HackSafe

Smart Contract Security Audit Report

HashBit Blockchain

September 2022

Security Status

★★★★½

www.hacksafe.io

Audit Details

Audited project
HashBit Blockchain

Deployer address
0x750F8F0D717163D817b99061406b22f88568b44d

Client contacts
HashBit Blockchain Team

Blockchain
Binance Smart Chain

Website
https://hashbit.org/

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.

Procedure

Step 1 - In-Depth Manual Review

Manual line-by-line code reviews to ensure the logic behind each function is sound and safe from various attack vectors. This is the most important and lengthy portion of the audit process (as automated tools often cannot find the nuances that lead to exploits such as flash loan attacks).

Step 2 - Automated Testing

Simulation of a variety of interactions with your Smart Contract on a test blockchain leveraging a combination of automated test tools and manual testing to determine if any security vulnerabilities exist.

Step 3 – Leadership Review

The engineers assigned to the audit will schedule meetings with our leadership team to review the contracts, any comments or findings, and ask questions to further apply adversarial thinking to discuss less common attack vectors.

Step 4 - Resolution of Issues

Consulting with the team to provide our recommendations to ensure the code's security and optimize its gas efficiency, if possible. We assist project team's in resolving any outstanding issues or implementing our recommendations.

Step 5 - Published Audit Report

Boiling down results and findings into an easy-to-read report tailored to the project. Our audit reports highlight resolved issues and any risks that exist to the project or its users, along with any remaining suggested remediation measures. Diagrams are included at the end of each report to help users understand the interactions which occur within the project.

Background

HackSafe was commissioned by HashBit Blockchain to perform an audit of smart contracts:

- https://bscscan.com/address/0x142749adb4176ee465592bbaadd5bd71f58017f1#code

The purpose of the audit was to achieve the

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

The information in this report should be 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.

Contract Details

Token contract details for 14.09.2022

Token Type	: ERC20
Contract name	: CoinToken
Contract address	: 0x142749AdB4176ee465592BBAadD5bd71f58017f1
Compiler version	: v0.8.5+commit.a4f2e591
Total supply	: 50,000,000,000
Token ticker	: HBIT
Decimals	: 18
Token holders	: 564
Transactions count	: 7,007
Contract deployer address	: 0x750F8F0D717163D817b99061406b22f88568b44d
Owner address	: 0x0000000000000000000000000000000000000000

Social profiles

Twitter Profile	: https://twitter.com/HashBitorg
Telegram profile	: https://t.me/hashbitofficial/
Facebook profile	: https://www.facebook.com/hashbitorg/
Coinmarketcap profile	: https://coinmarketcap.com/currencies/hashbit-blockchain/
Coingecko profile	: https://www.coingecko.com/en/coins/hashbit/

Audit Summary

According to the standard audit assessment, Customer`s solidity smart contracts are “Secure”. This token contract does contain owner control, which do not make it fully decentralized as owner does have control over smart contract.

Insecure	Poor	Secure	Well-secured

You are here 

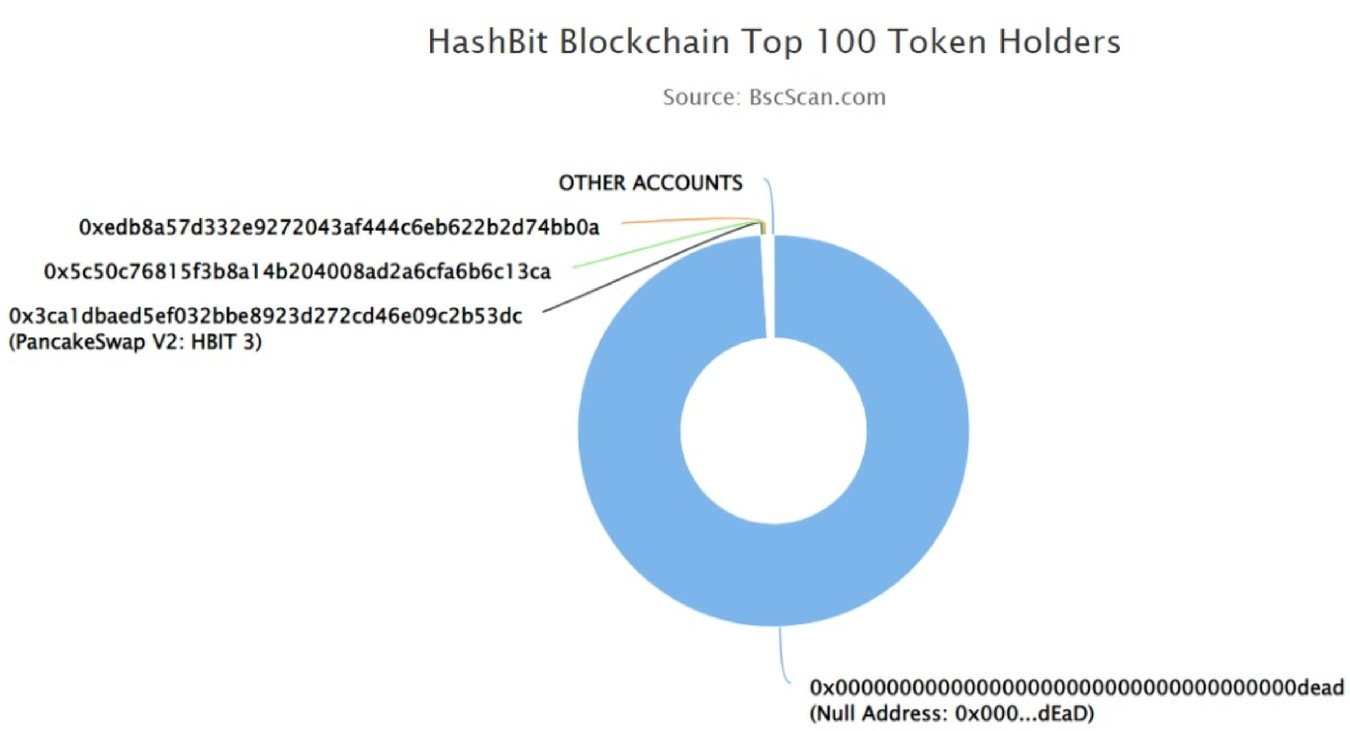
We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 0 medium and 1 low and some very low-level issues. These issues are not critical ones.

HashBit Blockchain Token Distribution

The top 100 holders collectively own 99.91% (49,956,910,660.67 Tokens) of HashBit Blockchain

Token Total Supply: 50,000,000,000.00 Token | Total Token Holders: 564



HashBit Blockchain Top 20 Token Holders

(A total of 49,956,910,660.67 tokens held by the top 100 accounts from the total supply of 50,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	Null Address: 0x000...dEaD	49,500,000,000.000008182160650544	99.0000%
2	PancakeSwap V2: HBIT 3	65,744,314.249115429869203116	0.1315%
3	0x5c50c76815f3b8a14b204008ad2a6cfa6b6c13ca	63,733,398.251395579338258771	0.1275%
4	0xedb8a57d332e9272043af444c6eb622b2d74bb0a	50,285,765.6724944202037608	0.1006%
5	0x6c564f45904947d73087cbe38cbf8b320a8fbf29	30,450,828.338007896535254568	0.0609%
6	0x59b93abeecea0291f98a526a46e237329f19c17d	21,083,653.259506131658577581	0.0422%
7	0xa20f5250e3da5dda44b86c4be9334c5317a6dca7	19,869,080.164460454233355444	0.0397%
8	0x8bb613e36fa47f55af41ab662b64e3c27427794d	13,688,497	0.0274%
9	0x4dd95d2acd9e468e2a4d9f35721a44a5b6112546	12,968,764.884524365050814002	0.0259%
10	0x10315b55335f113d85b2b06b89575a1f16946101	10,181,632.702964044184593028	0.0204%
11	HashBit Blockchain: Deployer	7,432,602.208805844034308842	0.0149%
12	0x78c3de5b4f41341514b4ff797c71dbb461f4ec69	7,337,493.140825155747201417	0.0147%
13	0xee82c83e68711f21fe279a491630b0d347bbffb0	7,141,864.590653141609292662	0.0143%
14	0x25fa70e0b447ceca20a3e04b123197524961b66e	7,000,000	0.0140%
15	0xb505c6726f8e8c0ba79c2a4646ffd69c4312f6a6	6,500,000	0.0130%
16	0x9209f6cb3107d8e1e6465d18132cdfb59fc2e3d9	5,287,260.863677	0.0106%
17	0x13f4f4feb9e7668ed004f15327efd0149969332c	5,287,260.863677	0.0106%
18	0x2b997b529cda297cdc46bdc1a8e659261f2a006f	5,277,009.274895565933261208	0.0106%
19	0x243df4576037321c52f07d7bc9b7a9b3f84004f4	5,221,833.419089472225505104	0.0104%
20	0xe83b3dd0004a480050d753d7d93d25f45a58e655	4,200,112.203344156833841482	0.0084%

Contract functions details

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

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

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

+ ERC20 (Context, IERC20, IERC20Metadata)
    - <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#

+ERC20Burnable (Context, ERC20)
    -[Pub] burn #
    -[Pub] burnFrom #

Contract functions details

Address.sol
+[Lib] Address
    -[Int] isContract
    -[Int] sendValue
    -[Int] functionCall
    -[Int] functionCall
    -[Int] functionCallWithValue
    -[Int] functionCallWithValue
    -[Int] functionStaticCall
    -[Int] functionStaticCall
    -[Int] functionDelegateCall
    -[Int] functionDelegateCall
    -[Pvt] _verifyCallResult

+[Int] IERC165
    -[Ext] supportsInterface

+ ERC165 (IERC165)
    -[Pub] supportsInterface

+[Int] IERC1363 (IERC20, IERC165)
    -[Ext] transferAndCall
    -[Ext] transferAndCall
    -[Ext] transferFromAndCall
    -[Ext] transferFromAndCall
    -[Ext] approveAndCall
    -[Ext] approveAndCall

+[Int] IERC1363Receiver
    -[Ext] onTransferReceived

+[Int] IERC1363Spender
    -[Ext] onApprovalReceived

+ ERC1363 (ERC20, IERC1363, ERC165)
    -[Pub] supportsInterface
    -[Pub] transferAndCall
    -[Pub] transferAndCall
    -[Pub] transferFromAndCall
    -[Pub] transferFromAndCall

Contract functions details

-[Pub] approveAndCall
-[Pub] approveAndCall
-[Int] _checkAndCallTransfer
-[Int] _checkAndCallApprove

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

+ TokenRecover (Ownable)
    -[Pub] recoverERC20
     -modifiers: onlyOwner

+ERC20Decimals(ERC20)
    -<constructor>
    -[Pub] decimals

+ ERC20Mintable (ERC20)
    -[Ext] mintingFinished #
    -[Ext] mint #
      -modifiers: canMint
    -[Ext] finishMinting #
      -modifiers: canMint
    -[Int] _finishMinting

+CoinToken (ERC20Decimals, ERC20Mintable, ERC20Burnable, ERC1363, TokenRecover)
    -<constructor> $
    -[Pub] decimals
    -[Int] _mint #
      -modifiers: onlyOwner
    -[Int] _finishMinting #
      -modifiers: onlyOwner

($) = payable function
= non-constant function

Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Low issue
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Passed
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Passed
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Passed
19.	Incorrect Naming State Variable	Passed
20.	Too old version	Passed

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.

Security Issues

Critical Severity Issues

No critical severity issue found.

High Severity Issues

No high severity issue found.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

One low severity issue found.

1. Unlocked Compiler Version.

- **Description**

  The contract utilizes an unlocked compiler version. An unlocked compiler version in the contract's source code permits the user to compile it at or above a particular version. This, in turn, leads to differences in the generated bytecode between compilations due to differing compiler version numbers. This can lead to ambiguity when debugging as compiler-specific bugs may occur in the codebase that would be difficult to identify over a span of multiple compiler versions rather than a specific one.

- **Recommendation**

  It is advisable that the compiler version is alternatively locked at the lowest version possible so that the contract can be compiled. For example, for version ^0.8.0 the contract should contain the following line:

  pragma solidity 0.8.5;

Centralization

Owner Privileges :

- HashBit Blockchain Contract:
    - Owner can renounce and transfer ownership.
    - Owner can mint new tokens.
    - Owner can finish minting.
    - Owner can recover ERC20 tokens to the owner address.

This smart contract has some functions which can be executed by the Admin (Owner) only. If the admin wallet private key would be compromised, but it would not create any trouble as smart contract ownership has been renounced. Following are Admin functions functions:

- Transferownership
- Renounceownership
- _Mint
- _Finishminting
- Recovererc20

Conclusion

Smart contract contains low severity issues! The further transfer and operations with the fund raised are not related to this particular contract.

HackSafe 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.