Cyberscope

Audit Report

Sweep Stake Network

August 2022

Type	BEP20
Network	BSC
Address	0xc4E0a6470Dc149A1cA20d524188eEC5abc20f964
Audited by	© cyberscope

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Contract Review

Contract Name	SweepStakeNetwork
Compiler Version	v0.7.4+commit.3f05b770
Optimization	200 runs
Licence	MIT
Explorer	https://bscscan.com/token/0xc4E0a6470Dc149A1cA20d524188eEC5abc20f964
Symbol	$SSN
Decimals	4
Total Supply	1,000,000,000
Domain	https://www.sweepstake.network

Source Files

Filename	**SHA256**
contract.sol	66a298add585edd0dd0f779925545472948c0e25562e9ad69a7de9a065aa917a

Audit Updates

Initial Audit	30th July 2022
Corrected	3rd August 2022

Contract Analysis

🔴 Critical 🟠 Medium ⚪ Minor 🔵 Pass

Severity	Code	Description
🔵	ST	Contract Owner is not able to stop or pause transactions
🔵	OCTD	Contract Owner is not able to transfer tokens from specific address
🔵	OTUT	Owner Transfer User's Tokens
🔵	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
⚪	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
🔵	MT	Contract Owner is not able to mint new tokens
🔵	BT	Contract Owner is not able to burn tokens from specific wallet
🔵	BC	Contract Owner is not able to blacklist wallets from selling

ULTW - Unlimited Liquidity to Team Wallet

Criticality	minor
Location	contract.sol#L596

Description

The contract owner has the authority to transfer funds without limit to the team wallet. These funds have been accumulated from fees collected from the contract. The owner may take advantage of it by calling the `clearStuckBalance`.

```
function clearStuckBalance(uint256 amountPercentage) external authorized {
    uint256 amountBNB = address(this).balance;
    payable(msg.sender).transfer(amountBNB * amountPercentage / 100);
}
```

Recommendation

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

Severity	Code	Description
●	CO	Code Optimization
●	L01	Public Function could be Declared External
●	L02	State Variables could be Declared Constant
●	L04	Conformance to Solidity Naming Conventions
●	L05	Unused State Variable
●	L07	Missing Events Arithmetic
●	L09	Dead Code Elimination

CO - Code Optimization

Criticality	minor
Location	contract.sol#L552

Description

There are code segments that could be optimized. A segment may be optimized so that it becomes a smaller size, consumes less memory, executes more rapidly, or performs fewer operations.

The conditional operator on the multiplier variable is redundant. The variable multiplier is always set to 100.

```
function takeFee(address sender, uint256 amount, bool isSell) internal returns
(uint256) {

        uint256 multiplier = isSell ? sellMultiplier : 100;
```

Recommendation

The entire statement could be eliminated.

L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L117,132,112

Description

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

```
authorize
transferOwnership
unauthorize
```

Recommendation

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

L02 - State Variables could be Declared Constant

Criticality	minor
Location	contract.sol#L401,373,370,415,372,225,414,212,371,379

Description

Constant state variables should be declared constant to save gas.

```
_totalSupply
WBNB
launchedAt
dividendsPerShareAccuracyFactor
DEAD
tradingOpen
BUSD
ZERO
sellMultiplier
...
```

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L671,654,661,147,372,564,377,385,666,370,373,211,381,371,379,386,376,251,382,203,212,375,383

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.

```
_autoLiquidityReceiver
_treasuryFee
_maxWalletAmount
_denominator
_name
_liquidityFee
WBNB
_token
_maxSellTxAmount
...
```

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
Location	contract.sol#L370

Description

There are segments that contain unused state variables.

```
BUSD
```

Recommendation

Remove unused state variables.

L07 - Missing Events Arithmetic

Criticality	minor
Location	contract.sol#L564,486,666,661,251,481

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.

```
_maxBuyTxAmount = (_totalSupply * maxBuyTxPercent) / 100
minPeriod = _minPeriod
swapThreshold = _amount
targetLiquidity = _target
_maxSellTxAmount = (_totalSupply * maxSellTxPercent) / 100
liquidityFee = _liquidityFee
```

Recommendation

Emit an event for critical parameter changes.

L09 - Dead Code Elimination

Criticality	minor
Location	contract.sol#L525

Description

Functions that are not used in the contract, and make the code's size bigger.

```
checkTxLimit
```

Recommendation

Remove unused functions.

Contract Functions

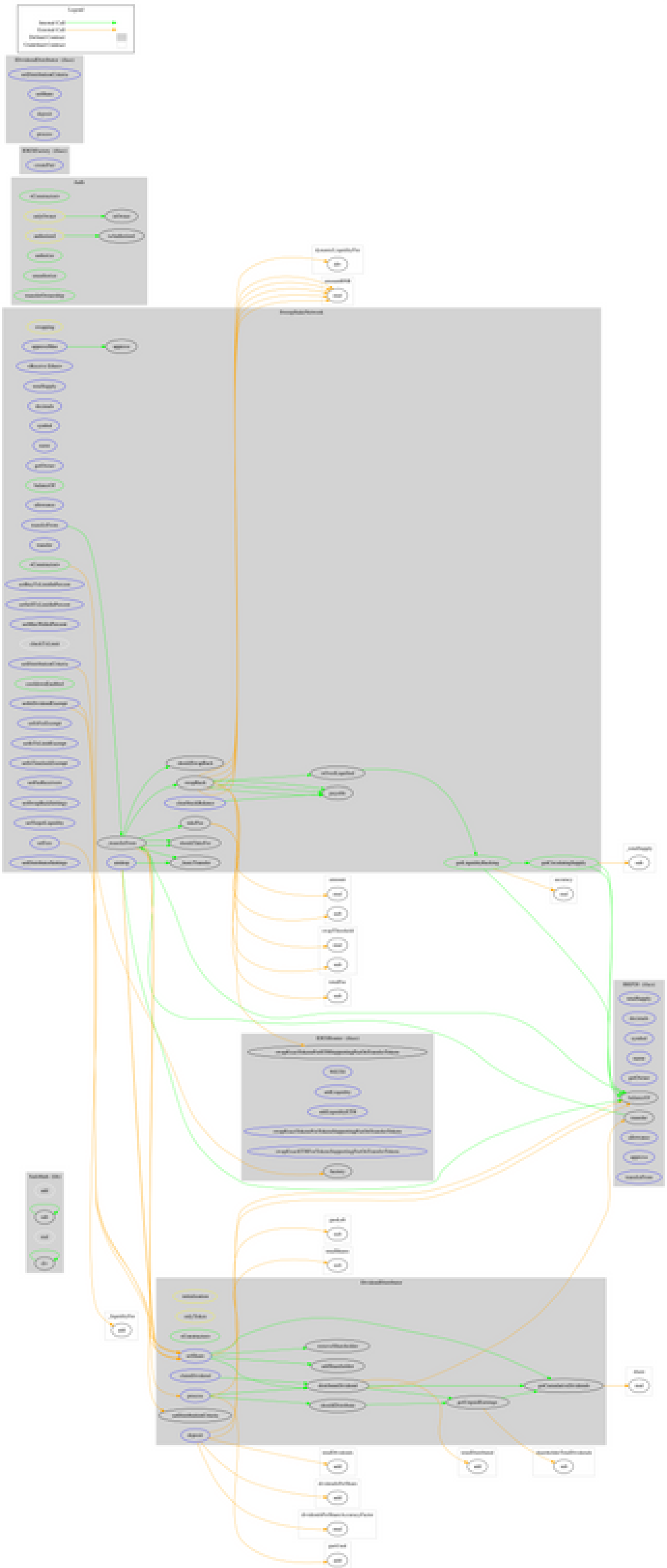
Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
IBEP20	Interface			
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Auth	Implementation			
	<Constructor>	Public	✓	-
	authorize	Public	✓	onlyOwner
	unauthorize	Public	✓	onlyOwner
	isOwner	Public		-
	isAuthorized	Public		-
	transferOwnership	Public	✓	onlyOwner
IDEXFactory	Interface			

	createPair	External	✓	-
IDEXRouter	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
IDividendDistributor	Interface			
	setDistributionCriteria	External	✓	-
	setShare	External	✓	-
	deposit	External	Payable	-
	process	External	✓	-
DividendDistributor	Implementation	IDividendDistributor		
	<Constructor>	Public	✓	-
	setDistributionCriteria	External	✓	onlyToken
	setShare	External	✓	onlyToken
	deposit	External	Payable	onlyToken
	process	External	✓	onlyToken
	shouldDistribute	Internal		
	distributeDividend	Internal	✓	
	claimDividend	External	✓	-
	getUnpaidEarnings	Public		-
	getCumulativeDividends	Internal		
	addShareholder	Internal	✓	
	removeShareholder	Internal	✓	
SweepStakeNe	Implementation	IBEP20,		

twork		Auth		
	<Constructor>	Public	✓	Auth
	<Receive Ether>	External	Payable	-
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	Public		-
	allowance	External		-
	approve	Public	✓	-
	approveMax	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	setBuyTxLimitInPercent	External	✓	authorized
	setSellTxLimitInPercent	External	✓	authorized
	setMaxWalletPercent	External	✓	authorized
	_transferFrom	Internal	✓	
	checkTxLimit	Internal		
	_basicTransfer	Internal	✓	
	shouldTakeFee	Internal		
	takeFee	Internal	✓	
	shouldSwapBack	Internal		
	setFees	External	✓	authorized
	clearStuckBalance	External	✓	authorized
	cooldownEnabled	Public	✓	onlyOwner
	swapBack	Internal	✓	swapping
	setIsDividendExempt	External	✓	authorized
	setIsFeeExempt	External	✓	authorized
	setIsTxLimitExempt	External	✓	authorized
	setIsTimelockExempt	External	✓	authorized
	setFeeReceivers	External	✓	authorized
	setSwapBackSettings	External	✓	authorized
	setTargetLiquidity	External	✓	authorized
	setDistributionCriteria	External	✓	authorized

	setDistributorSettings	External	✓	authorized
	getCirculatingSupply	Public		-
	getLiquidityBacking	Public		-
	isOverLiquified	Public		-
	airdrop	External	✓	onlyOwner

Contract Flow



Domain Info

Domain Name	sweepstake.network
Registry Domain ID	11bdd4dde11840ae9a9bc95af0f0b235-DONUTS
Creation Date	2022-07-12T16:07:39Z
Updated Date	2022-07-17T16:08:13Z
Registry Expiry Date	2023-07-12T16:07:39Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	https://www.namecheap.com/
Registrar	NameCheap, Inc.
Registrar IANA ID	1068

The domain has been created in 12 months before the creation of the audit.

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 contract owner has the authority to transfer funds to the team's wallet. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats. There is also a limit of max 17% fees.

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About Cyberscope

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

Coinscope 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