

Audit Report

ToonKing

December 2021

Type	BEP20
Address	0x0E8c5f9a0BbB188a742B1951e853bc45E721F71F
Audited by	© coinscope

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Contract Review

Contract Name	ToonKing
Compiler Version	v0.6.12+commit.27d51765
Optimization	200 runs
Licence	MIT
Explorer	https://bscscan.com/token/0x0E8c5f9a0BbB188a742B1951e853bc45E721F71F
Symbol	$TKT
Decimals	18
Total Supply	1,000,000,000,000,000
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, ToonKing.sol
Domain	toonkingtoken.com

Audit Updates

Initial Audit	27th December 2021
Corrected	

Contract Analysis

Critical Medium Pass

Severity	Code	Description
	MT	Contract Owner is not able to mint new tokens
	BT	Contract Owner is not able to burn tokens from specific wallet
	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
	ST	Contract Owner is not able to pause transactions for everyone else except him
	OCTD	Contract Owner is not able to transfer tokens from specific address
	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
	BC	Contract Owner is not able to blacklist wallets from selling

ELFM - Exceed Limit Fees Manipulation

Criticality	critical
Location	https://bscscan.com/address/0x0E8c5f9a0BbB188a742B1951e853bc45E721F71F#code#F1#L180,L188

Description

The contract owner has the authority to increase over the allowed limit of 25%. The owner may take advantage of it by calling the `setonSellFee` function with a high percentage value.

```
function setonSellFee(uint256 _BUSDFee, uint256 _liquidityFee, uint256 _marketingFee, uint256 _buybackFee) external onlyOwner{
    onSellBUSDFee = _BUSDFee;
    onSellLiquidityFee = _liquidityFee;
    onSellMarketingFee = _marketingFee;
    onSellBuybackFee = _buybackFee;
    onSellTotalFees = onSellBUSDFee.add(onSellLiquidityFee).add(onSellMarketingFee).add(onSellBuybackFee);
}
```

Recommendation

The contract could embody a check for the maximum acceptable value.

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 renouncing ownership.

BC - Blacklisted Contracts

Criticality	medium
Location	https://bscscan.com/address/0x0E8c5f9a0BbB188a742B1951e853bc45E721F71F#code#F1#L310

Description

The contract owner has the authority to stop contracts from transactions. The owner may take advantage of it by calling the `blacklistAddress` function.

```
require(!_isBlacklisted[from] && !_isBlacklisted[to], 'Blacklisted address');
```

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 renouncing ownership.

Contract Diagnostics

Pass	Name
✓	Integer Underflow
✓	Parity Multisig Bug
✓	Callstack Depth Attack
✓	Transaction-Ordering Dependency
✓	Timestamp Dependency
✓	Re-Entrancy

Contract Functions

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

DividendPayingTokenOptionalInterface	Interface			
	withdrawableDividendOf	External		-
	withdrawnDividendOf	External		-
	accumulativeDividendOf	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	✓	-

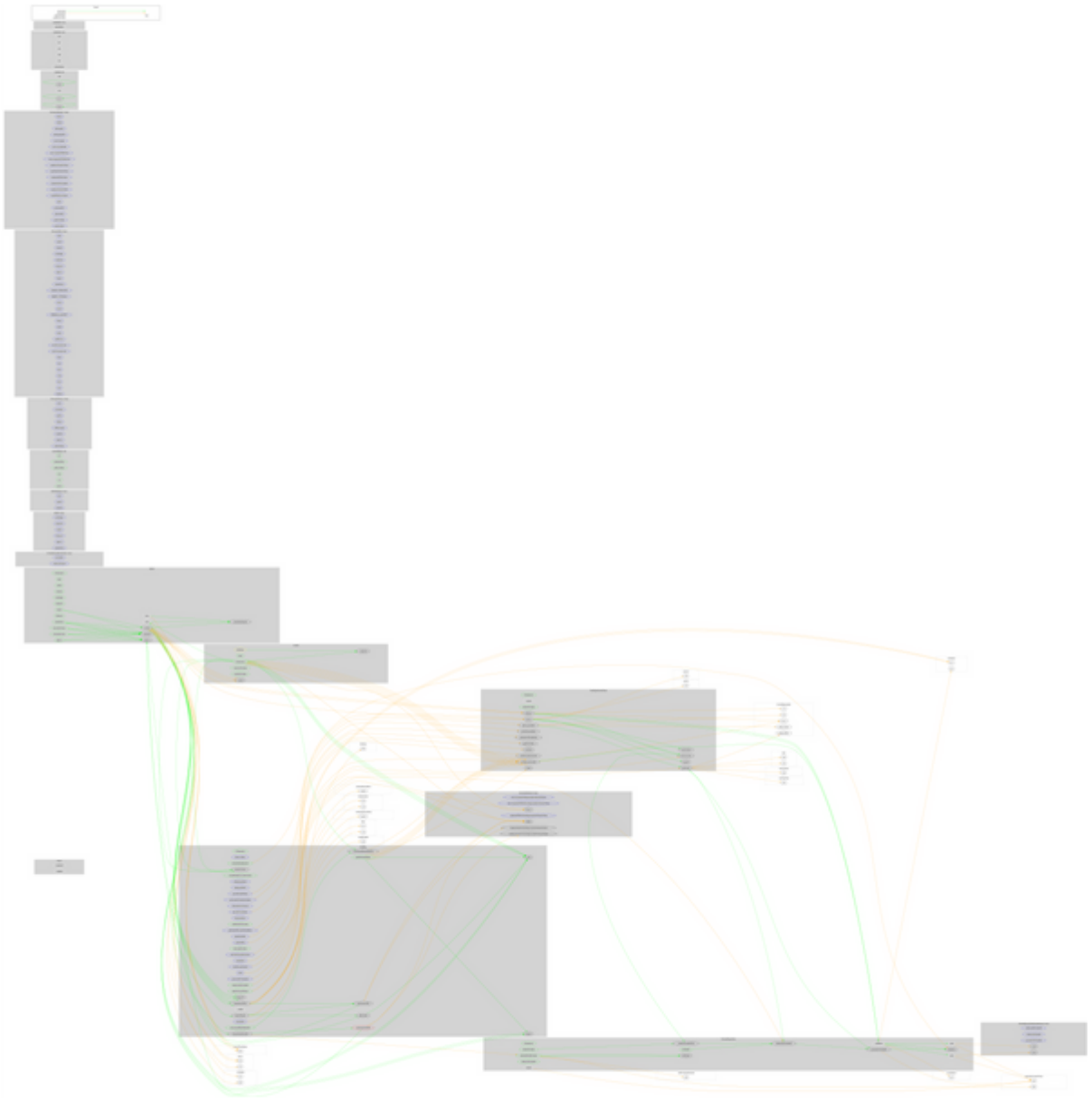
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-
	nonces	External		-
	permit	External	✓	-
	MINIMUM_LIQUIDITY	External		-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	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		
ToonKing	Implementation	ERC20, Ownable		
	<Constructor>	Public	✓	ERC20
	<Receive Ether>	External	Payable	-
	updateDividendTracker	Public	✓	onlyOwner
	updateUniswapV2Router	Public	✓	onlyOwner
	excludeFromFees	Public	✓	onlyOwner
	excludeMultipleAccountsFromFees	Public	✓	onlyOwner
	setMarketingWallet	External	✓	onlyOwner
	setBuybackWallet	External	✓	onlyOwner
	setonSellFee	External	✓	onlyOwner
	setonBuyFee	External	✓	onlyOwner
	setSwapTokensAtAmount	External	✓	onlyOwner
	setAutomatedMarketMakerPair	Public	✓	onlyOwner
	blacklistAddress	External	✓	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	✓	
	swapAndSendToFee	Private	✓	
	swapAndLiquify	Private	✓	
	swapTokensForEth	Private	✓	
	swapTokensForBUSD	Private	✓	
	addLiquidity	Private	✓	
	swapAndSendDividends	Private	✓	
ToonKingDividendTracker	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	toonkingtoken.com
Registry Domain ID	2661754528_DOMAIN_COM-VRSN
Creation Date	2021-12-15T04:21:41Z
Updated Date	2021-12-15T05:40:28Z
Registry Expiry Date	
Registrar WHOIS Server	whois.launchpad.com
Registrar URL	LaunchPad.com
Registrar	Launchpad, Inc. (HostGator)
Registrar IANA ID	955

The domain has been created 13 days before the creation of the audit.

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

Summary

ToonKing is a meme token that supports funds auto-distribution in BSUD. There are some functions that can be abused by the owner, like manipulating fees and blacklisting addresses. A multi-wallet signing pattern will provide security against potential hacks. Renouncing ownership will eliminate all the contract threats.

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