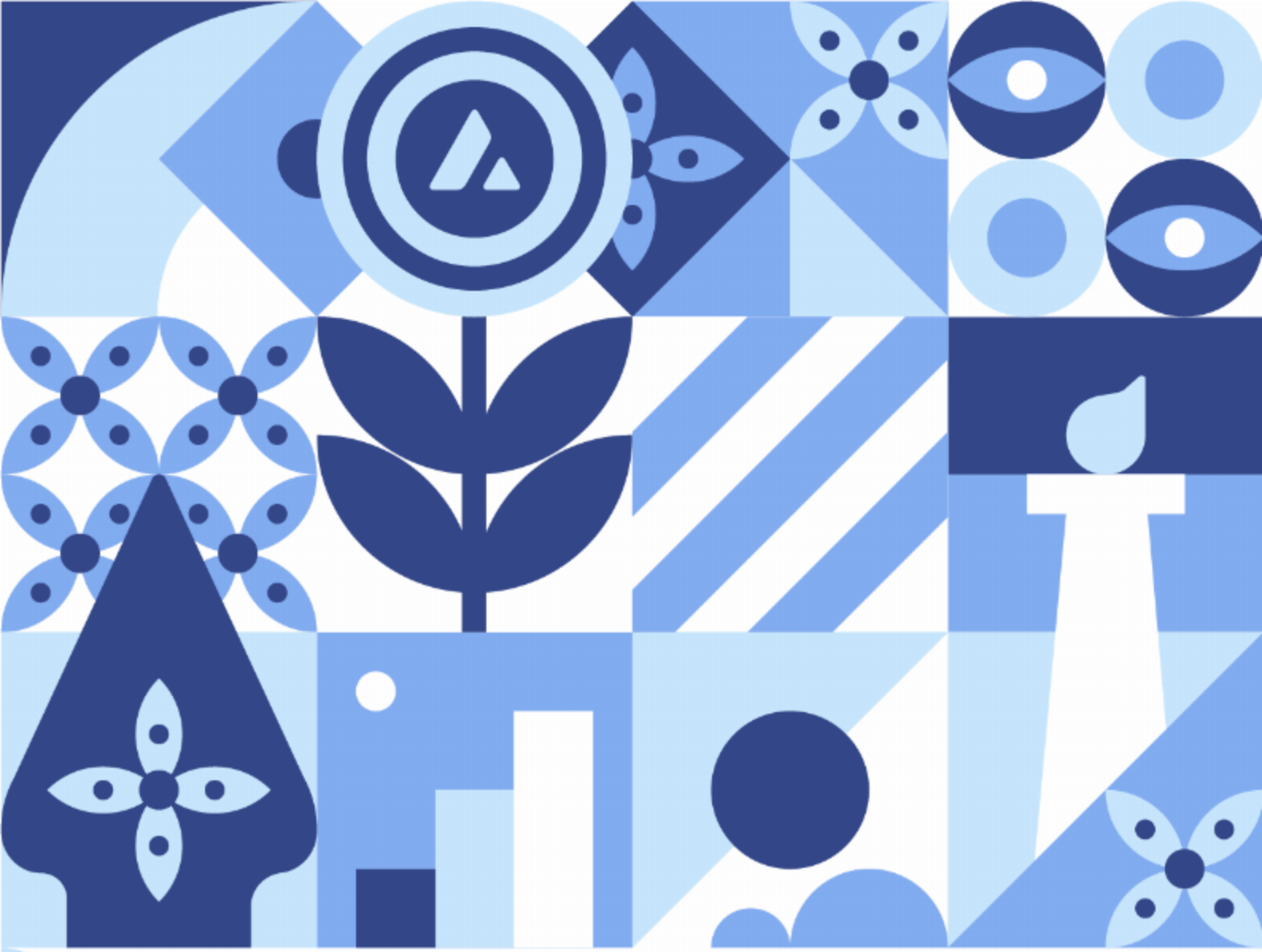

Wootrade Network

Smart Contract Audit Report

SYSFIXED

03 Dec 2021

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Wootrade Network	WOO.e	Avalanche

Addresses

Contract address	0xabc9547b534519ff73921b1fba6e672b5f58d083
Contract deployer address	0x50Ff3B278fCC70ec7A9465063d68029AB460eA04

Project Website

https://woo.org/

Codebase

https://snowtrace.io/address/0xabc9547b534519ff73921b1fba6e672b5f58d083#code

SUMMARY

WOO Network is a deep liquidity network connecting traders, exchanges, institutions, and DeFi platforms with democratized access to the best-in-class liquidity and trading execution at lower or zero cost. WOO Token is used in the network's CeFi and DeFi products for staking and fee discounts.

Contract Summary

Documentation Quality

Wootrade Network 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 Wootrade Network 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 545.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 13, 92, 119, 145, 449, 489 and 528.
- 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 728.
- SWC-115 | tx.origin should not be used for authorization, use msg.sender instead on lines 626, 626, 353, 423, 521, 397 and 424.

CONCLUSION

We have audited the Wootrade Network project released in December 2021 to discover issues and identify potential security vulnerabilities in Wootrade Network 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 in the Wootrade Network 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 that a floating pragma is set, a state variable visibility is not set, weak sources of randomness, tx.origin as a part of authorization control, and requirement violation.

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.	PASS
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.	ISSUE FOUND
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	Thursday Dec 02 2021 19:48:31 GMT+0000 (Coordinated Universal Time)
Finished	Friday Dec 03 2021 23:50:53 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	BridgeToken.sol

Detected Issues

ID	Title	Severity	Status
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
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SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-115	USE OF "TX.ORIGIN" AS A PART OF AUTHORIZATION CONTROL.	low	acknowledged
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SWC-115	USE OF TX.ORIGIN AS A PART OF AUTHORIZATION CONTROL.	low	acknowledged
SWC-123	REQUIREMENT VIOLATION.	low	acknowledged

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 13

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". 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

- BridgeToken.sol

Locations

```
12
13  pragma solidity ^0.8.0;
14
15  /**
16  * @dev Interface of the ERC20 standard as defined in the EIP.
17
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 92

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". 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

- BridgeToken.sol

Locations

```
91
92   pragma solidity ^0.8.0;
93
94
95   /**
96
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 119

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". 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

- BridgeToken.sol

Locations

```
118
119   pragma solidity ^0.8.0;
120
121   /*
122   * @dev Provides information about the current execution context, including the
123
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 145

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". 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

- BridgeToken.sol

Locations

```
144
145   pragma solidity ^0.8.0;
146
147
148
149
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 449

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". 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

- BridgeToken.sol

Locations

```
448
449   pragma solidity ^0.8.0;
450
451
452
453
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 489

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". 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

- BridgeToken.sol

Locations

```
488
489   pragma solidity ^0.8.0;
490
491   library Roles {
492   struct Role {
493
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 528

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". 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

- BridgeToken.sol

Locations

```
527
528   pragma solidity ^0.8.0;
529
530
531
532
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 545

low SEVERITY

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

Source File

- BridgeToken.sol

Locations

```
544   }
545   mapping(address => SwapToken) swapTokens;
546
547   mapping(uint256 => bool) public chainIds;
548
549
```

SWC-115 | USE OF "TX.ORIGIN" AS A PART OF AUTHORIZATION CONTROL.

LINE 626

low SEVERITY

The tx.origin environment variable has been found to influence a control flow decision. Note that using "tx.origin" as a security control might cause a situation where a user inadvertently authorizes a smart contract to perform an action on their behalf. It is recommended to use "msg.sender" instead.

Source File

- BridgeToken.sol

Locations

```
625   function unwrap(uint256 amount, uint256 chainId) public {
626   require(tx.origin == msg.sender, "Contract calls not supported.");
627   require(chainIds[chainId] == true, "Chain ID not supported.");
628   _burn(msg.sender, amount);
629   emit Unwrap(amount, chainId);
630
```

SWC-115 | USE OF TX.ORIGIN AS A PART OF AUTHORIZATION CONTROL.

LINE 626

low SEVERITY

The tx.origin environment variable has been found to influence a control flow decision. Note that using tx.origin as a security control might cause a situation where a user inadvertently authorizes a smart contract to perform an action on their behalf. It is recommended to use msg.sender instead.

Source File

- BridgeToken.sol

Locations

```
625   function unwrap(uint256 amount, uint256 chainId) public {
626   require(tx.origin == msg.sender, "Contract calls not supported.");
627   require(chainIds[chainId] == true, "Chain ID not supported.");
628   _burn(msg.sender, amount);
629   emit Unwrap(amount, chainId);
630
```

SWC-115 | USE OF TX.ORIGIN AS A PART OF AUTHORIZATION CONTROL.

LINE 353

low SEVERITY

The tx.origin environment variable has been found to influence a control flow decision. Note that using tx.origin as a security control might cause a situation where a user inadvertently authorizes a smart contract to perform an action on their behalf. It is recommended to use msg.sender instead.

Source File

- BridgeToken.sol

Locations

```
352   function _transfer(address sender, address recipient, uint256 amount) internal
virtual {
353   require(sender != address(0), "ERC20: transfer from the zero address");
354   require(recipient != address(0), "ERC20: transfer to the zero address");
355
356   _beforeTokenTransfer(sender, recipient, amount);
357
```

SWC-115 | USE OF TX.ORIGIN AS A PART OF AUTHORIZATION CONTROL.

LINE 423

low SEVERITY

The tx.origin environment variable has been found to influence a control flow decision. Note that using tx.origin as a security control might cause a situation where a user inadvertently authorizes a smart contract to perform an action on their behalf. It is recommended to use msg.sender instead.

Source File

- BridgeToken.sol

Locations

```
422   function _approve(address owner, address spender, uint256 amount) internal virtual
{
423   require(owner != address(0), "ERC20: approve from the zero address");
424   require(spender != address(0), "ERC20: approve to the zero address");
425
426   _allowances[owner][spender] = amount;
427
```

SWC-115 | USE OF TX.ORIGIN AS A PART OF AUTHORIZATION CONTROL.

LINE 521

low SEVERITY

The tx.origin environment variable has been found to influence a control flow decision. Note that using tx.origin as a security control might cause a situation where a user inadvertently authorizes a smart contract to perform an action on their behalf. It is recommended to use msg.sender instead.

Source File

- BridgeToken.sol

Locations

```
520   {
521   require(account != address(0), "Roles: account is the zero address");
522   return role.bearer[account];
523   }
524   }
525
```

SWC-115 | USE OF TX.ORIGIN AS A PART OF AUTHORIZATION CONTROL.

LINE 397

low SEVERITY

The tx.origin environment variable has been found to influence a control flow decision. Note that using tx.origin as a security control might cause a situation where a user inadvertently authorizes a smart contract to perform an action on their behalf. It is recommended to use msg.sender instead.

Source File

- BridgeToken.sol

Locations

```
396   function _burn(address account, uint256 amount) internal virtual {
397   require(account != address(0), "ERC20: burn from the zero address");
398
399   _beforeTokenTransfer(account, address(0), amount);
400
401
```

SWC-115 | USE OF TX.ORIGIN AS A PART OF AUTHORIZATION CONTROL.

LINE 424

low SEVERITY

The tx.origin environment variable has been found to influence a control flow decision. Note that using tx.origin as a security control might cause a situation where a user inadvertently authorizes a smart contract to perform an action on their behalf. It is recommended to use msg.sender instead.

Source File

- BridgeToken.sol

Locations

```
423   require(owner != address(0), "ERC20: approve from the zero address");
424   require(spender != address(0), "ERC20: approve to the zero address");
425
426   _allowances[owner][spender] = amount;
427   emit Approval(owner, spender, amount);
428
```

SWC-123 | REQUIREMENT VIOLATION.

LINE 728

low SEVERITY

A requirement was violated in a nested call and the call was reverted as a result. Make sure valid inputs are provided to the nested call (for instance, via passed arguments).

Source File

- BridgeToken.sol

Locations

```
727   );
728   swapToken.burnFrom(msg.sender, amount);
729
730   // Mint the new token.
731   _mint(msg.sender, amount);
732
```

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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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