CheckPoint

Token Security Audit Report
Prepared for PhoenixChain

[v.1.0]

September 2021

Document Properties

Client	PhoenixChain
Platform	Binance Smart Chain
Language	Solidity
Codebase	0xE50947AE0D86b889b384Cd791d3a24Fa1054906B

Audit Summary

Delivery Date	07.09.2021
Audit Methodology	Static Analysis, Manual Review
Auditor(s)	Erno Patiala
Classification	Publlic
Version	1.0

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Remark: For more information about this document and its contents, please contact CheckPoint team

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1 Executive Summary

On 07/09/2021, CheckPoint conducted a full audit for the PhoenixChain to verify the overall security posture including a smart contract review to discover issues and vulnerabilities in the source code. Static Code Analysis, Dynamic Analysis, and Manual Review werdone in conjunction to identify smart contract vulnerabilities together with technical & business logic flaws that may be exposed to the potential risk of the platform and the ecosystem.

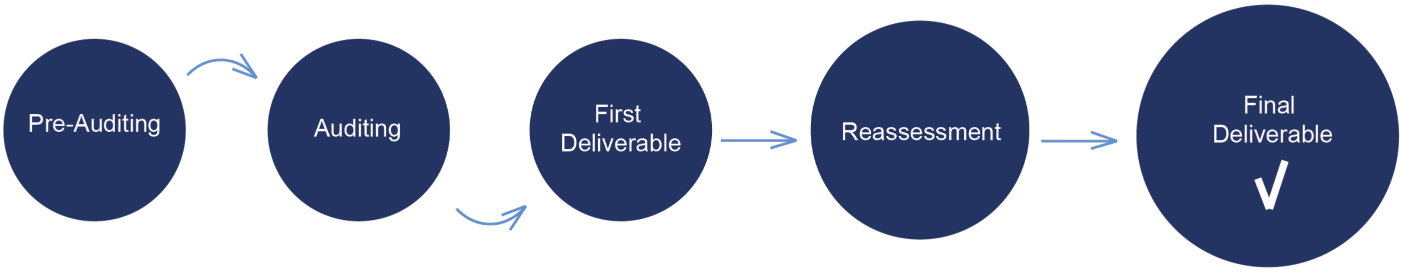
After further analysis and internal discussion, we determined a few issues of varying severities that need to be brought up and paid more attention to. More information can be found in **Section 5 ‘Audit Result’**. Practical recommendations are provided according to each vulnerability found and should be followed to remediate the issue.

🟥 **PhoenixChain**
High Risk Level

Communication Channels	Website Content Analysis, Social Media Listening
Smart Contract Code	Smart Contract Details, Contract Function Details, Issues Checking Status, Detailed Findings Information

THIS TOKEN PASSES CHECKPOINT'S SECURITY VERIFICATION STANDART

2 Audit Methodology



CheckPoint conducts the following procedure to enhance the security level of our clients' tokens:

- **Pre-Auditing**

  Planning a comprehensive survey of the token, its ecosystem, possible risks & prospects, getting to understand the overall operations of the related smart contracts, checking for readiness, and preparing for the auditing.

- **Auditing**

  Study of all available information about the token on the Web, inspecting the smart contracts using automated analysis tools and manual analysis by a team of professionals.

- **First Deliverable and Consulting**

  Delivering a preliminary report on the findings with suggestions on how to remediate those issues and providing consultation.

- **Reassessment**

  Verifying the status of the issues and whether there are any other complications in the fixes applied.

- **Final Deliverable**

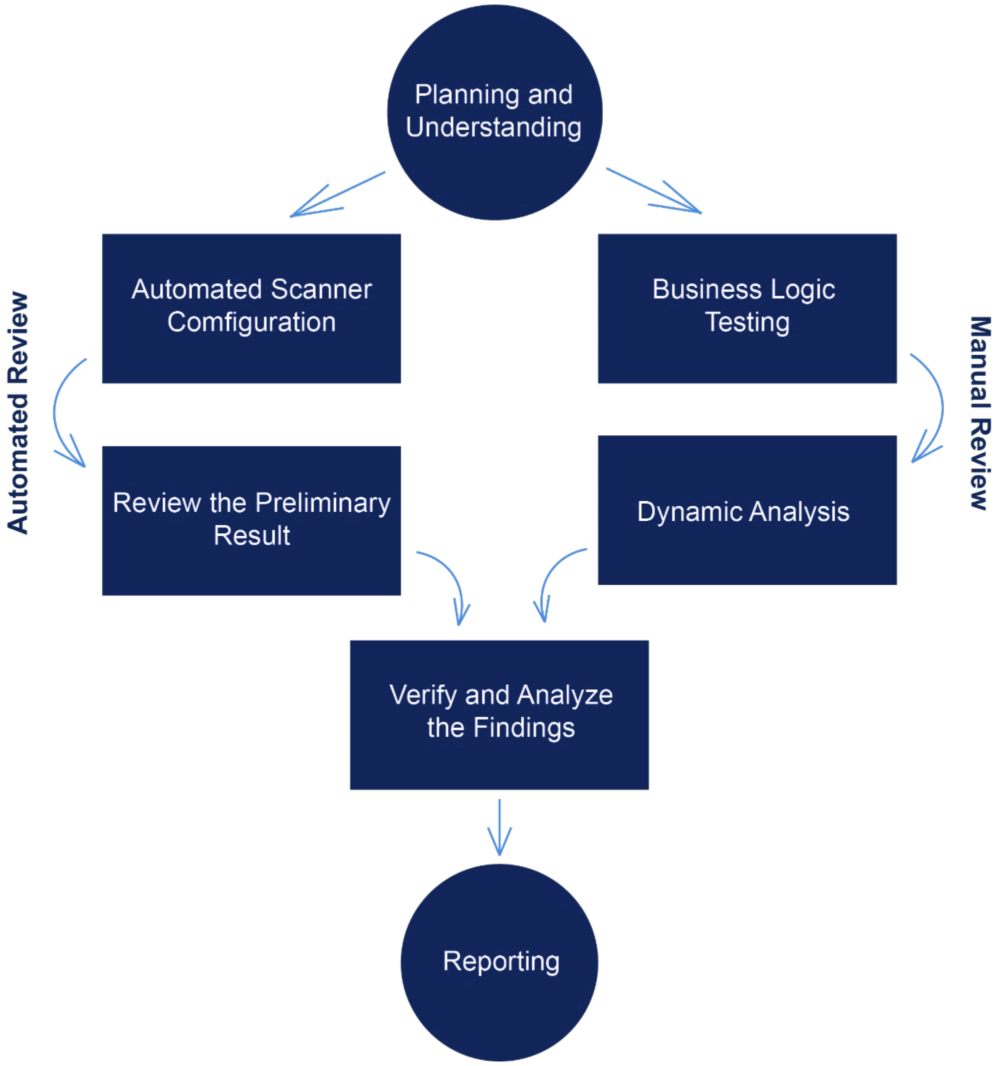
  Providing a full report with the detailed status of each issue.

The security audit process of CheckPoint includes three types testing:

1. Examining publicly available information about the token on social networks, including a detailed overview of the official website and analysis of the latest messages and opinions about the token.

2. Smart contract codes are scanned/tested for commonly known and more specific vulnerabilities using automated analysis tools.

3. Manual audit of the codes for security issues. The contracts are manually analyzed to look for any potential problems.


Planning and Understanding
Automated Review
Automated Scanner Comfiguration
Review the Preliminary Result
Business Logic Testing
Dynamic Analysis
Manual Review
Verify and Analyze the Findings
Reporting

Remark: Manual and Automated review approaches can be mixed and matched including business logic analysis in terms of malicious doers' perspective

In particular, we perform the audit according to the following procedure:

- **Planning & Understanding**
  - determine scope of testing and understand application purpose and workflows;
  - identify key risk areas, including technical and business risks;
  - determine approach – which sections to review within the resource constraints and review method – automated, manual or mixed.
- **Automated Review**
  - adjust automated source code review tools to inspect the code for known unsafe coding patterns;
  - verify output of the tool in order to eliminate false positive result, and if necessary, adjust and re-run the code review tool.
- **Manual Review**
  - testing for business logic flaws requires thinking in unconventional methods;
  - identify unsafe coding behavior via static code analysis.
- **Reporting**
  - analyze the root cause of the flaws;
  - recommend coding process improvements.

3 Risk Level Classification

To standardize the evaluation, we define the following terminology based on OWASP Risk Rating Methodology:

- **Likelihood** represents how likely a particular vulnerability is to be uncovered and exploited in the wild.
- **Impact** measures the technical loss and business damage of a successful attack.
- **Severity** demonstrates the overall criticality of the risk and calculated as the product of impact and likelihood values, illustrated in a twodimensional matrix. The shading of the matrix visualizes the different risk levels.

IMPACT

	Low	Medium	High
Low	Weakness	Low	Medium
Medium	Low	Medium	High
High	Medium	High	Critical

LIKELIHOOD

Remark: Likelihood and Impact are categorized into three levels: H, M, and L, i.e., High, Medium and Low respectively. Severity is determined by likelihood and impact and can be classified into five categories accordingly, i.e., Critical, High, Medium, Low and Weakness

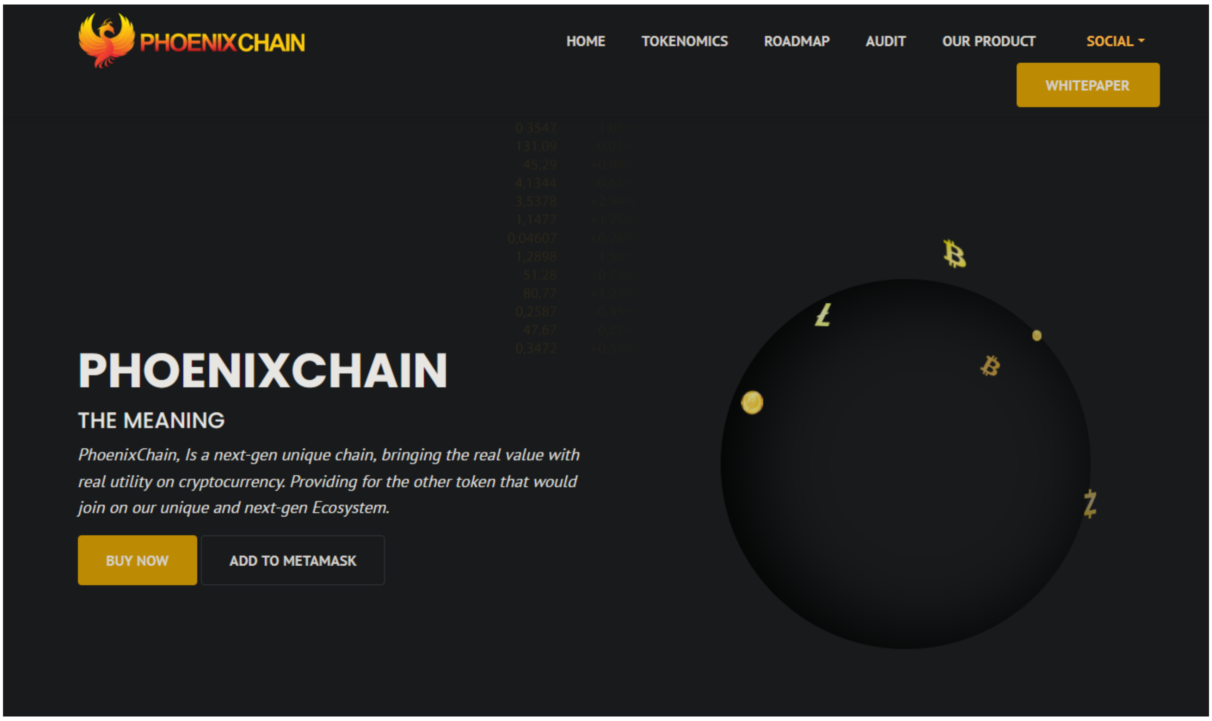
For prioritization of the vulnerabilities, we have adopted the scheme by five distinct levels for risk: Critical, High, Medium, Low, and Weakness. The risk level definitions are presented in table.

LEVEL	DESCRIPTION
Weakness	There are safety risks theoretically, but it is extremely difficult to reproduce in engineering
Low	Low severity vulnerabilities may affect the operation of the DeFi project in certain scenarios
Medium	Medium severity vulnerability will affect the operation of the DeFi project. It is recommended to fix medium-risk vulnerabilities
High	High severity vulnerabilities will affect the normal operation of the DeFi project. It is strongly recommended to fix high-risk vulnerabilities
Critical	Critical severity vulnerabilities will have a significant impact on the security of the DeFi project

4 Project Overview

4.1 Communication Channels

https://phoenixchain.finance



PHOENIXCHAIN

THE MEANING

PhoenixChain, Is a next-gen unique chain, bringing the real value with real utility on cryptocurrency. Providing for the other token that would join on our unique and next-gen Ecosystem.

Website was registered on 15-06-2021, registration expires 15-06-2022.

Above the image is an actual snapshot of the current live website of the project.

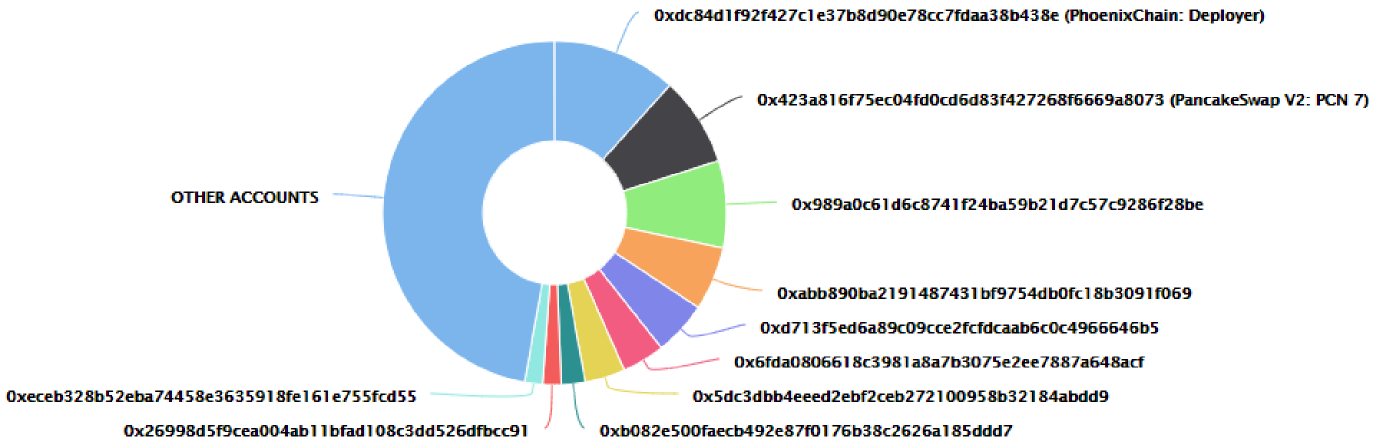
- ✓ **Mobile Friendly**
- ✓ **No JavaScript Errors**
- ✓ **Visionary Roadmap**
- ✓ **Spell Check**
- ✓ **Valid SSL Certificate**
- ✓ **The Multi DAPP Platform**
- ✓ **5 Social Media Networks**
- ✓ **3000+ Telegram Members**
- ✓ **2000+ Twitter Followers**
- ✓ **Active voice chats**
- ✓ **No injected spam and popus found**
- ✓ **YouTube Live**

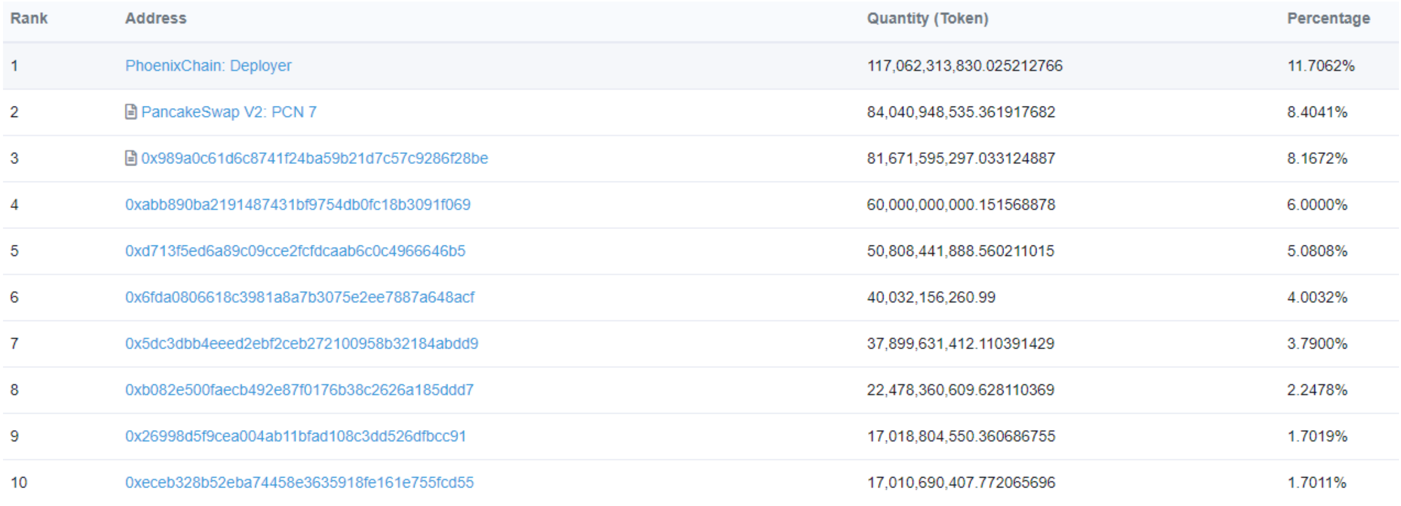
Remark: This page contains active links

4.2 Smart Contract Details

Contract Name	PhoenixChain
Contract Address	0xE50947AE0D86b889b384Cd791d3a24Fa1054906B
Total Supply	100,000,000,000
Token Ticker	PCN
Decimals	9
Token Holders	3,497
Transactions Count	15,157
Top 100 Holders Dominance	84,87%
Liquidity Fee	1%
Tax Fee	0%
Total Fees	0
PancakeSwap V2 Pair	0x423a816f75ec04fd0cd6d83f427268f6669a8073
Contract Deployer Address	0xdc84d1f92f427c1e37b8d90e78cc7fdaa38b438e
Current Owner Address	0xdc84d1f92f427c1e37b8d90e78cc7fdaa38b438e

PhoenixChain Top 10 Token Holders





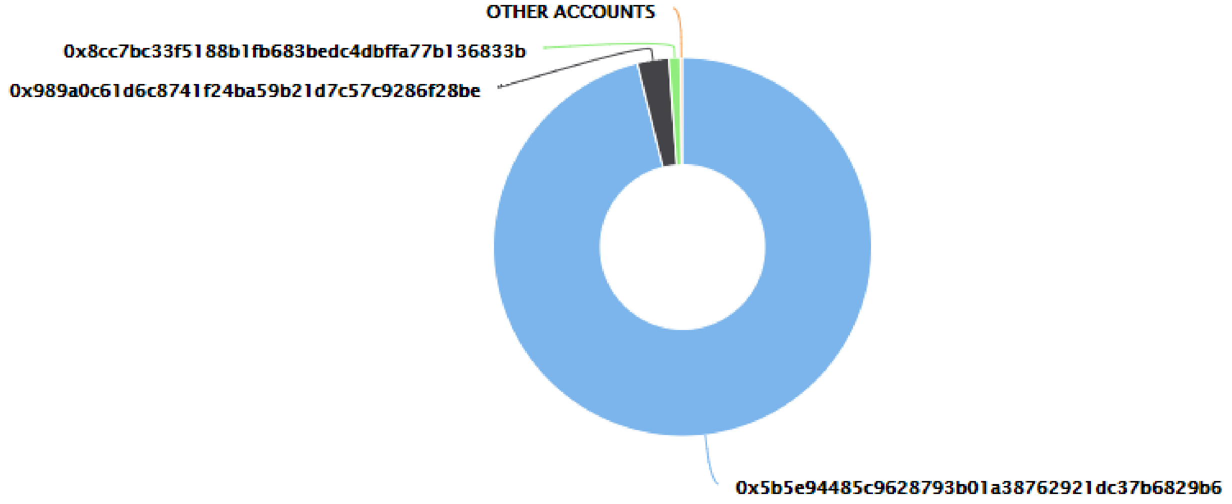
Rank	Address	Quantity (Token)	Percentage
1	PhoenixChain: Deployer	117,062,313,830.025212766	11.7062%
2	PancakeSwap V2: PCN 7	84,040,948,535.361917682	8.4041%
3	0x989a0c61d6c8741f24ba59b21d7c57c9286f28be	81,671,595,297.033124887	8.1672%
4	0xabb890ba2191487431bf9754db0fc18b3091f069	60,000,000,000.151568878	6.0000%
5	0xd713f5ed6a89c09cce2fcfdcaab6c0c4966646b5	50,808,441,888.560211015	5.0808%
6	0x6fda0806618c3981a8a7b3075e2ee7887a648acf	40,032,156,260.99	4.0032%
7	0x5dc3dbb4eeed2ebf2ceb272100958b32184abdd9	37,899,631,412.110391429	3.7900%
8	0xb082e500faecb492e87f0176b38c2626a185ddd7	22,478,360,609.628110369	2.2478%
9	0x26998d5f9cea004ab11bfad108c3dd526dfbcc91	17,018,804,550.360686755	1.7019%
10	0xeceb328b52eba74458e3635918fe161e755fcd55	17,010,690,407.772065696	1.7011%

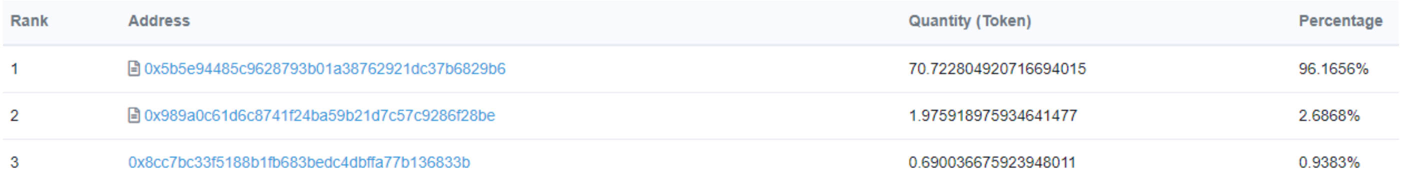
✓ **PancakeSwap holds ~8,4% of the token's supply as liquidity**

[RISK] The contract deployer has ~11,7% of the tokens

[RISK] MasterChef (other contract) has ~8,2% of the tokens

PhoenixChain Top 3 LP Token Holders

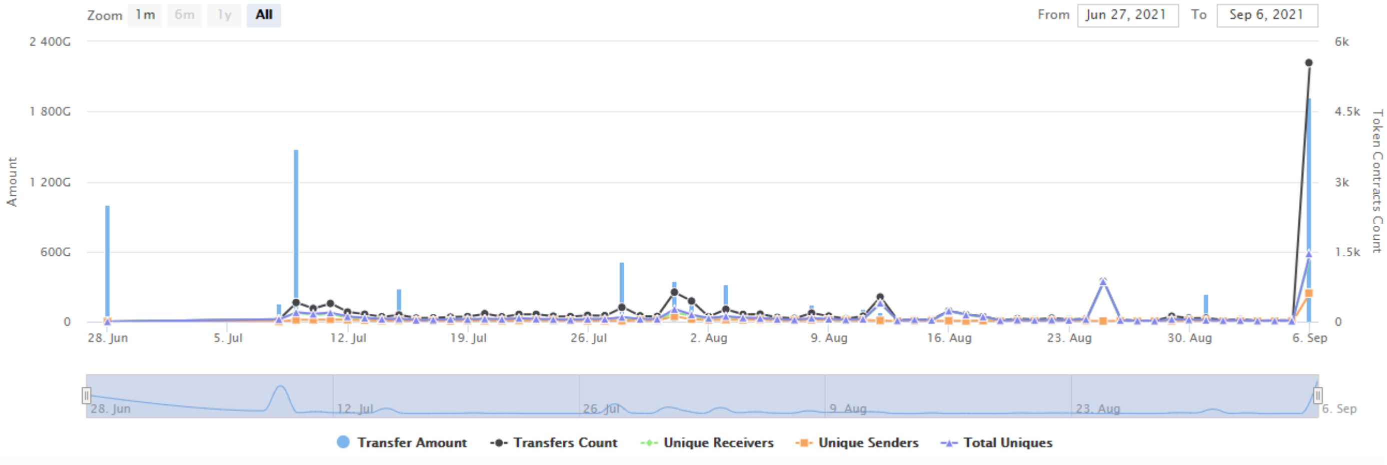




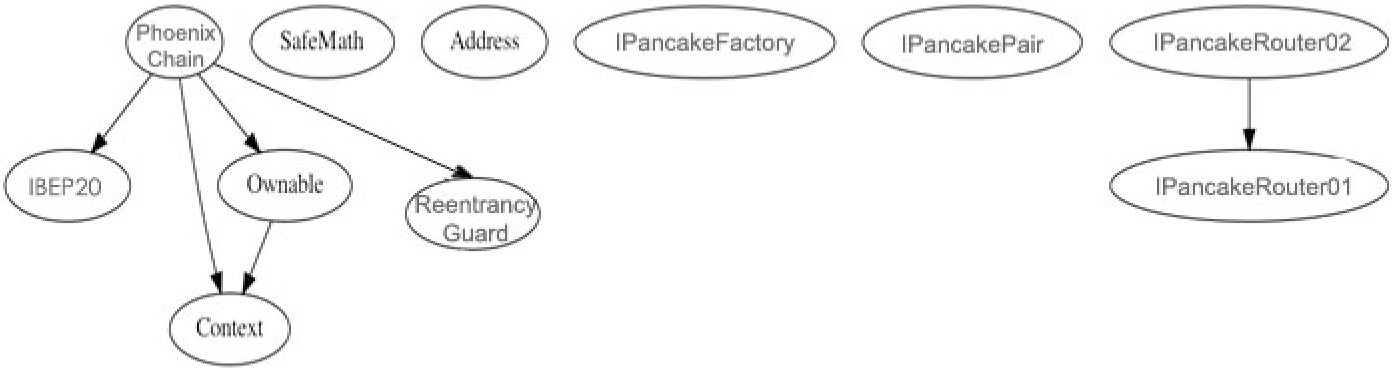
Rank	Address	Quantity (Token)	Percentage
1	0x5b5e94485c9628793b01a38762921dc37b6829b6	70.722804920716694015	96.1656%
2	0x989a0c61d6c8741f24ba59b21d7c57c9286f28be	1.975918975934641477	2.6868%
3	0x8cc7bc33f5188b1fb683bedc4dbffa77b136833b	0.690036675923948011	0.9383%

[RISK] 1 wallet have ~96,2% LP tokens

PhoenixChain Contract Interaction Details



4.3 Contract Function Details



```
$ = payable function
# = non-constant function
[Int] = Internal
[Pub] = Public
[Prv] = Private
[Ext] = External

+ [Int] IBEP20
   - [Ext] totalSupply
   - [Ext] balanceOf
   - [Ext] transfer #
   - [Ext] allowance
   - [Ext] approve #
   - [Ext] transferFrom #

+ [Lib] SafeMath
   - [Int] add
   - [Int] sub
   - [Int] sub
   - [Int] mul
   - [Int] div
   - [Int] div
   - [Int] mod
   - [Int] mod

+ Context
   - [Int] _msgSender
   - [Int] _msgData

+ [Lib] Address
   - [Int] isContract
   - [Int] sendValue #
   - [Int] functionCall #
   - [Int] functionCall #
```

```
  - [Int] functionCallWithValue #
  - [Int] functionCallWithValue #
  - [Prv] functionCallWithValue #

+ Ownable (Context)
  - [Int] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
  - [Pub] geUnlockTime
  - [Pub] lock #
    - modifiers: onlyOwner
  - [Pub] unlock #

+ [Int] IPancakeFactory
  - [Ext] feeTo
  - [Ext] feeToSetter
  - [Ext] getPair
  - [Ext] allPairs
  - [Ext] allPairsLength
  - [Ext] createPair #
  - [Ext] setFeeTo #
  - [Ext] setFeeToSetter #

+ [Int] IPancakePair
  - [Ext] name
  - [Ext] symbol
  - [Ext] decimals
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transfer #
  - [Ext] transferFrom #
  - [Ext] DOMAIN_SEPARATOR
  - [Ext] PERMIT_TYPEHASH
  - [Ext] nonces
  - [Ext] permit #
  - [Ext] MINIMUM_LIQUIDITY
  - [Ext] factory
  - [Ext] token0
  - [Ext] token1
  - [Ext] getReserves
  - [Ext] price0CumulativeLast
  - [Ext] price1CumulativeLast
  - [Ext] kLast
  - [Ext] mint #
  - [Ext] burn #
```

```
   - [Ext] swap #
   - [Ext] skim #
   - [Ext] sync #
   - [Ext] initialize #

 + [Int] IPancakeRouter01
   - [Ext] factory
   - [Ext] WETH
   - [Ext] addLiquidity #
   - [Ext] addLiquidityETH $
   - [Ext] removeLiquidity #
   - [Ext] removeLiquidityETH #
   - [Ext] removeLiquidityWithPermit #
   - [Ext] removeLiquidityETHWithPermit #
   - [Ext] swapExactTokensForTokens #
   - [Ext] swapTokensForExactTokens #
   - [Ext] swapExactETHForTokens $
   - [Ext] swapTokensForExactETH #
   - [Ext] swapExactTokensForETH #
   - [Ext] swapETHForExactTokens $
   - [Ext] quote
   - [Ext] getAmountOut
   - [Ext] getAmountIn
   - [Ext] getAmountsOut
   - [Ext] getAmountsIn

 + [Int] IPancakeRouter02 (IPancakeRouter01)
   - [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
   - [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #
   - [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
   - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens $
   - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #

 + ReentrancyGuard
   - [Pub] <Constructor> #

 + PhoenixChain (Context, IBEP20, ReentrancyGuard, Ownable)
   - [Pub] <Constructor> #
   - [Pub] name
   - [Pub] symbol
   - [Pub] decimals
   - [Pub] totalSupply
   - [Pub] balanceOf
   - [Pub] transfer #
   - [Pub] allowance
   - [Pub] approve #
   - [Pub] transferFrom #
   - [Pub] increaseAllowance #
   - [Pub] decreaseAllowance #
   - [Pub] isExcludedFromReward
```

- [Pub] totalFees
- [Pub] deliver #
- [Pub] reflectionFromToken
- [Pub] tokenFromReflection
- [Pub] excludeFromReward #
  - modifiers: onlyOwner
- [Ext] includeInReward #
  - modifiers: onlyOwner
- [Prv] _transferBothExcluded #
- [Pub] excludeFromFee #
  - modifiers: onlyOwner
- [Pub] includeInFee #
  - modifiers: onlyOwner
- [Ext] setTaxFeePercent #
  - modifiers: onlyOwner
- [Ext] setLiquidityFeePercent #
  - modifiers: onlyOwner
- [Pub] setSwapAndLiquifyEnabled #
  - modifiers: onlyOwner
- [Ext] <Fallback> $
- [Prv] _reflectFee #
- [Prv] _getValues
- [Prv] _getTValues
- [Prv] _getRValues
- [Prv] _getRate
- [Prv] _getCurrentSupply
- [Prv] _takeLiquidity #
- [Prv] calculateTaxFee
- [Prv] calculateLiquidityFee
- [Prv] removeAllFee #
- [Prv] restoreAllFee #
- [Pub] isExcludedFromFee
- [Prv] _approve #
- [Prv] _transfer #
- [Prv] _tokenTransfer #
- [Prv] _transferStandard #
- [Prv] _transferToExcluded #
- [Prv] _transferFromExcluded #
- [Pub] setMaxTxPercent #
  - modifiers: onlyOwner
- [Pub] setExcludeFromMaxTx #
  - modifiers: onlyOwner
- [Pub] calculateBNBReward
- [Pub] getRewardCycleBlock
- [Pub] claimBNBReward #
  - modifiers: isHuman,nonReentrant
- [Prv] topUpClaimCycleAfterTransfer #
- [Prv] ensureMaxTxAmount
- [Pub] disruptiveTransfer $
- [Prv] swapAndLiquify #

```
- [Pub] activateContract #
   - modifiers: onlyOwner
- [Pub] changerewardCycleBlock #
   - modifiers: onlyOwner
- [Pub] changeCharityAddress #
   - modifiers: onlyOwner
- [Pub]] reflectionfeestartstop #
   - modifiers: onlyOwner
- [Pub] migrateToken #
   - modifiers: onlyOwner
- [Pub] migrateBnb #
   - modifiers: onlyOwner
- [Pub] changethreshHoldTopUpRate #
   - modifiers: onlyOwner
- [Pub] _calculateBNBReward
- [Pub] _calculateTopUpClaim
- [Pub] _swapTokensForEth #
- [Pub] _swapETHForTokens #
- [Pub] _addLiquidity #
```

4.4 Issues Checking Status

CHECKING ITEM	NOTES	RESULT
Arbitrary Jump with Function Type Variable	N / A	PASS
Arithmetic Accuracy Deviation	N / A	PASS
Assert Violation	N / A	PASS
Authorization through tx.origin	N / A	LOW RISK
Business Logic	N / A	PASS
Code with No Effects	N / A	PASS
Critical Solidity Compiler	N / A	PASS
Delegatecall to Untrusted Callee	N / A	PASS
Design Logic	N / A	LOW RISK
DoS with Block Gas Limit	N / A	LOW RISK
DoS with Failed Call	N / A	PASS
Function Default Visibility	N / A	PASS
Hash Collisions With MVLA	N / A	PASS
Incorrect Constructor Name	N / A	PASS
Incorrect Inheritance Order	N / A	PASS
Integer Overflows and Underflows	N / A	PASS
Lack of Proper Signature Verification	N / A	PASS
Message Call with Hardcoded Gas Amount	N / A	PASS
Missing Protection Against SRA	N / A	PASS
Presence of Unused Variables	N / A	PASS
Reentrancy	N / A	PASS
Requirement Violation	N / A	PASS

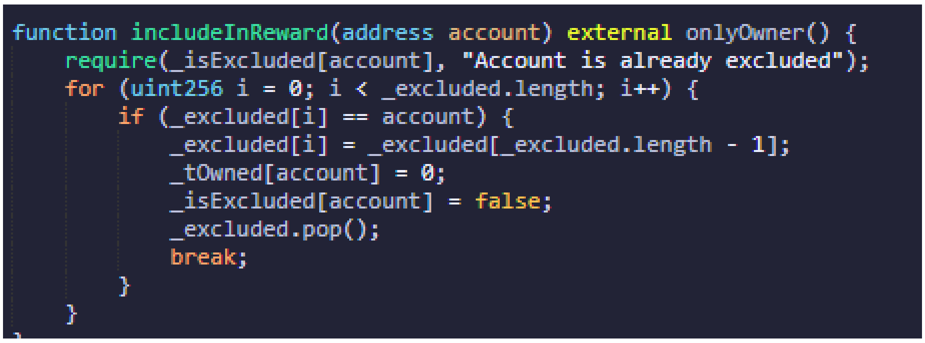
CHECKING ITEM	NOTES	RESULT
Right-To-Left-Override Control Character	N / A	PASS
Shadowing State Variables	N / A	PASS
Signature Malleability	N / A	PASS
State Variable Default Visibility	N / A	PASS
Timestamp Dependence	N / A	PASS
Transaction Order Dependence	N / A	PASS
Typographical Error	N / A	PASS
Unencrypted Private Data On-Chain	N / A	PASS
Unexpected Ether balance	N / A	PASS
Uninitialized Storage Pointer	N / A	PASS
Use of Deprecated Solidity Functions	N / A	PASS
Weak Sources of Randomness From CA	N / A	PASS
Write to Arbitrary Storage Location	N / A	PASS

Remark: To evaluate the risk, we go through a list of check items and each would be labeled with a severity category. For one check item, if our tool or analysis does not identify any issue, the contract is considered safe regarding the check item

4.5 Detailed Findings Information

[RISK] DoS with Block Gas Limit

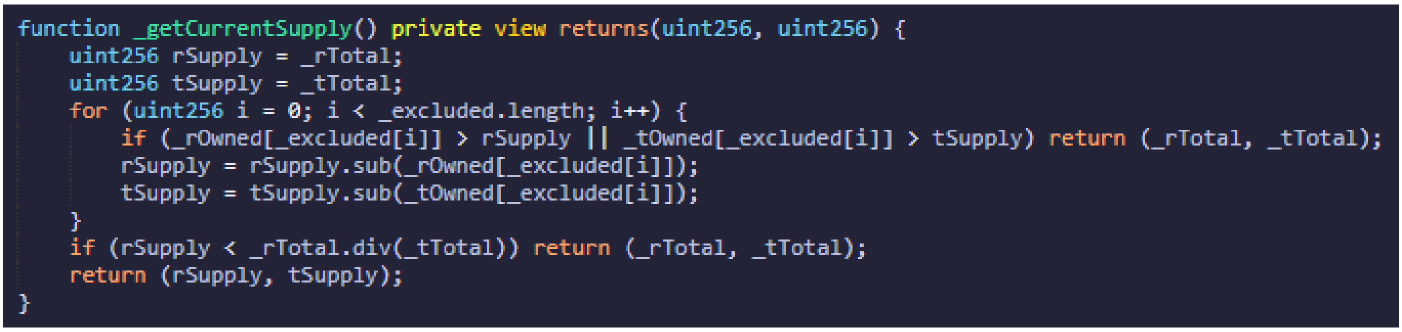
- The function includeInReward uses the loop to find and remove addresses from the _excluded list. It also could be aborted with out-of-gas exception if there will be a long excluded addresses list. Including an account in the reward again may result in unexpected behavior.



```
function includeInReward(address account) external onlyOwner() {
    require(_isExcluded[account], "Account is already excluded");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account] = 0;
            _isExcluded[account] = false;
            _excluded.pop();
            break;
        }
    }
```

Recommendation: Consider removing the includeInReward function. If this is not desired, consider avoiding it, especially on accounts with a significant balance.

- The function _getCurrentSupply() uses the loop for evaluating total supply. It also could be aborted with out-of-gas exception if there will be a long excluded addresses list.

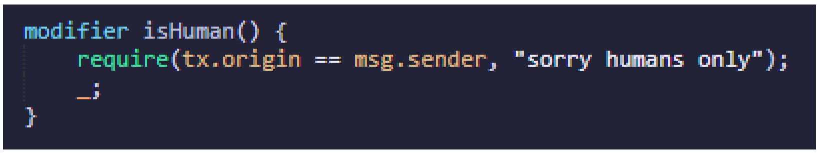


```
function _getCurrentSupply() private view returns(uint256, uint256) {
    uint256 rSupply = _rTotal;
    uint256 tSupply = _tTotal;
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return (_rTotal, _tTotal);
        rSupply = rSupply.sub(_rOwned[_excluded[i]]);
        tSupply = tSupply.sub(_tOwned[_excluded[i]]);
    }
    if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
    return (rSupply, tSupply);
}
```

Recommendation: Check that the excluded array length is not too big.

[RISK] Authorization through tx.origin

- Use of ‘tx.origin’ as a part of authorization control. The tx.origin environment variable has been found to influence a control flow decision. Note that using "tx.origin" as a security control might cause a situation where a user inadvertently authorizes a smart contract to perform an action on their behalf. It is recommended to use "msg.sender" instead.

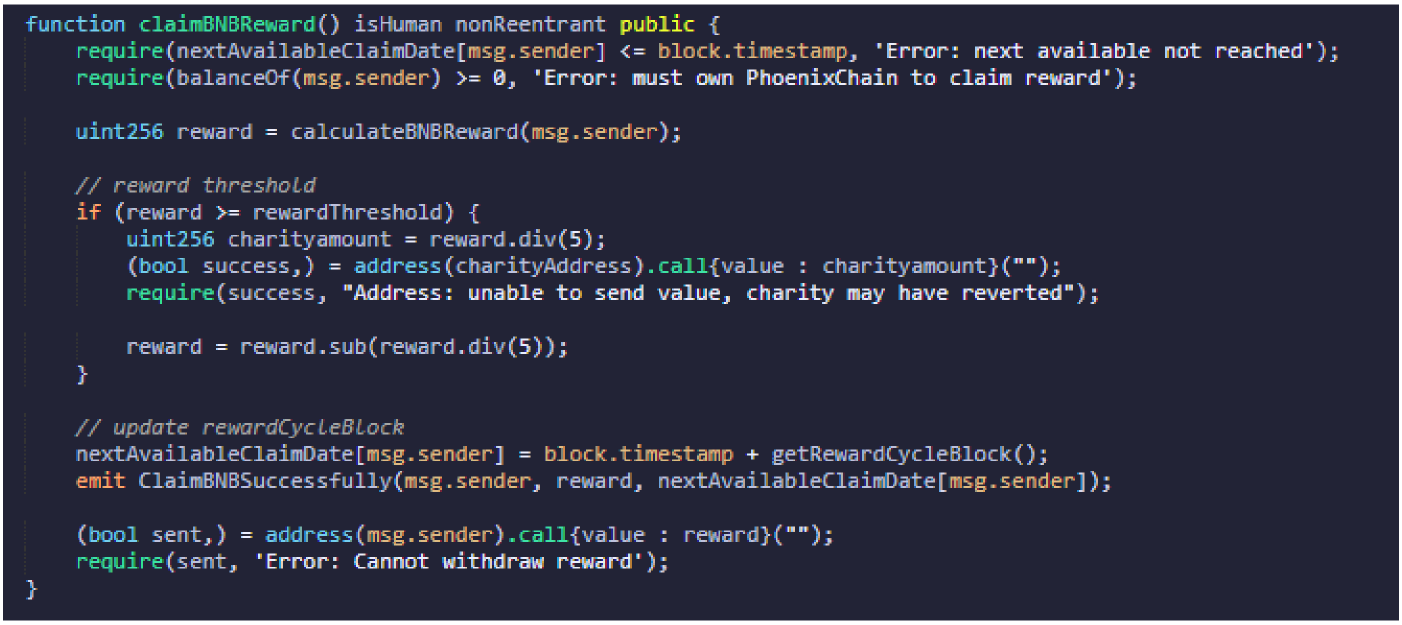


```
modifier isHuman() {
    require(tx.origin == msg.sender, "sorry humans only");
    _;
}
```

Recommendation: tx.origin should not be used for authorization. Use msg.sender instead.

[RISK] Design Logic

- Detects expressions that are tautologies or contradictions.

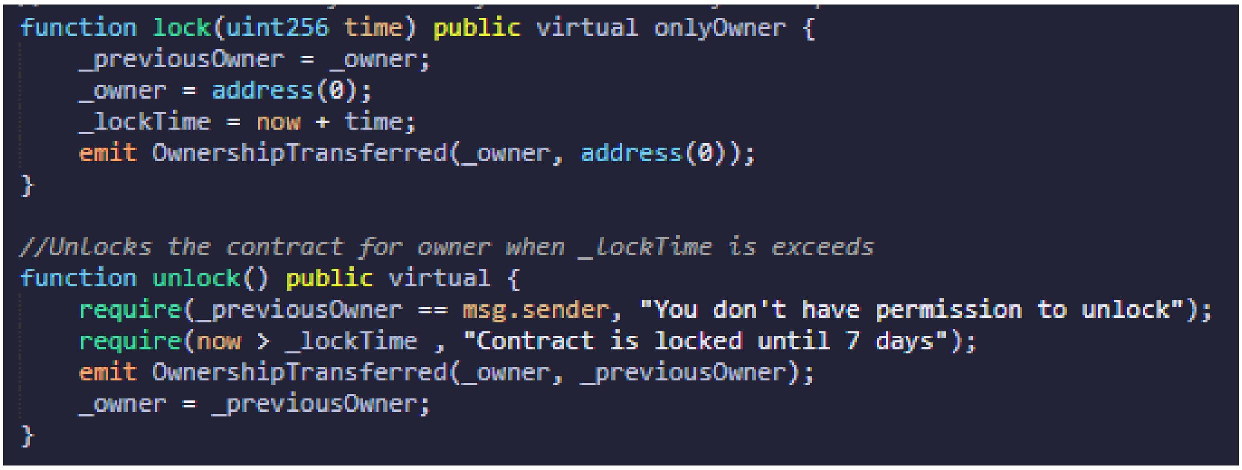


```
function claimBNBReward() isHuman nonReentrant public {
    require(nextAvailableClaimDate[msg.sender] <= block.timestamp, 'Error: next available not reached');
    require(balanceOf(msg.sender) >= 0, 'Error: must own PhoenixChain to claim reward');

    uint256 reward = calculateBNBReward(msg.sender);

    // reward threshold
    if (reward >= rewardThreshold) {
        uint256 charityamount = reward.div(5);
        (bool success,) = address(charityAddress).call{value : charityamount}("");
        require(success, "Address: unable to send value, charity may have reverted");

        reward = reward.sub(reward.div(5));
    }

    // update rewardCycleBlock
    nextAvailableClaimDate[msg.sender] = block.timestamp + getRewardCycleBlock();
    emit ClaimBNBSuccessfully(msg.sender, reward, nextAvailableClaimDate[msg.sender]);

    (bool sent,) = address(msg.sender).call{value : reward}("");
    require(sent, 'Error: Cannot withdraw reward');
}
```

Recommendation: tx.origin should not be used for authorization. Use msg.sender instead.

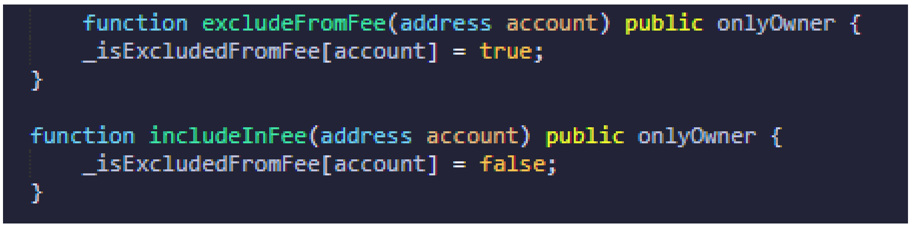
[RISK] Owner Privileges (in the period when the owner is not renounced)

- The owner can lock and unlock.

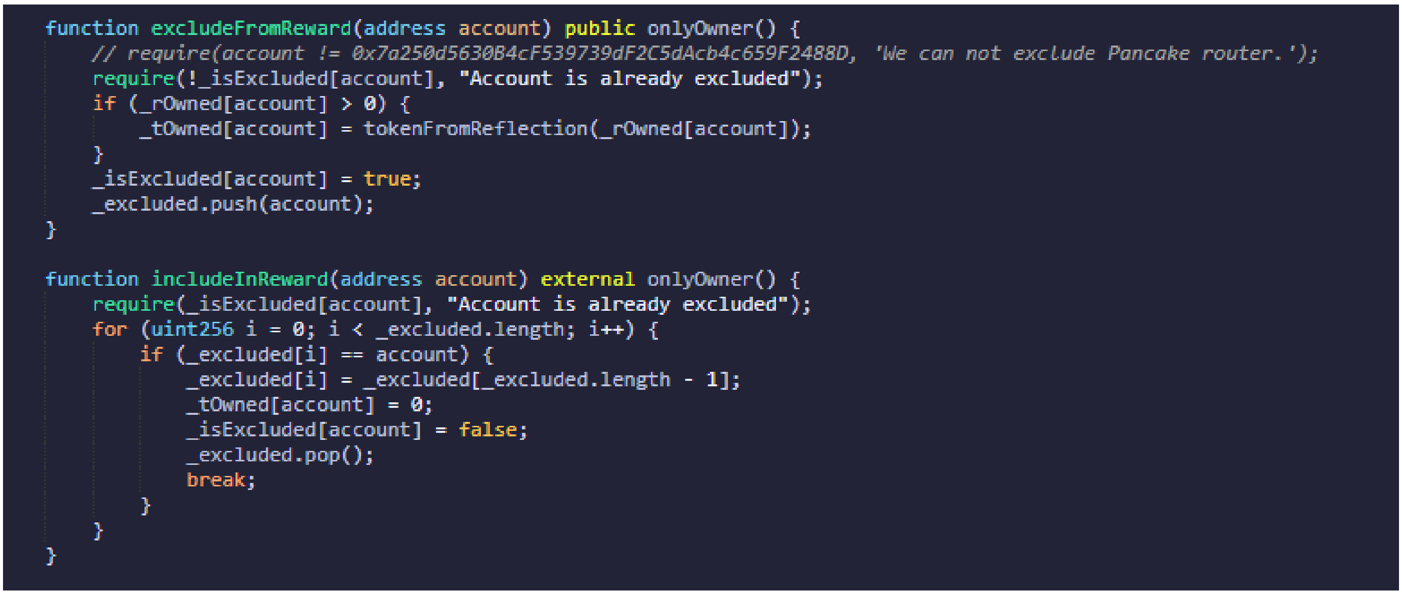


```
function lock(uint256 time) public virtual onlyOwner {
    _previousOwner = _owner;
    _owner = address(0);
    _lockTime = now + time;
    emit OwnershipTransferred(_owner, address(0));
}

//Unlocks the contract for owner when _lockTime is exceeds
function unlock() public virtual {
    require(_previousOwner == msg.sender, "You don't have permission to unlock");
    require(now > _lockTime , "Contract is locked until 7 days");
    emit OwnershipTransferred(_owner, _previousOwner);
    _owner = _previousOwner;
}
```

- The owner of the contract can exclude/include accounts from/to transfer fees and reward distribution.

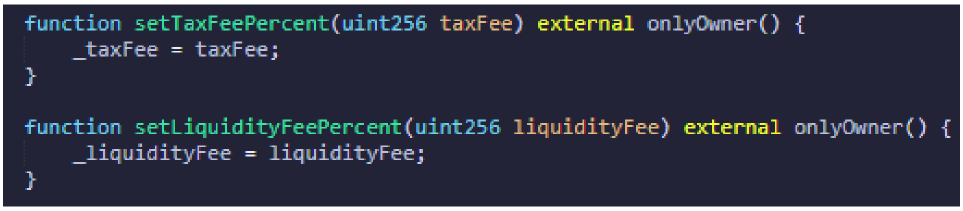


```
    function excludeFromFee(address account) public onlyOwner {
    _isExcludedFromFee[account] = true;
}

function includeInFee(address account) public onlyOwner {
    _isExcludedFromFee[account] = false;
}
```



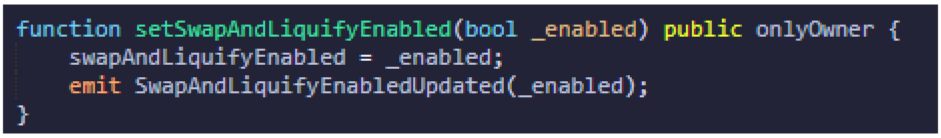
```
function excludeFromReward(address account) public onlyOwner() {
    // require(account != 0x7a250d5630B4cF539739dF2C5dAcb4c659F2488D, 'We can not exclude Pancake router.');
    require(!_isExcluded[account], "Account is already excluded");
    if (_rOwned[account] > 0) {
        _tOwned[account] = tokenFromReflection(_rOwned[account]);
    }
    _isExcluded[account] = true;
    _excluded.push(account);
}

function includeInReward(address account) external onlyOwner() {
    require(_isExcluded[account], "Account is already excluded");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account] = 0;
            _isExcluded[account] = false;
            _excluded.pop();
            break;
        }
    }
}
```

- The owner can change tax and liquidity fees.



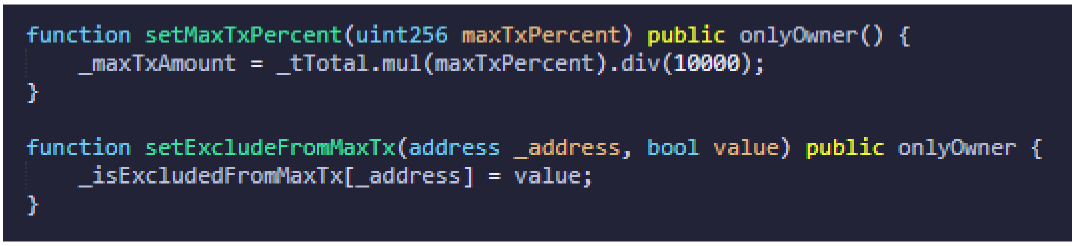
```
function setTaxFeePercent(uint256 taxFee) external onlyOwner() {
    _taxFee = taxFee;
}

function setLiquidityFeePercent(uint256 liquidityFee) external onlyOwner() {
    _liquidityFee = liquidityFee;
}
```

- The owner can enable or disable adding liquidity to pool.



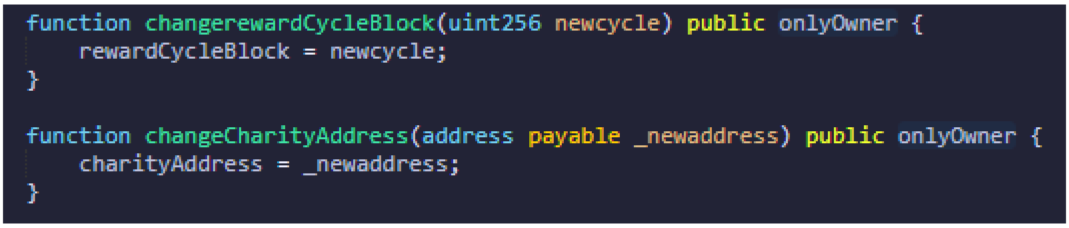
```
function setSwapAndLiquifyEnabled(bool _enabled) public onlyOwner {
    swapAndLiquifyEnabled = _enabled;
    emit SwapAndLiquifyEnabledUpdated(_enabled);
}
```

- The owner can change and exclude from maximal amount per transaction.



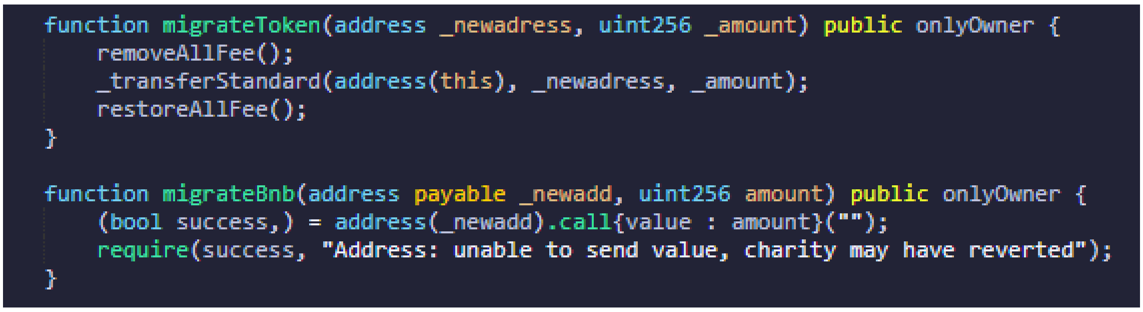
```
function setMaxTxPercent(uint256 maxTxPercent) public onlyOwner() {
    _maxTxAmount = _tTotal.mul(maxTxPercent).div(10000);
}

function setExcludeFromMaxTx(address _address, bool value) public onlyOwner {
    _isExcludedFromMaxTx[_address] = value;
}
```

- The owner can change reward cycle block and charity address.



```
function changerewardCycleBlock(uint256 newcycle) public onlyOwner {
    rewardCycleBlock = newcycle;
}

function changeCharityAddress(address payable _newaddress) public onlyOwner {
    charityAddress = _newaddress;
}
```

- The owner can migrate Token and BNB.



```
function migrateToken(address _newadress, uint256 _amount) public onlyOwner {
    removeAllFee();
    _transferStandard(address(this), _newadress, _amount);
    restoreAllFee();
}

function migrateBnb(address payable _newadd, uint256 amount) public onlyOwner {
    (bool success,) = address(_newadd).call{value : amount}("");
    require(success, "Address: unable to send value, charity may have reverted");
}
```

5 Audit Result

LEVEL	ISSUES
Weakness	Design Logic (1)
Low	DoS with Block Gas Limit (2)
High	Owner Privilegies (7)

1. The contract utilizes SafeMath libraries along with following the BEP20 standard.

2. The owner has the ability to set and update a maximum transaction amount at any time, which will impose a limit to the number of tokens that can be transferred during any given transaction. The default maximum is set to 100% of the total token supply.

3. This maximum transaction amount does not apply to the owner during transactions where the owner is either the sender or the recipient.

4. There is a 'Tax fee' and a 'Liquidity fee' on all transactions for any non-excluded address that participates in a transfer. The owner has the ability to modify these to any percentage fees at any time.

5. After the contract has been deployed, the owner can call the ‘Activate Contract’ function, which will enable the functionality for ETH reward claiming once a day for holders of PhoenixChain; as well as enabling the swap and liquify functionality.

6. There is a charity wallet that receives ETH rewards every time rewards are distributed to a holders who call the claim ETH rewards function. The owner has the ability to update and change the marketing wallet address at any time.

7. Users who hold tokens will automatically benefit from the frictionless fee redistribution at the time of each transaction as the tokens collected through the ‘Tax fee’ are removed from the circulating supply.

8. Liquidity-adds are funded by selling a portion of the tokens collected as fees (after a certain threshold as determined by the owner is met), then pairing the received ETH with the token, and adding it as liquidity to the ETH pair. This functionality can be enabled/disabled by the owner.

9. The recipient of the newly created LP tokens is the Owner of the contract.

10. The ETH rewards are funded by the leftover ETH that was not utilized during the 'swap and liquify' liquidity adds.

11. At any time, the owner has the ability to transfer the entire balance of the contract's PhoenixChain Tokens and ETH to another address.

12. The owner has the ability to set and update a maximum transaction percent at any time, which will impose a limit to the number of tokens that can be transferred during any given transaction. The owner can also include and exclude accounts from this transaction limit.

13. This maximum transaction amount does not apply to the owner during transactions where the owner is either the sender or the recipient.

14. The owner of the contract can exclude accounts from transfer fees and reward distribution.

15. The owner has the ability to use the ‘lock’ function in order to temporarily set ownership to address(0). Ownership is restored after the duration of time determined by the owner has passed and they use the 'unlock' function. Ownership can additionally be restored (even if ownership was previously renounced), by using the unlock function a second time.

16. Ownership has not been renounced.

5.1 Findings Summary

🟥 **PhoenixChain**

High Risk Level

- ✓ No external vulnerabilities were identified within the smart contract's code
- ✓ We strongly recommend that the team renounces ownership
- ✓ Please ensure trust in the team prior to investing as they have substantial control within the ecosystem
- ✓ We strongly recommend that the contract owners remove errors and re-audit

6 Disclamer

CheckPoint team issues this report with reference to the facts that have occurred or existed before the issuance of this report, and only assumes corresponding responsibility based on these. For the facts that occurred or existed after the issuance, CheckPoint is not able to judge the security status of this project, and is not responsible for them. The security audit analysis and other contents of this report are based on the documents and materials provided to CheckPoint by the information provider till the date of the insurance report. CheckPoint is not responsible for the background and other conditions of the project.

This security audit is not produced to supplant any other type of assessment and does not guarantee the discovery of all security vulnerabilities within the scope of the assessment. However, we warrant that this audit is conducted with goodwill, professional approach, and competence. Since an assessment from one single party cannot be confirmed to cover all possible issues within the smart contract(s), CheckPoint suggests conducting multiple independent assessments to minimize the risks. Lastly, nothing contained in this audit report should be considered as investment advice.

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