



Cyberscope

Audit Report

CoCoin

July 2023

Network BSC

Address 0xBb02205d9405029fD1944f30B29a5D3e510aE1Be

Audited by © cyberscope

Analysis

● Critical ● Medium ● Minor / Informative ● Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

Diagnostics

● Critical ● Medium ● Minor / Informative

Severity	Code	Description	Status
●	AOO	Arithmetic Operation Optimization	Unresolved
●	L02	State Variables could be Declared Constant	Unresolved

Table of Contents

Analysis	1
Diagnostics	2
Table of Contents	3
Review	4
Audit Updates	4
Source Files	5
Findings Breakdown	6
AOO - Arithmetic Operation Optimization	7
Description	7
Recommendation	7
L02 - State Variables could be Declared Constant	8
Description	8
Recommendation	8
Functions Analysis	9
Inheritance Graph	10
Flow Graph	11
Summary	12
Disclaimer	13
About Cyberscope	14

Review

Contract Name	Cocoin
Compiler Version	v0.8.17+commit.8df45f5f
Optimization	200 runs
Explorer	https://bscscan.com/address/0xbb02205d9405029fd1944f30b29a5d3e510ae1be
Address	0xbb02205d9405029fd1944f30b29a5d3e510ae1be
Network	BSC
Symbol	COCOIN
Decimals	8
Total Supply	1,000,000,000

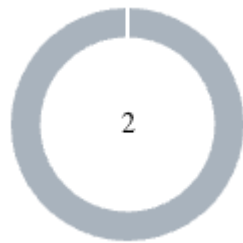
Audit Updates

Initial Audit	24 Jul 2023
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Source Files

Filename	SHA256
contracts/tokens/Cocoin.sol	7506a33a3273bfff2a0bf203987e9864dd4 dee79310b9eb0e537d1fb4f9630c3
@openzeppelin/contracts/utils/Context.sol	1458c260d010a08e4c20a4a517882259a2 3a4baa0b5bd9add9fb6d6a1549814a
@openzeppelin/contracts/token/ERC20/IERC20.sol	94f23e4af51a18c2269b355b8c7cf4db800 3d075c9c541019eb8dcf4122864d5
@openzeppelin/contracts/token/ERC20/ERC20.sol	bce14c3fd3b1a668529e375f6b70ffdf9cef 8c4e410ae99608be5964d98fa701
@openzeppelin/contracts/token/ERC20/extensions /IERC20Metadata.sol	af5c8a77965cc82c33b7ff844deb9826166 689e55dc037a7f2f790d057811990
@openzeppelin/contracts/token/ERC20/extensions /ERC20Burnable.sol	0344809a1044e11ece2401b4f7288f414ea 41fa9d1dad24143c84b737c9fc02e
@openzeppelin/contracts/access/Ownable.sol	9353af89436556f7ba8abb3f37a6677249a a4df6024fbfaa94f79ab2f44f3231

Findings Breakdown



● Critical	0
● Medium	0
● Minor / Informative	2

Severity	Unresolved	Acknowledged	Resolved	Other
● Critical	0	0	0	0
● Medium	0	0	0	0
● Minor / Informative	2	0	0	0

AOO - Arithmetic Operation Optimization

Criticality	Minor / Informative
Location	contracts/tokens/Cocoin.sol#L144
Status	Unresolved

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 `_distributeFees` function splits the fee amount in two portions and transfers each portion to the corresponding fee receiver. Each portion is half the fee amount. However, the operation `amount * 5 / 10` can be optimized even further by just dividing the fee amount by 2.

```
// Calculate the fee receiver #1 amount (50%)  
uint256 fee1 = amount * 5 / 10;
```

Recommendation

The team is advised to take these segments into consideration and rewrite them so the runtime will be more performant. That way it will improve the efficiency and performance of the source code and reduce the cost of executing it.

L02 - State Variables could be Declared Constant

Criticality	Minor / Informative
Location	contracts/tokens/Cocoin.sol#L19
Status	Unresolved

Description

State variables can be declared as constant using the constant keyword. This means that the value of the state variable cannot be changed after it has been set. Additionally, the constant variables decrease gas consumption of the corresponding transaction.

```
uint8 private _decimals = 8
```

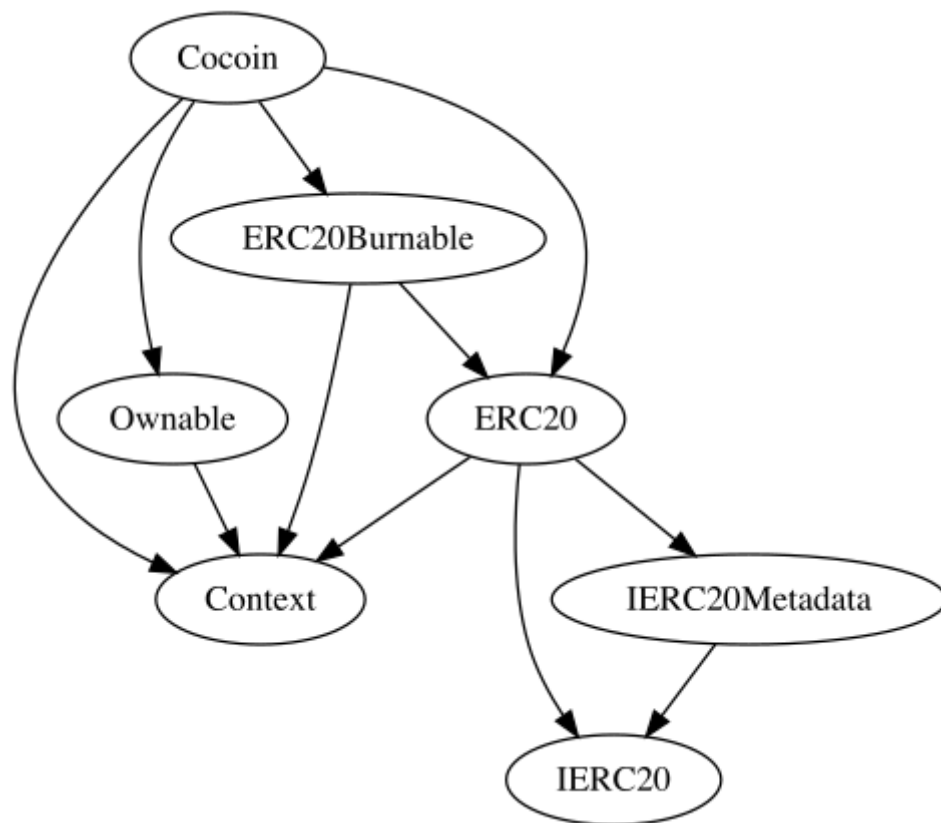
Recommendation

Constant state variables can be useful when the contract wants to ensure that the value of a state variable cannot be changed by any function in the contract. This can be useful for storing values that are important to the contract's behavior, such as the contract's address or the maximum number of times a certain function can be called. The team is advised to add the constant keyword to state variables that never change.

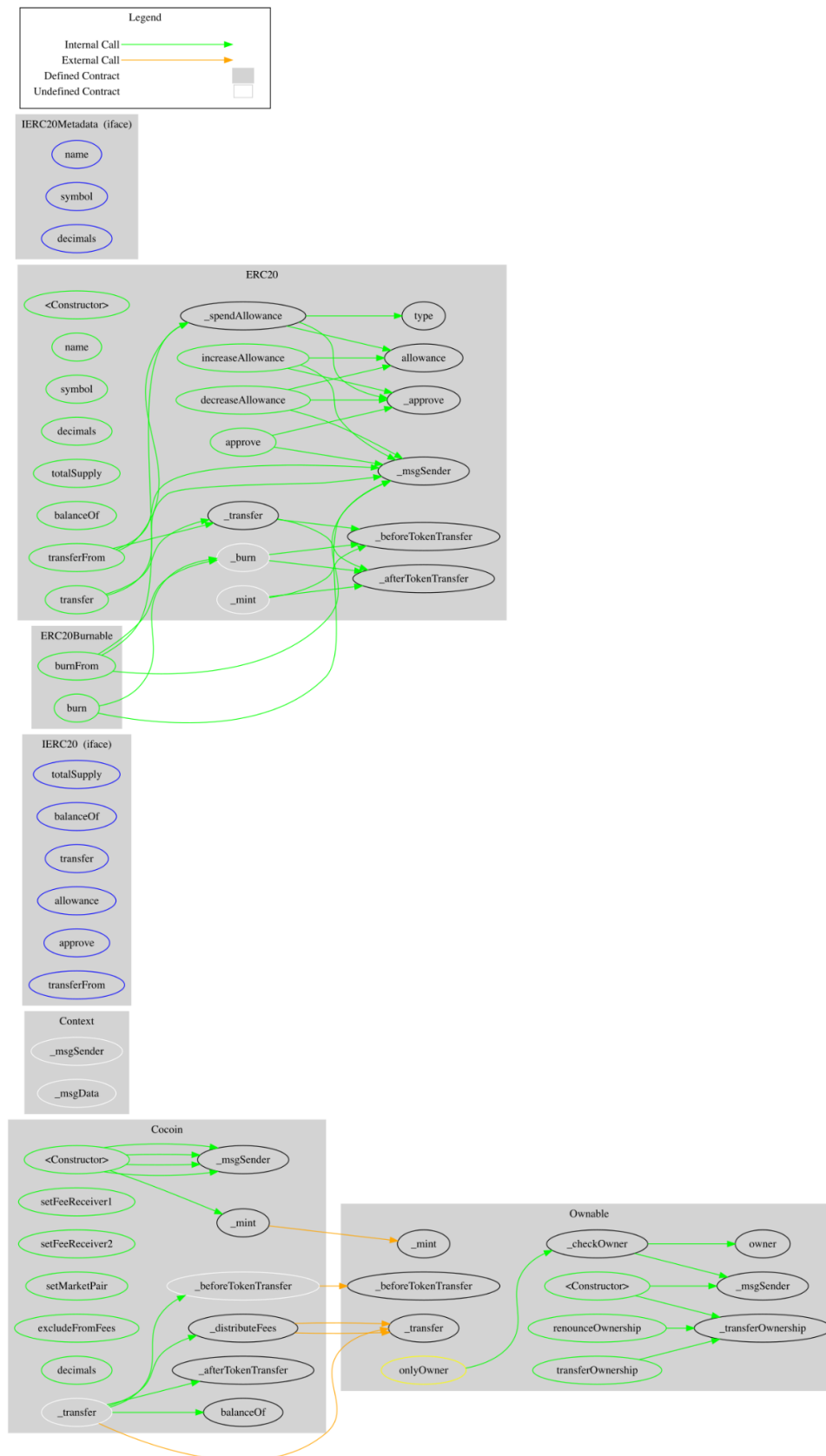
Functions Analysis

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
Cocoin	Implementation	Context, ERC20, ERC20Burnable, Ownable		
		Public	✓	ERC20
	setFeeReceiver1	Public	✓	onlyOwner
	setFeeReceiver2	Public	✓	onlyOwner
	setMarketPair	Public	✓	onlyOwner
	excludeFromFees	Public	✓	onlyOwner
	decimals	Public		-
	_mint	Internal	✓	
	_beforeTokenTransfer	Internal	✓	
	_transfer	Internal	✓	
	_distributeFees	Internal	✓	

Inheritance Graph



Flow Graph



Summary

CoCoin contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. CoCoin is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. There is also a limit of max 4% sell fees.

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Blockchain technology and cryptographic assets present a high level of ongoing risk. Cyberscope's position is that each company and individual are responsible for their own due diligence and continuous security. Cyberscope's goal is to help reduce the attack vectors and the high level of variance associated with utilizing new and consistently changing technologies and in no way claims any guarantee of security or functionality of the technology we agree to analyze. The assessment services provided by Cyberscope are subject to dependencies and are under continuing development. You agree that your access and/or use including but not limited to any services reports and materials will be at your sole risk on an as-is where-is and as-available basis. Cryptographic tokens are emergent technologies and carry with them high levels of technical risk and uncertainty. The assessment reports could include false positives, false negatives and other unpredictable results. The services may access and depend upon multiple layers of third parties.

About Cyberscope

Cyberscope is a blockchain cybersecurity company that was founded with the vision to make web3.0 a safer place for investors and developers. Since its launch, it has worked with thousands of projects and is estimated to have secured tens of millions of investors' funds.

Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.



The Cyberscope team

<https://www.cyberscope.io>