



# Smart Contract Audit

FOR

# Dollox Network

DATED : 14 April 23'



# AUDIT SUMMARY

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**Project name – Dollox Network**

**Date:** 14 April, 2023

**Scope of Audit-** Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

**Audit Status:** **Passed With Medium Risk**

## Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	1	0	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0

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# USED TOOLS

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## Tools:

### 1- Manual Review:

a line by line code review has been performed by audit ace team.

### 2- BSC Test Network:

all tests were done on BSC Test network, each test has its transaction has attached to it.

### 3- Slither :

The code has undergone static analysis using Slither.

### Testnet Link:

<https://testnet.bscscan.com/token/0x86a1c324D842379d4D577096768eaBff6EfC7D74>

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# Token Information

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**Token Name :** Dollox Network

**Token Symbol:** DLX

**Decimals:** 18

**Token Supply:** 1,000,000,000

**Token Address:**

0x82435103865fc9eEb645a6bae1F840614E0C9768

**Checksum:**

526329adf36e989503ef2c89d84aff5add6b9644

**Owner:**

0x75f58204BDa4a0CBEcBB3c2A60d0Ce26794fdA00  
(at time of audit)

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# TOKEN OVERVIEW

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## **Fees:**

Buy Fees: 0%

Sell Fees: 0%

Transfer Fees: 0%

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**Fees Privilege:** None

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**Ownership:** Renounced

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**Minting:** No mint function

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**Max Tx Amount/ Max Wallet Amount:** No

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**Blacklist:** No

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**Other Privileges:** Enabling trades - initializing sale and airdrops

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# AUDIT METHODOLOGY

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The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
  - Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
  - Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.
  - Test coverage analysis determines whether the test cases are covering the code and how much code is exercised when we run the test cases.
  - Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.
  - Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.
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# VULNERABILITY CHECKLIST

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- |                                    |                               |
|------------------------------------|-------------------------------|
| ✓ Return values of low-level calls | ✓ Gasless Send                |
| ✓ Private modifier                 | ✓ Using block.timestamp       |
| ✓ Multiple Sends                   | ✓ Re-entrancy                 |
| ✓ Using Suicide                    | ✓ Tautology or contradiction  |
| ✓ Gas Limitand Loops               | ✓ Timestamp Dependence        |
| ✓ Address hardcoded                | ✓ Revert/require functions    |
| ✓ Exception Disorder               | ✓ Use of tx.origin            |
| ✓ Using inline assembly            | ✓ Integer overflow/underflow  |
| ✓ Divide before multiply           | ✓ Dangerous strict equalities |
| ✓ Missing Zero Address Validation  | ✓ Using SHA3                  |
| ✓ Compiler version not fixed       | ✓ Using throw                 |
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# CLASSIFICATION OF RISK

## Severity

## Description

◆ Critical	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
◆ High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
◆ Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
◆ Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
◆ Gas Optimization /Suggestion	A vulnerability that has an informational character but is not affecting any of the code.

## Findings

### Severity

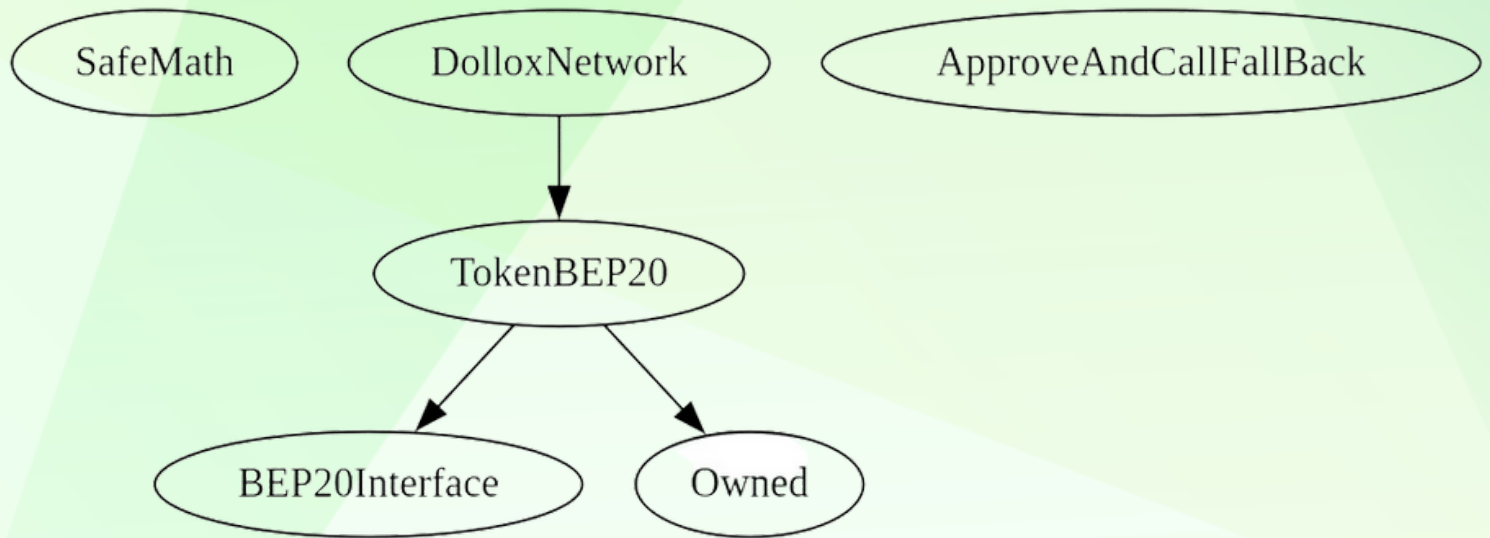
### Found

◆ Critical	0
◆ High-Risk	0
◆ Medium-Risk	1
◆ Low-Risk	0
◆ Gas Optimization / Suggestions	0



# INHERITANCE TREE

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# POINTS TO NOTE

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- **Owner is not able to set buy/sell/transfer fees**
  - **Owner is not able to set a max buy/transfer/wallet amount**
  - **Owner is able to blacklist an arbitrary wallet**
  - **Owner is able to disable trades**
  - **Owner is not able to mint new tokens**
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# CONTRACT ASSESMENT

Contract	Type	Bases			
:-----: :-----: :-----: :-----: :-----:					
L	**Function Name**	**Visibility**	**Mutability**	**Modifiers**	
**SafeMath**   Library					
L	add	Internal	🔒		
L	sub	Internal	🔒		
L	mul	Internal	🔒		
L	div	Internal	🔒		
**BEP20Interface**   Implementation					
L	totalSupply	Public	!		NO !
L	balanceOf	Public	!		NO !
L	allowance	Public	!		NO !
L	transfer	Public	!		NO !
L	approve	Public	!		NO !
L	transferFrom	Public	!		NO !
**ApproveAndCallFallBack**   Implementation					
L	receiveApproval	Public	!		NO !
**Owned**   Implementation					
L	<Constructor>	Public	!		NO !
L	transferOwnership	Public	!		onlyOwner
L	acceptOwnership	Public	!		NO !
**TokenBEP20**   Implementation   BEP20Interface, Owned					
L	<Constructor>	Public	!		NO !
L	totalSupply	Public	!		NO !
L	balanceOf	Public	!		NO !
L	transfer	Public	!		NO !
L	approve	Public	!		NO !
L	transferFrom	Public	!		NO !
L	allowance	Public	!		NO !
L	approveAndCall	Public	!		NO !
L	<Fallback>	External	!		\$👤 NO !
**DolloxNetwork**   Implementation   TokenBEP20					
L	<Constructor>	Public	!		NO !
L	getAirdrop	Public	!		\$👤 NO !
L	tokenSale	Public	!		\$👤 NO !
L	viewAirdrop	Public	!		NO !
L	viewSale	Public	!		NO !
L	startAirdrop	Public	!		onlyOwner



# CONTRACT ASSESMENT

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	└		startSale		Public	!		●		onlyOwner	
	└		clearETH		Public	!		●		onlyOwner	
	└		<Fallback>		External	!		💰		NO	!
	└		burn		Public	!		●		onlyOwner	
	└		exitToken		Public	!		●		onlyOwner	
	└		enableTrading		External	!		●		onlyOwner	

## Legend

	Symbol		Meaning	
	:-----:		-----	
	●		Function can modify state	
	💰		Function is payable	



# STATIC ANALYSIS

```
Context._msgData() (bc/Context.sol#20-23) is never used and should be removed
ERC20._burn(address,uint256) (bc/ERC20.sol#289-300) is never used and should be removed
ERC20._tokenGeneration(address,uint256) (bc/ERC20.sol#265-276) is never used and should be removed
SafeMath.div(uint256,uint256) (bc/SafeMath.sol#94-96) is never used and should be removed
SafeMath.div(uint256,uint256,string) (bc/SafeMath.sol#110-120) is never used and should be removed
SafeMath.mod(uint256,uint256) (bc/SafeMath.sol#134-136) is never used and should be removed
SafeMath.mod(uint256,uint256,string) (bc/SafeMath.sol#150-157) is never used and should be removed
SafeMath.mul(uint256,uint256) (bc/SafeMath.sol#68-80) is never used and should be removed
SafeMath.sub(uint256,uint256) (bc/SafeMath.sol#33-35) is never used and should be removed
SafeMathInt.abs(int256) (bc/SafeMath.sol#212-215) is never used and should be removed
SafeMathInt.add(int256,int256) (bc/SafeMath.sol#203-207) is never used and should be removed
SafeMathInt.div(int256,int256) (bc/SafeMath.sol#183-189) is never used and should be removed
SafeMathInt.mul(int256,int256) (bc/SafeMath.sol#171-178) is never used and should be removed
SafeMathInt.sub(int256,int256) (bc/SafeMath.sol#194-198) is never used and should be removed
SafeMathInt.toUint256Safe(int256) (bc/SafeMath.sol#217-220) is never used and should be removed
SafeMathUint.toInt256Safe(uint256) (bc/SafeMath.sol#228-232) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version^0.8.6 (bc/Context.sol#3) allows old versions
Pragma version^0.8.6 (bc/ERC20.sol#3) allows old versions
Pragma version^0.8.6 (bc/IERC20.sol#3) allows old versions
Pragma version^0.8.6 (bc/SafeMath.sol#3) allows old versions
solc-0.8.19 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Redundant expression "this (bc/Context.sol#21)" inContext (bc/Context.sol#15-25)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

SafeMathInt.MAX_INT256 (bc/SafeMath.sol#166) is never used in SafeMathInt (bc/SafeMath.sol#164-221)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable

ERC20._name (bc/ERC20.sol#40) should be immutable
ERC20._symbol (bc/ERC20.sol#41) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
bc/ERC20.sol analyzed (7 contracts with 84 detectors): 25 result(s) found
```

**Result => A static analysis of contract's source code has been performed using slither,**

**No major issues were found in the output**



# FUNCTIONAL TESTING

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## 1- Adding liquidity (passed):

<https://testnet.bscscan.com/tx/0x9c38b72961a2b73bf4c94f40406c1aca67eae679dfd7a2879b0b4e0450e81c4b>

## 2- Buying (0% tax) (passed):

<https://testnet.bscscan.com/tx/0xceec4124d25ee7b491b7148cd374024bb2413e4990b030172097898ae6685420>

## 3- Selling (0% tax) (passed):

<https://testnet.bscscan.com/tx/0x2e070ec118eb69f1f8db30109de8471cff6659e457ca308c176a4646228ddb4c>

## 4- Transferring (0% tax) (passed):

<https://testnet.bscscan.com/tx/0xab6987a455d41a1303ce93064a2488e5897715cdef2d17b100ced0f60070e2cc>

## 8- Burning (passed):

<https://testnet.bscscan.com/tx/0x4d012f0b838e7d832e7738201ad6c23986a3f4cd3dd3975bd5d40f13dea47f7f>

## 9- Token sale (passed):

<https://testnet.bscscan.com/tx/0xe3ceabfe67276363454413d46a01542533680391d6351f401cef6db3d6d8c4ca>

## 10- Airdrop (passed):

<https://testnet.bscscan.com/tx/0xea0143e63f286b0e99b2b3f130640a1026a4d88ed664ec9e97386d49bd33db15>

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# MANUAL TESTING

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## Logical – Invalid airdrop & sale calculations

Severity: Medium

Function: tokenSale - getAirdrop

Lines: 233, 209

Status: Not Resolved

### Overview:

At tokenSale and getAirdrop functions, a portion of the airdrop/sale amount (30%) is sent to refferer, however, this amount of tokens are not deducted from total airdrop/sale amounts which could lead to invalid calculations.

On the other hand sTot (total tokens sold) and aTot (total tokens airdropped) are increasing only by 1 after each sale or airdrop. This means we will not reach the airdrop or sale cap (e.g. sale cap would be reached after 590,000,000 times contribution)

```
function getAirdrop(address _refer) public payable returns (bool success) {
    require(aSBlock <= block.number && block.number <= aEBlock);
    require(aTot < aCap || aCap == 0);
    require(!_hasClaimed[msg.sender] != true, "You have already claimed!");
    require(
        msg.value >= 0.001 ether,
        "BEP20: insufficient BNB for transaction"
    );

    if (msg.value > 0.001 ether) {
        uint256 refundAmount = msg.value - 0.001 ether;
        msg.sender.transfer(refundAmount);
    }

    aTot++;
    if (
        msg.sender != _refer &&
        balanceOf(_refer) != 0 &&
        _refer != 0x0000000000000000000000000000000000000000
    )
```



# MANUAL TESTING

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```
{
balances[address(this)] = balances[address(this)].sub(
(aAmt * 3) / 10
);
balances[_refer] = balances[_refer].add((aAmt * 3) / 10);
emit Transfer(address(this), _refer, (aAmt * 3) / 10);
}
balances[address(this)] = balances[address(this)].sub(aAmt);
_hasClaimed[msg.sender] = true;
balances[msg.sender] = balances[msg.sender].add(aAmt);
emit Transfer(address(this), msg.sender, aAmt);
return true;
}
```

## Recommendation:

- Ensure that refferer amount is deducted from total tokens
- Ensure that total tokens sold is calculated correctly







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