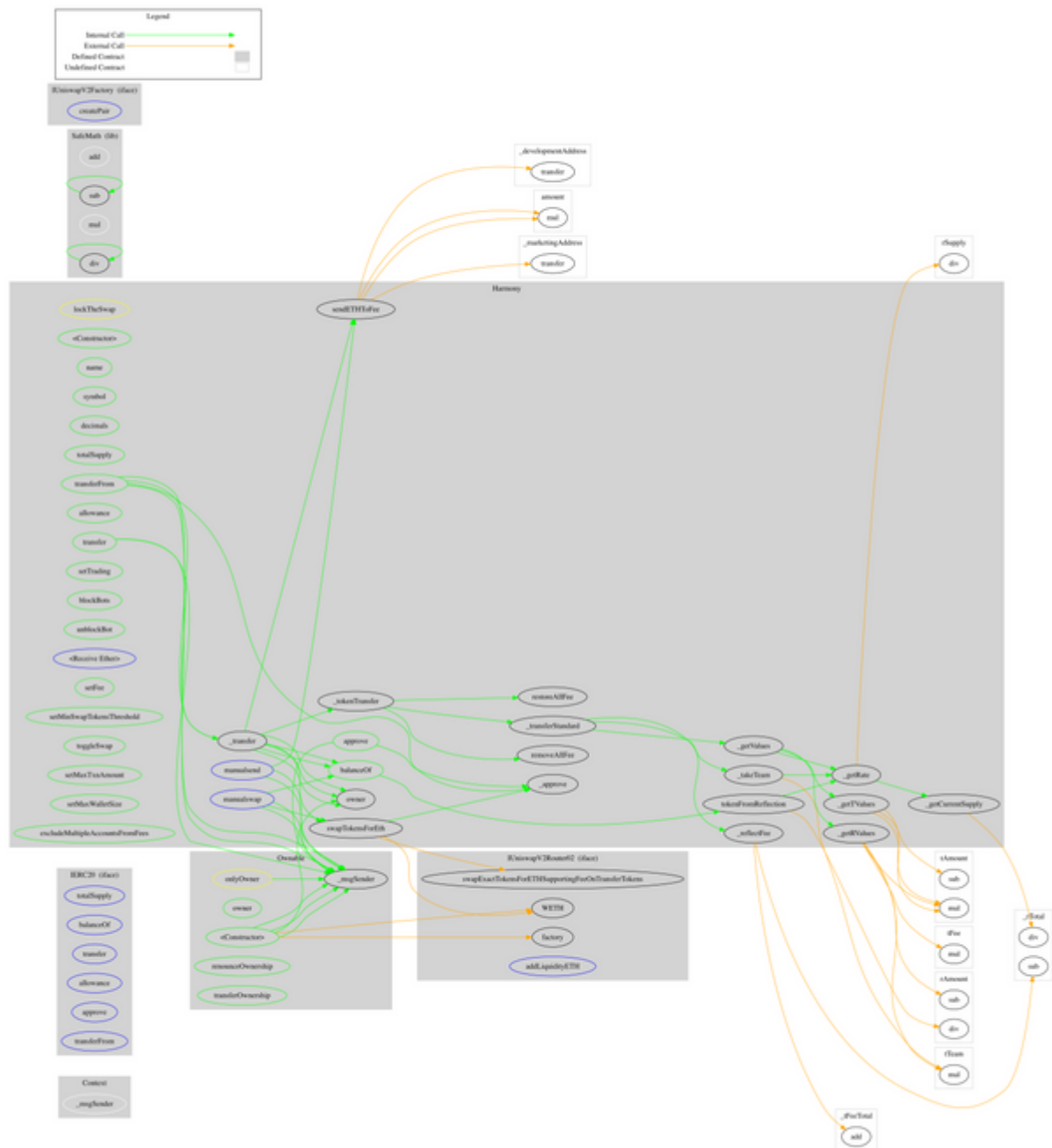
Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
Context	Implementation			
	_msgSender	Internal		
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
IUniswapV2Factory	Interface			
	createPair	External	✓	-

IUniswapV2Router02	Interface			
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
	factory	External		-
	WETH	External		-
	addLiquidityETH	External	Payable	-
Harmony	Implementation	Context, IERC20, Ownable		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	tokenFromReflection	Private		
	removeAllFee	Private	✓	
	restoreAllFee	Private	✓	
	_approve	Private	✓	
	_transfer	Private	✓	
	swapTokensForEth	Private	✓	lockTheSwap
	sendETHToFee	Private	✓	
	setTrading	Public	✓	onlyOwner
	manualswap	External	✓	-
	manualsend	External	✓	-
	blockBots	Public	✓	onlyOwner
	unblockBot	Public	✓	onlyOwner
	_tokenTransfer	Private	✓	
	_transferStandard	Private	✓	
	_takeTeam	Private	✓	
	_reflectFee	Private	✓	

	<Receive Ether>	External	Payable	-
	_getValues	Private		
	_getTValues	Private		
	_getRValues	Private		
	_getRate	Private		
	_getCurrentSupply	Private		
	setFee	Public	✓	onlyOwner
	setMinSwapTokensThreshold	Public	✓	onlyOwner
	toggleSwap	Public	✓	onlyOwner
	setMaxTxnAmount	Public	✓	onlyOwner
	setMaxWalletSize	Public	✓	onlyOwner
	excludeMultipleAccountsFromFees	Public	✓	onlyOwner

Contract Flow



Domain Info

Domain Name	harmonytoken.org
Registry Domain ID	7c9b7532c45c4541b588772e8f7fda19-LROR
Creation Date	2022-08-30T17:58:22Z
Updated Date	2022-09-04T17:59:04Z
Registry Expiry Date	2023-08-30T17:58:22Z
Registrar WHOIS Server	whois.tucows.com
Registrar URL	http://www.tucows.com
Registrar	Tucows Domains Inc.
Registrar IANA ID	69

The domain was created 18 days before the creation of the audit. It will expire in 12 months.

There is no public billing information, the creator is protected by the privacy settings.

Summary

The Smart Contract analysis reported one minor severity issue. The address `0x807d4436F22d3AAeF096Be582cDA53fd89D8C518` has the authority to transfer funds to the team's wallet. Other than that, the contract ownership is renounced, so the contract owner has no access to the contract's owner methods.

The contract has 2% fees. Each time that the contract accumulates more than 84000000000 tokens from the fees, it sells the tokens for ETH. The ETH are transferred to the `0x807d4436F22d3AAeF096Be582cDA53fd89D8C518` address.

Disclaimer

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The Cyberscope team disclaims any liability for the resulting losses.

About Cyberscope

Coinscope audit and K.Y.C. service has been rebranded to Cyberscope.

Cyberscope is the leading early coin listing, voting and auditing authority firm. The audit process is analyzing and monitoring many aspects of the project. That way, it gives the community a good sense of security using an informative report and a generic score.

Cyberscope and Coinscope are aiming to make crypto discoverable and efficient globally. They provide all the essential tools to assist users draw their own conclusions.



The Cyberscope team

<https://www.cyberscope.io>