



Smart Contract Audit

FOR

Apex Digital Exchange (PH)

DATED : 12 Aug 24'



AUDIT SUMMARY

Project name – Apex Digital Exchange (PH)

Date: 12 Aug, 2024

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

Audit Status: **PASSED**

Issues Found

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

USED TOOLS

Tools:

1- Manual Review:

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

2- BSC Test Network: All tests were conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

3- Slither :

The code has undergone static analysis using Slither.

Testnet version:

The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:

<https://testnet.bscscan.com/address/0x1bc8b8432e72738f51f898e847b425d108c77fae#code>



Token Information

Token Address:

0x61e689dBB8b85e4804197c6c461E6F0a7c22a953

Name: Apex Digital Exchange (PH)

Symbol: ADEXph

Decimals: 2

Network: Ether Scan

Token Type: ERC-20

Owner: 0xa3dc8e535440b33E08463e2fC7E98124cEe30e82

Deployer:

0xa3dc8e535440b33E08463e2fC7E98124cEe30e82

Token Supply: 5000000

Checksum: 1bba9d4a15920866c88fa711f22fe0de

Testnet:

<https://testnet.bscscan.com/address/0x1bc8b8432e72738f51f898e847b425d108c77fae#code>



TOKEN OVERVIEW

Buy Fee: 0-0%

Sell Fee: 0-0%

Transfer Fee: 0-0%

Fee Privilege: No

Ownership: Owned

Minting: No

Max Tx: No

Blacklist: No

AUDIT METHODOLOGY

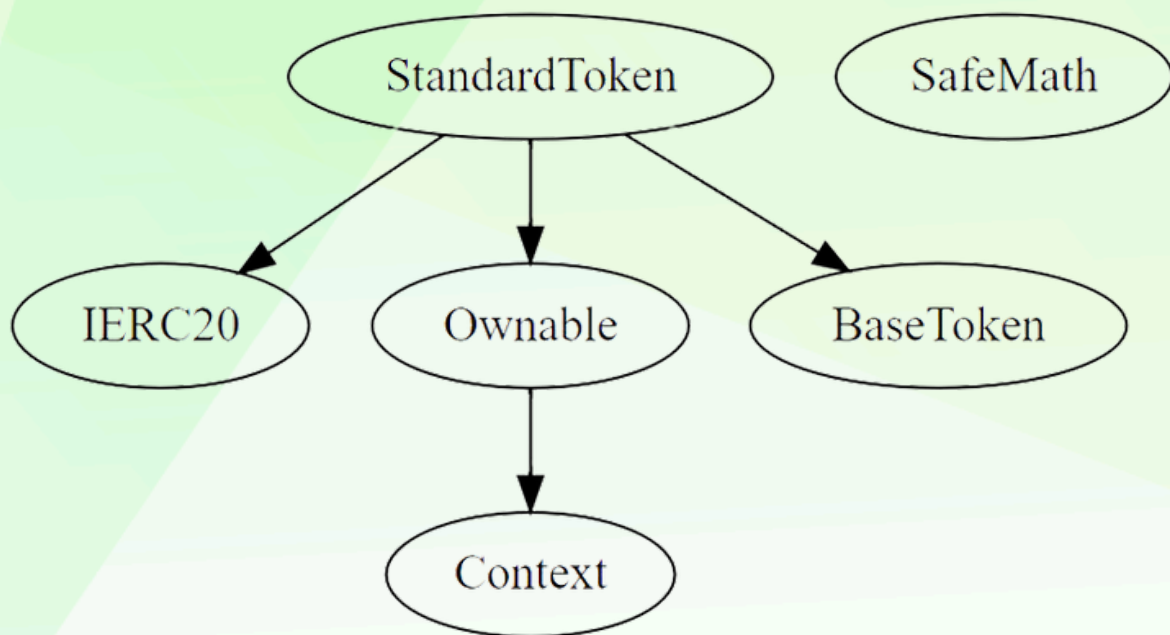
The auditing process will follow a routine as special considerations by Auditace:

- 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.
-

VULNERABILITY CHECKLIST

- | | |
|------------------------------------|-------------------------------|
| ✓ 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 |
-

INHERITANCE TREE



POINTS TO NOTE

- The owner can renounce ownership.
- The owner can transfer ownership.



STATIC ANALYSIS

```
INFO:Detectors:
StandardToken.allowance(address,address).owner (StandardToken.sol#557) shadows:
  - Ownable.owner() (StandardToken.sol#150-152) (function)
StandardToken._approve(address,address,uint256).owner (StandardToken.sol#758) shadows:
  - Ownable.owner() (StandardToken.sol#150-152) (function)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#local-variable-shadowing
INFO:Detectors:
StandardToken.constructor(string,string,uint8,uint256,address,uint256).serviceFeeReceiver_ (StandardToken.sol#471) lacks
a zero-check on :
  - address(serviceFeeReceiver_).transfer(serviceFee_) (StandardToken.sol#481)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-zero-address-validation
INFO:Detectors:
Context._msgData() (StandardToken.sol#110-112) is never used and should be removed
StandardToken._burn(address,uint256) (StandardToken.sol#731-742) is never used and should be removed
StandardToken._setupDecimals(uint8) (StandardToken.sol#776-778) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code
```

**Result => A static analysis of contract's source code has
been performed using slither,
No major issues were found in the output**



FUNCTIONAL TESTING

1- Approve (**passed**):

<https://testnet.bscscan.com/tx/0xb61c0d40bdbcc629e979b259a3578a1d5c6e71c3bf0acc551911387757ffce91>

2- Increase Allowance (**passed**):

<https://testnet.bscscan.com/tx/0x98ff909de661b14755b87bbe03995e7661d8ef7ebcf1457b63f702807e8eaf04>

3- Decrease Allowance (**passed**):

<https://testnet.bscscan.com/tx/0x0769e38b4d41dd6b969f3b399289f75365eba8dd81cef0b76041dbfb9473630c>

4- Transfer (**passed**):

<https://testnet.bscscan.com/tx/0x255fc4509d36fe5a971934dfa9dd5038e60f7109b60317572b732687379716dc>



CLASSIFICATION OF RISK

Severity

Description

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

Findings

Severity

Found

◆ Critical	0
◆ High-Risk	0
◆ Medium-Risk	0
◆ Low-Risk	2
◆ Gas Optimization / Suggestions	0

MANUAL TESTING

Centralization – Missing Zero Address

Severity: Low

Status: Open

Overview:

functions can take a zero address as a parameter (0x00000...). If a function parameter of address type is not properly validated by checking for zero addresses, there could be serious consequences for the contract's functionality.

```
constructor(  
    string memory name_,  
    string memory symbol_,  
    uint8 decimals_,  
    uint256 totalSupply_,  
    address serviceFeeReceiver_,  
    uint256 serviceFee_  
    ) payable {  
    _name = name_;  
    _symbol = symbol_;  
    _decimals = decimals_;  
    _mint(owner(), totalSupply_);  
  
    emit TokenCreated(owner(), address(this), TokenType.standard, VERSION);  
  
    payable(serviceFeeReceiver_).transfer(serviceFee_);  
}
```

Suggestion:

It is suggested that the address should not be zero or dead.



MANUAL TESTING

Centralization – Remove the safe math library.

Severity: Low

Status: Open

Line Number: 205-416

Overview:

The Safe Math library is no longer needed for Solidity version 0.8 and above. This is because Solidity 0.8 includes checked arithmetic operations by default. All of Safe Math's methods are now inherited into Solidity programming.



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