Cyberscope

Audit Report

ParadiseChain

April 2024

SHA256 7df5ee5c670f4e6bb9743c2886bb0af1b1de9bd07c62f9b1a3fc220c219e5e05

Audited by © cyberscope

Table of Contents

Review

Contract Name	Token
Testing Deploy	https://testnet.bscscan.com/address/0x2322fa94cbdc2f8780942083cfe1d07cdc2b4d5a
Symbol	TD
Decimals	18

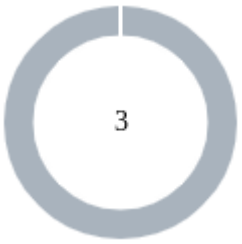
Audit Updates

Initial Audit	14 May 2024

Source Files

Filename	SHA256
contracts/Token.sol	7df5ee5c670f4e6bb9743c2886bb0af1b1de9bd07c62f9b1a3fc220c219e5e05

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

Diagnostics

Critical Medium Minor / Informative

Severity	Code	Description	Status
●	CLU	Console Log Usage	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L19	Stable Compiler Version	Unresolved

CLU - Console Log Usage

Criticality	Minor / Informative
Location	contracts/ParadiseChainToken.sol#L7
Status	Unresolved

Description

The contract is currently utilizing the `hardhat/console.log` import within its codebase, a practice typically reserved for development and testing phases to debug and verify contract logic. While `console.log` is an invaluable tool for developers to trace and debug contract execution in a test environment, its presence in a contract intended for deployment on the mainnet (production environment) raises concerns. The primary issue is that these logging statements are part of the Hardhat environment and do not function in a live network. Their inclusion in a production-ready contract suggests that the contract may not have been adequately cleaned up post-testing, potentially indicating oversight in the development process.

```
import "hardhat/console.sol";
```

Recommendation

It is recommended to remove the `hardhat/console.log` import from the contract before deployment to the mainnet or any production environment. This cleanup step is crucial since it reduces the contract's bytecode size, thereby lowering deployment and execution costs, and it eliminates unnecessary code that serves no purpose in a live environment.

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	contracts/ParadiseChainToken.sol#L17
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.

```
uint256 public TGETimestamp
```

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/v0.8.17/style-guide.html#naming-convention.

L19 - Stable Compiler Version

Criticality	Minor / Informative
Location	contracts/ParadiseChainToken.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 ^0.8.20;
```

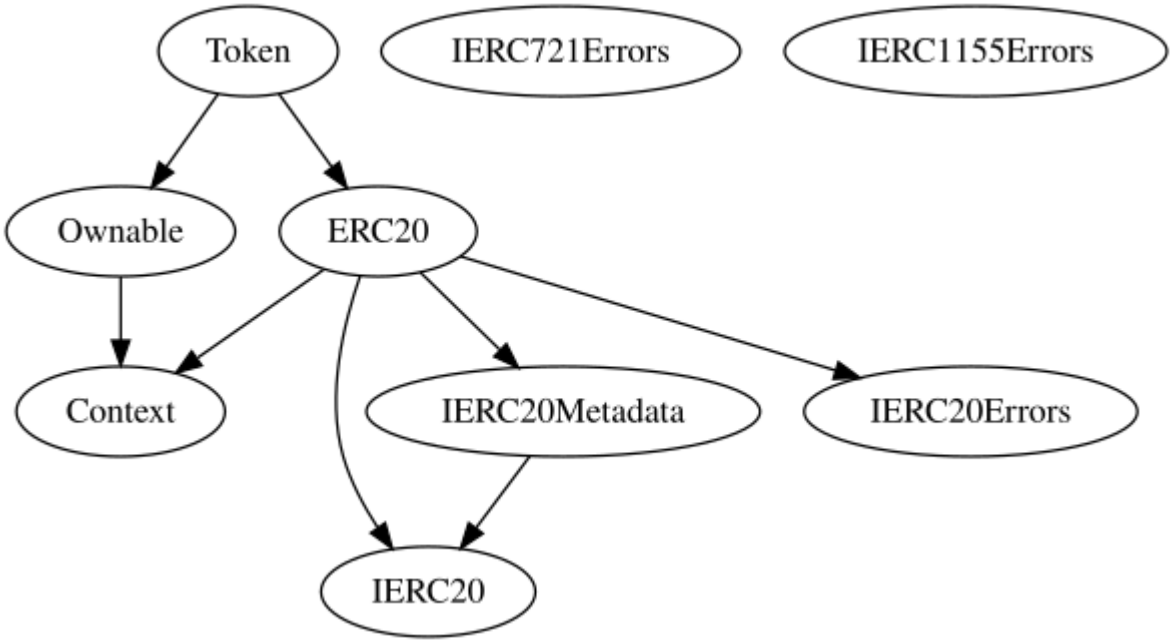
Recommendation

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.

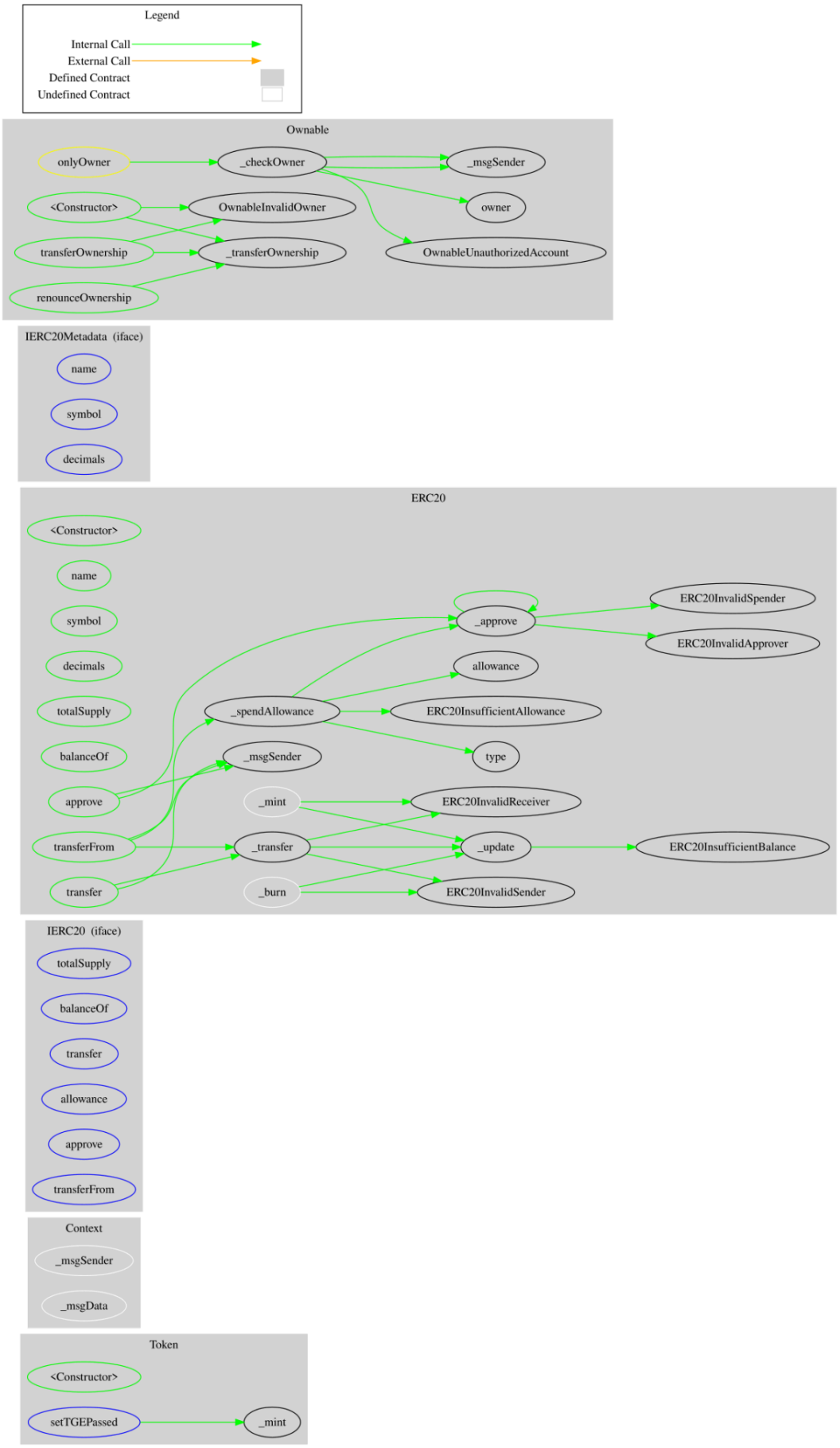
Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
Token	Implementation	ERC20, Ownable		
		Public	✓	ERC20 Ownable
	setTGEPassed	External	✓	onlyOwner

Inheritance Graph



Flow Graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
Ownable
onlyOwner
_checkOwner
_msgSender
<Constructor>
OwnableInvalidOwner
owner
transferOwnership
_transferOwnership
OwnableUnauthorizedAccount
renounceOwnership
IERC20Metadata (iface)
name
symbol
decimals
ERC20
<Constructor>
name
symbol
decimals
totalSupply
balanceOf
approve
transferFrom
transfer
_approve
ERC20InvalidSpender
ERC20InvalidApprover
allowance
_spendAllowance
ERC20InsufficientAllowance
type
_msgSender
_mint
ERC20InvalidReceiver
_transfer
_update
ERC20InsufficientBalance
_burn
ERC20InvalidSender
IERC20 (iface)
totalSupply
balanceOf
transfer
allowance
approve
transferFrom
Context
_msgSender
_msgData
Token
<Constructor>
setTGEPassed
_mint

Summary

ParadiseChain contract implements a token mechanism. This audit investigates security issues, business logic concerns, and potential improvements. 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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