



Smart Contract Audits | KYC



**PALLADIUM**

Security Assessment

**Day of Defeat MarketingPool**

January 19, 2023

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# Assessment Summary

This report has been prepared for Day of Defeat MarketingPool on the BNB Chain network. AegisX provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders
- Thorough line-by-line manual review of the entire codebase by industry experts.

# Technical Findings Summary

## Classification of Risk

| Severity        | Description  |
|-----------------|--|
| ● Critical      | Risks are those that impact the safe functioning of a platform and must be addressed before launch. Users should not invest in any project with outstanding critical risks.            |
| ● Major         | Risks can include centralization issues and logical errors. Under specific circumstances, these major risks can lead to loss of funds and/or control of the project.                   |
| ● Medium        | Risks may not pose a direct risk to users' funds, but they can affect the overall functioning of a platform  |
| ● Minor         | Risks can be any of the above but on a smaller scale. They generally do not compromise the overall integrity of the Project, but they may be less efficient than other solutions.      |
| ● Informational | Errors are often recommended to improve the code's style or certain operations to fall within industry best practices. They usually do not affect the overall functioning of the code. |

## Findings

| Severity        | Found | Pending | Resolved |
|-----------------|-------|---------|----------|
| ● Critical      | 1     | 0       | 1        |
| ● Major         | 0     | 0       | 0        |
| ● Medium        | 1     | 0       | 1        |
| ● Minor         | 3     | 0       | 3        |
| ● Informational | 3     | 1       | 2        |
| Total           | 9     | 1       | 8        |

# Project Overview

## Contract Summary

| Parameter     | Result                                      |
|---------------|---|
| Address       |   |
| Name          | Day of Defeat                               |
| Token Tracker |   |
| Decimals      |   |
| Supply        |   |
| Platform      | BNB Chain                                   |
| compiler      | ^v0.8.0                                     |
| Contract Name | MarketingPool                               |
| Optimization  |   |
| LicenseType   | MIT   |
| Language      | Solidity                                    |
| Codebase      | Solidity file provided by the project team. |
| Payment Tx    |   |



# Project Overview

## Risk Analysis Summary

| Parameter        | Result |
|------------------|--------|
| Buy Tax          | 19%    |
| Sale Tax         | 19%    |
| Is honeypot?     | Clean  |
| Can edit tax?    | Yes    |
| Is anti whale?   | No     |
| Is blacklisted?  | No     |
| Is whitelisted?  | Yes    |
| Holders          |        |
| Security Score   | 94     |
| Auditor Score    | 94     |
| Confidence Level | High   |

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.

## Main Contract Assessed Contract Name

| Name          | Contract | Live |
|---------------|----------|------|
| Day of Defeat |          | No   |

## TestNet Contract Assessed Contract Name

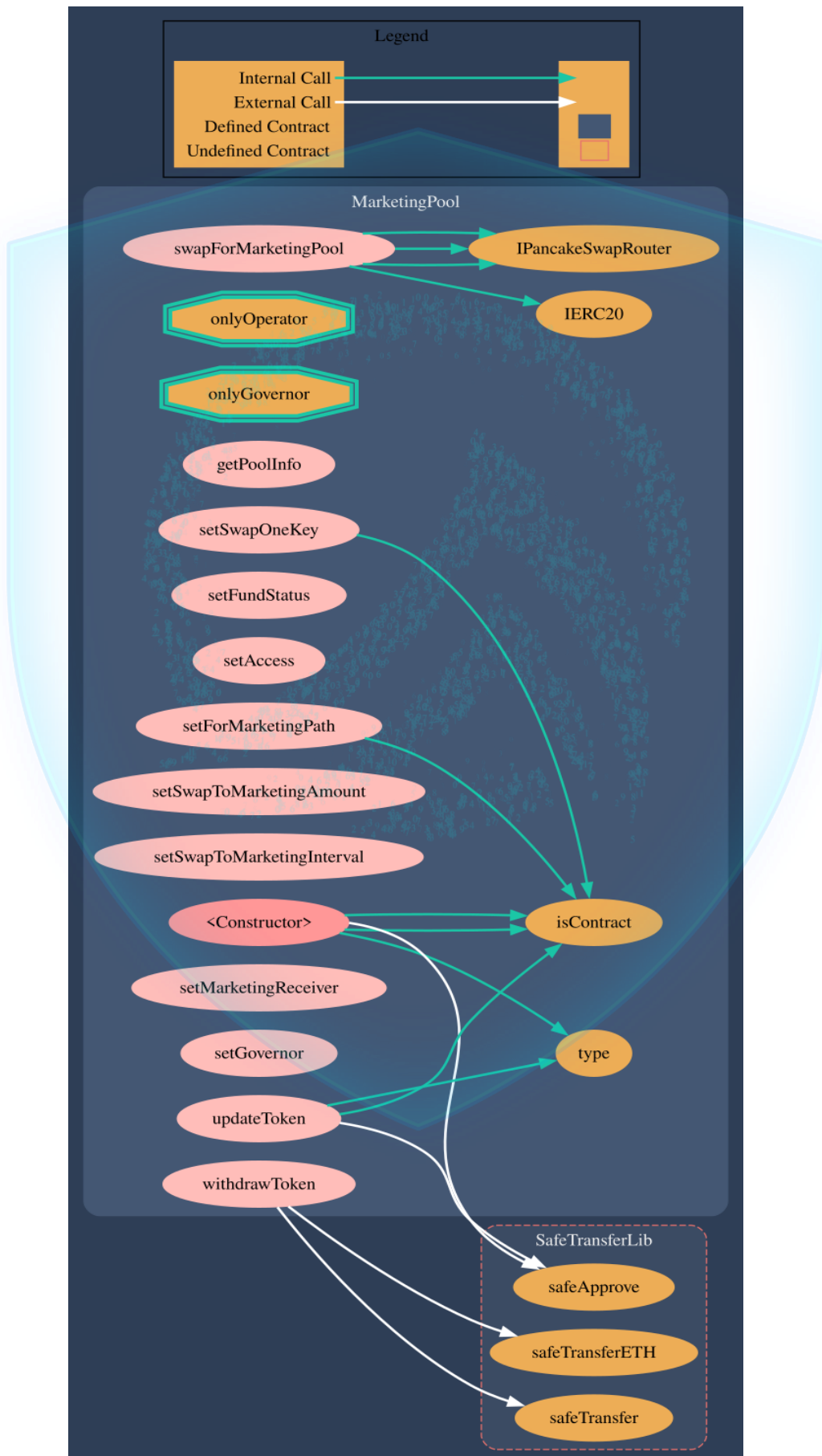
| Name          | Contract                                   | Live |
|---------------|--|------|
| Day of Defeat | 0xCF3b742F5a4D6d8ED3330e6274beD107fdb2EeEe | Yes  |

## Solidity Code Provided

| SolID         | File Sha-1                               | FileName               |
|---------------|--|------------------------|
| MarketingPool | 44e66b610053bb52041dee74c43417fb002d0da0 | MarketingPool.sol      |
| MarketingPool | 501c578b3e4734c694eae556af95b3f3883ac472 | IPancakeSwapRouter.sol |
| MarketingPool | a8158ee6e7689769764b9c831b0992847b1b65d1 | SafeTransferLib.sol    |

# Call Graph

The contract for Day of Defeat has the following call graph structure.





# KYC Information

**The Project Owners of Day of Defeat are not KYC'd. .**

**The owner wallet has the power to call the functions displayed on the privileged functions chart below, if the owner wallet is compromised this privileges could be exploited.**

**We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.**

KYC Information Notes:

Auditor Notes:

Project Owner Notes:



# Smart Contract Vulnerability Checks

| ID      | Severity | Name  | File              | location                          |
|---------|----------|---|-------------------|-----------------------------------|
| SWC-100 | Pass     | Function Default Visibility                       | MarketingPool.sol | L: 0 C: 0                         |
| SWC-101 | Pass     | Integer Overflow and Underflow.                   | MarketingPool.sol | L: 0 C: 0                         |
| SWC-102 | Pass     | Outdated Compiler Version file.                   | MarketingPool.sol | L: 0 C: 0                         |
| SWC-103 | Low      | A floating pragma is set.                         | MarketingPool.sol | SafeTransferLib.sol,<br>L: 2 C: 0 |
| SWC-104 | Pass     | Unchecked Call Return Value.                      | MarketingPool.sol | L: 0 C: 0                         |
| SWC-105 | Pass     | Unprotected Ether Withdrawal.                     | MarketingPool.sol | L: 0 C: 0                         |
| SWC-106 | Pass     | Unprotected SELFDESTRUCT Instruction              | MarketingPool.sol | L: 0 C: 0                         |
| SWC-107 | Pass     | Read of persistent state following external call. | MarketingPool.sol | L: 0 C: 0                         |
| SWC-108 | Pass     | State variable visibility is not set..            | MarketingPool.sol | L: 0 C: 0                         |
| SWC-109 | Pass     | Uninitialized Storage Pointer.                    | MarketingPool.sol | L: 0 C: 0                         |
| SWC-110 | Pass     | Assert Violation.                                 | MarketingPool.sol | L: 0 C: 0                         |
| SWC-111 | Pass     | Use of Deprecated Solidity Functions.             | MarketingPool.sol | L: 0 C: 0                         |

| ID      | Severity | Name   | File              | location  |
|---------|----------|--|-------------------|-----------|
| SWC-112 | Pass     | Delegate Call to Untrusted Callee.   | MarketingPool.sol | L: 0 C: 0 |
| SWC-113 | Pass     | Multiple calls are executed in the same transaction.                               | MarketingPool.sol | L: 0 C: 0 |
| SWC-114 | Pass     | Transaction Order Dependence.  | MarketingPool.sol | L: 0 C: 0 |
| SWC-115 | Pass     | Authorization through tx.origin.   | MarketingPool.sol | L: 0 C: 0 |
| SWC-116 | Pass     | A control flow decision is made based on The block.timestamp environment variable. | MarketingPool.sol | L: 0 C: 0 |
| SWC-117 | Pass     | Signature Malleability.  | MarketingPool.sol | L: 0 C: 0 |
| SWC-118 | Pass     | Incorrect Constructor Name.  | MarketingPool.sol | L: 0 C: 0 |
| SWC-119 | Pass     | Shadowing State Variables.   | MarketingPool.sol | L: 0 C: 0 |
| SWC-120 | Pass     | Potential use of block.number as source of randomness.                             | MarketingPool.sol | L: 0 C: 0 |
| SWC-121 | Pass     | Missing Protection against Signature Replay Attacks.                               | MarketingPool.sol | L: 0 C: 0 |
| SWC-122 | Pass     | Lack of Proper Signature Verification.   | MarketingPool.sol | L: 0 C: 0 |
| SWC-123 | Pass     | Requirement Violation.   | MarketingPool.sol | L: 0 C: 0 |
| SWC-124 | Pass     | Write to Arbitrary Storage Location.   | MarketingPool.sol | L: 0 C: 0 |
| SWC-125 | Pass     | Incorrect Inheritance Order.   | MarketingPool.sol | L: 0 C: 0 |
| SWC-126 | Pass     | Insufficient Gas Griefing.   | MarketingPool.sol | L: 0 C: 0 |

| ID      | Severity | Name   | File              | location  |
|---------|----------|--|-------------------|-----------|
| SWC-127 | Pass     | Arbitrary Jump with Function Type Variable.              | MarketingPool.sol | L: 0 C: 0 |
| SWC-128 | Pass     | DoS With Block Gas Limit.                                | MarketingPool.sol | L: 0 C: 0 |
| SWC-129 | Pass     | Typographical Error.                                     | MarketingPool.sol | L: 0 C: 0 |
| SWC-130 | Pass     | Right-To-Left-Override control character (U+202E).       | MarketingPool.sol | L: 0 C: 0 |
| SWC-131 | Pass     | Presence of unused variables.                            | MarketingPool.sol | L: 0 C: 0 |
| SWC-132 | Pass     | Unexpected Ether balance.                                | MarketingPool.sol | L: 0 C: 0 |
| SWC-133 | Pass     | Hash Collisions with Multiple Variable Length Arguments. | MarketingPool.sol | L: 0 C: 0 |
| SWC-134 | Pass     | Message call with hardcoded gas amount.                  | MarketingPool.sol | L: 0 C: 0 |
| SWC-135 | Pass     | Code With No Effects (Irrelevant/Dead Code).             | MarketingPool.sol | L: 0 C: 0 |
| SWC-136 | Pass     | Unencrypted Private Data On-Chain.                       | MarketingPool.sol | L: 0 C: 0 |

We scan the contract for additional security issues using MYTHX and industry-standard security scanning tools.

# Smart Contract Vulnerability Details

## SWC-103 - Floating Pragma.

### CWE-664: Improper Control of a Resource Through its Lifetime.

#### References:

#### Description:

Contracts should be deployed with the same compiler version and flags that they have been tested with thoroughly. Locking the pragma helps to ensure that contracts do not accidentally get deployed using, for example, an outdated compiler version that might introduce bugs that affect the contract system negatively.

#### Remediation:

Lock the pragma version and also consider known bugs (<https://github.com/ethereum/solidity/releases>) for the compiler version that is chosen.

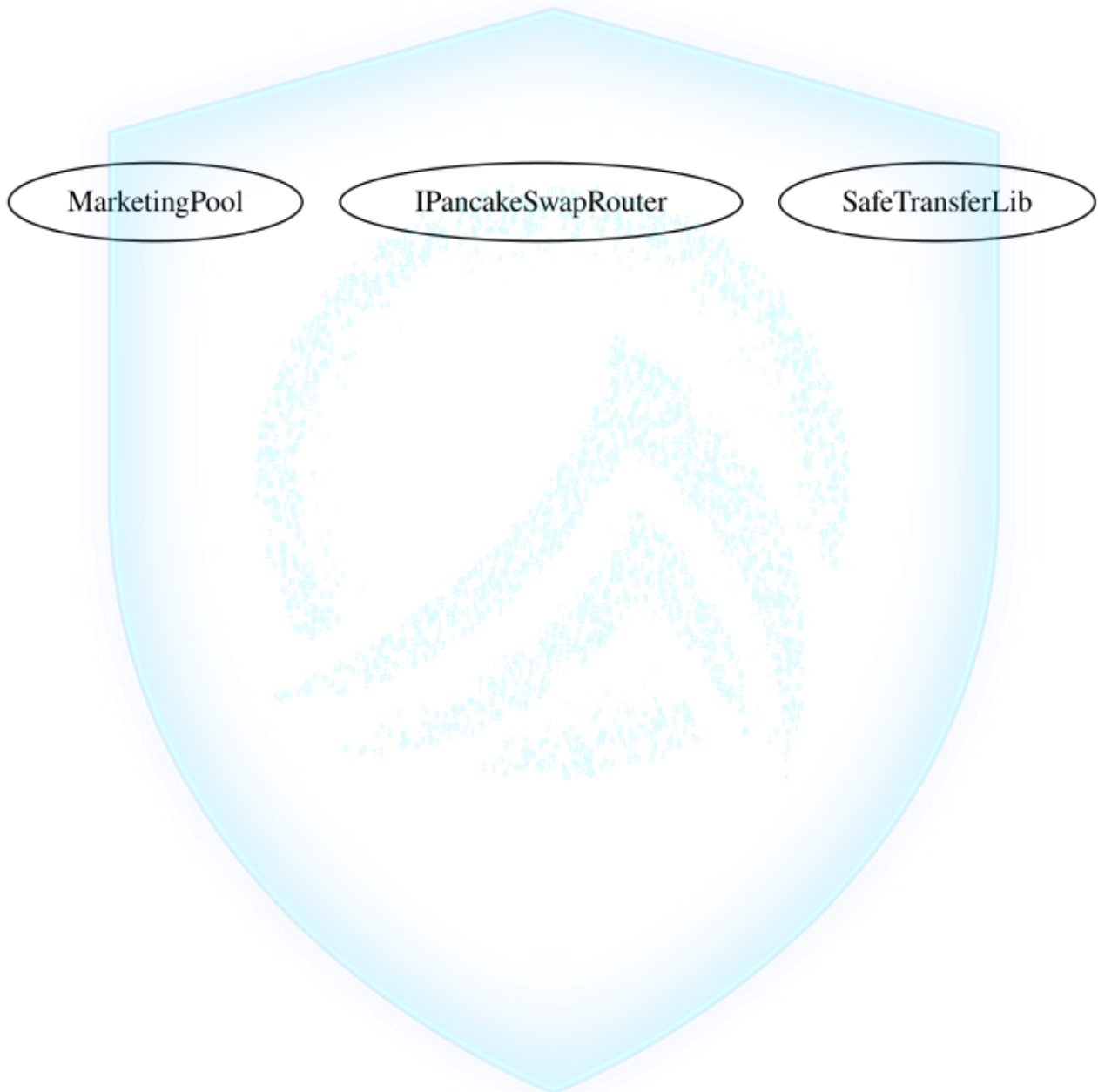
Pragma statements can be allowed to float when a contract is intended for consumption by other developers, as in the case with contracts in a library or EthPM package. Otherwise, the developer would need to manually update the pragma in order to compile locally.

#### References:

Ethereum Smart Contract Best Practices - Lock pragmas to specific compiler version.

# Inheritance

The contract for Day of Defeat has the following inheritance structure.







## Privileged Functions (onlyOwner)

| Function Name                  | Parameters  | Visibility |
|--------------------------------|---|------------|
| setFundStatus                  | bool _enable  | External   |
| setAccess                      | address account,<br>bool _access  | External   |
| setForMarketingPath            | address[] calldata<br>_path   | External   |
| setSwapToMarketing<br>Amount   | uint256<br>_swapAmount  | External   |
| setSwapToMarketingI<br>nterval | uint256 _swapToMa<br>rketingInterval  | External   |
| setSwapOneKey                  | address[] calldata<br>_path, bool<br>_marketingStatus,<br>uint256<br>_swapAmount,<br>uint256 _swapToMa<br>rketingInterval | External   |
| setMarketingReceive<br>r       | address<br>_marketingReceiver   | External   |

## DOD-01 | Potential Sandwich Attacks.

| Category | Severity  | Location                             | Status  |
|----------|---|--------------------------------------|---|
| Security |  Informational | MarketingPool.sol:<br>146,29, 155,29 |  Pending |

### Description

A sandwich attack might happen when an attacker observes a transaction swapping tokens or adding liquidity without setting restrictions on slippage or minimum output amount. The attacker can manipulate the exchange rate by frontrunning (before the transaction being attacked) a transaction to purchase one of the assets and make profits by back running (after the transaction being attacked) a transaction to sell the asset. The following functions are called without setting restrictions on slippage or minimum output amount, so transactions triggering these functions are vulnerable to sandwich attacks, especially when the input amount is large:

| Function Name   | Slippage |
|---|----------|
| swapExactTokensForETHSupportingFeeOnTransferTokens    | 50%      |
| swapExactTokensForTokensSupportingFeeOnTransferTokens | 50%      |

### Remediation

We recommend setting reasonable minimum output amounts, instead of 0, based on token prices when calling the aforementioned functions.



### Project Action

function swapForMarketingPool; An Oracle Implementation recommended from the previous review was followed up by the dev and an oracle has been implemented, commendably. However, with a 50% slippage, this still may result a sandwich attack.

### References:

What Are Sandwich Attacks in DeFi – and How Can You Avoid Them?.

## DOD-03 | Lack of Input Validation.

| Category      | Severity  | Location           | Status   |
|---------------|---|--------------------|--|
| Volatile Code |  Minor | MarketingPool.sol: |  Resolved |

### Description

The given input is missing the check for the non-zero address and/or check for the value that is already set.

### Remediation

We advise the client to add the check for the passed-in values to prevent unexpected errors as below:



```
...
require(receiver != address(0), "Receiver is the zero address");
require(currentValue != NewValue, "Already set to the same value");
...
```

### Project Action

Since the initial review, input validations have been implemented on many functions by the dev. However, there still are some functions that can utilize input validations. I.e. Validating the value being set isn't already set to the same. It's the best practice to utilize require to ensure the data is valid and not waste gas.

All functions have input validations.

## DOD-05 | Missing Event Emission.

| Category      | Severity  | Location           | Status   |
|---------------|---|--------------------|--|
| Volatile Code |  Minor | MarketingPool.sol: |  Resolved |

### Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes. The linked code does not create an event for the transfer.

### Remediation



Emit an event for critical parameter changes. It is recommended emitting events for the sensitive functions that are controlled by centralization roles.

### Project Action

Previous: All of the functions; the developer should consider adding an emit or log file to the functions so they are recorded into the blockchain.

FOLLOW-UP: Event emissions have been implemented in most of the functions.

## DOD-07 | State Variables could be Declared Constant.

| Category     | Severity  | Location                      | Status   |
|--------------|---|-------------------------------|--|
| Coding Style |  Minor | MarketingPool.sol: 13,5, 14,5 |  Resolved |

### Description

Constant state variables should be declared constant to save gas.

BNB  
ROUTER

### Remediation

Add the constant attribute to state variables that never changes.



<https://docs.soliditylang.org/en/latest/contracts.html#constant-state-variables>

### Project Action

Previous: Declaring these addresses as a constant variable recommended to save gas.

FOLLOW-UP: Have been declared constant.

## DOD-11 | Sell Tx Fail.

| Category      | Severity   | Location  | Status   |
|---------------|--|---|--|
| Transfer Fail |  Medium | MarketingPool.sol: 123,5,<br>DODTokenV2 - 144,5 |  Resolved |

### Description

The testing revealed that there are instances of sell transactions failing when the marketingPool already has met the threshold to complete a swap of tokens within the function of swapForMarketingPool, but the very same sell transaction that would trigger the swap causes a discrepancy with the number of tokens being transferred in as a tax and the drop of DOD token price, leading to threshold no longer being met. To remedy this, a manual trigger of swapForMarketingPool or selling of a larger number of tokens that makes the threshold to be met despite the price drop was necessary.

### Remediation



Limiting the threshold for DOD tokens to BNB swap to simply the number of tokens without the price is recommended.

### Project Action

7th: Simple threshold of a fixed amount of tokens trigger has been implemented. Successful sell transactions with the contract triggered swap in the function verified.



## DOD-12 | Centralization Risks In The onlyOperator Role(s)

| Category                   | Severity  | Location                | Status   |
|----------------------------|---|-------------------------|--|
| Centralization / Privilege |  Minor | MarketingPool.sol: 53,6 |  Resolved |

### Description

In the contract MarketingPool, the role onlyOperator has authority over the functions that lead to centralization risks.

Any compromise to the onlyOperator account(s) may allow the hacker to take advantage of this authority.

### Remediation

The risk describes the current project design and potentially makes iterations to improve in the security operation and level of decentralization, which in most cases cannot be resolved entirely at the present stage.

We advise the client to carefully manage the privileged account's private key to avoid any potential risks of being hacked.



In general, we strongly recommend centralized privileges or roles in the protocol be improved via a decentralized mechanism or smart-contract-based accounts with enhanced security practices, e.g., multisignature wallets.

### Project Action

Centralization risk resides with onlyOperator at marketingStatus, access, swapPath, swapToMarketingAmount, and swapToMarketingInterval. Multi-sig safe contract for onlyOperator role along with the declaration on the contract recommended.

It's now clearly stated on the contract in comments that the address assigned to the onlyOperator role will be passed onto a multi-sig safe contract once the contract is deployed.

## DOD-13 | Extra Gas Cost For User

| Category      | Severity  | Location                                   | Status   |
|---------------|---|--|--|
| Logical Issue |  Informational | MarketingPool.sol:<br>141,17, 281,9, 129,5 |  Resolved |

### Description

The user may trigger a tax distribution during the transfer process, which will cost a lot of gas and it is unfair to let a single user bear it.

### Remediation



We advise the client to make the owner responsible for the gas costs of the tax distribution.

### Project Action

7th: Recommendations - (1) Moving lines 133 & 134 to inside line 140 if statement recommended. (2) function to change the dodToken CA by onlyGovernor, and removal of Line 138 recommended. It's already done in the constructor. Line 138 would only have its usage and effectiveness worthy of its gas cost if there is a function to change the dodToken CA and it lies in that function.

8th: (1) Implemented. getAmountsOut is now only called if dodBalance >= swapToMarketingAmount. (2) Implemented. safeApprove(dodToken, ROUTER, type(uint256).max) now resides in the function updateToken. (3) Furthermore, the boolean executed and return values have been removed, further improving the gas cost.

## DOD-14 | Unnecessary Use Of SafeMath

| Category      | Severity  | Location           | Status   |
|---------------|---|--------------------|--|
| Logical Issue |  Informational | MarketingPool.sol: |  Resolved |

### Description

The SafeMath library is used unnecessarily. With Solidity compiler versions 0.8.0 or newer, arithmetic operations will automatically revert in case of integer overflow or underflow.

An implementation of SafeMath library is found. SafeMath library is used for uint256 type in MarketingPool contract.



### Remediation

We advise removing the usage of SafeMath library and using the built-in arithmetic operations provided by the Solidity programming language

### Project Action

Compiler version was updated and Safemath was eliminated.

## DOD-15 | Divide Before Multiply.

| Category                | Severity   | Location                            | Status   |
|-------------------------|--|-------------------------------------|--|
| Mathematical Operations |  Critical | MarketingPool.sol:<br>707,13, 826,9 |  Resolved |

### Description

Starting from line 707 to 826, it was found that divisions are being done before multiplication. Performing integer division before multiplication truncates the low bits, losing the precision of calculation.

### Remediation

It is strongly advised to apply multiplication before division to avoid loss of precision that can result in a significant loss in assets

### Project Action

All of the arithmetic equations have been updated to perform multiplication before division.

# Social Media Checks

| Social Media | URL   | Result |
|--------------|---|--------|
| Website      | <a href="https://www.dayofdefeat.app/">https://www.dayofdefeat.app/</a>                   | Pass   |
| Telegram     | <a href="https://t.me/DayOfDefeatBSC">https://t.me/DayOfDefeatBSC</a>                     | Pass   |
| Twitter      | <a href="https://twitter.com/dayofdefeatBSC">https://twitter.com/dayofdefeatBSC</a>       | Pass   |
| OtherSocial  | <a href="https://titanservice.cn/dayofdefeatCN">https://titanservice.cn/dayofdefeatCN</a> | Pass   |

We recommend to have 3 or more social media sources including a completed working websites.

**Social Media Information Notes:**

**Auditor Notes:** undefined

**Project Owner Notes:**

# Assessment Results

## Score Results

| Review              | Score  |
|---------------------|--------|
| Overall Score       | 96/100 |
| Auditor Score       | 94/100 |
| Review by Section   | Score  |
| Manual Scan Score   | 16/18  |
| SWC Scan Score      | 36/37  |
| Advance Check Score | 44/45  |

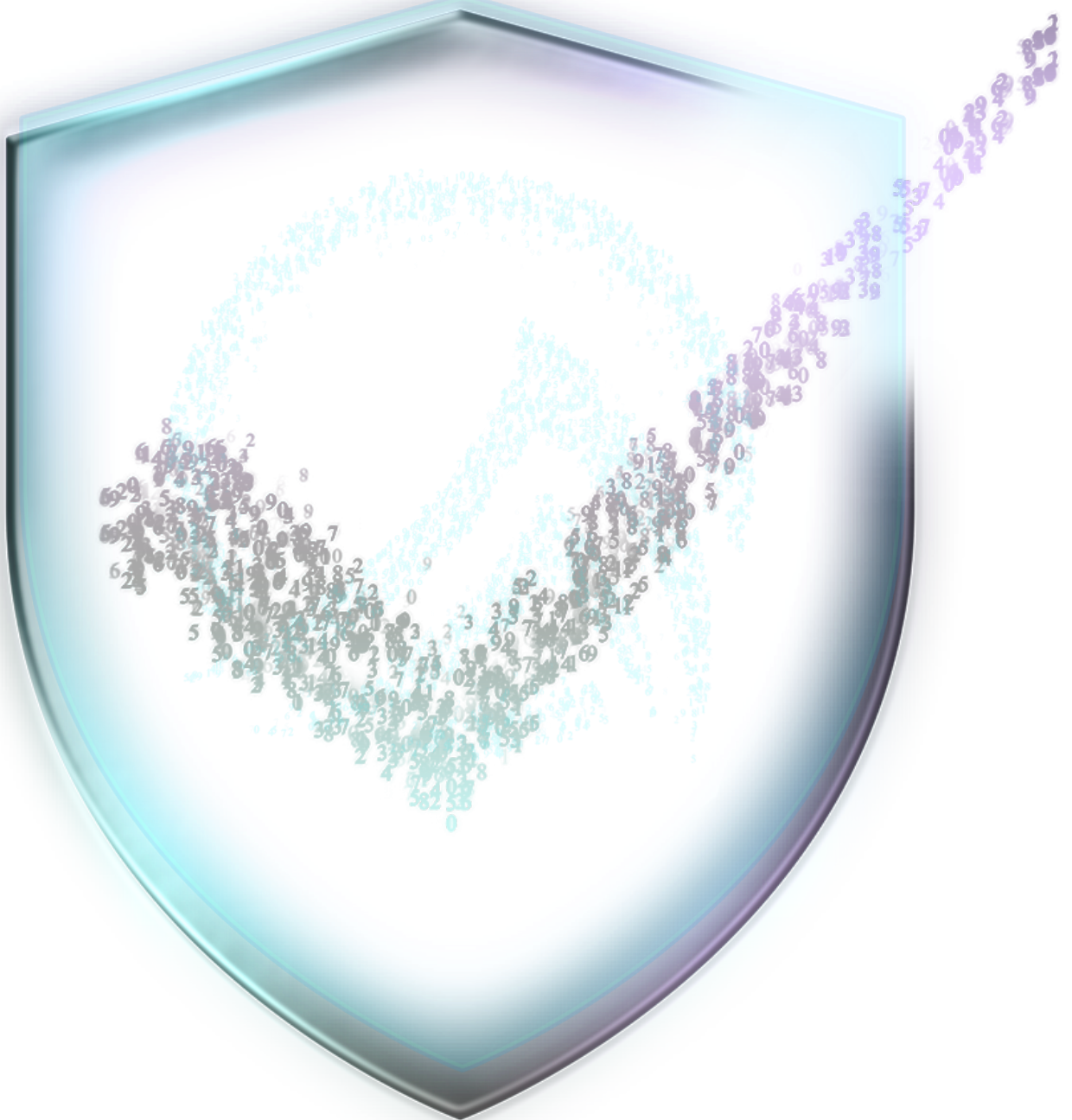
The maximum score is 100, however to attain that value the project must pass the reviews and provide all the data needed for the assessment. Minimum score to pass is 80 points. If a project fails to attain 80 and/or has unresolved critical and/or major and/or medium finding(s) in the Palladium tier assessments, an automatic failure is given. Read our notes and final assessment below.

**PASSED**



## Assessment Results

**Auditor Score = 94**  
**Audit Passed**



# PASSED

## Important Notes from the Auditor:

- 9th(NEW): A couple of changes of codes were made from the 8th version, including a new input validation in the function `updateToken`, and were all verified to work properly.
- 
- 8th: Gas optimization recommendations - (1) Implemented. `getAmountsOut` is now only called if `dodBalance >= swapToMarketingAmount`. (2) Implemented. `safeApprove(dodToken, ROUTER, type(uint256).max)` now resides in the function `updateToken`. (3) Furthermore, the boolean `executed` and `return bool` have been removed, further improving the gas cost.
- 7th: Gas optimization recommendations - (1) Moving lines 133 & 134 to inside line 140 if statement recommended. (2) Removal of Line 138 recommended. It's already done in the constructor. Line 138 would only have its usage and effectiveness worthy of its gas cost if there is a function to change the `dodToken` CA and it lies in that function.

- 
- 8th: It's now clearly stated on the contract in comments that the address assigned to the onlyOperator role will be passed onto a multi-sig safe contract once the contract is deployed.
- 7th: The declaration of multi-sig safe use on the contract is still not present.
- 6th: Centralization risk resides with onlyOperator at marketingStatus, access, swapPath, swapToMarketingAmount, and swapToMarketingInterval. Multi-sig safe contract for onlyOperator role along with the declaration on the contract recommended.
- 5th: An address input to assign the operator role for FundPool & MarketingPool have been implemented (its been clearly stated that a multi-sig safe will be utilized for the administrative role addresses). However, the issue with initiating automatic swaps could not be verified due to the critical errors with the involved variables.
- 4th: A function to stop the FundPool & MarketingPool swaps have been implemented as well as a function to replace the FundPool & MarketingPool by the DODGovernor. However, the issue with initiating automatic swaps could not be verified due to the critical

errors with the involved variables.

- 3rd: FundPool & MarketingPool smart contracts serve their purpose of independently handling taxed funds for rewards/burn and marketing.
- FIRSTLY, onlyOperator role in these two contracts which gets assigned to the contract deployer can potentially prevent functionalities of the whole project by limiting the token's tax mechanism with functions such as setAccess, set...Path, etc. The need for an administrative role for these settings is understandable, however, the centralization risk and potential harm can follow in case the Operator wallet gets compromised. Please carefully review if these functions with onlyOperator modifier are absolutely necessary, and if so, please use extra caution on who's given this privilege and do consider using a multi-sig contract for this Operator role. Lastly, do consider functions that can replace the FundPool contract and MarketingPool contract in case any of these contracts/Operators get compromised.
- Also SECONDLY, the tests revealed that both Fundpool & MarketingPool failed to initiate swaps in the functions swapForFundPool() & swapForMarketingPool() even when the conditions were met. Please review the boolean variables fundStatus & marketingStatus in respective



contracts, 'to' address parameter on IPancakeSwapRouter swap functions, and who becomes the initiator of the swaps to pay the necessary gas fees.

- 
- 7th: Simple threshold of a fixed amount of tokens trigger has been implemented. Successful sell transactions with the contract triggered swap in the function verified.
- 6th: Successful automatic swaps were verified. However there is a standing issue of instances of sell transactions failing when the marketingPool already has met the threshold to complete a swap of tokens within the function of swapForMarketingPool, but the very same sell transaction that would trigger the swap causes a discrepancy with the number of tokens being transferred in as a tax and the drop of DOD token price, leading to threshold no longer being met.
- 
- 7th(NEW): Simple threshold of a fixed amount of tokens trigger has been implemented.
- 6th: The testing revealed that there are instances of sell transactions failing when the marketingPool already has met the threshold to complete a swap of tokens within the function of swapForMarketingPool, but the very same sell

transaction that would trigger the swap causes a discrepancy with the number of tokens being transferred in as a tax and the drop of DOD token price, leading to threshold no longer being met. To remedy this, a manual trigger of swapForMarketingPool or selling of a larger number of tokens that makes the threshold to be met despite the price drop was necessary. Limiting the threshold for DOD tokens to BNB swap to simply the number of tokens without the price is recommended.

- 
- 2nd: Updated to the latest compiler version.
- 1st: Use of the most up-to-date compiler version is recommended to avoid known bugs and chances of exploits.
- 
- 2nd: All necessary files have been provided.
- 1st: A complete audit cannot be done as key information behind the custom interface, IDao is missing.
- 
- 2nd: All arithmetic equations have been updated to do multiplication before division.



- 1st: Division before multiplication will result in a loss of precision in arithmetic calculations, which can lead to a significant loss in assets.



# Appendix

## Finding Categories

### Centralization / Privilege

Centralization / Privilege findings refer to either feature logic or implementation of components that act against the nature of decentralization, such as explicit ownership or specialized access roles in combination with a mechanism to relocate funds.

### Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimal EVM opcodes resulting in a reduction on the total gas cost of a transaction.

### Logical Issue

Logical Issue findings detail a fault in the logic of the linked code, such as an incorrect notion on how block.timestamp works.

### Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functions being invoke-able by anyone under certain circumstances.

### Volatile Code

Volatile Code findings refer to segments of code that behave unexpectedly on certain edge cases that may result in a vulnerability.

### Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to make the codebase more legible and, as a result, easily maintainable.

### Inconsistency

Inconsistency findings refer to functions that should seemingly behave similarly yet contain different code, such as a constructor assignment imposing different requirements on the input variables than a setter function.

### Coding Best Practices

ERC 20 Coding Standards are a set of rules that each developer should follow to ensure the code meets a set of criteria and is readable by all the developers.

# Disclaimer

AegisX has conducted an independent security assessment to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the reviewed code for the scope of this assessment. This report does not constitute agreement, acceptance, or advocacy for the Project, and users relying on this report should not consider this as having any merit for financial advice in any shape, form, or nature. The contracts audited do not account for any economic developments that the Project in question may pursue, and the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude, and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are entirely free of exploits, bugs, vulnerabilities or deprecation of technologies.

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