PEAKDEFI

Smart Contract Audit Report

SYSFIXED

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
PEAKDEFI	PEAKDEFI	Binance Smart Chain

Addresses

Contract address	0x630d98424efe0ea27fb1b3ab7741907dffeaad78
Contract deployer address	0xbDBdfAfB975B35a41fA228585c8700D31cCE73c9

Project Website

https://peakdefi.com/

Codebase

https://bscscan.com/address/0x630d98424efe0ea27fb1b3ab7741907dffeaad78#code

SUMMARY

The PEAK token is running on the BNB-Chain and Ethereum networks. You can use the token within the ecosystem to get a higher allocation at the launchpad, more commissions as an affiliate, trading opportunities as a fund manager, more staking rewards, more protection on deposits, and more voting rights on governance.

Contract Summary

Documentation Quality

PEAKDEFI provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also dont have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by PEAKDEFI with the discovery of several low issues.

Test Coverage

Test coverage of the project is 100% (Through Codebase)

Audit Findings Summary

- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 106, 138, 161, 162, 197, 233, 313, 314, 324, 1227, 1311, 313, 314, 1227 and 1311.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 5.
- SWC-110 SWC-123 | It is recommended to use of revert(), assert(), and require() in Solidity, and the new REVERT opcode in the EVM on lines 319, 322 and 364.

CONCLUSION

We have audited the PEAKDEFI project released on January 2023 to discover issues and identify potential security vulnerabilities in PEAKDEFI Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides satisfactory results with low-risk issues.

The issues found in the PEAKDEFI smart contract code do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are arithmetic operation issues, compiler-rewritable " - 1" discovered floating pragma is set, and out-of-bounds array access which the index access expression can cause an exception in case an invalid array index value is used. The current pragma Solidity directive is ""^0.6.2"". Specifying a fixed compiler version is recommended to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	PASS
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	ISSUE FOUND
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	ISSUE FOUND
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
Unprotected Ether Withdrawal	SWC-105	Due to missing or insufficient access controls, malicious parties can withdraw from the contract.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Reentrancy	SWC-107	Check effect interaction pattern should be followed if the code performs recursive call.	PASS
Uninitialized Storage Pointer	SWC-109	Uninitialized local storage variables can point to unexpected storage locations in the contract.	PASS
Assert Violation	SWC-110 SWC-123	Properly functioning code should never reach a failing assert statement.	ISSUE FOUND
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Callee	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS

DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	PASS
Signature Unique ID	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Incorrect Constructor Name	SWC-118	Constructors are special functions that are called only once during the contract creation.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	PASS
Write to Arbitrary Storage Location	SWC-124	The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.	PASS
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS
Insufficient Gas Griefing	SWC-126	Insufficient gas griefing attacks can be performed on contracts which accept data and use it in a sub-call on another contract.	PASS
Arbitrary Jump Function	SWC-127	As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.	PASS

Typographical Error	SWC-129	A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.	PASS
Override control character	SWC-130	Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract.	PASS
Unused variables	SWC-131 SWC-135	Unused variables are allowed in Solidity and they do not pose a direct security issue.	PASS
Unexpected Ether balance	SWC-132	Contracts can behave erroneously when they strictly assume a specific Ether balance.	PASS
Hash Collisions Variable	SWC-133	Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.	PASS
Hardcoded gas amount	SWC-134	The transfer() and send() functions forward a fixed amount of 2300 gas.	PASS
Unencrypted Private Data	SWC-136	It is a common misconception that private type variables cannot be read.	PASS

SMART CONTRACT ANALYSIS

Started	Sunday Feb 28 2021 23:27:55 GMT+0000 (Coordinated Universal Time)
Finished	Monday Mar 01 2021 17:02:03 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	TokenProxy.sol

Detected Issues

ID	Title	Severity	Status
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED	low	acknowledged
SWC-101	COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED	low	acknowledged
SWC-101	COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED	low	acknowledged

SWC-101	COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
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SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 106

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
105   function add(uint256 a, uint256 b) internal pure returns (uint256) {
106   uint256 c = a + b;
107   require(c >= a, "SafeMath: addition overflow");
108
109   return c;
110
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 138

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
137   require(b <= a, errorMessage);
138   uint256 c = a - b;
139
140   return c;
141   }
142
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 161

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
160
161   uint256 c = a * b;
162   require(c / a == b, "SafeMath: multiplication overflow");
163
164   return c;
165
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 162

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
161   uint256 c = a * b;
162   require(c / a == b, "SafeMath: multiplication overflow");
163
164   return c;
165   }
166
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 197

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
196   require(b > 0, errorMessage);
197   uint256 c = a / b;
198   // assert(a == b * c + a % b); // There is no case in which this doesn't hold
199
200   return c;
201
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 233

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
232   require(b != 0, errorMessage);
233   return a % b;
234   }
235   }
236
237
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 313

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
312
313   uint256 toDeleteIndex = valueIndex - 1;
314   uint256 lastIndex = set._values.length - 1;
315
316   // When the value to delete is the last one, the swap operation is unnecessary.
However, since this occurs
317
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 314

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
313   uint256 toDeleteIndex = valueIndex - 1;
314   uint256 lastIndex = set._values.length - 1;
315
316   // When the value to delete is the last one, the swap operation is unnecessary.
However, since this occurs
317   // so rarely, we still do the swap anyway to avoid the gas cost of adding an 'if'
statement.
318
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 324

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
323   // Update the index for the moved value
324   set._indexes[lastvalue] = toDeleteIndex + 1; // All indexes are 1-based
325
326   // Delete the slot where the moved value was stored
327   set._values.pop();
328
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 1227

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
1226   constructor(address _logic, bytes memory _data) public payable {
1227   assert(_IMPLEMENTATION_SLOT ==
bytes32(uint256(keccak256("eip1967.proxy.implementation")) - 1));
1228   _setImplementation(_logic);
1229   if(_data.length > 0) {
1230   // solhint-disable-next-line avoid-low-level-calls
1231
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 1311

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
1310   constructor(address _logic, address _admin, bytes memory _data) public payable
UpgradeableProxy(_logic, _data) {
1311   assert(_ADMIN_SLOT == bytes32(uint256(keccak256("eip1967.proxy.admin")) - 1));
1312   _setAdmin(_admin);
1313   }
1314
1315
```

SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 313

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
312
313   uint256 toDeleteIndex = valueIndex - 1;
314   uint256 lastIndex = set._values.length - 1;
315
316   // When the value to delete is the last one, the swap operation is unnecessary.
However, since this occurs
317
```

SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 314

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- TokenProxy.sol

Locations

```
313   uint256 toDeleteIndex = valueIndex - 1;
314   uint256 lastIndex = set._values.length - 1;
315
316   // When the value to delete is the last one, the swap operation is unnecessary.
However, since this occurs
317   // so rarely, we still do the swap anyway to avoid the gas cost of adding an 'if'
statement.
318
```

SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 1227

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Source File

- TokenProxy.sol

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```

SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 1311

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Source File

- TokenProxy.sol

Locations

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1310   constructor(address _logic, address _admin, bytes memory _data) public payable
UpgradeableProxy(_logic, _data) {
1311   assert(_ADMIN_SLOT == bytes32(uint256(keccak256("eip1967.proxy.admin")) - 1));
1312   _setAdmin(_admin);
1313   }
1314
1315
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 5

low SEVERITY

The current pragma Solidity directive is ""^0.6.2"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- TokenProxy.sol

Locations

```
4
5   pragma solidity ^0.6.2;
6
7   /**
8   * @dev Interface of the ERC20 standard as defined in the EIP.
9
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 319

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- TokenProxy.sol

Locations

```
318
319   bytes32 lastvalue = set._values[lastIndex];
320
321   // Move the last value to the index where the value to delete is
322   set._values[toDeleteIndex] = lastvalue;
323
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 322

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- TokenProxy.sol

Locations

```
321   // Move the last value to the index where the value to delete is
322   set._values[toDeleteIndex] = lastvalue;
323   // Update the index for the moved value
324   set._indexes[lastvalue] = toDeleteIndex + 1; // All indexes are 1-based
325
326
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 364

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- TokenProxy.sol

Locations

```
363   require(set._values.length > index, "EnumerableSet: index out of bounds");
364   return set._values[index];
365   }
366
367   // AddressSet
368
```

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This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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