Cyberscope

Audit Report

MyDeFiCat

March 2022

Type	BEP20
Network	BSC
Address	0xee8128e7999E4670C7CE91526Be40AFaa0Bf900f
Audited by	© cyberscope

Table of Contents

Contract Review

Contract Name	Token
Compiler Version	v0.6.12+commit.27d51765
Optimization	200 runs
Licence	MIT
Explorer	https://bscscan.com/token/0xee8128e7999E4670C7CE91526Be40AFaa0Bf900f
Symbol	MDC
Decimals	18
Total Supply	1,000,000
Source	Context.sol, DividendPayingToken.sol, DividendPayingTokenInterface.sol, DividendPayingTokenOptionalInterface.sol, ERC20.sol, IERC20.sol, IERC20Metadata.sol, IterableMapping.sol, IUniswapV2Factory.sol, IUniswapV2Pair.sol, IUniswapV2Router.sol, Ownable.sol, SafeMath.sol, SafeMathInt.sol, SafeMathUint.sol, Token.sol
Domain	mydeficat.com

Audit Updates

Initial Audit	19th March 2022
Corrected	

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

ST - Stop Transactions

Criticality	medium
Location	contract.sol#L1

Description

The contract owner has the authority to stop transactions for all users excluding the owner. The owner may take advantage of it by setting the `antiBotBlocks` to a high value.

```
if (anti(from, to)) {
    super._transfer(from, deadWallet, amount);
    return;
}
```

Recommendation

The contract could embody a check for not allowing setting the antiBotBlocks more than a reasonable amount.

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
	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
	L12	Using Variables before Declaration
	L14	Uninitialized Variables in Local Scope
	L15	Local Scope Variable Shadowing

L01 - Public Function could be Declared External

Criticality	minor
Location	DividendPayingToken.sol#L51,66,100,118 ERC20.sol#L63,71,88,120,133,150,173,202,229 IterableMapping.sol#L13,17,28,36 Ownable.sol#L46,55 and 1 more files

Description

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

```
process
getAccountAtIndex
dividendTokenBalanceOf
withdrawableDividendOf
isExcludedFromFees
updateGasForProcessing
setAutomatedMarketMakerPair
updateUniswapV2Router
updateDividendTracker
...
```

Recommendation

Use the external attribute for functions never called from the contract

L02 - State Variables could be Declared Constant

Criticality	minor
Location	DividendPayingToken.sol#L21 Token.sol#L20,24,34,35,33

Description

Constant state variables should be declared constant to save gas.

```
usdtRewardsFee
marketingFee
liquidityFee
deadWallet
Usdt
```

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	DividendPayingToken.sol#L100,107,118,127,21,26 IUniswapV2Pair.sol#L38,40,71 IUniswapV2Router.sol#L8 Token.sol#L20,21,23,25,26,621

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.

```
_account
_stakingPoolAddress
_presaleAddress
_lpReceiver
_marketingAddress
Usdt
WETH
MINIMUM_LIQUIDITY
PERMIT_TYPEHASH
...
```

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	SafeMathInt.sol#L36

Description

There are segments that contain unused state variables.

```
MAX_INT256
```

Recommendation

Remove unused state variables.

L07 - Missing Events Arithmetic

Criticality	minor
Location	Token.sol#L214,218

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.

```
swapTokensAtAmount = value
antiBotBlocks = val
```

Recommendation

Emit an event for critical parameter changes.

L09 - Dead Code Elimination

Criticality	minor
Location	DividendPayingToken.sol#L145 SafeMathInt.sol#L82 Token.sol#L125

Description

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

```
isContract
abs
_transfer
```

Recommendation

Remove unused functions.

L12 - Using Variables before Declaration

Criticality	minor
Location	Token.sol#L437,436,438

Description

The contract is using a variable before the declaration. This is usually happening either if it has not been declared yet or the variable has been declared in a different scope.

```
lastProcessedIndex
iterations
claims
```

Recommendation

The variables should be declared before any usage of them.

L14 - Uninitialized Variables in Local Scope

Criticality	minor
Location	Token.sol#L413,436,437,438

Description

The are variables that are defined in the local scope and are not initialized.

```
lastProcessedIndex
claims
iterations
fees
```

Recommendation

All the local scoped variables should be initialized.

L15 - Local Scope Variable Shadowing

Criticality	minor
Location	DividendPayingToken.sol#L46,100,107,118,127

Description

The are variables that are defined in the local scope containing the same name from an upper scope.

```
_owner
_symbol
_name
```

Recommendation

The local variables should have different names from the upper scoped variables.

Contract Functions

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
DividendPayingToken	Implementation	ERC20, Ownable, DividendPayingTokenInterface		
	<Constructor>	Public	✓	ERC20
	distributeUsdtDividends	Public	✓	onlyOwner
	withdrawDividend	Public	✓	-
	_withdrawDividendOfUser	Internal	✓	
	dividendOf	Public		-
	withdrawableDividendOf	Public		-
	withdrawnDividendOf	Public		-
	accumulativeDividendOf	Public		-
	_transfer	Internal	✓	
	_mint	Internal	✓	
	_burn	Internal	✓	
	_setBalance	Internal	✓	
	_fixBalance	Internal	✓	
DividendPayingTokenInterface	Interface			
	dividendOf	External		-
	withdrawDividend	External	✓	-
DividendPayingTokenOptiona	Interface			

IInterface				
	dividendOf	External		-
	withdrawDividend	External	✓	-
ERC20	Implementation	Context, IERC20, IERC20Metadata		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_transfer	Internal	✓	
	_mint	Internal	✓	
	_burn	Internal	✓	
	_approve	Internal	✓	
	_beforeTokenTransfer	Internal	✓	
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
IERC20Metadata	Interface	IERC20		
	name	External		-

	symbol	External		-
	decimals	External		-
IterableMapping	Library			
	get	Public		-
	getIndexOfKey	Public		-
	getKeyAtIndex	Public		-
	size	Public		-
	set	Public	✓	-
	remove	Public	✓	-
IUniswapV2Factory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IUniswapV2Pair	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-

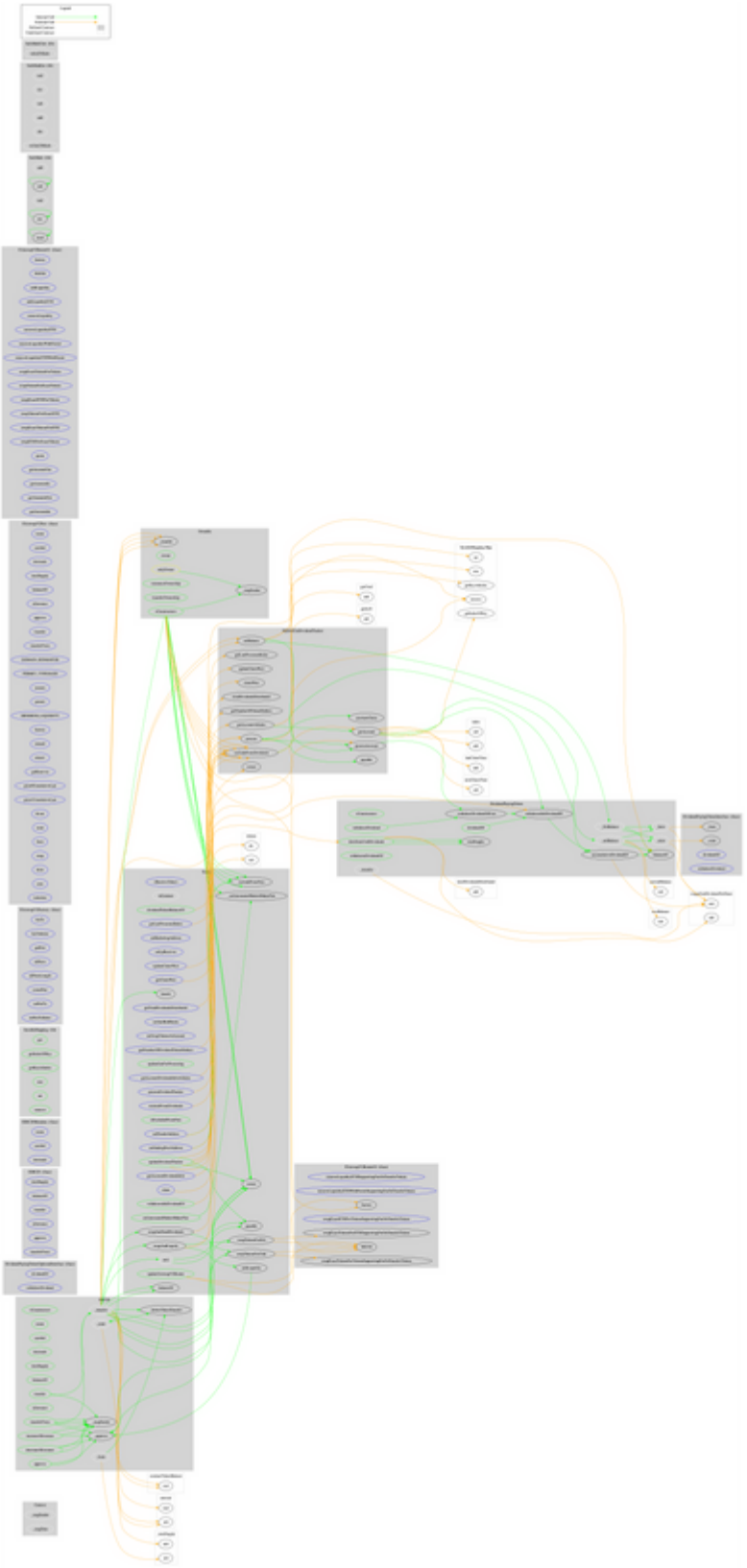
	nonces	External		-
	permit	External	✓	-
	MINIMUM_LIQUIDITY	External		-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	mint	External	✓	-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	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	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	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		
	mod	Internal		
	mod	Internal		
SafeMathInt	Library			
	mul	Internal		
	div	Internal		
	sub	Internal		
	add	Internal		

	abs	Internal		
	toUint256Safe	Internal		
SafeMathUint	Library			
	toInt256Safe	Internal		
Token	Implementation	ERC20, Ownable		
	<Constructor>	Public	✓	ERC20
	<Receive Ether>	External	Payable	-
	isContract	Internal		
	updateDividendTracker	Public	✓	onlyOwner
	updateUniswapV2Router	Public	✓	onlyOwner
	excludeFromFees	Public	✓	onlyOwner
	setMarketingAddress	External	✓	onlyOwner
	setLpReceiver	External	✓	onlyOwner
	setPresaleAddress	External	✓	onlyOwner
	setStakingPoolAddress	External	✓	onlyOwner
	launch	Internal	✓	
	anti	Internal		
	setAntiBotBlocks	External	✓	onlyOwner
	setSwapTokensAtAmount	External	✓	onlyOwner
	setAutomatedMarketMakerPair	Public	✓	onlyOwner
	_setAutomatedMarketMakerPair	Private	✓	
	updateGasForProcessing	Public	✓	onlyOwner
	updateClaimWait	External	✓	onlyOwner
	getClaimWait	External		-
	getTotalDividendsDistributed	External		-
	isExcludedFromFees	Public		-
	withdrawableDividendOf	Public		-
	dividendTokenBalanceOf	Public		-
	excludeFromDividends	External	✓	onlyOwner
	getAccountDividendsInfo	External		-
	getAccountDividendsInfoAtIndex	External		-
	processDividendTracker	External	✓	-
	claim	External	✓	-

	getLastProcessedIndex	External		-
	getNumberOfDividendTokenHolders	External		-
	_transfer	Internal	✓	
	swapAndLiquify	Private	✓	
	swapTokensForEth	Private	✓	
	swapTokensForUsdt	Private	✓	
	addLiquidity	Private	✓	
	swapAndSendDividends	Private	✓	
MyDefiCatDividendTracker	Implementation	Ownable, DividendPayingToken		
	<Constructor>	Public	✓	DividendPayingToken
	_transfer	Internal	✓	
	withdrawDividend	Public	✓	-
	excludeFromDividends	External	✓	onlyOwner
	updateClaimWait	External	✓	onlyOwner
	getLastProcessedIndex	External		-
	getNumberOfTokenHolders	External		-
	getAccount	Public		-
	getAccountAtIndex	Public		-
	canAutoClaim	Private		
	setBalance	External	✓	onlyOwner
	process	Public	✓	-
	processAccount	Public	✓	onlyOwner

Contract Flow



Domain Info

Domain Name	mydeficat.com
Registry Domain ID	2681509482_DOMAIN_COM-VRSN
Creation Date	2022-03-14T14:58:10Z
Updated Date	2022-03-14T14:58:10Z
Registry Expiry Date	2023-03-14T14:58:10Z
Registrar WHOIS Server	whois.wix.com
Registrar URL	http://www.wix.com
Registrar	Wix.com Ltd.
Registrar IANA ID	3817

The domain has been created 5 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 medium severity issue. The contract owner has the ability to stop the transactions. Rather than that, the contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. The fees are fixed to 10%. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats.

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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 provides all the essential tools to assist users draw their own conclusions.

The Cyberscope team

https://www.cyberscope.io