HackSafe

Smart Contract Security Audit Report

GalaxyDefi

November 2022

Security Status

★★★★½

www.hacksafe.io

Audit Details

Audited project
GalaxyDefi

Deployer address
0xaeabbd9229b6518725fef87d54fd945a46839d7d

Client contacts
GalaxyDefi Team

Blockchain
Binance smart chain

Website
Not provided

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 GalaxyDefi to perform an audit of smart contracts:

- https://bscscan.com/token/0x4D27257E97Cfc39A15a8415F98Dbe401038fCdba#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 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 21.11.2022

Token Type	: DEFI
Contract name	: GalaxyToken
Contract address	: 0x4D27257E97Cfc39A15a8415F98Dbe401038fCdba
Total supply	: 238,751,488.634354
Token ticker	: GLX
Decimals	: 18
Token Holders	: 5,980
Transactions count	: 247,890
Compiler version	: v0.6.12+commit.27d51765
Contract deployer address	: 0xaeabbd9229b6518725fef87d54fd945a46839d7d
Owner address	: 0xd302797a732a184f9608ae5a0ec7730567ab46b8

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 secured	Secure	Well-secured

You are here 

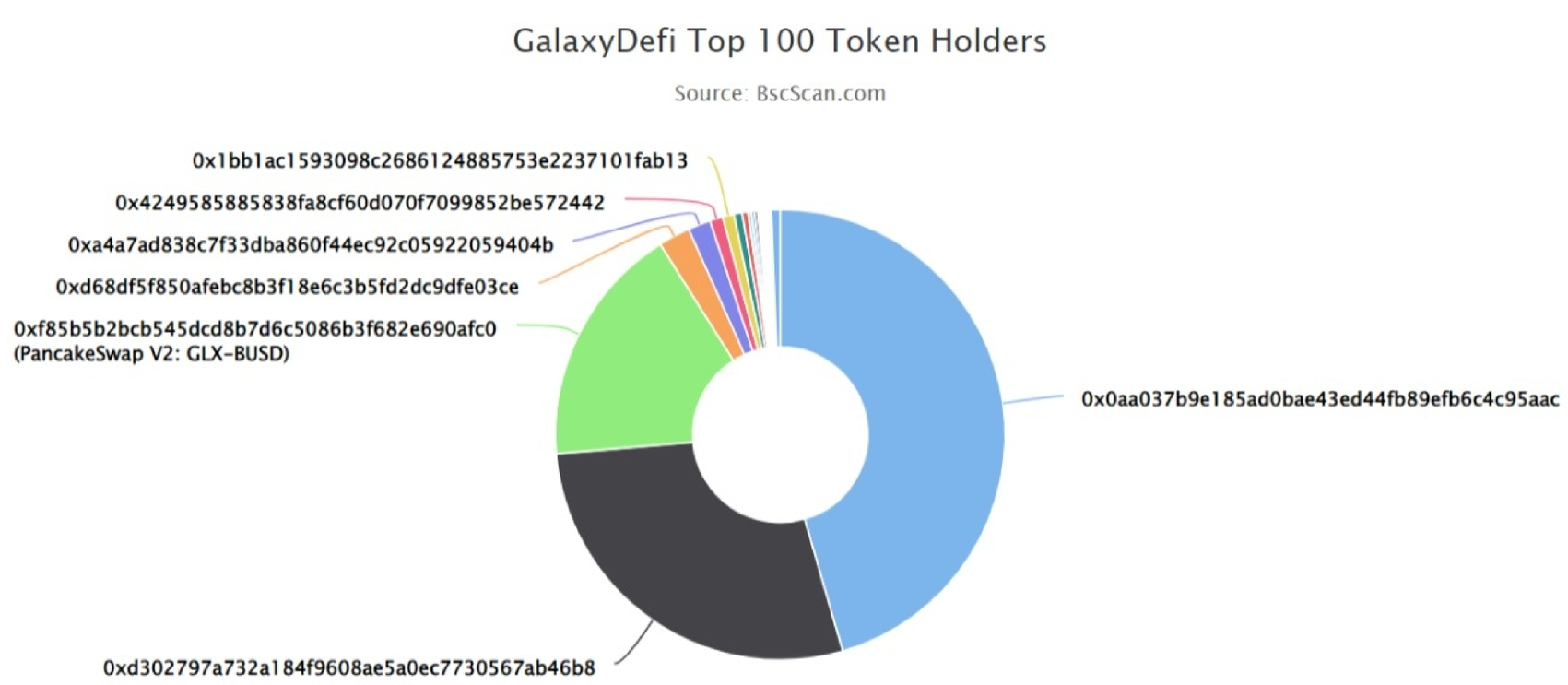
We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, medium and 1 low.

GalaxyToken Distribution

The top 100 holders collectively own 99.36% (237,226,135.42 Tokens) of GalaxyDefi

Token Total Supply: 238,751,488.63 Token | Total Token Holders: 5,980



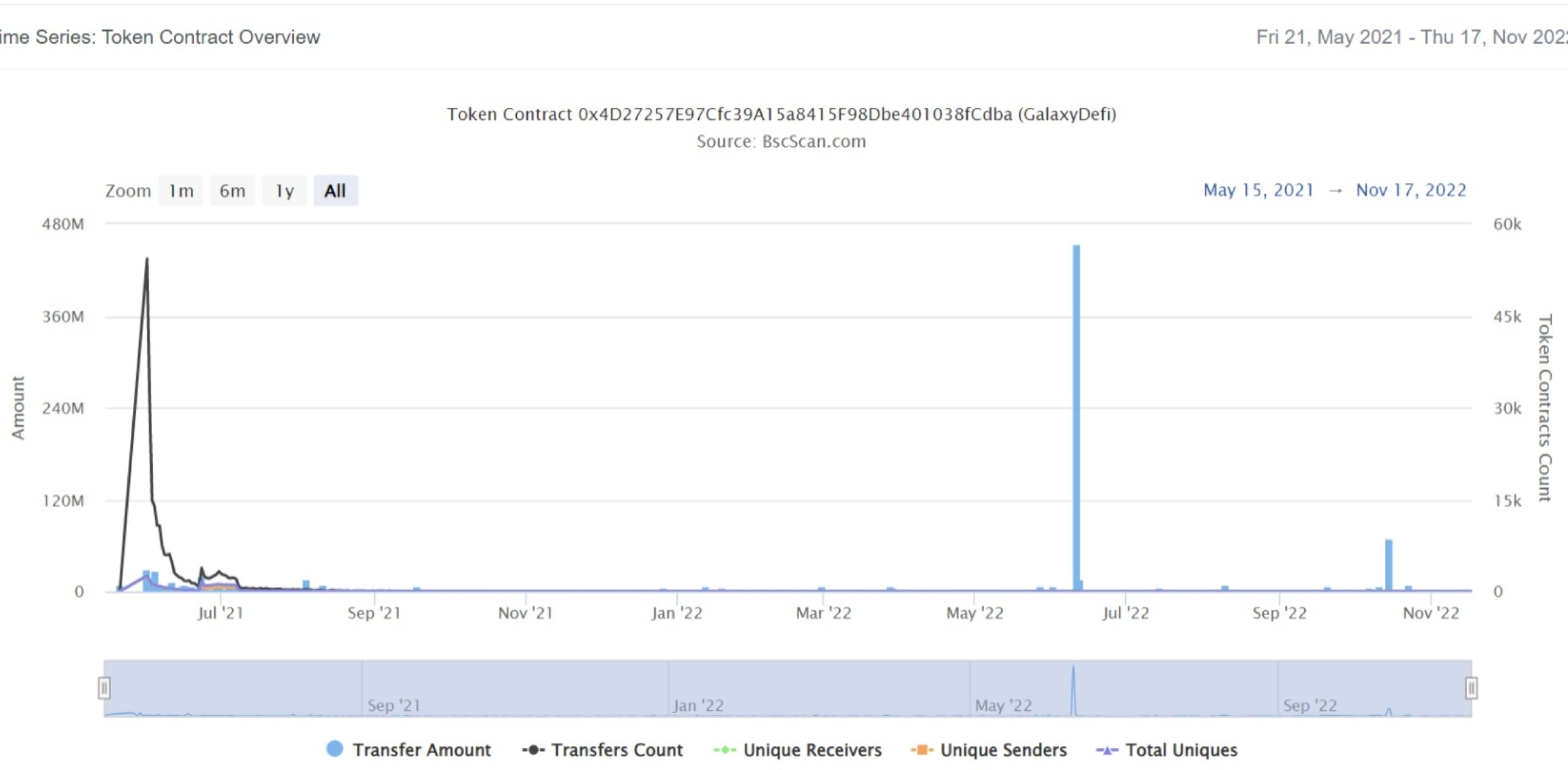
GalaxyToken Top 20 Token Holders

(A total of 237,226,135.42 tokens held by the top 100 accounts from the total supply of 238,751,488.63 token)

Rank	Address	Quantity (Token)	Percentage
1	0x0aa037b9e185ad0bae43ed44fb89efb6c4c95aac	108,718,543.816518254138551839	45.5363%
2	0xd302797a732a184f9608ae5a0ec7730567ab46b8	67,113,376.716204047536838359	28.1101%
3	PancakeSwap V2: GLX-BUSD	41,541,542.754041655678718414	17.3995%
4	0xd68df5f850afebc8b3f18e6c3b5fd2dc9dfe03ce	5,435,350.166628427191175628	2.2766%
5	0xa4a7ad838c7f33dba860f44ec92c05922059404b	3,899,004.31957235530723882	1.6331%
6	0x4249585885838fa8cf60d070f7099852be572442	2,212,324.969016199931639736	0.9266%
7	0x1bb1ac1593098c2686124885753e2237101fab13	1,955,947.760049192593611114	0.8192%
8	Null Address: 0x000...dEaD	1,403,708.865993564086932736	0.5879%
9	0x0a9ad1a58803baf569243435277e693f67e65cda	982,039.137486676501654248	0.4113%
10	0xeea6c500ab0635d610857a7ab0d4f328ef17e93e	573,900.966058398800975688	0.2404%
11	0x27678d9699cac3a96edab39c0cb3141dd388201f	538,955.828012058061100646	0.2257%
12	PancakeSwap V2: GLX 16	499,605.213404662046275595	0.2093%
13	0x9acb14f697e708d3f3641957268c991f2d1992ef	327,410.238986830207586661	0.1371%
14	0x047bb93b4b784ef3ef40b92f7a7ab785c1bb548b	317,484.202271842911733927	0.1330%
15	0xe15be13f78514e467f969bd69f7e8559139adf69	268,079.542047187387966466	0.1123%
16	0xedd8953be97d21d41f647abd20276b4ba1bdd535	192,438.114980027083680743	0.0806%
17	0x0a4c5c60356937d4a158e07bc2530ff2091cf38c	114,428.768181940484965571	0.0479%
18	0x351e2ce68981125c495b2b311de144a342dadf21	110,029.407771537422870243	0.0461%
19	0x8a4202a0db50e35356fdff69b1d482c87e7840d3	58,942.403749455598098917	0.0247%
20	0xc53c86cad7222491491cdf52052e42a9f2aa87e7	56,633.315279077686819271	0.0237%

GalaxyToken Distribution

GalaxyToken Contract Overview



Contract functions details

+Context
  -[Int] <constructor>
  -[Int] _msgSender
  -[Int] _msgData

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

+[Int] IBEP20
  -[Ext] totalSupply
  -[Ext] decimals
  -[Ext] symbol
  -[Ext] name
  -[Ext] getOwner
  -[Ext] balanceOf
  -[Ext] transfer
  -[Ext] allowance
  -[Ext] approve
  -[Ext] transferFrom

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

Contract functions details

+Address
  -[Int] isContract
  -[Int] sendValue
  -[Int] functionCall
  -[Int] functionCall
  -[Int] functionCallWithValue
  -[Int] functionCallWithValue
  -[Int] _functionCallWithValue

+BEP20 (Context, IBEP20, Ownable)
  -[Pub] <constructor>
  -[Ext] getOwner
  -[Pub] name
  -[Pub] decimals
  -[Pub] symbol
  -[Pub] totalSupply
  -[Pub] balanceOf
  -[Pub] transfer
  -[Pub] allowance
  -[Pub] approve
  -[Pub] transferFrom
  -[Pub] increaseAllowance
  -[Pub] decreaseAllowance
  -[Pub] mint #
    -modifiers: onlyOwner
  -[Int] _transfer #
  -[Int] _mint #
  -[Int] _burn #
  -[Int] _approve #
  -[Int] _burnFrom #

+GalaxyToken (BEP20)
  -[Pub] mint #
    -modifiers: onlyOwner
  -[Ext] delegates
  -[Ext] delegate
  -[Ext] delegateBySig
  -[Ext] getCurrentVotes

Contract functions details

-[Ext] getPriorVotes
-[Int] _delegate
-[Int] _moveDelegates
-[Int] _writeCheckpoint
-[Int] safe32
-[Int] getChainId

($) = payable function
= non-constant function

Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Passed
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	Low issue

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 issue found.

- **Low Severity Issues**

  One low severity issue found.

1. Old compiler version

- **Description**

  Contract has been deployed using too old solidity version.

- **Recommendation**

  It is advisable to deploy contract using any of the latest version of solidity.

Centralization

Owner Privileges :

- GalaxyDefi Contract:
    - Owner can renounce and transfer ownership.
    - Owner can mint tokens.

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

- mint
- renounceOwnership
- transferOwnership

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.