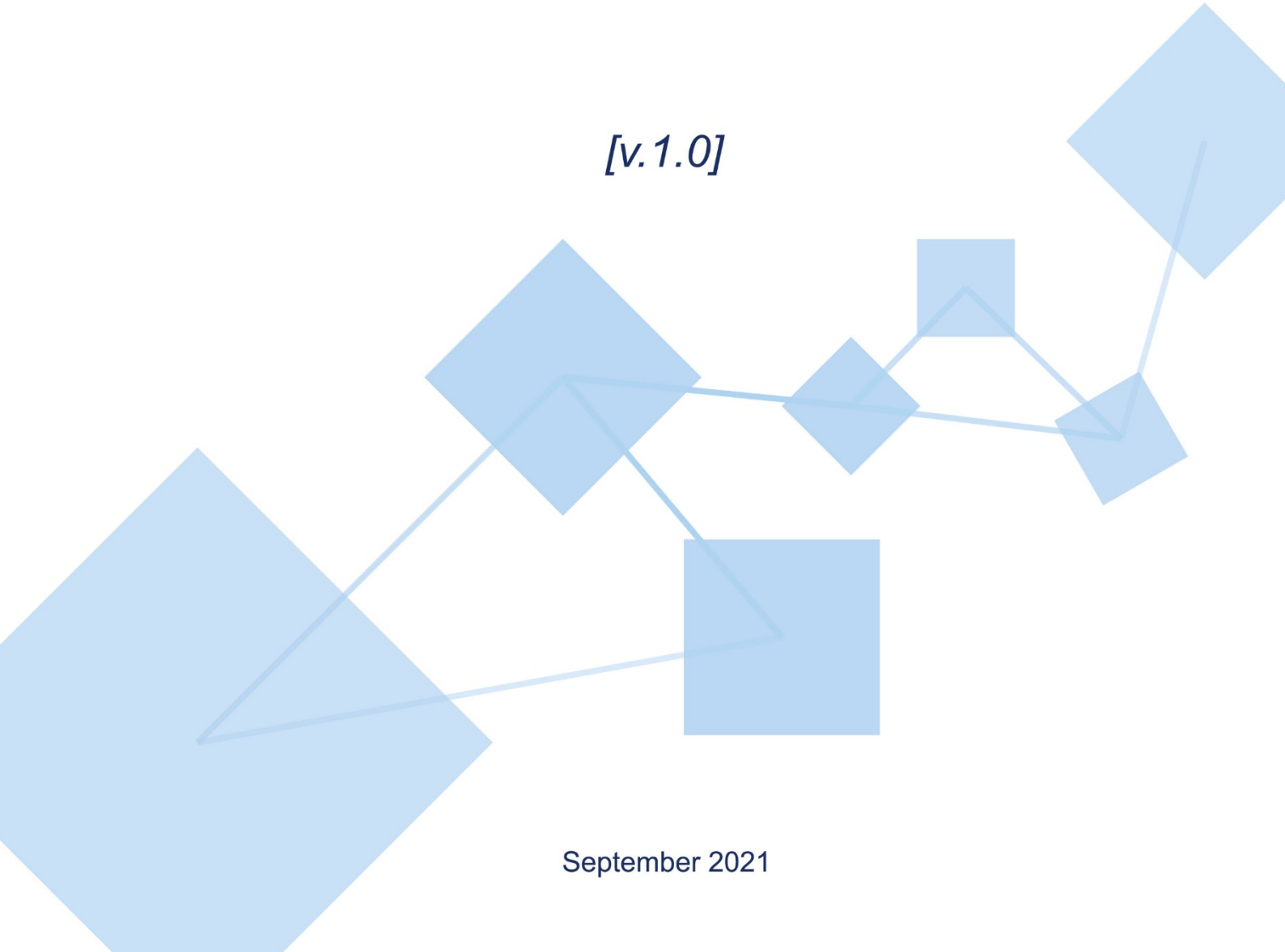
CheckPoint

Token Security Audit Report
Prepared for Buskercommcoin

[v.1.0]



September 2021

Document Properties

Client	Buskercommcoin
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Audit Summary

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1 Executive Summary

On 02/09/2021, CheckPoint conducted a full audit for the Buskercommcoin 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.

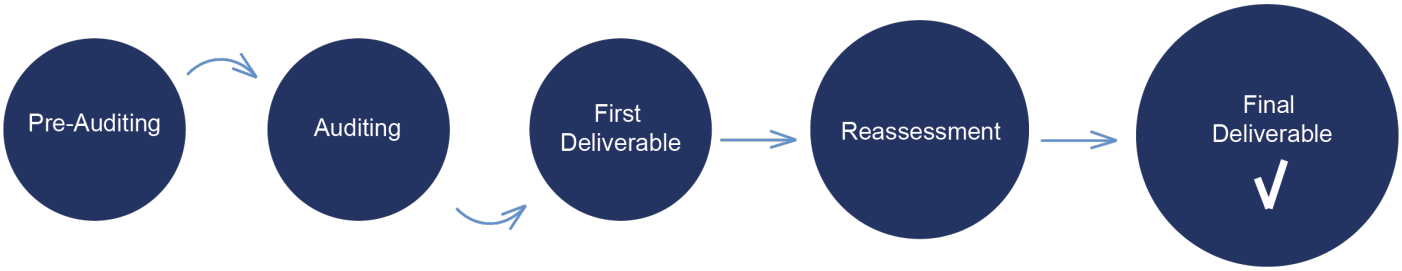
After further analysis and internal discussion, we determined a few issues of varying severities that need to be brought up and paid more attention to. More information can be found in **Section 5 'Audit Result'**. Practical recommendations are provided according to each vulnerability found and should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

Buskercommcoin
Medium 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**

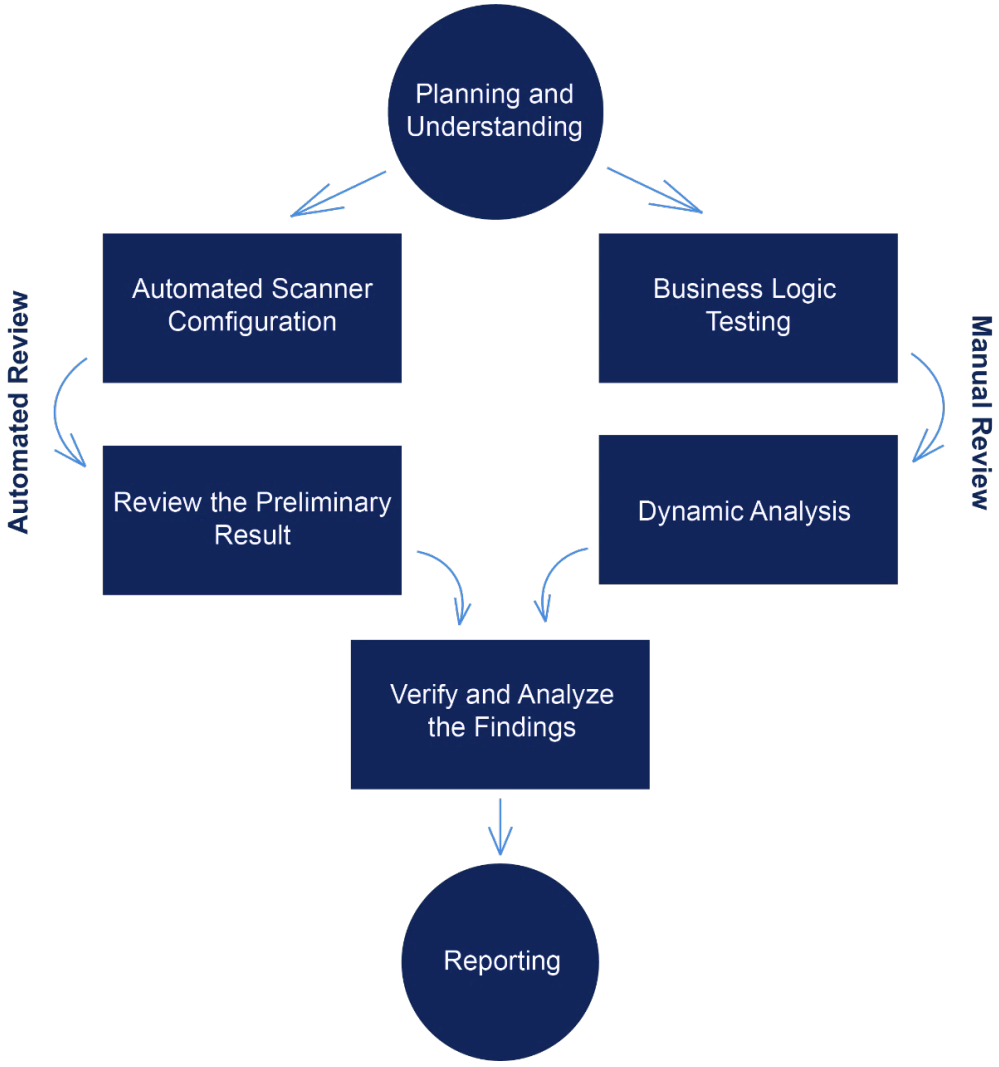
  Providing a full report with the detailed status of each issue.

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.



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

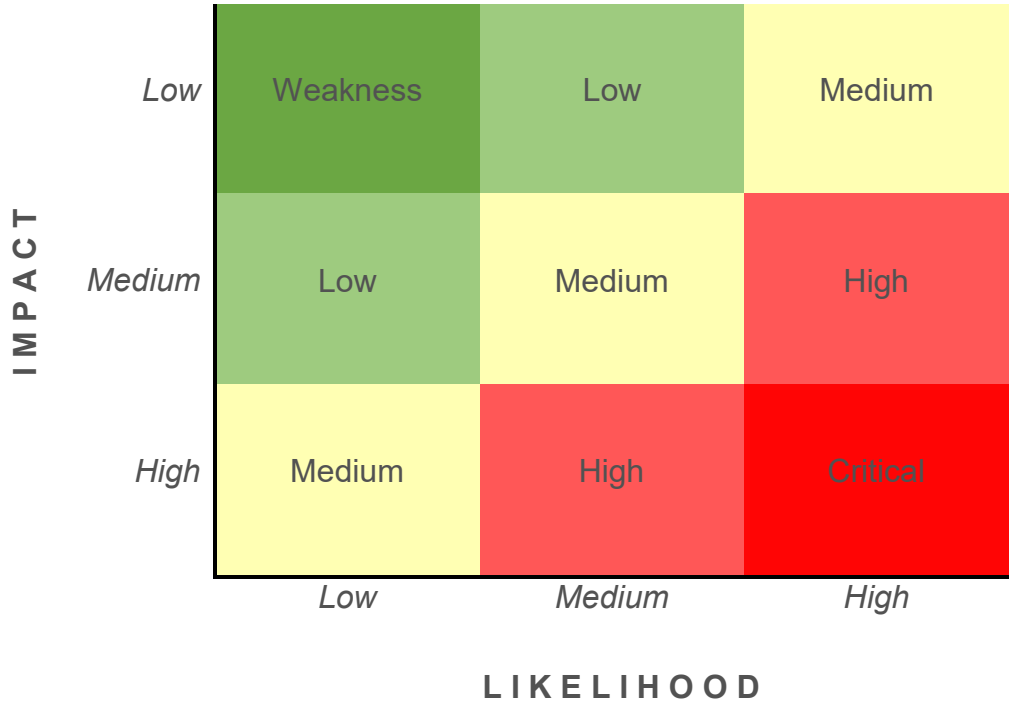
In particular, we perform the audit according to the following procedure:

- **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.



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://www.buskercommunitycoin.org/

Website was registered on 28-08-2021, registration expires 28-08-2022.

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

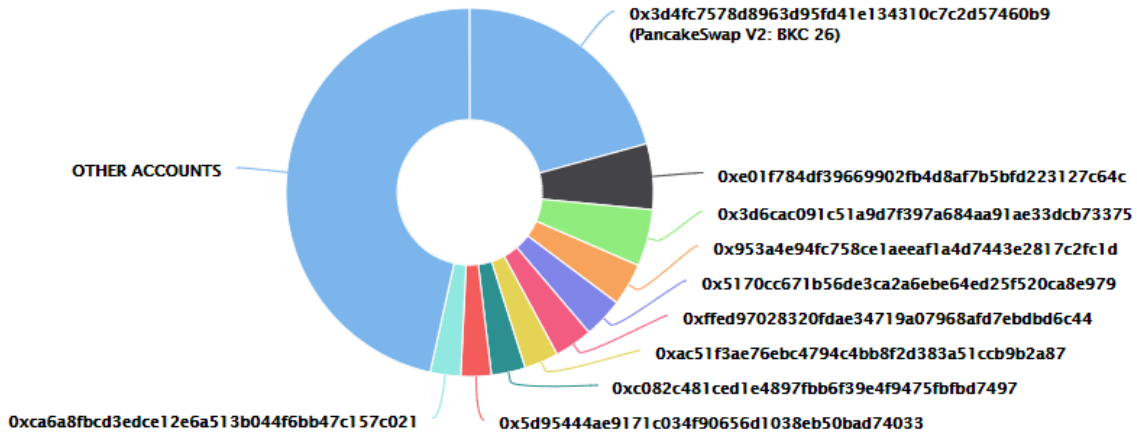
✓ Mobile Friendly	✓ 6 Social Media Networks
✓ No JavaScript Errors	✓ < 1000 Telegram Members [RISK]
✓ Visionary Roadmap	✓ < 100 Twitter Followers [RISK]
✓ Spell Check	✓ No Active Voice Chats [RISK]
✓ Valid SSL Certificate	✓ No Injected Spam Found
✓ Contact Form	✓ No Popus Found

Remark: This page contains active links

4.2 Smart Contract Details

Contract Name	Buskercommcoin
Contract Address	0xD97ef5B3d8C793474232F656e611526A1751d433
Total Supply	29.999.999.999
Token Ticker	BKC
Decimals	12
Token Holders	132
Transactions Count	322
Top 100 Holders Dominance	~100%
Max Liquidity Fee	10%
Max Tax Fee	10%
Min Amount per Transaction	50% **[RISK]**
Liquidity Pool Locked	1 year
Contract Deployer Address	0xcC8f0B47Cf0E2d5428eDaE93d968eA927De626a2
Current Owner Address	0x87f9f0572693258678625d29f5bbaeb02e04c14b

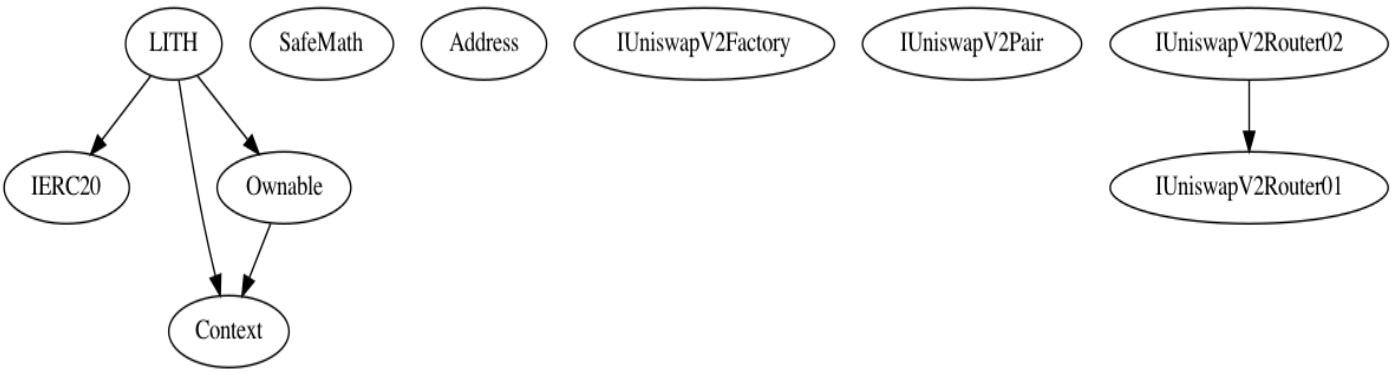
Buskercommcoin Top 10 Token Holders



Rank	Address	Quantity (Token)	Percentage
1	PancakeSwap V2: BKC 26	6,224,250,566.142035475697	20.7475%
2	0xe01f784df39669902fb4d8af7b5bfd223127c64c	1,730,038,612.235111898554	5.7668%
3	0x3d6cac091c51a9d7f397a684aa91ae33dcb73375	1,499,999,999.95	5.0000%
4	0x953a4e94fc758ce1aeeaf1a4d7443e2817c2fc1d	1,113,477,969.973815108871	3.7116%
5	0x5170cc671b56de3ca2a6ebe64ed25f520ca8e979	1,059,775,939.427691723808	3.5326%
6	0xffed97028320fdae34719a07968afd7ebdbd6c44	1,006,338,572.159927475307	3.3545%
7	0xac51f3ae76ebc4794c4bb8f2d383a51ccb9b2a87	899,999,999.97	3.0000%
8	0xc082c481ced1e4897fbb6f39e4f9475fbfbd7497	898,367,406.915643099456	2.9946%
9	0x5d95444ae9171c034f90656d1038eb50bad74033	802,733,605.668948774309	2.6758%
10	0xca6a8fbcd3edce12e6a513b044f6bb47c157c021	801,964,398.873149413827	2.6732%

- ✓ **350.6 Total LP Tokens**
- ✓ **328.6 (~94%) LP Tokens Locked**
- ✓ **Unlock Date 30.08.2022**

4.3 Contract Function Details




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

+ [Int] IERC20
   - [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)
- [Pub] owner
- [Pub] renounceOwnership #
- modifiers: onlyOwner
- [Pub] transferOwnership #
- modifiers: onlyOwner
- [Pub] geUnlockTime
- [Pub] lock #
- modifiers: onlyOwner
- [Pub] unlock #

+ [Int] IUniswapV2Factory
- [Ext] feeTo
- [Ext] feeToSetter
- [Ext] getPair
- [Ext] allPairs
- [Ext] allPairsLength
- [Ext] createPair #
- [Ext] setFeeTo #
- [Ext] setFeeToSetter #

+ [Int] IUniswapV2Pair
- [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] IUniswapV2Router01
  - [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] IUniswapV2Router02 (IUniswapV2Router01)
  - [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
  - [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #
  - [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
  - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens $
  - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #

+ LiquidityGeneratorToken (Context, IERC20, 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
```

- [Prv] _transferBothExcluded #
- [Pub] excludeFromFee #
- modifiers: onlyOwner
- [Pub] includeInFee #
- modifiers: onlyOwner
- [Ext] setTaxFeePercent
- modifiers: onlyOwner
- [Ext] setLiquidityFeePercent
- modifiers: onlyOwner
- [Ext] setMaxTxPercent
- modifiers: onlyOwner
- [Ext] 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] swapAndLiquify #
- modifiers: lockTheSwap
- [Prv] swapTokensForEth #
- [Prv] addLiquidity #
- [Prv] _tokenTransfer #
- [Prv] _transferStandard #
- [Prv] _transferToExcluded #
- [Prv] _transferFromExcluded #
- [Pub] disableFees #
- modifiers: onlyOwner
- [Pub] enableFees #
- modifiers: onlyOwner

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	PASS
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 `_getCurrentSupply()` also 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] Owner Privileges (in the period when the owner is not renounced)

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

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

- Owner can change tax fee in range from 0 to 10 percent.

```
function setTaxFeePercent(uint256 taxFee) external onlyOwner() {
     require(taxFee >= 0 && taxFee <=maxTaxFee,"taxFee out of range");
    _taxFee = taxFee;
}
```

- Owner can change liquidity fee in range from 0 to 10 percent.

```
function setLiquidityFeePercent(uint256 liquidityFee) external onlyOwner() {
     require(liquidityFee >= 0 && liquidityFee <=maxLiqFee,"liquidityFee out of range");
    _liquidityFee = liquidityFee;
}
```

- Owner can change maximal amount per transaction in range from 50 to 100 percent of total supply **[RISK]**

```
uint256 public minMxTxPercentage = 50;
```

```
function setMaxTxPercent(uint256 maxTxPercent) external onlyOwner() {
    require(maxTxPercent >= minMxTxPercentage && maxTxPercent <=100,"maxTxPercent out of range");
    _maxTxAmount = _tTotal.mul(maxTxPercent).div(
        10**2
    );
}
```

- Owner can enable or disable adding liquidity to pool

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

- 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;
}
```

5 Audit Result

LEVEL	ISSUES
Weakness	DoS with Block Gas Limit (1)
Medium	Owner Privilegies (6)

1. The contract utilizes SafeMath libraries along with following the ERC20 standard.

2. The owner has the ability to set and update a maximum transaction percent at any time from 50 to 100 percent **[RISK]**, which will impose a limit to the number of tokens that can be transferred during any given transaction.

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 'liquidity fee' on all transactions for any "non-excluded" address that participates in a transfer. The owner has the ability to modify these fees from 0 to 10 percent, at any time.

5. A portion of the tax fee is redistributed to existing token holders instantly and automatically at the time of each transaction.

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

7. 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.

8. Ownership has not been renounced.

5.1 Findings Summary

Buskercommcoin
Medium 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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