Cyberscope

Audit Report
Hongkong

July 2022

Type   BEP20

Network   BSC

Address   0xC3C69e7A909944193A35FdFB535CfCA408174c21

Audited by   © cyberscope

Table of Contents

Contract Review

Contract Name	CoinToken
Compiler Version	v0.4.24+commit.e67f0147
Optimization	200 runs
Licence	Apache-2.0
Explorer	https://bscscan.com/token/0xC3C69e7A909944193A35FdFB535CfCA408174c21
Symbol	HK
Decimals	9
Total Supply	1,000,000,000
Domain	hongkongtoken.com

Source Files

Filename	SHA256
contract.sol	a930d2bcfabbe21242dd336ec2981d98dfb1903bdc3727b8de9c4cd6f32670cb

Audit Updates

Initial Audit	19th July 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	minor
Location	contract.sol#L237,L241

Description

The contract owner has the authority to stop transactions for all users including the owner. The owner may take advantage of it by pausing the contract with the function pause.

```
function transfer(address _to, uint256 _value) public whenNotPaused returns (bool) {
    return super.transfer(_to, _value);
  }

  function transferFrom(address _from, address _to, uint256 _value) public whenNotPaused
returns (bool) {
    return super.transferFrom(_from, _to, _value);
  }
```

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.

ELFM - Exceed Limit Fees Manipulation

Criticality	critical
Location	contract.sol#L288

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 updateFee function with a high percentage value.

```
function updateFee(uint256 _txFee,uint256 _burnFee,address _FeeAddress) onlyOwner public{
        txFee = _txFee;
        burnFee = _burnFee;
        FeeAddress = _FeeAddress;
}
```

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 temporarily locking the contract or renouncing ownership.

MT - Mint Tokens

Criticality	critical
Location	contract.sol#L303

Description

The contract owner has the authority to mint tokens. The owner may take advantage of it by calling the mint function. As a result the contract tokens will be highly inflated.

```
function mint(address account, uint256 amount) onlyOwner public {

    totalSupply = totalSupply.add(amount);
    balances[account] = balances[account].add(amount);
    emit Mint(address(0), account, amount);
    emit Transfer(address(0), account, amount);
}
```

Recommendation

The owner should carefully manage the credentials of the owner's account. We advised considering an extra-strong security mechanism that the actions may be quarantined by many users instead of one. The owner could also renounce the contract ownership for a period of time or pass the access to the zero address.

BC - Blacklisted Contracts

Criticality	medium
Location	contract.sol#L257

Description

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

```
function blackListAddress(address listAddress,  bool isBlackListed) public whenNotPaused
onlyOwner  returns (bool success) {
        return super._blackList(listAddress, isBlackListed);
}
```

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
●	CR	Code Repetition
●	L01	Public Function could be Declared External
●	L04	Conformance to Solidity Naming Conventions
●	L11	Unnecessary Boolean equality

CR - Code Repetition

Criticality	minor
Location	contract.sol#L132,L165

Description

There are code segments that are repetitive in the contract. Those segments increase the code size of the contract unnecessarily.

This code segment can be optimized. The transfer and transferFrom function are almost identical. They can be merged together.

```
function transfer(address _to, uint256 _value) public returns (bool) {
    require(tokenBlacklist[msg.sender] == false);
    require(_to != address(0));
    require(_value <= balances[msg.sender]);
    balances[msg.sender] = balances[msg.sender].sub(_value);
    uint256 tempValue = _value;
     if(txFee > 0 && _from != FeeAddress){
        uint256 DenverDeflaionaryDecay = tempValue.div(uint256(100 / txFee));
        balances[FeeAddress] = balances[FeeAddress].add(DenverDeflaionaryDecay);
        emit Transfer(_from, FeeAddress, DenverDeflaionaryDecay);
        _value =  _value.sub(DenverDeflaionaryDecay);
    }

    if(burnFee > 0 && _from != FeeAddress){
        uint256 Burnvalue = tempValue.div(uint256(100 / burnFee));
        totalSupply = totalSupply.sub(Burnvalue);
        emit Transfer(_from, address(0), Burnvalue);
        _value =  _value.sub(Burnvalue);
    }

function transferFrom(address _from, address _to, uint256 _value) public returns (bool)
```

Recommendation

Reuse the existing functions to reduce the code size of the contract.

L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L85,101,299,51,284,93,107,280,253

Description

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

```
blackListAddress
burn
allowance
unpause
updateFee
transferOwnership
mint
balanceOf
pause
```

Recommendation

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

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L237,280,284,196,189,128,161,241,249,201,207,245,233,118,157

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.

```
_owner
_value
_to
FeeAddress
_spender
_subtractedValue
_addedValue
_FeeAddress
_from
...
```

Recommendation

Follow the Solidity naming convention.
https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions.

L11 - Unnecessary Boolean equality

Criticality	minor
Location	contract.sol#L161,128

Description

The comparison to boolean constants is redundant. Boolean constants can be used directly and do not need to be compared to true or false.

```
require(bool)(tokenBlacklist[msg.sender] == false)
```

Recommendation

Remove the equality to the boolean constant.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
SafeMath	Library			
	mul	Internal		
	div	Internal		
	sub	Internal		
	add	Internal		
Ownable	Implementation			
	transferOwnership	Public	✓	onlyOwner
Pausable	Implementation	Ownable		
	pause	Public	✓	onlyOwner whenNotPaused
	unpause	Public	✓	onlyOwner whenPaused
ERC20Basic	Implementation			
	balanceOf	Public		-
	transfer	Public	✓	-
ERC20	Implementation	ERC20Basic		
	allowance	Public		-
	transferFrom	Public	✓	-
	approve	Public	✓	-
StandardToken	Implementation	ERC20		
	transfer	Public	✓	-
	balanceOf	Public		-

	transferFrom	Public	✓	-
	approve	Public	✓	-
	allowance	Public		-
	increaseApproval	Public	✓	-
	decreaseApproval	Public	✓	-
	_blackList	Internal	✓	
PausableToken	Implementation	StandardToken, Pausable		
	transfer	Public	✓	whenNotPaused
	transferFrom	Public	✓	whenNotPaused
	approve	Public	✓	whenNotPaused
	increaseApproval	Public	✓	whenNotPaused
	decreaseApproval	Public	✓	whenNotPaused
	blackListAddress	Public	✓	whenNotPaused onlyOwner
CoinToken	Implementation	PausableToken		
	<Constructor>	Public	✓	-
	burn	Public	✓	-
	updateFee	Public	✓	onlyOwner
	_burn	Internal	✓	
	mint	Public	✓	onlyOwner

Contract Flow
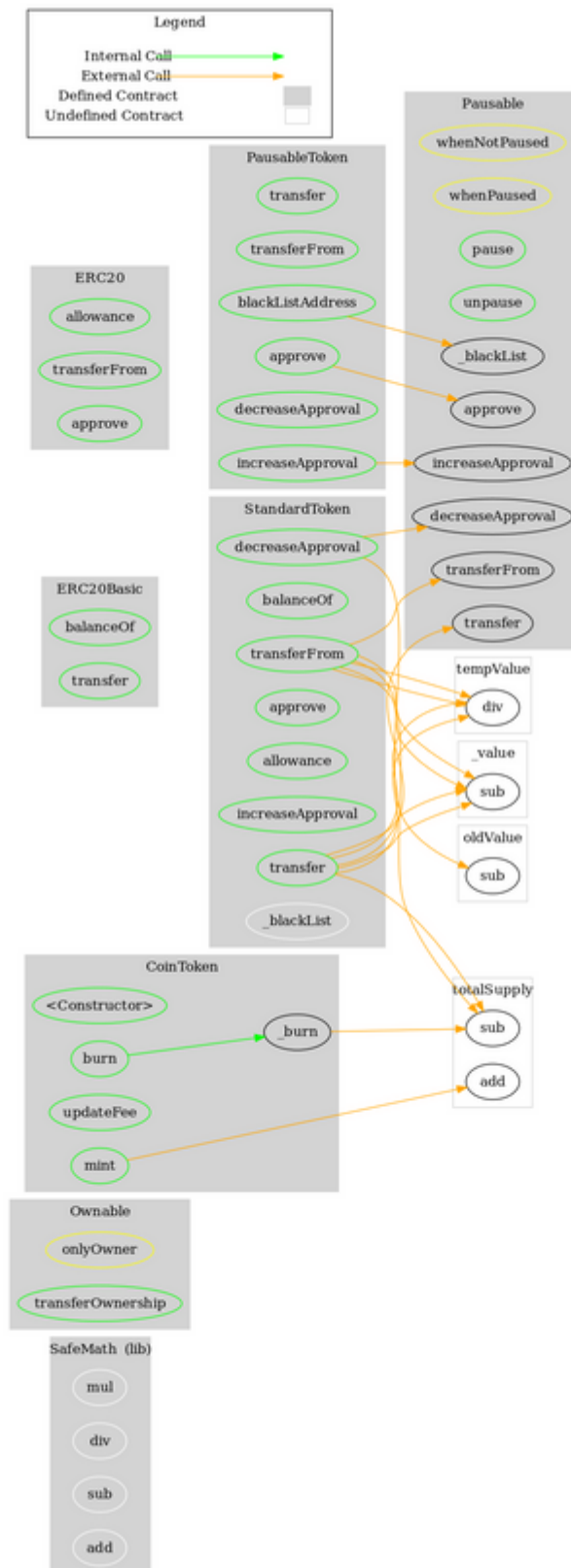
Domain Info

Domain Name	hongkongtoken.com
Registry Domain ID	2676445394_DOMAIN_COM-VRSN
Creation Date	2022-02-20T16:47:16Z
Updated Date	2022-06-27T17:14:43Z
Registry Expiry Date	2024-02-20T16:47:16Z
Registrar WHOIS Server	whois.isimtescil.net
Registrar URL	http://www.isimtescil.net
Registrar	Isimtescil Bilisim A.S.
Registrar IANA ID	3826

The domain has been created in over 1 year before the creation of the audit.

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

Summary

There are some functions that can be abused by the owner like manipulating fees, minting tokens. If the contract owner abuses the mint functionality, then the contract will be highly inflated. 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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The Cyberscope team disclaims any liability for the resulting losses.

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