



# Smart Contract Audit

FOR

# Dollox Network

DATED : 14 April 23'



# AUDIT SUMMARY

**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:** **Not Passed**

## Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	2	1	0	0	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0



# 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

2

### ◆ High-Risk

1

### ◆ Medium-Risk

0

### ◆ Low-Risk

0

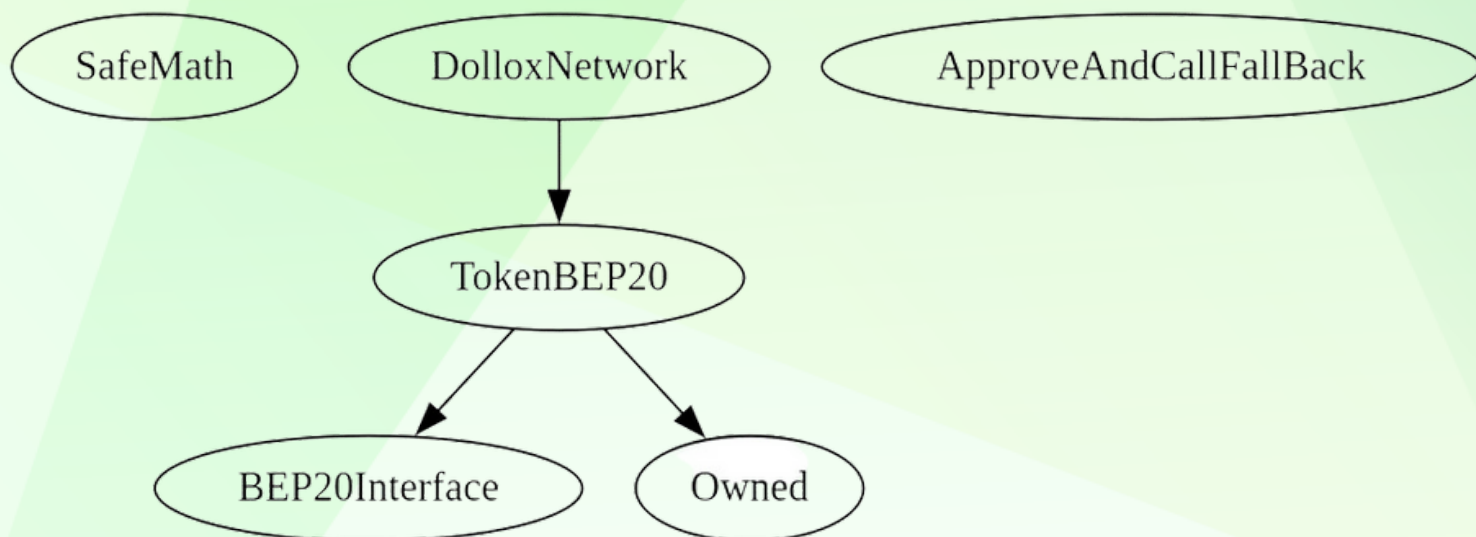
### ◆ Gas Optimization / Suggestions

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# 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	

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# 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 – Claims & adding liquidity might be disabled

**Severity:** Critical

**Function:** transferFrom - transfer

**Lines:** 161

**Status:** Not Resolved

### Overview:

Since only owner of the contract is able to transfer tokens if trading is not enabled yet, claiming tokens after presale might not be possible unless trading is enabled by owner, also adding liquidity won't be possible because at some point router address is the msg.sender which is not owner of the contract

```
function transferFrom(
    address from,
    address to,
    uint tokens
) public returns (bool success) {
    require(
        isTradingEnabled || msg.sender == owner,
        "BEP20: trading is not enabled yet"
    );
    require(
        balances[from] >= tokens,
        "BEP20: insufficient balance for transfer"
    );
    require(
        allowed[from][msg.sender] >= tokens,
        "BEP20: transfer exceeds allowed amount"
    );
    balances[from] = balances[from].sub(tokens);
    allowed[from][msg.sender] = allowed[from][msg.sender].sub(tokens);
    balances[to] = balances[to].add(tokens);
    emit Transfer(from, to, tokens);
    return true;
}
```

### Recommendation:

Create a function to be able to whitelist different wallets from paying fees

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# MANUAL TESTING

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## Centralization – Owner must enable trades

**Severity:** High

**Function:** enableTrading

**Lines:** 305

**Status:** Not Resolved

**Overview:**

The contract owner is required to enable trades for investors. If trading remains disabled, token holders will be unable to buy, sell, or transfer tokens.

```
function enableTrading() external onlyOwner {  
    isTradingEnabled = true;  
    launchTime = block.timestamp;  
}
```

**Recommendation:**

To address this issue, consider the following options:

- Ensure that trade activation is guaranteed by temporarily transferring contract ownership to a trusted third party, such as a certified PinkSale Safu developer.
- Remove this function and allow investors to trade their tokens immediately after adding liquidity.





# MANUAL TESTING

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## Logical – Invalid airdrop & sale calculations

**Severity:** Critical

**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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# ABOUT AUDITACE

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We specialize in providing thorough and reliable audits for Web3 projects. With a team of experienced professionals, we use cutting-edge technology and rigorous methodologies to evaluate the security and integrity of blockchain systems. We are committed to helping our clients ensure the safety and transparency of their digital assets and transactions.



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