ASSURE DEFI®
THE VERIFICATION GOLD STANDARD

Security Assessment:

Chainbased TOKEN

December 1, 2024

- Audit Status: **Pass**
- Audit Edition: **Advance**

Risk Analysis

Classifications of Manual Risk Results

Classification	Description
Critical	Danger or Potential Problems.
High	Be Careful or Fail test.
Medium	Pass, Not-Detected or Safe Item.
Low	Function Detected

Manual Code Review Risk Results

Contract Privilege	Description
Buy Tax	1%
Sale Tax	1%
Cannot Buy	Pass
Cannot Sale	Pass
Max Tax	1.2%
Modify Tax	Yes
Fee Check	Pass
Is Honeypot?	Not Detected
Trading Cooldown	Not Detected
Can Pause Trade?	Pass
Pause Transfer?	Not-Detected
Max Tx?	Pass
Is Anti Whale?	Not-Detected
Is Anti Bot?	Not-Detected

Contract Privilege	Description
Is Blacklist?	Not-Detected
Blacklist Check	Pass
is Whitelist?	Not-Detected
Can Mint?	Pass
Is Proxy?	Not Detected
Can Take Ownership?	Not Detected
Hidden Owner?	Not-Detected
Owner	0x6E5099e20aC3A4710b0Fe5314475ddfc5693E53e
Self Destruct?	Not Detected
External Call?	Not-Detected
Other?	Not Detected
Holders	0
Auditor Confidence	Medium
KYC Present	Yes
KYC URL	https://assuredefi.com/projects/chainbased/

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.

Project Overview

Token Summary

Parameter	Result
Address	0xf300cba230CD799323d0E2CE2027851C97A5972D
Name	Chainbased
Token Tracker	Chainbased (BASD)
Decimals	9
Supply	500,000,000
Platform	ARBITRUM
compiler	v0.8.20+commit.a1b79de6
Contract Name	BASD
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	https://arbiscan.io/token/0xf300cba230CD799323d0E2CE2027851C97A5972D#code
Payment Tx	Corporate

Main Contract Assessed Contract Name

Name	Contract	Live
Chainbased	0xf300cba230CD799323d0E2CE2027851C97A5972D	Yes

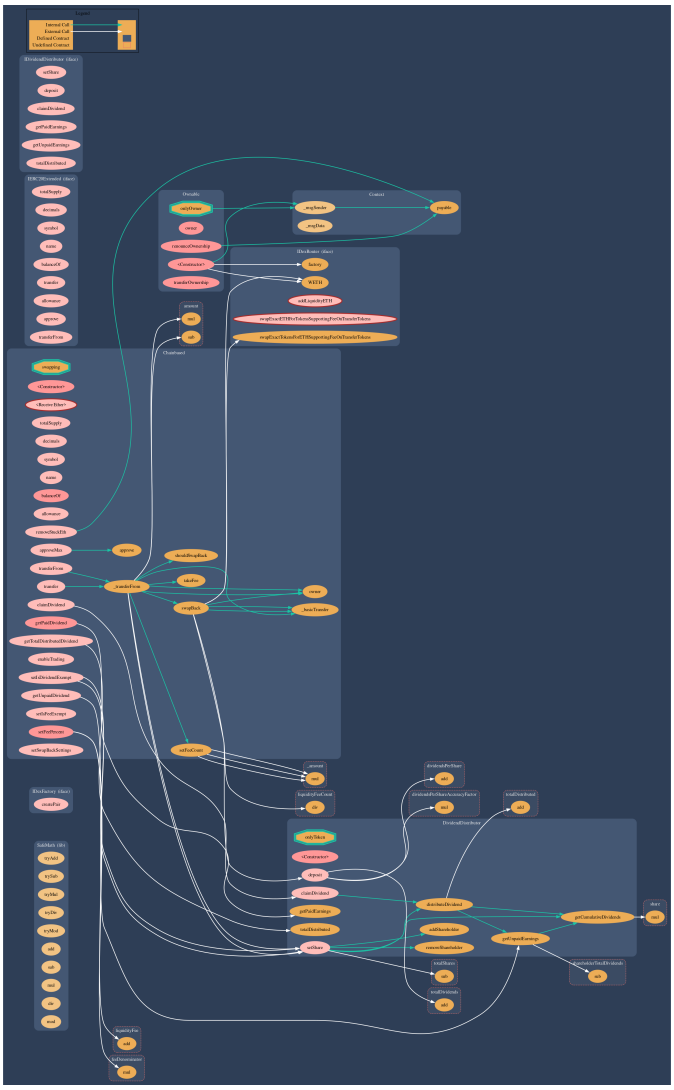
TestNet Contract was Not Assessed

Solidity Code Provided

SolID	File Sha-1	FileName
BASD	124e1e96b7bbf800c9951f3c5515e96bd74fb01a	BASD.sol
BASD		.sol
BASD		.sol
BASD		.sol
BASD		.sol
BASD		.sol

Call Graph

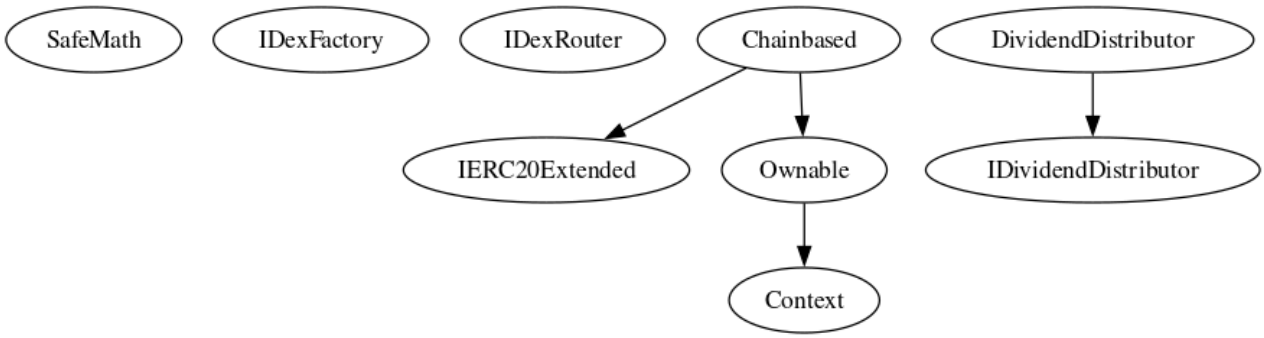
The contract for Chainbased has the following call graph structure.



Inheritance

The contract for Chainbased has the following inheritance structure.

The Project has a Total Supply of 500,000,000



BASD-03 | Lack of Input Validation.

Category	Severity	Location	Status
Volatile Code	Low	BASD.sol: L: 704 C: 12	Detected

Description

The given input is missing the check for the non-zero address.

The given input is missing the check for the onlyOwners need to be revisited for require..

Remediation

We advise the client to add the check for the passed-in values to prevent unexpected errors as below:

```
...
 require(receiver != address(0), "Receiver is the zero address");
...
...
require(value X limitation, "Your not able to do this function");
...
```

We also recommend customer to review the following function that is missing a required validation. onlyOwners need to be revisited for require..

BASD-04 | Centralized Risk In addLiquidity.

Category	Severity	Location	Status
Coding Style	High	BASD.sol: L: 639	Detected

Description

uniswapV2Router.addLiquidityETH{value: ethAmount}(address(this), tokenAmount, 0, 0, owner(), block.timestamp);

The addLiquidity function calls the uniswapV2Router.addLiquidityETH function with the to address specified as owner() for acquiring the generated LP tokens from the BASD-WBNB pool.

As a result, over time the _owner address will accumulate a significant portion of LP tokens.If the _owner is an EOA (Externally Owned Account), mishandling of its private key can have devastating consequences to the project as a whole.

Remediation

We advise the to address of the uniswapV2Router.addLiquidityETH function call to be replaced by the contract itself, i.e. address(this) , and to restrict the management of the LP tokens within the scope of the contract's business logic. This will also protect the LP tokens from being stolen if the _owner account is compromised. In general, we strongly recommend centralized privileges or roles in the protocol to be improved via a decentralized mechanism or via smart-contract based accounts with enhanced security practices, f.e. Multisignature wallets.

1. Indicatively, here are some feasible solutions that would also mitigate the potential risk:
2. Time-lock with reasonable latency, i.e. 48 hours, for awareness on privileged operations;
3. Assignment of privileged roles to multi-signature wallets to prevent single point of failure due to the private key;

Introduction of a DAO / governance / voting module to increase transparency and user involvement

Project Action

BASD-05 | Missing Event Emission.

Category	Severity	Location	Status
Volatile Code	Low	BASD.sol: L: 709 C: 12, L: 728 C: 12	Detected

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.The linked code does not create an event for the transfer.

Remediation

Emit an event for critical parameter changes. It is recommended emitting events for the sensitive functions that are controlled by centralization roles.

BASD-14 | Unnecessary Use Of SafeMath

Category	Severity	Location	Status
Logical Issue	Medium	BASD.sol: L: 0 C: 0	Detected

Description

The SafeMath library is used unnecessarily. With Solidity compiler versions 0.8.0 or newer, arithmetic operations
will automatically revert in case of integer overflow or underflow.
library SafeMath {
An implementation of SafeMath library is found.
using SafeMath for uint256;
SafeMath library is used for uint256 type in contract.

Remediation

We advise removing the usage of SafeMath library and using the built-in arithmetic operations provided by the
Solidity programming language

Project Action

BASD-19 | Centralization Privileges of.

Category	Severity	Location	Status
	Medium	BASD.sol: L: 393 C: 14,L: 385 C: 14,L: 341 C: 14,L: 306 C: 14,L: 299 C: 14,L: 269 C: 14	Detected

Description

Centralized Privileges are found on the following functions.

Remediation

undefined

Project Action

Technical Findings Summary

Classification of Risk

Severity	Description
Critical	Risks are those that impact the safe functioning of a platform and must be addressed before launch. Users should not invest in any project with outstanding critical risks.
High	Risks can include centralization issues and logical errors. Under specific circumstances, these major risks can lead to loss of funds and/or control of the project.
Medium	Risks may not pose a direct risk to users' funds, but they can affect the overall functioning of a platform
Low	Risks can be any of the above but on a smaller scale. They generally do not compromise the overall integrity of the Project, but they may be less efficient than other solutions.
Informational	Errors are often recommended to improve the code's style or certain operations to fall within industry best practices. They usually do not affect the overall functioning of the code.

Findings

Severity	Found	Pending	Resolved
Critical	0	2	0
High	1	0	0
Medium	2	1	0
Low	2	1	0
Informational	0	0	0
Total	5	5	0

Social Media Checks

Social Media	URL	Result
Twitter	https://x.com/chainbased_io	Pass
Other	https://t.me/ChainbasedOfficialChat, https://discord.gg/qEjSruqXXR, https://www.linkedin.com/company/chainbasedofficial/?viewAsMember=true	Pass
Website	https://www.chainbased.io	Pass
Telegram	https://t.me/ChainbasedOfficialChannel	Pass

We recommend to have 3 or more social media sources including a completed working websites.

Social Media Information Notes:

Auditor Notes: undefined

Project Owner Notes:

Assessment Results

Score Results

Review	Score
Overall Score	95/100
Auditor Score	95/100
Review by Section	**Score**
Manual Scan Score	40
Auto Scan Score	37
Advance Check Score	18

The Following Score System Has been Added to this page to help understand the value of the audit, the maximum score is 100, however to attain that value the project most pass and provide all the data needed for the assessment. Our Passing Score has been changed to 84 Points for a higher standard, if a project does not attain 85% is an automatic failure. Read our notes and final assessment below.

Audit Passed

Assessment Results

Important Notes:

• Centralization Risks: The owner has significant control over the contract, including fee settings and trading enablement. Consider implementing a multi-signature wallet for critical functions.ı

• Reentrancy: Functions like claimDividend and swapBack should be reviewed for reentrancy vulnerabilities. Consider using the Checks-Effects-Interactions pattern.ı

• Unchecked External Calls: Calls to distributor.deposit and distributor.setShare should include checks to handle failures gracefully.ı

• Fee Calculation Complexity: Ensure that the logic for fee calculations and transfers is thoroughly tested to prevent unexpected behavior.ı

• Dividend Distribution: Verify the accuracy of dividend calculations and ensure proper handling of edge cases, such as zero shares.ı

• Gas Optimization: Review loops and calculations for potential gas savings, especially in functions like removeShareholder.ı

• Access Control: Functions like removeStuckEth allow the owner to withdraw ETH. Ensure this is intended and consider adding restrictions or time locks.ı

• Event Emissions: Ensure all critical state changes are accompanied by event emissions for transparency and

Auditor Score =95
Audit Passed

Appendix

Finding Categories

Centralization / Privilege

Centralization / Privilege findings refer to either feature logic or implementation of components that actagainst the nature of decentralization, such as explicit ownership or specialized access roles incombination with a mechanism to relocate funds.

Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimalEVM opcodes resulting in a reduction on the total gas cost of a transaction.

Logical Issue

Logical Issue findings detail a fault in the logic of the linked code, such as an incorrect notion on howblock.timestamp works.

Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functionsbeing invoke-able by anyone under certain circumstances.

Volatile Code

Volatile Code findings refer to segments of code that behave unexpectedly on certain edge cases that mayresult in a vulnerability.

Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to makethe codebase more legible and, as a result, easily maintainable.

Inconsistency

Inconsistency findings refer to functions that should seemingly behave similarly yet contain different code,such as a constructor assignment imposing different require statements on the input variables than a setterfunction.

Coding Best Practices

ERC 20 Conding Standards are a set of rules that each developer should follow to ensure the code meet a set of creterias and is readable by all the developers.

Disclaimer

Assure Defi has conducted an independent security assessment to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the reviewed code for the scope of this assessment. This report does not constitute agreement, acceptance, or advocation for the Project, and users relying on this report should not consider this as having any merit for financial advice in any shape, form, or nature. The contracts audited do not account for any economic developments that the Project in question may pursue, and the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude, and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are entirely free of exploits, bugs, vulnerabilities or deprecation of technologies.

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