Cyberscope

Audit Report

Synthetik

May 2024

SHA256 59afd140c1a0769ebb1621ad4a305b083477d340590aa94a42ba7c5d1c228ea1

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
●	IDI	Immutable Declaration Improvement	Unresolved
●	L19	Stable Compiler Version	Unresolved

Table of Contents

Review

Contract Name	Synthetik
Testing Deploy	https://testnet.bscscan.com/address/0x98077863b7df13524de3cc1a8af7ef3d13eda418
Symbol	STK
Decimals	18
Total Supply	1,000,000,000
Badge Eligibility	Yes

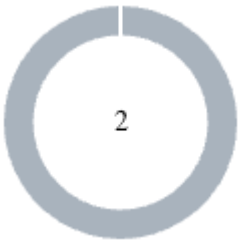
Audit Updates

Initial Audit	04 May 2024

Source Files

Filename	SHA256
contracts/Synthetik.sol	59afd140c1a0769ebb1621ad4a305b083477d340590aa94a42ba7c5d1c228ea1

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

IDI - Immutable Declaration Improvement

Criticality	Minor / Informative
Location	contracts/Synthetik.sol#L104
Status	Unresolved

Description

The contract declares state variables that their value is initialized once in the constructor and are not modified afterwards. The `immutable` is a special declaration for this kind of state variables that saves gas when it is defined.

```
decimals
```

Recommendation

By declaring a variable as immutable, the Solidity compiler is able to make certain optimizations. This can reduce the amount of storage and computation required by the contract, and make it more gas-efficient.

L19 - Stable Compiler Version

Criticality	Minor / Informative
Location	contracts/Synthetik.sol#L2
Status	Unresolved

Description

The `^` symbol indicates that any version of Solidity that is compatible with the specified version (i.e., any version that is a higher minor or patch version) can be used to compile the contract. The version lock is a mechanism that allows the author to specify a minimum version of the Solidity compiler that must be used to compile the contract code. This is useful because it ensures that the contract will be compiled using a version of the compiler that is known to be compatible with the code.

```
pragma solidity ^0.8.24;
```

Recommendation

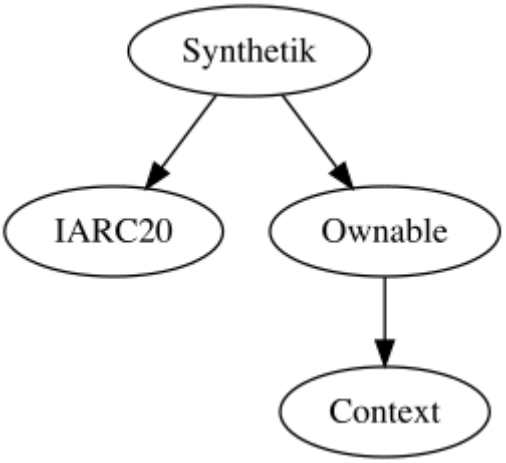
The team is advised to lock the pragma to ensure the stability of the codebase. The locked pragma version ensures that the contract will not be deployed with an unexpected version. An unexpected version may produce vulnerabilities and undiscovered bugs. The compiler should be configured to the lowest version that provides all the required functionality for the codebase. As a result, the project will be compiled in a well-tested LTS (Long Term Support) environment.

Functions Analysis

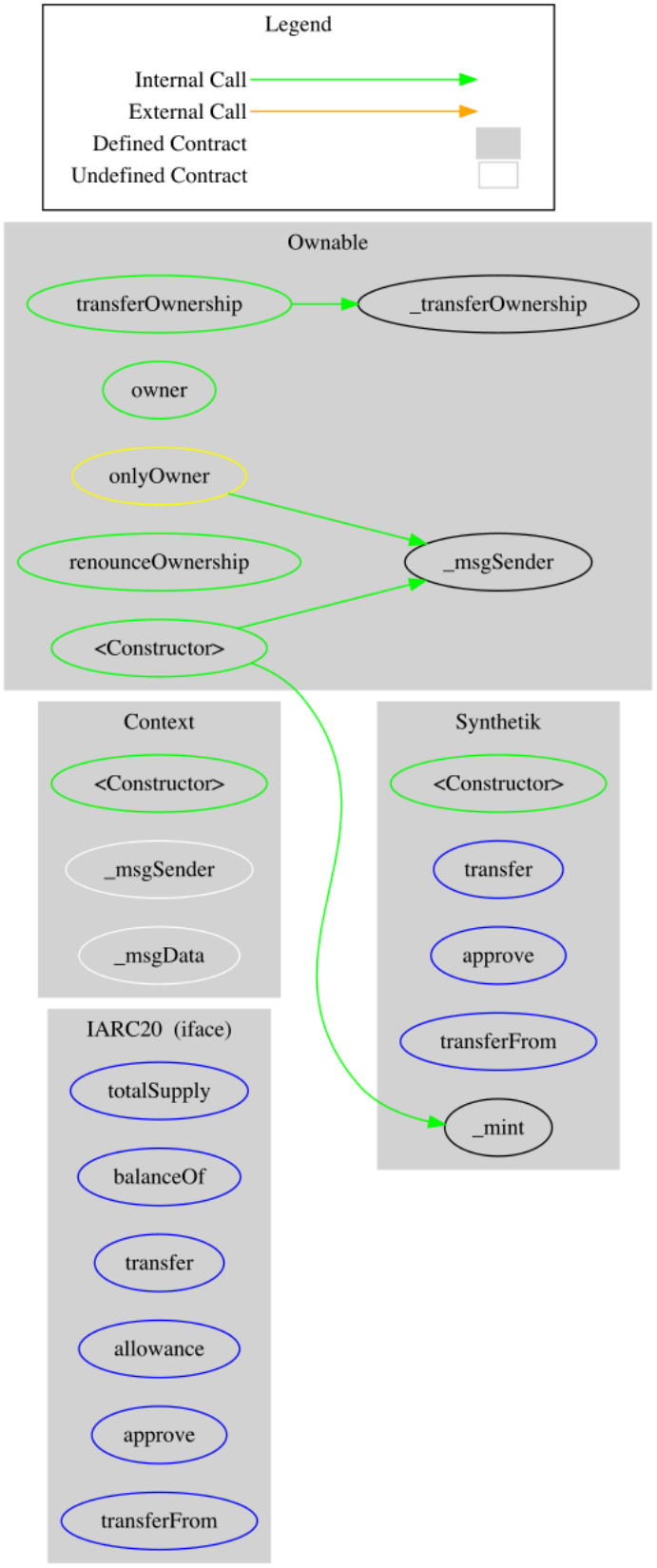
Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
IARC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Context	Implementation			
		Public	✓	-
	_msgSender	Internal		
	_msgData	Internal		
Ownable	Implementation	Context		
		Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner

	_transferOwnership	Internal	✓	
Synthetik	Implementation	IARC20, Ownable		
		Public	✓	-
	transfer	External	✓	-
	approve	External	✓	-
	transferFrom	External	✓	-
	_mint	Internal	✓	

Inheritance Graph



Flow Graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
Ownable
transferOwnership
_transferOwnership
owner
onlyOwner
renounceOwnership
_msgSender
<Constructor>
Context
<Constructor>
_msgSender
_msgData
IARC20 (iface)
totalSupply
balanceOf
transfer
allowance
approve
transferFrom
Synthetik
<Constructor>
transfer
approve
transferFrom
_mint

Summary

Synthetik contract implements a token mechanism. This audit investigates security issues, business logic concerns, and potential improvements. Synthetik is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler errors 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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The Cyberscope team

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