Smart Contract Security Audit V1

Bitcoin City Coin

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Background

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Project Information

- **Website**: https://gobitcoin.city/
- **Twitter**: https://twitter.com/bitcoinCityMeta
- **Telegram group:** https://t.me/BitcoinCityCoin
- **Discord**: https://discord.gg/Xzr4gg5Qub
- **WhitePaper**: https://gobitcoin.city/bcity_litepaper.pdf
- **Token information**: https://gobitcoin.city/bcity_tokenomics.pdf
- **NFT on OpenSea**: https://opensea.io/collection/bitcoincity-1
- **Platform**: Binance Smart Chain
- **Contract Address**: https://bscscan.com/token/0x81d60ad757634e77d7ac321a90530eb6f0b71fa3

Token Information

- Name: BCITY
- Total Supply: 80,000,000
- Holders: NA address
- Total transactions: NA

Contracts address deployed to test net (BSC)

Bitcoin City Coin (BCITY)contract on testnet.bsc (BSC Test Net)

https://testnet.bscscan.com/address/0x4cb2a53834df79a83f0f0b2e6853c57f0e5ffe8a

Executive Summary

According to our assessment, the customer`s solidity smart contract is **Well Secured**.

Well Secured	✔
Secured	
Poor Secured	
Insecure	

Automated checks are with remix IDE. All issues were performed by the team, which included the analysis of code functionality, manual audit found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the audit overview section. The general overview is presented in the Project Information section and all issues found are located in the audit overview section.

Team found 0 critical, 0 high, 0 medium, 0 low, 1 very low-level issues and 1 note in all solidity files of the contract

The files:

Bitcoin City Coin .sol

File and Function Level Report

File in Scope:

Contract Name	SHA 256 hash	Contract Address
Bitcoin City Coin.sol	**52df3fc8c43e05fd01a4f019bb20f21fba9274ae7ab17299de33243677119e2a**	0x81d60ad757634e77d7ac321a90530eb6f0b71fa3

- Contract: StandardToken
- Inherit: IERC20, Ownable, BaseToken
- Observation: All passed including security check
- Test Report: passed
- Score: passed
- Conclusion: passed

Function	Test Result	Type / Return Type	Score
name	✔	Read / public	**Passed**
symbol	✔	Read / public	**Passed**
decimals	✔	Read / public	**Passed**
totalSupply	✔	Read / public	**Passed**
allowance	✔	Read / public	**Passed**
balanceOf	✔	Read / public	**Passed**
Owner	✔	Read / public	**Passed**
VERSION	✔	Read / public	**Passed**

approve	✔	Write / public	**Passed**
transferFrom	✔	Write / public	**Passed**
transfer	✔	Write / public	**Passed**
renounceOwnership	✔	Write / public	**Passed**
transferOwnership	✔	Write / public	**Passed**
increaseAllowance	✔	Write / public	**Passed**
decreaseAllowance	✔	Write / public	**Passed**

Issues Checking Status

No.	Issue Description	Checking Status
1	Compiler warnings.	**Passed**
2	Race conditions and Reentrancy. Cross-function race conditions.	**Passed**
3	Possible delays in data delivery.	**Passed**
4	Oracle calls.	**Passed**
5	Front running.	**Passed**
6	Timestamp dependence.	**Passed**
7	Integer Overflow and Underflow.	**Passed**
8	DoS with Revert.	**Passed**
9	DoS with block gas limit.	**Passed**
10	Methods execution permissions.	**Passed**
11	Economy model. If application logic is based on an incorrect economic model, the application would not function correctly and participants would incur financial losses. This type of issue is most often found in bonus rewards systems, Staking and Farming contracts, Vault and Vesting contracts, etc.	**Passed**
12	The impact of the exchange rate on the logic.	**Passed**
13	Private user data leaks.	**Passed**
14	Malicious Event log.	**Passed**
15	Scoping and Declarations.	**Passed**
16	Uninitialized storage pointers.	**Passed**
17	Arithmetic accuracy.	**Passed**
18	Design Logic.	**Passed**

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to tokens loss etc.
High	High-level vulnerabilities are difficult to exploit; however, they also have significant impact on smart contract execution, e.g. public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can’t lead to tokens lose
Low	Low-level vulnerabilities are mostly related to outdated, unused etc. code snippets, that can’t have significant impact on execution
Note	Lowest-level vulnerabilities, code style violations and info statements can’t affect smart contract execution and can be ignored.

Audit Findings

Critical:

No critical severity vulnerabilities were found.

High:

No High severity vulnerabilities were found

Medium:

No Medium severity vulnerabilities were found.

Low:

No Low severity vulnerabilities were found.

Very Low:

Issue #1. Similar variable names:

In detail
StandardToken.(string,string,uint8,uint256,address,uint256) : Variables have very similar names "_name" and "name_". Note: Modifiers are currently not considered by this static analysis.

```
  _name = name_;
  _symbol = symbol_;
_decimals = decimals_;
```

Notes:

#Note1

#Gas Cost:

Gas requirement of function StandardToken.name is infinite: If the gas requirement of a function is higher than the block gas limit, it cannot be executed.Please avoid loops in your functions or actions that modify large areas of storage(this includes clearing or copying arrays in storage)

```
      function name() public view virtual returns (string memory) {
        return _name;
    }
function symbol() public view virtual returns (string memory) {
        return _symbol;
    }
function transfer(address recipient, uint256 amount)
        public
        virtual
        override
        returns (bool)
    {
        _transfer(_msgSender(), recipient, amount);
        return true;
    }
```

Automatic Testing

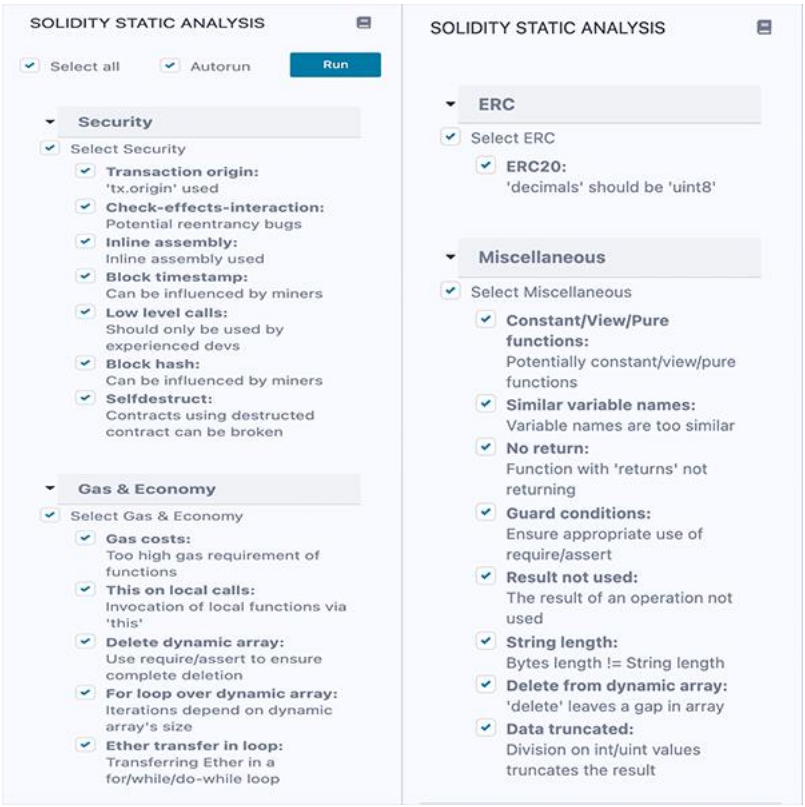
1- Check for security

52df3fc8c43e05fd01a4f019bb20f21fba9274ae7ab17299de33243677119e2a

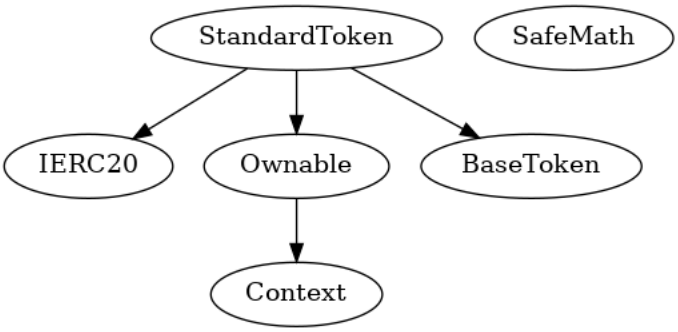
File: Bitcoin ... | Language: solidity | Size: 23607 bytes | Date: 2021-11-28T15:36:30.898Z

Critical	High	Medium	Low	Note
0	0	0	0	1

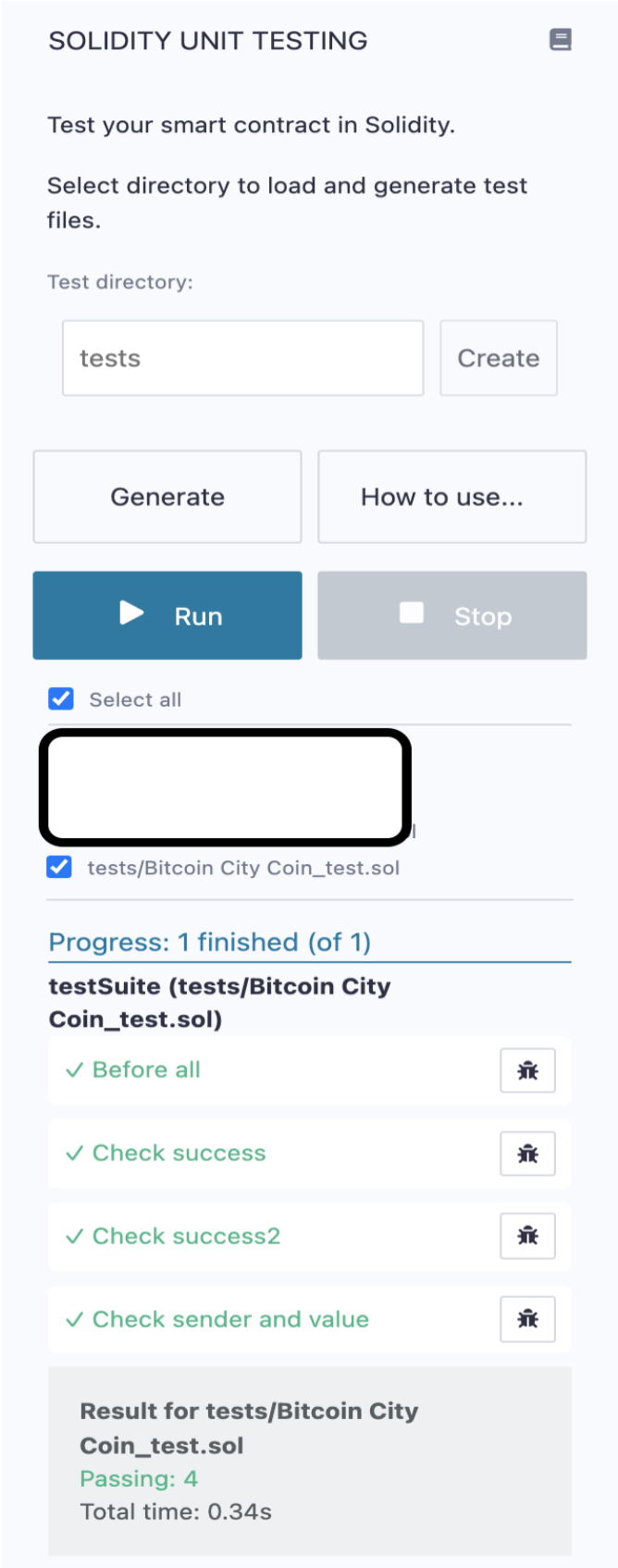
2- SOLIDITY STATIC ANALYSIS



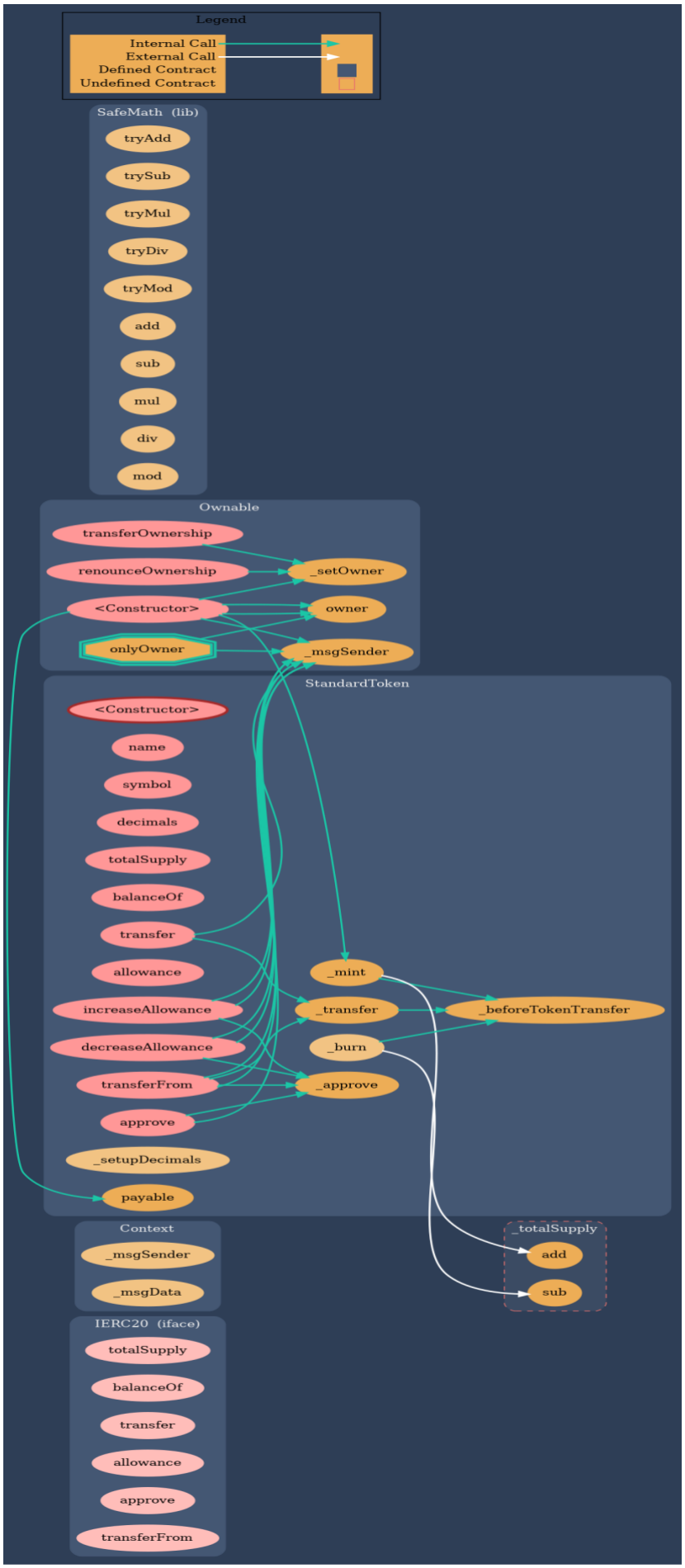
3- Inheritance graph



4- SOLIDITY UNIT TESTING



5- Call graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
SafeMath (lib)
tryAdd
trySub
tryMul
tryDiv
tryMod
add
sub
mul
div
mod
Ownable
transferOwnership
renounceOwnership
<Constructor>
onlyOwner
_setOwner
owner
_msgSender
StandardToken
<Constructor>
name
symbol
decimals
totalSupply
balanceOf
transfer
allowance
increaseAllowance
decreaseAllowance
transferFrom
approve
_setupDecimals
payable
_mint
_transfer
_burn
_approve
_beforeTokenTransfer
Context
_msgSender
_msgData
_totalSupply
add
sub
IERC20 (iface)
totalSupply
balanceOf
transfer
allowance
approve
transferFrom

Automatic general report

Files Description Table

File Name	SHA-1 Hash
/Users/macbook/Desktop/smart contracts/Bitcoin City Coin.sol	db96a6c8735daa21e7e7d59b0dcda0c1443f5fc4

Contracts Description Table

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
IERC20	Interface			
└	totalSupply	External ❗		NO❗
└	balanceOf	External ❗		NO❗
└	transfer	External ❗	🛑	NO❗
└	allowance	External ❗		NO❗
└	approve	External ❗	🛑	NO❗
└	transferFrom	External ❗	🛑	NO❗
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
Ownable	Implementation	Context		
└	<Constructor>	Public ❗	🛑	NO❗
└	owner	Public ❗		NO❗
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
└	_setOwner	Private 🔐	🛑	
SafeMath	Library			
└	tryAdd	Internal 🔒		
└	trySub	Internal 🔒		
└	tryMul	Internal 🔒		
└	tryDiv	Internal 🔒		
└	tryMod	Internal 🔒		
└	add	Internal 🔒		
└	sub	Internal 🔒		
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	mod	Internal 🔒		
└	sub	Internal 🔒		
└	div	Internal 🔒		
└	mod	Internal 🔒		
BaseToken	Implementation			
StandardToken	Implementation	IERC20, Ownable, BaseToken		
└	<Constructor>	Public ❗	💰	NO❗
└	name	Public ❗		NO❗

└	symbol	Public ❗		NO❗
└	decimals	Public ❗		NO❗
└	totalSupply	Public ❗		NO❗
└	balanceOf	Public ❗		NO❗
└	transfer	Public ❗	🛑	NO❗
└	allowance	Public ❗		NO❗
└	approve	Public ❗	🛑	NO❗
└	transferFrom	Public ❗	🛑	NO❗
└	increaseAllowance	Public ❗	🛑	NO❗
└	decreaseAllowance	Public ❗	🛑	NO❗
└	_transfer	Internal 🔒	🛑	
└	_mint	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	
└	_approve	Internal 🔒	🛑	
└	_setupDecimals	Internal 🔒	🛑	
└	_beforeTokenTransfer	Internal 🔒	🛑	

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

Conclusion

The contracts are written systematically. Team found no critical issues. So, it is good to go for production.

Since possible test cases can be unlimited and developer level documentation (code flow diagram with function level description) not provided, for such an extensive smart contract protocol, we provide no such guarantee of future outcomes. We have used all the latest static tools and manual observations to cover maximum possible test cases to scan Everything.

Security state of the reviewed contract is “Well-secured”.

- ✔ No mint function.
- ✔ No volatile code.
- ✔ Not many high severity issues were found.
- ✔ Contract Ownership Renounced.

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against the team on the basis of what it says or doesn't say, or how team produced it, and it is important for you to conduct your own independent investigations before making any decisions. team go into more detail on this in the below disclaimer below – please make sure to read it in full.

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