Cyberscope

Audit Report

Frog Knox

February 2025

Network	ETH
Address	0x99d6e596394027cef7361004a96dd2299228dbb4
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
	ROF	Redundant Ownable Functionality	Unresolved
	NWES	Nonconformity with ERC-20 Standard	Unresolved
	L04	Conformance to Solidity Naming Conventions	Unresolved

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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	Token
Compiler Version	v0.8.9+commit.e5eed63a
Optimization	200 runs
Explorer	https://etherscan.io/address/0x99d6e596394027cef7361004a96dd2299228dbb4
Address	0x99d6e596394027cef7361004a96dd2299228dbb4
Network	ETH
Symbol	FROX
Decimals	18
Total Supply	42.069.696.969
Badge Eligibility	Yes

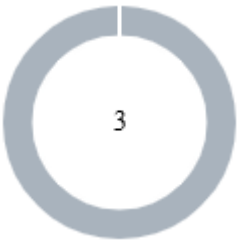
Audit Updates

Initial Audit	25 Feb 2025

Source Files

Filename	SHA256
contracts/Token.sol	0083438244e756b569d8f9d70479bc4ce32ca9967e31e3d92681156360ff760a

Findings Breakdown



Critical	0
Medium	0
Minor / Informative	3

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	0	0	0	0
Medium	0	0	0	0
Minor / Informative	3	0	0	0

ROF - Redundant Ownable Functionality

Criticality	Minor / Informative
Location	contracts/Token.sol#L198
Status	Unresolved

Description

The contract inherits from the `Ownable` smart contract. `Ownable` allows the owner of the contract control over key functions of the contract that have the `onlyOwner` modifier. However, no function has this modifier and furthermore there is no need for it on any of the implemented functions. Therefore `Ownable` is redundant.

```
contract Token is Context, IERC20Metadata, Ownable {/*...*/}
```

Recommendation

It is recommended to remove the `Ownable` contract to enhance code optimization and readability as well as reduce deployment costs.

NWES - Nonconformity with ERC-20 Standard

Criticality	Minor / Informative
Location	contracts/Token.sol#L350
Status	Unresolved

Description

The contract does not fully conform to the ERC20 Standard. Specifically, according to the standard, transfers of 0 values must be treated as normal transfers and fire the Transfer event. However, the contract implements a conditional check that prohibits transfers of 0 values. This discrepancy between the contract's implementation and the ERC20 standard may lead to inconsistencies and incompatibilities with other contracts.

```
function _transfer(address sender, address recipient, uint256
amount) internal virtual {
    require(amount > 0, 'ERC20: transfer amount zero');
    //...
}
```

Recommendation

The incorrect implementation of the ERC20 standard could potentially lead to problems when interacting with the contract, as other contracts or applications that expect the ERC20 interface may not behave as expected. The team is advised to review and revise the implementation of the transfer mechanism to ensure full compliance with the ERC20 standard. https://eips.ethereum.org/EIPS/eip-20.

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	contracts/Token.sol#L207
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.

```
uint8 private constant _decimals = 18
```

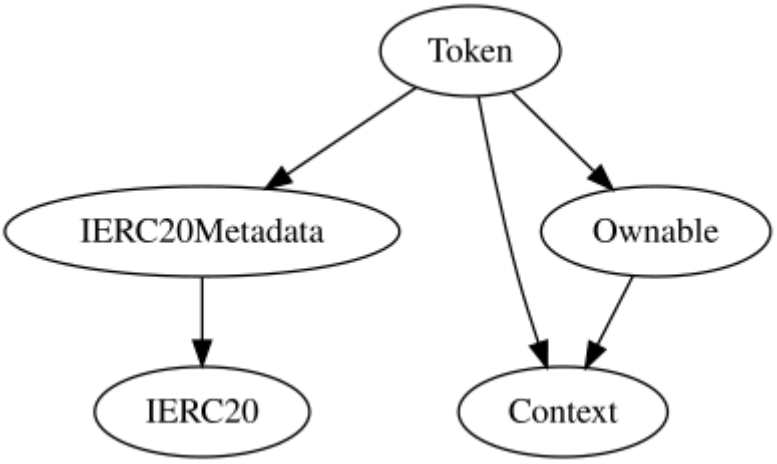
Recommendation

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.

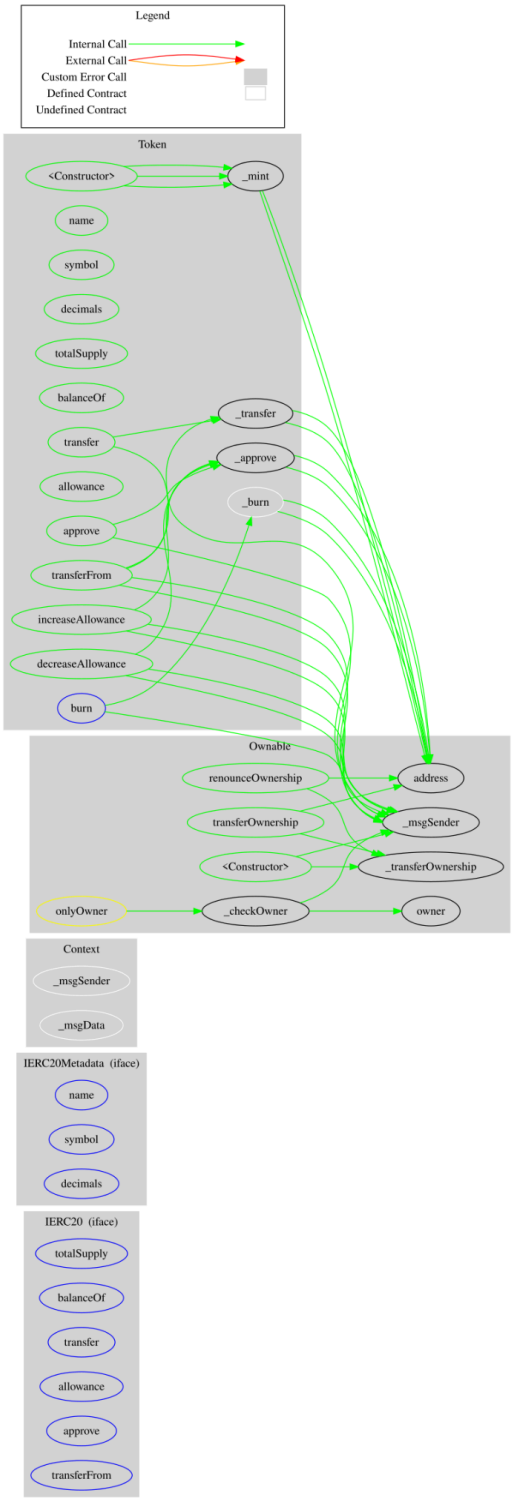
Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
Token	Implementation	Context, IERC20Metadata, Ownable		
		Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_transfer	Internal	✓	
	_mint	Internal	✓	
	_burn	Internal	✓	
	burn	External	✓	-
	_approve	Internal	✓	

Inheritance Graph



Flow Graph


Legend
Internal Call
External Call
Custom Error Call
Defined Contract
Undefined Contract
Token
<Constructor>
_mint
name
symbol
decimals
totalSupply
balanceOf
_transfer
transfer
_approve
allowance
_burn
approve
transferFrom
increaseAllowance
decreaseAllowance
burn
Ownable
renounceOwnership
address
transferOwnership
_msgSender
<Constructor>
_transferOwnership
onlyOwner
_checkOwner
owner
Context
_msgSender
_msgData
IERC20Metadata (iface)
name
symbol
decimals
IERC20 (iface)
totalSupply
balanceOf
transfer
allowance
approve
transferFrom

Summary

Frog Knox contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. Frog Knox 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. The contract does not implement any fees.

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The Cyberscope team

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