Cyberscope

Audit Report

stabilityX AI

March 2025

Network BASE

Address 0x220fe462bcd27a7f62efad15bf0867e8817ed833

Audited by © cyberscope

Analysis

Critical Medium Minor / Informative Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

Diagnostics

Critical Medium Minor / Informative

Severity	Code	Description	Status
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L16	Validate Variable Setters	Unresolved

Table of Contents

Risk Classification

The criticality of findings in Cyberscope's smart contract audits is determined by evaluating multiple variables. The two primary variables are:

1. **Likelihood of Exploitation**: This considers how easily an attack can be executed, including the economic feasibility for an attacker.
2. **Impact of Exploitation**: This assesses the potential consequences of an attack, particularly in terms of the loss of funds or disruption to the contract's functionality.

Based on these variables, findings are categorized into the following severity levels:

1. **Critical**: Indicates a vulnerability that is both highly likely to be exploited and can result in significant fund loss or severe disruption. Immediate action is required to address these issues.
2. **Medium**: Refers to vulnerabilities that are either less likely to be exploited or would have a moderate impact if exploited. These issues should be addressed in due course to ensure overall contract security.
3. **Minor**: Involves vulnerabilities that are unlikely to be exploited and would have a minor impact. These findings should still be considered for resolution to maintain best practices in security.
4. **Informative**: Points out potential improvements or informational notes that do not pose an immediate risk. Addressing these can enhance the overall quality and robustness of the contract.

Severity	Likelihood / Impact of Exploitation
Critical	Highly Likely / High Impact
Medium	Less Likely / High Impact or Highly Likely/ Lower Impact
Minor / Informative	Unlikely / Low to no Impact

Review

Contract Name	DefiTokenFixedSupply
Compiler Version	v0.8.17+commit.8df45f5f
Optimization	200 runs
Explorer	https://basescan.org/address/0x220fe462bcd27a7f62efad15bf0867e8817ed833
Address	0x220fe462bcd27a7f62efad15bf0867e8817ed833
Network	BASE
Symbol	stabilityXAI
Decimals	9
Total Supply	1,000,000,000
Badge Eligibility	Yes

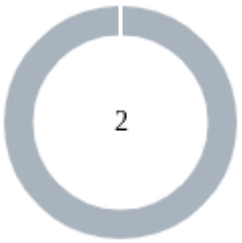
Audit Updates

Initial Audit	14 Mar 2025

Source Files

Filename	SHA256
ReflectiveV3ERC20.sol	07c4ebed4265d8c6797bd6c501d5f0949a96a2b4a1176be7b9dda6bf274b44cf
DefiTokenFixedSupply.sol	2eca172280aebf30d04392d8c184cdf40ebfd520f4281c305849eb745d47809a
lib/LibCommon.sol	ad40e79524942f0927be19739e7c96b7a52147f5cf54fdd7eb676720db70b66a

Findings Breakdown



Critical	0
Medium	0
Minor / Informative	2

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	0	0	0	0
Medium	0	0	0	0
Minor / Informative	2	0	0	0

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	DefiTokenFixedSupply.sol#L168,270,284,285,304
Status	Unresolved

Description

The Solidity style guide is a set of guidelines for writing clean and consistent Solidity code. Adhering to a style guide can help improve the readability and maintainability of the Solidity code, making it easier for others to understand and work with.

The followings are a few key points from the Solidity style guide:

1. Use camelCase for function and variable names, with the first letter in lowercase (e.g., myVariable, updateCounter).
2. Use PascalCase for contract, struct, and enum names, with the first letter in uppercase (e.g., MyContract, UserStruct, ErrorEnum).
3. Use uppercase for constant variables and enums (e.g., MAX_VALUE, ERROR_CODE).
4. Use indentation to improve readability and structure.
5. Use spaces between operators and after commas.
6. Use comments to explain the purpose and behavior of the code.
7. Keep lines short (around 120 characters) to improve readability.

```
address _taxAddress
uint256 _feeBPS
uint256 _taxBPS
uint256 _deflationBPS
```

Recommendation

By following the Solidity naming convention guidelines, the codebase increased the readability, maintainability, and makes it easier to work with.

Find more information on the Solidity documentation
https://docs.soliditylang.org/en/stable/style-guide.html#naming-conventions.

L16 - Validate Variable Setters

Criticality	Minor / Informative
Location	DefiTokenFixedSupply.sol#L147,154,296
Status	Unresolved

Description

The contract performs operations on variables that have been configured on user-supplied input. These variables are missing of proper check for the case where a value is zero. This can lead to problems when the contract is executed, as certain actions may not be properly handled when the value is zero.

```
taxAddress = _taxAddress
initialTokenOwner = tokenOwner
```

Recommendation

By adding the proper check, the contract will not allow the variables to be configured with zero value. This will ensure that the contract can handle all possible input values and avoid unexpected behavior or errors. Hence, it can help to prevent the contract from being exploited or operating unexpectedly.

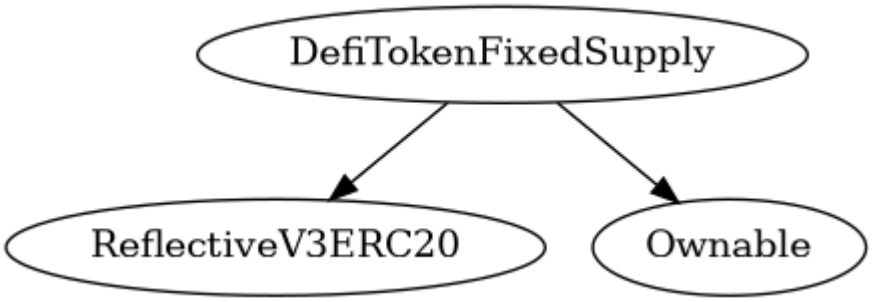
Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
ReflectiveV3ERC20	Implementation	ERC20		
	_tTotal	Public		-
		Public	✓	ERC20
	balanceOf	Public		-
	transferFrom	Public	✓	-
	transfer	Public	✓	-
	_transfer	Internal	✓	
	_burn	Internal	✓	
	_setReflectionFee	Internal	✓	
	tokenFromReflection	Public		-
	_excludeFromRewards	Internal	✓	
	_includeInRewards	Internal	✓	
	_transferStandard	Private	✓	
	_transferFromExcluded	Private	✓	
	_transferToExcluded	Private	✓	
	_transferBothExcluded	Private	✓	
	_reflectFee	Private	✓	
	calculateFee	Private		
	_transferNonReflectedTax	Internal	✓	

	_getRValues	Private		
	_getRate	Private		
	_getCurrentSupply	Private		
	_rUpdate	Private	✓	
DefiTokenFixedSupply	Implementation	ReflectiveV3 ERC20, Ownable		
		Public	✓	ReflectiveV3ERC20
	bpsInitChecks	Private		
	getFeesAndLimitsExclusionList	External		-
	isBurnable	Public		-
	getRewardsExclusionList	Public		-
	isMaxAmountOfTokensSet	Public		-
	isDocumentUriAllowed	Public		-
	decimals	Public		-
	isTaxable	Public		-
	isDeflationary	Public		-
	isReflective	Public		-
	setDocumentUri	External	✓	onlyOwner
	setMaxTokenAmountPerAddress	External	✓	onlyOwner
	setReflectionConfig	External	✓	onlyOwner
	setTaxConfig	External	✓	onlyOwner
	setDeflationConfig	External	✓	onlyOwner
	transfer	Public	✓	-
	transferFrom	Public	✓	-

	burn	External	✓	onlyOwner
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	excludeFromFeesAndLimits	External	✓	onlyOwner
	excludeFromRewards	External	✓	onlyOwner
	includeInFeesAndLimits	External	✓	onlyOwner
	includeInRewards	External	✓	onlyOwner
	_taxAmount	Internal		
	_deflationAmount	Internal		
LibCommon	Library			
	safeTransferETH	Internal	✓	
	validateAddress	Internal		
	safeTransferFrom	Internal	✓	
	safeTransfer	Internal	✓	

Inheritance Graph



Summary

stabilityX AI contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. stabilityX AI is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions.

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About Cyberscope

Cyberscope is a blockchain cybersecurity company that was founded with the vision to make web3.0 a safer place for investors and developers. Since its launch, it has worked with thousands of projects and is estimated to have secured tens of millions of investors' funds.

Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.

The Cyberscope team

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