Cyberscope

Audit Report

Verity One Ltd TRUTH MATTERS™

March 2024

Network	MATIC
Address	0x691e1395e97c013f0aaf4993b206a6bce8a2dc96
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	Acknowledged
🔵	BT	Burns Tokens	Passed
🔵	BC	Blacklists Addresses	Passed

Table of Contents

Review

Contract Name	VerityERC20
Compiler Version	v0.8.15+commit.e14f2714
Optimization	10000 runs
Explorer	https://polygonscan.com/address/0x691e1395e97c013f0aaf4993b206a6bce8a2dc96
Address	0x691e1395e97c013f0aaf4993b206a6bce8a2dc96
Network	MATIC
Symbol	V
Decimals	18
Total Supply	1,000,000,000
Badge Eligibility	Must Fix Criticals

Audit Updates

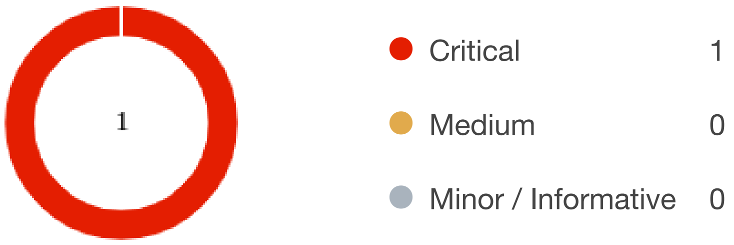
Initial Audit	26 Mar 2024

Source Files

Filename	SHA256
contracts/VerityERC20.sol	743be3a8a606d7e873c56f84421f9652f89e8e02f0fedffb8ffb846073372b4c
@openzeppelin/contracts/utils/Context.sol	b2cfee351bcafd0f8f27c72d76c054df9b571b62cfac4781ed12c86354e2a56c

@openzeppelin/contracts/token/ERC20/IERC20.sol	7ebde70853ccafcf1876900dad458f46eb9444d591d39bfc58e952e2582f5587
@openzeppelin/contracts/token/ERC20/ERC20.sol	d20d52b4be98738b8aa52b5bb0f88943f62128969b33d654fbca731539a7fe0a
@openzeppelin/contracts/token/ERC20/extensions/IERC20Metadata.sol	af5c8a77965cc82c33b7ff844deb9826166689e55dc037a7f2f790d057811990
@openzeppelin/contracts/access/Ownable.sol	a8e4e1ae19d9bd3e8b0a6d46577eec098c01fbaffd3ec1252fd20d799e73393b

Findings Breakdown



Severity	Unresolved	Acknowledged	Resolved	Other
● Critical	0	1	0	0
● Medium	0	0	0	0
● Minor / Informative	0	0	0	0

MT - Mints Tokens

Criticality	Critical
Location	contracts/VerityERC20.sol#L15
Status	Acknowledged

Description

The contract owner has the authority to mint tokens. The owner may take advantage of it by calling the `mint` function. As a result, the contract tokens will be highly inflated.

```
function mint(address to, uint256 amount) public onlyOwner {
      _mint(to, amount);
}
```

Recommendation

The team should carefully manage the private keys of the owner’s account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions.

Temporary Solutions:

These measurements do not decrease the severity of the finding

- Introduce a time-locker mechanism with a reasonable delay.
- Introduce a multi-signature wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

Permanent Solution:

- Renouncing the ownership, which will eliminate the threats but it is non-reversible.

Team Update

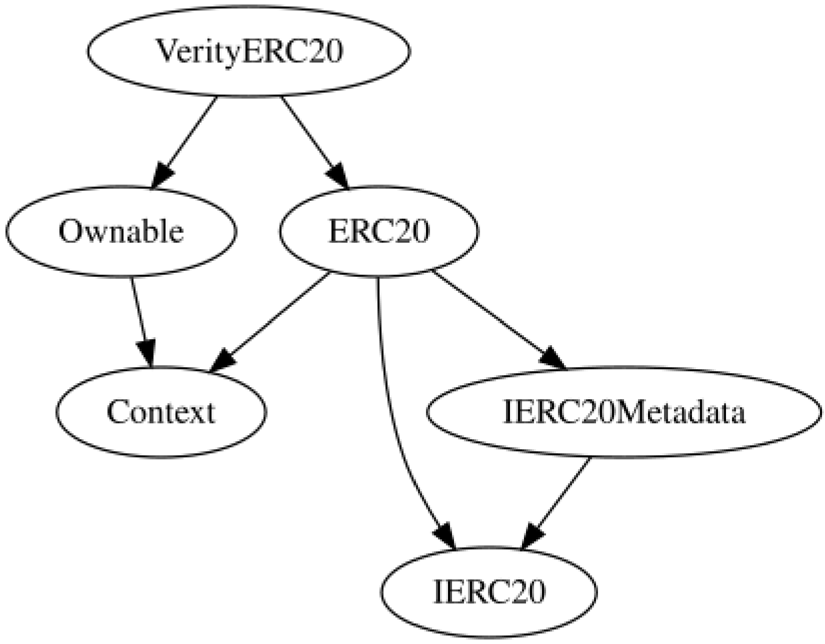
The team has acknowledged that this is not a security issue and states:

Having the ability to mint additional tokens, if needed, is part of the business logic of the project.

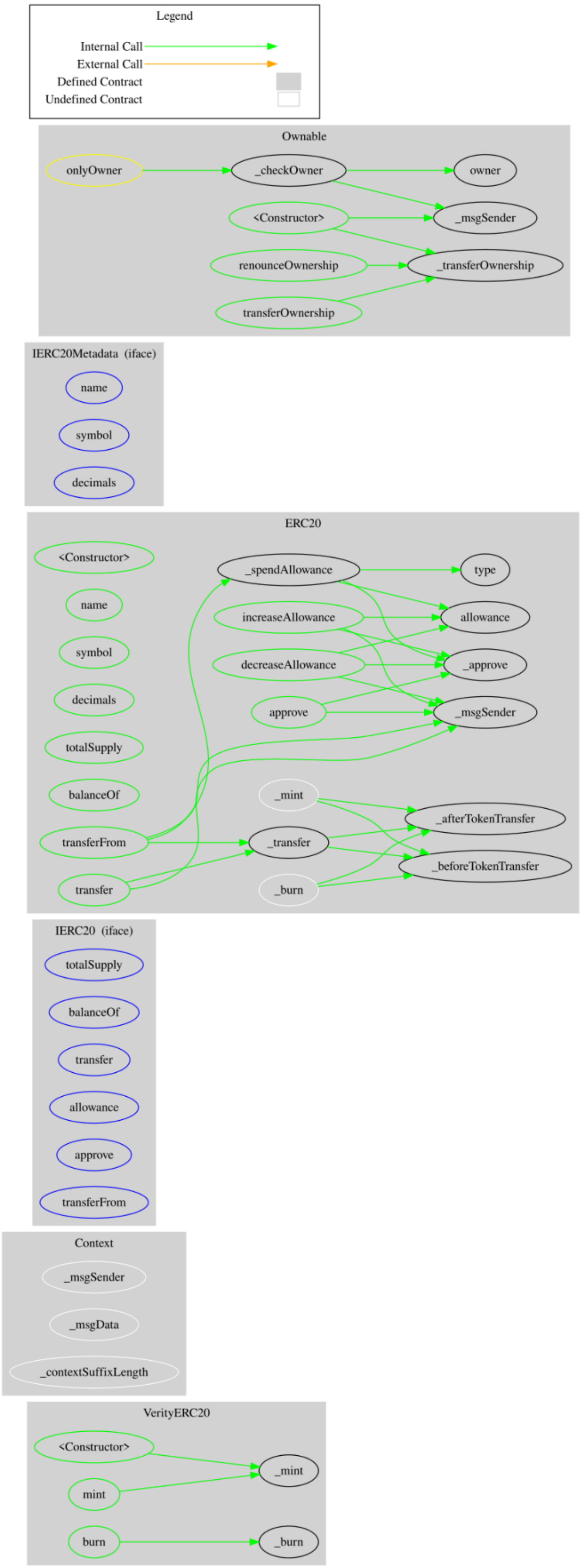
Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
VerityERC20	Implementation	ERC20, Ownable		
		Public	✓	ERC20 Ownable
	mint	Public	✓	onlyOwner
	burn	Public	✓	-

Inheritance Graph



Flow Graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
Ownable
onlyOwner
_checkOwner
owner
<Constructor>
_msgSender
renounceOwnership
_transferOwnership
transferOwnership
IERC20Metadata (iface)
name
symbol
decimals
ERC20
<Constructor>
_spendAllowance
type
name
increaseAllowance
allowance
symbol
decreaseAllowance
_approve
decimals
approve
_msgSender
totalSupply
balanceOf
_mint
_afterTokenTransfer
transferFrom
_transfer
transfer
_burn
_beforeTokenTransfer
IERC20 (iface)
totalSupply
balanceOf
transfer
allowance
approve
transferFrom
Context
_msgSender
_msgData
_contextSuffixLength
VerityERC20
<Constructor>
_mint
mint
burn
_burn

Summary

Verity One Ltd TRUTH MATTERS™ contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. There are some functions that can be abused by the owner like mint tokens. If the contract owner abuses the mint functionality, then the contract will be highly inflated. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats. The team has acknowledged the finding.

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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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