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AUDIT COMPANY

Smart Contract Security Audit

TechRate

November, 2021

Audit Details

Audited project

InfinityDOT

Deployer address

0x3376ac12bb369855d3ab7ffa737099d5ed52c0c0

Client contacts:

InfinityDOT team

Blockchain

Binance Smart Chain

Project website:

https://www.infinitydot.net/

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by InfinityDOT to perform an audit of smart contracts:

https://bscscan.com/address/0x73b96Ac0814EAfF828779De589840d1172aaAa70#code

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

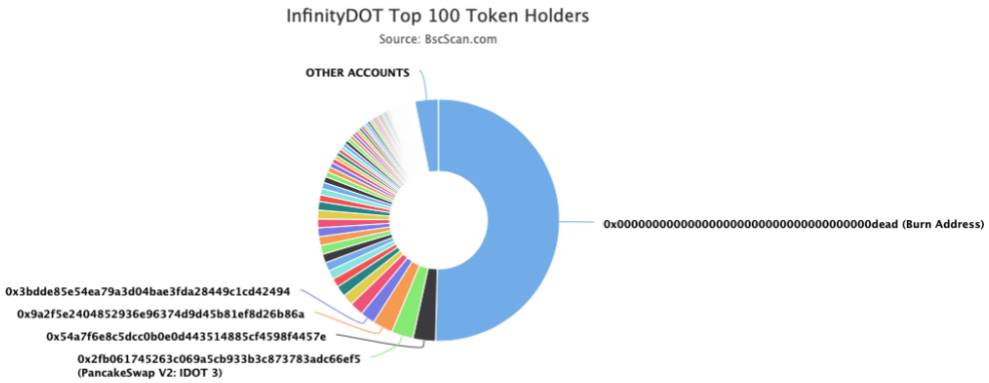
Contracts Details

Token contract details for 16.11.2021

Contract name	InfinityDOT
Contract address	0x73b96Ac0814EAfF828779De589840d1172aaAa70
Total supply	1,000,000,000,000,000
Token ticker	IDOT
Decimals	9
Token holders	845
Transactions count	5,228
Top 100 holders dominance	96.87%
Dividend token	0x7083609fce4d1d8dc0c979aab8c869ea2c873402
Total fees	15
Reflection rewards fee	8
Uniswap V2 pair	0x2fb061745263c069a5cb933b3c873783adc66ef5
Contract deployer address	0x3376ac12bb369855d3ab7ffa737099d5ed52c0c0
Contract's current owner address	0x3376ac12bb369855d3ab7ffa737099d5ed52c0c0

InfinityDOT Token Distribution

The top 100 holders collectively own 96.87% (968,659,624,211,789.00 Tokens) of InfinityDOT | Token Total Supply: 1,000,000,000,000,000.00 Token | Total Token Holders: 846

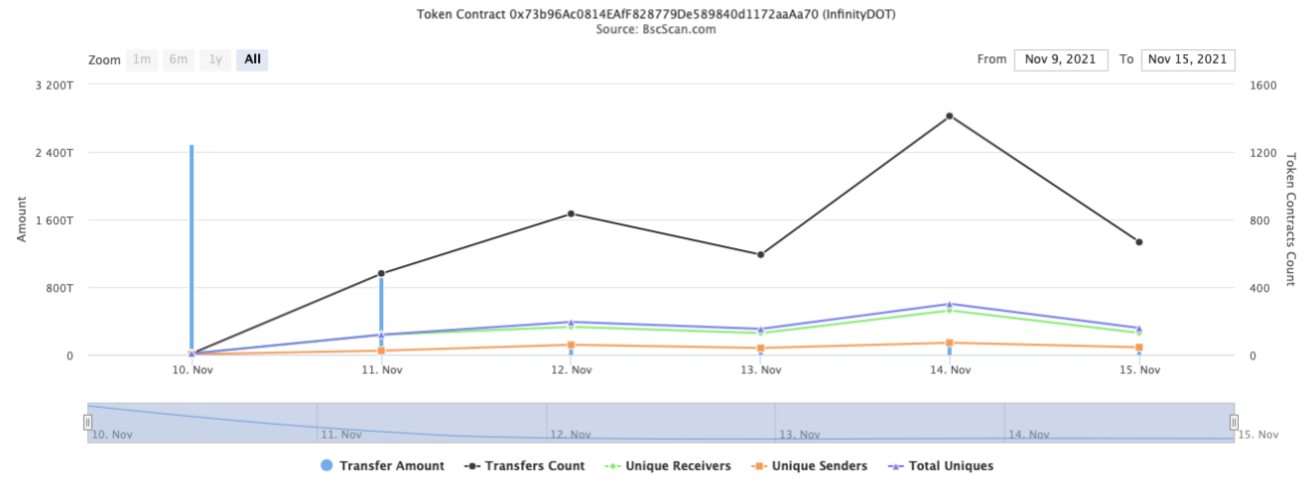


(A total of 968,659,624,211,789.00 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000,000.00 token)

InfinityDOT Contract Interaction Details

Time Series: Token Contract Overview

Wed 10, Nov 2021 - Mon 15, Nov 2021



InfinityDOT Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	Burn Address	504,040,000,000,000	50.4040%
2	0x54a7f6e8c5dcc0b0e0d443514885cf4598f4457e	30,000,000,000,000	3.0000%
3	PancakeSwap V2: IDOT 3	29,149,420,238,758.49511828	2.9149%
4	0x9a2f5e2404852936e96374d9d45b81ef8d26b86a	27,177,760,547,661.987400714	2.7178%
5	0x3bdde85e54ea79a3d04bae3fda28449c1cd42494	19,466,000,000,000	1.9466%
6	0xf220ea9929213f785b56f8c4ff0356395c8f08a9	18,313,491,641,358.674707549	1.8313%
7	0x11fa7d58f4f7da7f762e5df1d3cd065b1397f8b7	14,582,462,956,645.323573435	1.4582%
8	0x4177fd8bab3fb6a7004eaf2b4ab2c36362d03ab3	14,504,729,601,443.388108834	1.4505%
9	0xe510c208be758c38b5ce5e7d56266562b616d8c7	11,849,223,543,493.936874947	1.1849%
10	0x56b570707bf8e95cde1f1e79e27d63de342276f9	11,835,421,369,649.120100217	1.1835%

Contract functions details

+ Context
  - [Int] _msgSender
  - [Int] _msgData

+ [Int] IERC20
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #

+ [Int] IERC20Metadata (IERC20)
  - [Ext] name
  - [Ext] symbol
  - [Ext] decimals

+ [Lib] SafeMath
  - [Int] add
  - [Int] sub
  - [Int] sub
  - [Int] mul
  - [Int] div
  - [Int] div
  - [Int] mod
  - [Int] mod

+ [Lib] SafeMathInt
  - [Int] mul
  - [Int] div
  - [Int] sub
  - [Int] add
  - [Int] abs
  - [Int] toUint256Safe

+ [Lib] SafeMathUint
  - [Int] toInt256Safe

+ Ownable (Context)
  - [Pub] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner

+ ERC20 (Context, IERC20, IERC20Metadata)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals

  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Int] _transfer #
  - [Int] _mint #
  - [Int] _burn #
  - [Int] _approve #
  - [Int] _beforeTokenTransfer #

+ [Lib] IterableMapping
  - [Pub] get
  - [Pub] getIndexOfKey
  - [Pub] getKeyAtIndex
  - [Pub] size
  - [Pub] set #
  - [Pub] remove #

+ [Int] IUniswapV2Factory
  - [Ext] feeTo
  - [Ext] feeToSetter
  - [Ext] getPair
  - [Ext] allPairs
  - [Ext] allPairsLength
  - [Ext] createPair #
  - [Ext] setFeeTo #
  - [Ext] setFeeToSetter #

+ [Int] IUniswapV2Pair
  - [Ext] name
  - [Ext] symbol
  - [Ext] decimals
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transfer #
  - [Ext] transferFrom #
  - [Ext] DOMAIN_SEPARATOR
  - [Ext] PERMIT_TYPEHASH
  - [Ext] nonces
  - [Ext] permit #
  - [Ext] MINIMUM_LIQUIDITY
  - [Ext] factory
  - [Ext] token0
  - [Ext] token1
  - [Ext] getReserves
  - [Ext] price0CumulativeLast
  - [Ext] price1CumulativeLast
  - [Ext] kLast
  - [Ext] mint #

  - [Ext] burn #
  - [Ext] swap #
  - [Ext] skim #
  - [Ext] sync #
  - [Ext] initialize #

+ [Int] IUniswapV2Router01
  - [Ext] factory
  - [Ext] WETH
  - [Ext] addLiquidity #
  - [Ext] addLiquidityETH ($)
  - [Ext] removeLiquidity #
  - [Ext] removeLiquidityETH #
  - [Ext] removeLiquidityWithPermit #
  - [Ext] removeLiquidityETHWithPermit #
  - [Ext] swapExactTokensForTokens #
  - [Ext] swapTokensForExactTokens #
  - [Ext] swapExactETHForTokens ($)
  - [Ext] swapTokensForExactETH #
  - [Ext] swapExactTokensForETH #
  - [Ext] swapETHForExactTokens ($)
  - [Ext] quote
  - [Ext] getAmountOut
  - [Ext] getAmountIn
  - [Ext] getAmountsOut
  - [Ext] getAmountsIn

+ [Int] IUniswapV2Router02 (IUniswapV2Router01)
  - [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
  - [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #
  - [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
  - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens ($)
  - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #

+ [Int] DividendPayingTokenInterface
  - [Ext] dividendOf
  - [Ext] withdrawDividend #

+ [Int] DividendPayingTokenOptionalInterface
  - [Ext] withdrawableDividendOf
  - [Ext] withdrawnDividendOf
  - [Ext] accumulativeDividendOf

+ DividendPayingToken (ERC20, Ownable, DividendPayingTokenInterface, DividendPayingTokenOptionalInterface)
  - [Pub] <Constructor> #
    - modifiers: ERC20
  - [Pub] distributeReflectionDividends #
    - modifiers: onlyOwner
  - [Pub] withdrawDividend #
  - [Int] _withdrawDividendOfUser #
  - [Pub] dividendOf
  - [Pub] withdrawableDividendOf
  - [Pub] withdrawnDividendOf
  - [Pub] accumulativeDividendOf

- [Int] _transfer #
- [Int] _mint #
- [Int] _burn #
- [Int] _setBalance #

+ InfinityDOT (ERC20, Ownable)
- [Pub] <Constructor> #
  - modifiers: ERC20
- [Ext] <Fallback> ($)
- [Pub] updateDividendTracker #
  - modifiers: onlyOwner
- [Pub] updateUniswapV2Router #
  - modifiers: onlyOwner
- [Pub] excludeFromFees #
  - modifiers: onlyOwner
- [Pub] excludeMultipleAccountsFromFees #
  - modifiers: onlyOwner
- [Ext] setBuyBackWallet #
  - modifiers: onlyOwner
- [Ext] setReflectionRewardsFee #
  - modifiers: onlyOwner
- [Ext] setLiquiditFee #
  - modifiers: onlyOwner
- [Ext] setBuyBackFee #
  - modifiers: onlyOwner
- [Pub] setAutomatedMarketMakerPair #
  - modifiers: onlyOwner
- [Prv] _setAutomatedMarketMakerPair #
- [Pub] updateGasForProcessing #
  - modifiers: onlyOwner
- [Ext] updateClaimWait #
  - modifiers: onlyOwner
- [Ext] getClaimWait
- [Ext] getTotalDividendsDistributed
- [Pub] isExcludedFromFees
- [Pub] withdrawableDividendOf
- [Pub] dividendTokenBalanceOf
- [Ext] excludeFromDividends #
  - modifiers: onlyOwner
- [Ext] getAccountDividendsInfo
- [Ext] getAccountDividendsInfoAtIndex
- [Ext] processDividendTracker #
- [Ext] claim #
- [Ext] getLastProcessedIndex
- [Ext] getNumberOfDividendTokenHolders
- [Int] _transfer #
- [Prv] swapAndSendToFee #
- [Prv] swapAndLiquify #
- [Prv] swapTokensForEth #
- [Prv] swapTokensForReflection #
- [Prv] addLiquidity #
- [Prv] swapAndSendDividends #

+ InfinityDividendTracker (Ownable, DividendPayingToken)
- [Pub] <Constructor> #

    - modifiers: DividendPayingToken
  - [Int] _transfer #
  - [Pub] withdrawDividend #
  - [Ext] excludeFromDividends #
    - modifiers: onlyOwner
  - [Ext] updateClaimWait #
    - modifiers: onlyOwner
  - [Ext] getLastProcessedIndex
  - [Ext] getNumberOfTokenHolders
  - [Pub] getAccount
  - [Pub] getAccountAtIndex
  - [Prv] canAutoClaim
  - [Ext] setBalance #
    - modifiers: onlyOwner
  - [Pub] process #
  - [Pub] processAccount #
    - modifiers: onlyOwner

($) = payable function
= non-constant function

Issues Checking Status

	Issue description	Checking status
1.	Compiler errors.	Passed
2.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3.	Possible delays in data delivery.	Passed
4.	Oracle calls.	Passed
5.	Front running.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow.	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Low issues
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	The impact of the exchange rate on the logic.	Passed
13.	Private user data leaks.	Passed
14.	Malicious Event log.	Passed
15.	Scoping and Declarations.	Passed
16.	Uninitialized storage pointers.	Passed
17.	Arithmetic accuracy.	Passed
18.	Design Logic.	Low issues
19.	Cross-function race conditions.	Passed
20.	Safe Open Zeppelin contracts implementation and usage.	Passed
21.	Fallback function security.	Passed

Security Issues

High Severity Issues

No high severity issues found.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

1. Out of gas

Issue:

- The function `excludeMultipleAccountsFromFees()` uses the loop to exclude multiple accounts from fees. Function will be aborted with `OUT_OF_GAS` exception if there will be a long addresses list.

Recommendation:

Be careful about accounts array length.

Notes:

- Owner can change dividend tracker that could be not audited and some functions may work in different ways.

Owner privileges (In the period when the owner is not renounced)

- Owner can change dividend tracker.
- Owner can change Uniswap router address.
- Owner can exclude from the fees.
- Owner can change liquidity, buyback and reflection reward fees.
- Owner can exclude and include addresses in automatedMarketMakerPairs array.
- Owner can exclude from dividends.
- Owner can change buyback wallet.
- Owner can change gas for processing.
- Owner can update claimWait value.

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope. The further transfers and operations with the funds raise are not related to this particular contract.

Liquidity locking details are provided by the team:
https://dxsale.app/app/v3/dxlplocksearch?id=0&add=0x73b96Ac0814EAfF828779De589840d1172aaAa70&type=lpdefi&chain=BSC

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.