Velox

Smart Contract Audit Report

SYSFIXED

25 Dec 2022

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Velox	VLX	Binance Smart Chain

Addresses

Contract address	0x62AD374Cc7E1A05f420C1A42d97b1EC8617b335B
Contract deployer address	0x5a0Bb655d76ab22B0bBe9316579Dfa4bC278f764

Project Website

https://veloxchain.io/

Codebase

https://bscscan.com/address/0x62AD374Cc7E1A05f420C1A42d97b1EC8617b335B#code

SUMMARY

VELOX chain - Utilities/Products ready before launch (blockchain, bridge, swap). The fastest blockchain in the world with ultra-low fees. The founder is a former Microsoft employee and the team member is an Apple employee. A real revolution, a friendly architecture for creators and investors, NFT & DAO & Wallet & Launchpad & Metaverse & VELOXpay - The great VELOX ecosystem, ZK technology adoption, GameFI integration

Contract Summary

Documentation Quality

Velox 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 Velox with the discovery of several low issues.

Test Coverage

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

Audit Findings Summary

- SWC-100 SWC-108 | Explicitly define visibility for all state variables on lines 371.
- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 21, 26, 33, 38, 374, 374, 392 and 392.
- 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 535, 536, 559 and 560.

CONCLUSION

We have audited the Velox project released on December 2022 to discover issues and identify potential security vulnerabilities in Velox 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 a satisfactory result with some low-risk issues.

The issues found in the Velox 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 some arithmetic operation issues, a state variable visibility is not set and out of bounds array access which the index access expression can cause an exception in case of the use of an invalid array index value.

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.	ISSUE FOUND
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.	PASS
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	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
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	Delegate calls 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
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
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

SMART CONTRACT ANALYSIS

Started	Saturday Dec 24 2022 22:12:27 GMT+0000 (Coordinated Universal Time)
Finished	Sunday Dec 25 2022 22:54:52 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	VELOX.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-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 21

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
20   function add(uint a, uint b) internal pure returns (uint) {
21   uint c = a + b;
22   return c;
23   }
24
25
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 26

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
25   function sub(uint a, uint b) internal pure returns (uint) {
26   uint c = a - b;
27   return c;
28   }
29   function mul(uint a, uint b) internal pure returns (uint) {
30
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 33

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
32   }
33   uint c = a * b;
34   return c;
35   }
36
37
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 38

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
37   function div(uint a, uint b) internal pure returns (uint) {
38   uint c = a / b;
39   return c;
40   }
41   }
42
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 374

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
373
374   uint256 public numTokensSellToAddToLiquidity = 1000000 * 10**9; //0.1%
375
376   event MinTokensBeforeSwapUpdated(uint256 minTokensBeforeSwap);
377   event SwapAndLiquifyEnabledUpdated(bool enabled);
378
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 374

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
373
374   uint256 public numTokensSellToAddToLiquidity = 1000000 * 10**9; //0.1%
375
376   event MinTokensBeforeSwapUpdated(uint256 minTokensBeforeSwap);
377   event SwapAndLiquifyEnabledUpdated(bool enabled);
378
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 392

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
391
392   _totalSupply = 1000000000 * (10**9);
393
394   _balances[owner()] = _totalSupply;
395
396
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 392

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
391
392   _totalSupply = 1000000000 * (10**9);
393
394   _balances[owner()] = _totalSupply;
395
396
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 371

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

Source File

- VELOX.sol

Locations

```
370
371   bool inSwapAndLiquify;
372   bool public swapAndLiquifyEnabled = true;
373
374   uint256 public numTokensSellToAddToLiquidity = 1000000 * 10**9; //0.1%
375
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 535

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
534   address[] memory path = new address[](2);
535   path[0] = address(this);
536   path[1] = uniswapV2Router.WETH();
537
538   _approve(address(this), address(uniswapV2Router), tokensToLiquify);
539
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 536

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
535   path[0] = address(this);
536   path[1] = uniswapV2Router.WETH();
537
538   _approve(address(this), address(uniswapV2Router), tokensToLiquify);
539   uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(
540
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 559

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
558   address[] memory path = new address[](2);
559   path[0] = address(this);
560   path[1] = uniswapV2Router.WETH();
561
562   _approve(address(this), address(uniswapV2Router), tokenAmount);
563
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 560

low SEVERITY

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

Source File

- VELOX.sol

Locations

```
559   path[0] = address(this);
560   path[1] = uniswapV2Router.WETH();
561
562   _approve(address(this), address(uniswapV2Router), tokenAmount);
563
564
```

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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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ABOUT US

Sysfixed is a blockchain security certification organization established in 2021 with the objective to provide smart contract security services and verify their correctness in blockchain-based protocols. Sysfixed automatically scans for security vulnerabilities in Ethereum and other EVM-based blockchain smart contracts. Sysfixed a comprehensive range of analysis techniques—including static analysis, dynamic analysis, and symbolic execution—can accurately detect security vulnerabilities to provide an in-depth analysis report. With a vibrant ecosystem of world-class integration partners that amplify developer productivity, Sysfixed can be utilized in all phases of your project's lifecycle. Our team of security experts is dedicated to the research and improvement of our tools and techniques used to fortify your code.