Cyberscope

Audit Report

MoonBaby

November 2022

Type	BEP20
Network	BSC
Address	0x44e30d891CA61ea088f8EfA4A3fD717b44DE033E
Audited by	© cyberscope

Table of Contents

Contract Review

Contract Name	MoonBaby
Compiler Version	v0.8.16+commit.07a7930e
Optimization	200 runs
Licence	Unlicense
Explorer	https://bscscan.com/token/0x44e30d891CA61ea088f8EfA4A3fD717b44DE033E
Symbol	MNBY
Decimals	18
Total Supply	1,000,000,000
Domain	moonbaby.tech

Source Files

Filename	SHA256
contract.sol	10a12555efc28e04de0800fc1acc401e573fb4362f34a0f69c9e0eeffafa89d4

Audit Updates

Initial Audit	8th November 2022 https://github.com/cyberscope-io/audits/blob/main/mnby/v1/audit.pdf
Corrected	11th November 2022

Contract Analysis

● Critical ● Medium ● Minor / Informative ● Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OCTD	Transfers Contract's Tokens	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	ULTW	Transfers Liquidity to Team Wallet	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

Contract Diagnostics

● Critical   ● Medium   ● Minor / Informative

Severity	Code	Description	Status
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L07	Missing Events Arithmetic	Unresolved
●	L13	Divide before Multiply Operation	Unresolved

L04 - Conformance to Solidity Naming Conventions

Criticality	minor / informative
Location	contract.sol#L154,148,138,150,136,143,146,158,341,151,137,155,140,133
Status	Unresolved

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.

```
_charityFee
deadAddress
_decimals
_marketingFee
_name
_ownerFee
_burnFee
_maxTxAmount
_amount
...
```

Recommendation

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

L07 - Missing Events Arithmetic

Criticality	minor / informative
Location	contract.sol#L290,285
Status	Unresolved

Description

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

```
_maxTxAmount = maxTxAmount * (10 ** 18)
_taxFee = taxFee
```

Recommendation

Emit an event for critical parameter changes.

L13 - Divide before Multiply Operation

Criticality	minor / informative
Location	contract.sol#L499,475,487,463
Status	Unresolved

Description

Performing divisions before multiplications may cause lose of prediction.

```
tCharity = tAmount.mul(_charityFee).div(100)
tOwner = tAmount.mul(_ownerFee).div(100)
tMarketing = tAmount.mul(_marketingFee).div(100)
tBurn = tAmount.mul(_burnFee).div(100)
```

Recommendation

The multiplications should be prior to the divisions.

Contract Functions

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	transferOwnership	Public	✓	onlyOwner
	geUnlockTime	Public		-
	lock	Public	✓	onlyOwner
	unlock	Public	✓	-

MoonBaby	Implementation	Context, IERC20, Ownable		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	isExcludedFromReward	Public		-
	totalFees	Public		-
	deliver	Public	✓	-
	reflectionFromToken	Public		-
	tokenFromReflection	Public		-
	excludeFromReward	Public	✓	onlyOwner
	includeInReward	External	✓	onlyOwner
	excludeFromFee	Public	✓	onlyOwner
	includeInFee	Public	✓	onlyOwner
	setTaxFeePercent	External	✓	onlyOwner
	setMaxTxAmount	External	✓	onlyOwner
	setExcludefromMaxTx	External	✓	onlyOwner
	<Receive Ether>	External	Payable	-
	_reflectFee	Private	✓	
	_getValues	Private		
	_getTValues	Private		
	_getRValues	Private		
	_getRate	Private		
	_getCurrentSupply	Private		
	calculateTaxFee	Private		

	removeAllFee	Private	✓	
	restoreAllFee	Private	✓	
	isExcludedFromFee	Public		-
	_approve	Private	✓	
	_transfer	Private	✓	
	_tokenTransfer	Private	✓	
	_transferBothExcluded	Private	✓	
	_transferStandard	Private	✓	
	_transferToExcluded	Private	✓	
	_transferFromExcluded	Private	✓	
	takeBurn	Private	✓	
	takeOwner	Private	✓	
	takeMarketing	Private	✓	
	takeCharity	Private	✓	

Contract Flow
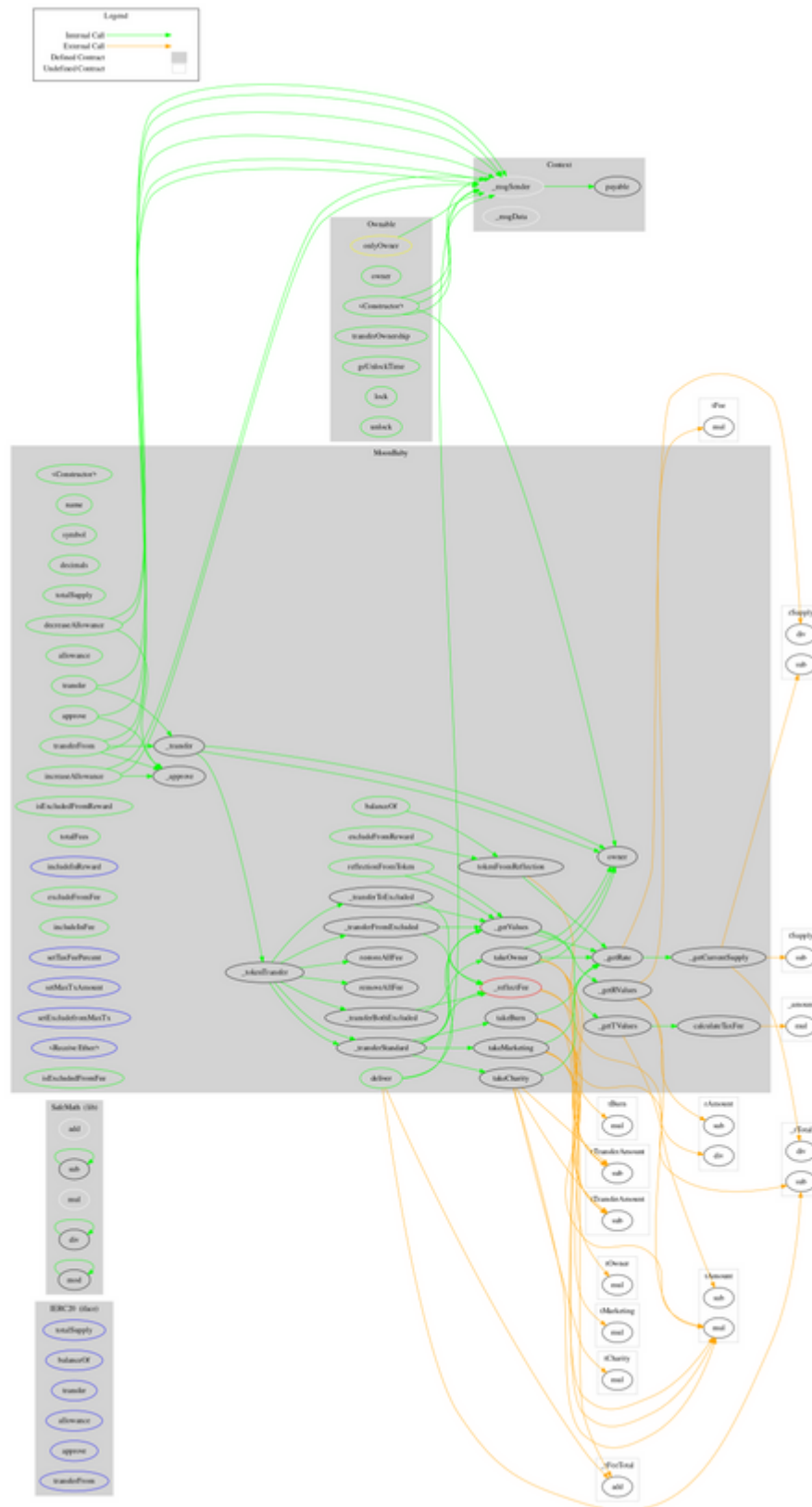
Domain Info

Domain Name	moonbaby.tech
Registry Domain ID	2515712477_DOMAIN_COM-VRSN
Creation Date	2020-04-17T15:07:05.00Z
Updated Date	2022-03-18T06:00:20.01Z
Registry Expiry Date	2023-04-17T15:07:05.00Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	http://www.namecheap.com
Registrar	NAMECHEAP INC
Registrar IANA ID	1068

The domain was created over 2 years before the creation of the audit. It will expire in 5 months.

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

Summary

MoonBaby 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. There is also a limit of max 5% fees.

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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

https://www.cyberscope.io