Cyberscope

Audit Report

HybridV2

July 2022

SHA256 c55a6ed57790611be0749e1946d273e60bc46b022cbce285c32c48a578be1c80

Audited by © cyberscope

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Contract Review

Contract Name	HybridV2
Test Deploy	https://testnet.bscscan.com/address/0x38B8D3e7c6A27e1De1931a9A31A40B0a14B30182
Symbol	HFI
Decimals	18
Total Supply	100,000
Domain	https://hyfinance.net/

Audit Updates

Initial Audit	15th July 2022
Corrected	

Source Files

Filename	SHA256
@openzeppelin/contracts/access/Ownable.sol	754825f501dd014526eee0c415687b0f6c600533adfc872f7d45edb4f8b3b053
@openzeppelin/contracts/math/SafeMath.sol	f6d6214aa03f8dd6d6d14b7c15ffa387b3f1ce38ba3a215177baa132a44636e2
@openzeppelin/contracts/token/ERC20/ERC20.sol	22682313f68bee2d085fe1209047e9e55c0a076f7596d1058f29c265cef80a57
@openzeppelin/contracts/token/ERC20/IERC20.sol	c4b741712b8dc93ab3945205554a3ba2f80953e64d684e752d5a0fd07fc93f22
@openzeppelin/contracts/utils/Context.sol	eafb62c654640a07832b56e00902b4bf249633346585331af311c738b1c23bc5
contracts/HybridV2.sol	c55a6ed57790611be0749e1946d273e60bc46b022cbce285c32c48a578be1c80

Contract Analysis

Critical Medium Minor Pass

Severity	Code	Description
●	ST	Contract Owner is not able to stop or pause transactions
●	OCTD	Contract Owner is not able to transfer tokens from specific address
●	OTUT	Owner Transfer User's Tokens
●	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
●	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
●	MT	Contract Owner is not able to mint new tokens
●	BT	Contract Owner is not able to burn tokens from specific wallet
●	BC	Contract Owner is not able to blacklist wallets from selling

MT - Mint Tokens

Criticality	critical
Location	contract.sol#L29

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 receiver, uint256 amount) external onlyMinter {
        require(receiver != address(0), "Recipient cannot be null");
        _mint(receiver, amount);
}
```

Recommendation

We state that the owner privileges are necessary and required for proper protocol operations. Thus, we emphasise the contract owner to be extra careful with the credentials. The owner should carefully manage the credentials of the owner's account. We advised considering an extra-strong security mechanism that the actions may be quarantined by many users instead of one. The owner could also renounce the contract ownership for a period of time or pass the access to the zero address.

Contract Diagnostics

Critical Medium Minor

Severity	Code	Description
	L04	Conformance to Solidity Naming Conventions
	L06	Missing Events Access Control

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contracts/HybridV2.sol#L11,24

Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow _ at the beginning of the mixed_case match for private variables and unused parameters.

```
_minter
initSupply
```

Recommendation

Follow the Solidity naming convention.
https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions.

L06 - Missing Events Access Control

Criticality	minor
Location	contracts/HybridV2.sol#L24

Description

Detected missing events for critical access control parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
minter = _minter
```

Recommendation

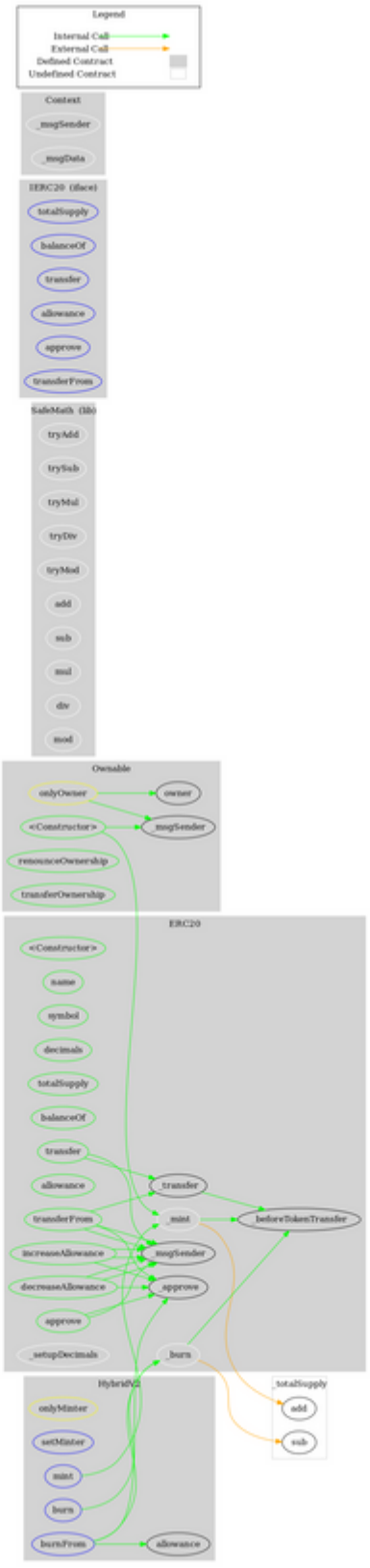
Emit an event for critical parameter changes.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
Ownable	Implementation	Context		
	<Constructor>	Internal	✓	
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
SafeMath	Library			
	tryAdd	Internal		
	trySub	Internal		
	tryMul	Internal		
	tryDiv	Internal		
	tryMod	Internal		
	add	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	mod	Internal		
	sub	Internal		
	div	Internal		
	mod	Internal		
ERC20	Implementation	Context, IERC20		
	<Constructor>	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	✓	
	_approve	Internal	✓	
	_setupDecimals	Internal	✓	
	_beforeTokenTransfer	Internal	✓	
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
HybridV2	Implementation	ERC20, Ownable		
	<Constructor>	Public	✓	ERC20
	setMinter	External	✓	onlyOwner
	mint	External	✓	onlyMinter
	burn	External	✓	-
	burnFrom	External	✓	onlyMinter

Contract Flow



Domain Info

Domain Name	hyfinance.net
Registry Domain ID	2683607355_DOMAIN_NET-VRSN
Creation Date	2022-03-22T21:24:53.00Z
Updated Date	0001-01-01T00:00:00.00Z
Registry Expiry Date	2023-03-22T21:24:53.00Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	http://www.namecheap.com
Registrar	NAMECHEAP INC
Registrar IANA ID	1068

The domain has been created in 8 months before the creation of the audit.

There is no public billing information, the creator is protected by the privacy settings.

Summary

The ‘minter’ role has the ability to mint tokens. if the ‘minter’ role abuses the mint functionality, then the contract will be highly inflated. This functionality is required by the rest contracts, thus we state that the contract owner should be extra careful. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats.

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Coinscope is the leading early coin listing, voting and auditing authority firm. The audit process is analyzing and monitoring many aspects of the project. That way, it gives the community a good sense of security using an informative report and a generic score.

Cyberscope and Coinscope are aiming to make crypto discoverable and efficient globally. They provide all the essential tools to assist users draw their own conclusions.

The Cyberscope team

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