



Audit Report

BUSDX

January 2022

Type	BEP20
Network	BSC
Address	0xd41A01b9B00E970aAB4B9D252a36BE16938afc50
Audited by	© coinscope

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Contract Review

Contract Name	RewardStaking
Compiler Version	v0.8.11+commit.d7f03943
Optimization	200 runs
Licence	
Explorer	https://bscscan.com/token/0xd41A01b9B00E970aAB4B9D252a36BE16938afc50
Total Supply	550,000,000,000,000,000,000
Source	<pre>/Users/aravinth/Repo/codegama/blockchain/ido_projects/ido-frontend-jason/src/contracts/RewardStaking.sol, @openzeppelin/contracts/utils/math/SafeMath.sol, @openzeppelin/contracts/utils/introspection/IERC165.sol, @openzeppelin/contracts/utils/introspection/ERC165.sol, @openzeppelin/contracts/utils/Strings.sol, @openzeppelin/contracts/utils/Context.sol, @openzeppelin/contracts/token/ERC20/extensions/IERC20Metadata.sol, @openzeppelin/contracts/token/ERC20/IERC20.sol, @openzeppelin/contracts/token/ERC20/ERC20.sol, @openzeppelin/contracts/security/ReentrancyGuard.sol, @openzeppelin/contracts/security/Pausable.sol, @openzeppelin/contracts/access/Ownable.sol, @openzeppelin/contracts/access/IAccessControl.sol, @openzeppelin/contracts/access/AccessControl.sol</pre>
Domain	busdx.com

Audit Updates

Initial Audit	11th January 2022
Corrected	

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

Contract Diagnostics

● Critical ● Medium ● Minor

Severity	Code	Description
●	L01	Public Function could be Declared External
●	L04	Conformance to Solidity Naming Conventions
●	L09	Dead Code Elimination
●	L07	Missing Events Arithmetic
●	L06	Missing Events Access Control

L01 - Public Function could be Declared External

Criticality

minor

Location

@openzeppelin/contracts/access/AccessControl.sol#L240,L236,L79 and 16 more

Description

Public functions that are never called by the contract should be declared external to save gas.

```
unpause
pause
numberOfStakers
...
```

Recommendation

Use the external attribute for functions never called from the contract

L04 - Conformance to Solidity Naming Conventions

Criticality

minor

Location

contracts/RewardStaking.sol#L225,L218,L83

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.

```
_rewardRate  
_rewardsDistribution  
_amount
```

Recommendation

Follow the Solidity naming convention.

<https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions>

L09 - Dead Code Elimination

Criticality

minor

Location

@openzeppelin/contracts/access/AccessControl.sol#L15,L40,L35 and 16 more

Description

Functions that are not used in the contract, and make the code's size bigger.

```
toString  
toHexString  
trySub  
...
```

Recommendation

Remove unused functions.

L07 - Missing Events Arithmetic

Criticality

minor

Location

contracts/RewardStaking.sol#L225

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.

```
rewardRate = _rewardRate
```

Recommendation

Emit an event for critical parameter changes.

L06 - Missing Events Access Control

Criticality

minor

Location

contracts/RewardStaking.sol#L218

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.

```
rewardsDistribution = _rewardsDistribution
```

Recommendation

Emit an event for critical parameter changes.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
AccessControl	Implementation	Context, IAccessControl, ERC165		
	supportsInterface	Public		-
	hasRole	Public		-
	_checkRole	Internal		
	getRoleAdmin	Public		-
	grantRole	Public	✓	onlyRole
	revokeRole	Public	✓	onlyRole
	renounceRole	Public	✓	-
	_setupRole	Internal	✓	
	_setRoleAdmin	Internal	✓	
	_grantRole	Internal	✓	
	_revokeRole	Internal	✓	
IAccessControl	Interface			
	hasRole	External		-
	getRoleAdmin	External		-
	grantRole	External	✓	-
	revokeRole	External	✓	-
	renounceRole	External	✓	-
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	_transferOwnership	Internal	✓	

Pausable	Implementation	Context		
	<Constructor>	Public	✓	-
	paused	Public		-
	_pause	Internal	✓	whenNotPaused
	_unpause	Internal	✓	whenPaused
ReentrancyGuard	Implementation			
	<Constructor>	Public	✓	-
ERC20	Implementation	Context, IERC20, IERC20Metadata		
	<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	✓	
	_beforeTokenTransfer	Internal	✓	
	_afterTokenTransfer	Internal	✓	
IERC20Metadata	Interface	IERC20		

	name	External		-
	symbol	External		-
	decimals	External		-
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
ERC165	Implementation	IERC165		
	supportsInterface	Public		-
IERC165	Interface			
	supportsInterface	External		-
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		
Strings	Library			
	toString	Internal		
	toHexString	Internal		
	toHexString	Internal		
RewardStaking	Implementation	Ownable, AccessControl, ReentrancyGuard, Pausable		
	<Constructor>	Public	✓	-
	totalSupply	External		-
	balanceOf	External		-
	numberOfStakers	Public		-
	addGrandAmount	External	✓	onlyOwner
	timeStampDiff	Public		-
	rewardTokenPerAnnum	Public		-
	earned	Public		-
	stake	External	✓	nonReentrant whenNotPaused updateReward
	withdraw	Public	✓	nonReentrant updateReward
	getReward	Public	✓	nonReentrant updateReward
	exit	External	✓	-
	stakeRewardTokens	External	✓	nonReentrant whenNotPaused updateReward
	setRewardsDistribution	External	✓	onlyOwner
	setRewardRate	External	✓	onlyOwner
	pause	Public	✓	onlyOwner
	unpause	Public	✓	onlyOwner

Contract Flow



Domain Info

Domain Name	busdx.com
Registry Domain ID	2643177086_DOMAIN_COM-VRSN
Creation Date	2021-09-23T19:59:46Z
Updated Date	2021-09-23T19:59:46.823625Z
Registry Expiry Date	
Registrar WHOIS Server	whois.squarespace.domains
Registrar URL	https://squarespace.domains
Registrar	Squarespace Domains, LLC
Registrar IANA ID	3827

The domain has been created 4 months before the creation of the audit.

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

Summary

BUSDX is a rewards token with a mechanism that distributes proportional rewards in BUSD to holders automatically. The token has a friendly and growing community. The contract contains the fundamental stacking mechanism where users have the ability to stack, unstack and get their rewards. 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.

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About Coinscope

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.

CoinScope is aiming to make crypto discoverable and efficient globally. It provides all the essential tools to assist users draw their own conclusions.



The Coinscope.co team

<https://www.coinscope.co>