Cyberscope

Audit Report

Shibase

December 2024

Network	BASE
Address	0xEFf76268B9b847e83673354Af06DFfeFb691301A6
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
●	L05	Unused State Variable	Unresolved
●	L11	Unnecessary Boolean equality	Unresolved
●	L15	Local Scope Variable Shadowing	Unresolved
●	L17	Usage of Solidity Assembly	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	Erc20
Compiler Version	v0.8.24+commit.e11b9ed9
Optimization	200 runs
Explorer	https://basescan.org/address/0xeff76268b9b847e8367354af06dffefb691301a6
Address	0xeff76268b9b847e8367354af06dffefb691301a6
Network	BASE
Symbol	Shibase
Decimals	18
Total Supply	1,000,000,000
Badge Eligibility	Yes

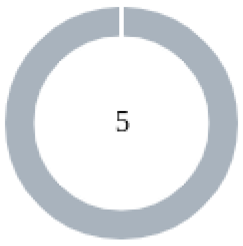
Audit Updates

Initial Audit	12 Dec 2024

Source Files

Filename	SHA256
Erc20.sol	cab7547b31f52510bdf1cd650db703f68e8fafece28dbf9f014eba0fea14fb58

Findings Breakdown



●	Critical	0
●	Medium	0
●	Minor / Informative	5

	Severity	Unresolved	Acknowledged	Resolved	Other
●	Critical	0	0	0	0
●	Medium	0	0	0	0
●	Minor / Informative	5	0	0	0

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	Erc20.sol#L127,215,225
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.

```
function AllowedProxies(address) external view returns (bool);
address _owner
```

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.

L05 - Unused State Variable

Criticality	Minor / Informative
Location	Erc20.sol#L199
Status	Unresolved

Description

An unused state variable is a state variable that is declared in the contract, but is never used in any of the contract's functions. This can happen if the state variable was originally intended to be used, but was later removed or never used.

Unused state variables can create clutter in the contract and make it more difficult to understand and maintain. They can also increase the size of the contract and the cost of deploying and interacting with it.

```
mapping (address => bool) internal exchanges
```

Recommendation

To avoid creating unused state variables, it's important to carefully consider the state variables that are needed for the contract's functionality, and to remove any that are no longer needed. This can help improve the clarity and efficiency of the contract.

L11 - Unnecessary Boolean equality

Criticality	Minor / Informative
Location	Erc20.sol#L258,270
Status	Unresolved

Description

Boolean equality is unnecessary when comparing two boolean values. This is because a boolean value is either true or false, and there is no need to compare two values that are already known to be either true or false.

it's important to be aware of the types of variables and expressions that are being used in the contract's code, as this can affect the contract's behavior and performance. The comparison to boolean constants is redundant. Boolean constants can be used directly and do not need to be compared to true or false.

```
if (launched == false && to == owner() && msg.sender == owner())
{...}
require(launched == false, "contract already launched")
```

Recommendation

Using the boolean value itself is clearer and more concise, and it is generally considered good practice to avoid unnecessary boolean equalities in Solidity code.

L15 - Local Scope Variable Shadowing

Criticality	Minor / Informative
Location	Erc20.sol#L215,225
Status	Unresolved

Description

Local scope variable shadowing occurs when a local variable with the same name as a variable in an outer scope is declared within a function or code block. When this happens, the local variable "shadows" the outer variable, meaning that it takes precedence over the outer variable within the scope in which it is declared.

```
address _owner
```

Recommendation

It's important to be aware of shadowing when working with local variables, as it can lead to confusion and unintended consequences if not used correctly. It's generally a good idea to choose unique names for local variables to avoid shadowing outer variables and causing confusion.

L17 - Usage of Solidity Assembly

Criticality	Minor / Informative
Location	Erc20.sol#L104
Status	Unresolved

Description

Using assembly can be useful for optimizing code, but it can also be error-prone. It's important to carefully test and debug assembly code to ensure that it is correct and does not contain any errors.

Some common types of errors that can occur when using assembly in Solidity include Syntax, Type, Out-of-bounds, Stack, and Revert.

```
assembly {
let returndata_size := mload(returndata)
revert(add(32, returndata), returndata_size)
}
```

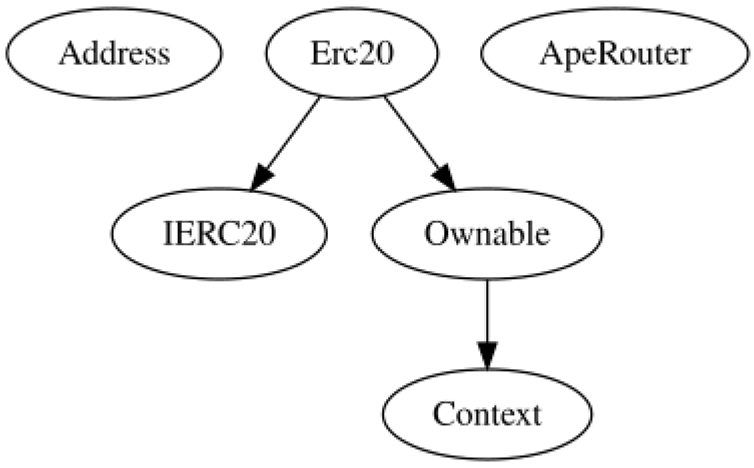
Recommendation

It is recommended to use assembly sparingly and only when necessary, as it can be difficult to read and understand compared to Solidity code.

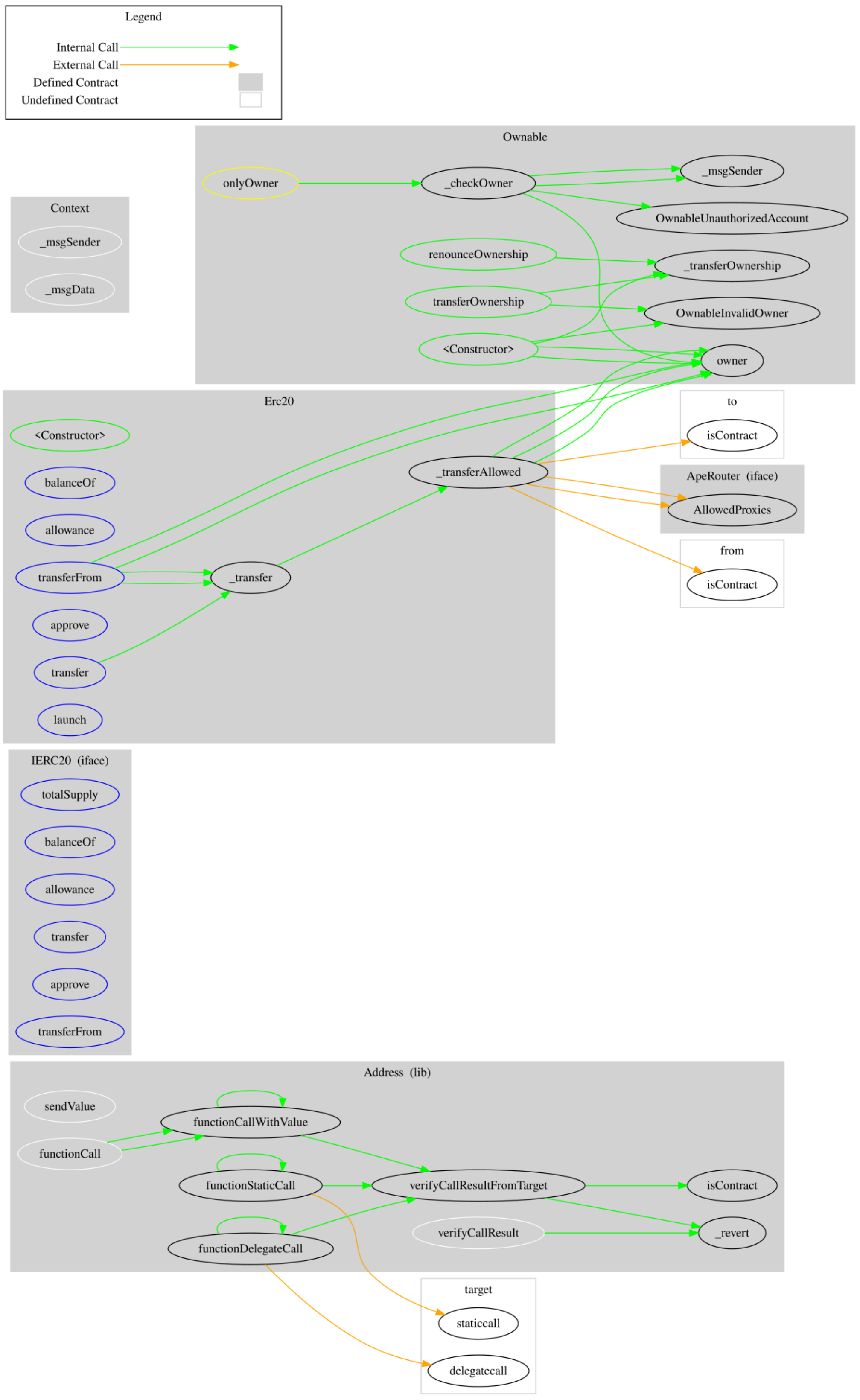
Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
Erc20	Implementation	IERC20, Ownable		
		Public	✓	Ownable
	balanceOf	External		-
	allowance	External		-
	transfer	External	✓	-
	approve	External	✓	-
	transferFrom	External	✓	-
	launch	External	✓	onlyOwner
	_transfer	Private	✓	
	_transferAllowed	Private		

Inheritance Graph



Flow Graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
Ownable
onlyOwner
_checkOwner
_msgSender
OwnableUnauthorizedAccount
renounceOwnership
_transferOwnership
transferOwnership
OwnableInvalidOwner
<Constructor>
owner
Context
_msgSender
_msgData
Erc20
<Constructor>
balanceOf
allowance
transferFrom
_transfer
_transferAllowed
approve
transfer
launch
to
isContract
ApeRouter (iface)
AllowedProxies
from
isContract
IERC20 (iface)
totalSupply
balanceOf
allowance
transfer
approve
transferFrom
Address (lib)
sendValue
functionCallWithValue
functionCall
functionStaticCall
verifyCallResultFromTarget
isContract
verifyCallResult
_revert
functionDelegateCall
target
staticcall
delegatecall

Summary

Shibase Inu contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. Shibase Inu is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues.

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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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