

# Assure DeFi®

THE VERIFICATION **GOLD STANDARD**



## Security Assessment

### Blink Galaxy

Date: 05/12/2025

Audit Status: PASS

Audit Edition: Advanced+

# Risk Analysis

## Vulnerability summary

Classification	Description
● High	High-level vulnerabilities can result in the loss of assets or manipulation of data.
● Medium	Medium-level vulnerabilities can be challenging to exploit, but they still have a considerable impact on smart contract execution, such as allowing public access to critical functions.
● Low	Low-level vulnerabilities are primarily associated with outdated or unused code snippets that generally do not significantly impact execution, sometimes they can be ignored.
● Informational	Informational vulnerabilities, code style violations, and informational statements do not affect smart contract execution and can typically be disregarded.

## Executive Summary

According to the Assure assessment, the Customer's smart contract is **Secured**.

Insecure

Poorly Secured

**Secured**

Well Secured

# Scope

## Target Code And Revision

For this audit, we performed research, investigation, and review of the Blink Galaxy contracts followed by issue reporting, along with mitigation and remediation instructions outlined in this report.

## Target Code And Revision

Project	Assure
Language	Solidity
Codebase	<a href="https://basescan.org/address/0x701C8C09fE9F081f9BE69Ab9AF8291c84c09389B#code">https://basescan.org/address/0x701C8C09fE9F081f9BE69Ab9AF8291c84c09389B#code</a>
Audit Methodology	Static, Manual

## Attacks made to the contract

In order to check for the security of the contract, we tested several attacks in order to make sure that the contract is secure and follows best practices.

Category	Item
Code review & Functional Review	<ul style="list-style-type: none"><li>• Compiler warnings.</li><li>• Race conditions and Reentrancy. Cross-function race conditions.</li><li>• Possible delays in data delivery.</li><li>• Oracle calls.</li><li>• Front running.</li><li>• Timestamp dependence.</li><li>• Integer Overflow and Underflow.</li><li>• DoS with Revert.</li><li>• DoS with block gas limit.</li><li>• Methods execution permissions.</li><li>• Economy model.</li><li>• Private user data leaks.</li><li>• Malicious Event log.</li><li>• Scoping and Declarations.</li><li>• Uninitialized storage pointers.</li><li>• Arithmetic accuracy.</li><li>• Design Logic.</li><li>• Cross-function race conditions.</li><li>• Safe Zeppelin module.</li><li>• Fallback function security.</li><li>• Overpowered functions / Owner privileges</li></ul>

# AUDIT OVERVIEW



HIGH

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## 1. Governance vote accounting underflow causing DoS on transfers/burns/delegation [Acknowledge]



### Issue:

The governance delegation system is inconsistent with token balances when tokens are minted, and this can cause arithmetic underflow in `_moveDelegates`, which in Solidity  $\geq 0.8.x$  results in a revert.

This creates a Denial-of-Service condition for:

- transfer
- transferFrom
- burn
- delegate (changing delegation)
- delegateBySig

for certain users, effectively freezing their tokens and breaking governance.

### Root Cause

Votes are updated only in:

- transfer
- transferFrom
- burn
- `_delegate`

but not in mint.

```
function mint(address to, uint256 amount) external onlyRole(MINTER_ROLE) {
    require(totalSupply() + amount <= _cap, "Cap exceeded");
    _mint(to, amount);
    emit Minted(msg.sender, to, amount);
}
```

`_mint` (from OZ's ERC20) will eventually call the overridden `_update(from, to, value)`, but that override does not call `_moveDelegates`. So delegated voting power is not updated on mint.

The delegation movement logic:

```
function _moveDelegates(address srcRep, address dstRep, uint256 amount) internal {
    if (srcRep != dstRep && amount > 0) {
        if (srcRep != address(0)) {
            uint32 srcRepNum = numCheckpoints[srcRep];
            uint256 srcRepOld = srcRepNum > 0 ? checkpoints[srcRep][srcRepNum - 1].votes : 0;
            uint256 srcRepNew = srcRepOld - amount; // <-- potential underflow
```

```

        _writeCheckpoint(srcRep, srcRepNum, srcRepOld, srcRepNew);
    }

    if (dstRep != address(0)) {
        uint32 dstRepNum = numCheckpoints[dstRep];
        uint256 dstRepOld = dstRepNum > 0 ? checkpoints[dstRep][dstRepNum - 1].votes : 0;
        uint256 dstRepNew = dstRepOld + amount;
        _writeCheckpoint(dstRep, dstRepNum, dstRepOld, dstRepNew);
    }
}
}

```

In Solidity 0.8., srcRepOld - amount reverts if amount > srcRepOld.

There is no guarantee that srcRepOld  $\geq$  amount because the vote checkpoints are not updated on mint. This breaks the usual Compound-style invariant that "representative votes always equal the sum of delegated balances".

Failure scenarios:

- User delegates before being minted tokens = transfer/burn broken
- Delegator tries to change delegate after mint = delegation change impossible

**Recommendation:** You have two main options:

Option 1 = Properly integrate delegation with all balance changes (preferred)

Mimic the standard Compound-style pattern and ensure `_moveDelegates` is invoked for all balance changes: transfers, mints, and burns.

A robust approach with modern OZ is to hook into `_update` or `_afterTokenTransfer`:

Add delegate adjustment in `_update`:

```

function _update(address from, address to, uint256 value) internal override {
    if (whitelistEnabled) {
        if (from == address(0)) {
            require(isWhitelisted[to], "to not whitelisted");
        } else if (to == address(0)) {
            require(isWhitelisted[from], "from not whitelisted");
        } else {
            require(isWhitelisted[from] && isWhitelisted[to], "transfer not whitelisted");
        }
    }

    // Capture delegates before balances change
    address fromDelegate = from == address(0) ? address(0) : _delegates[from];
    address toDelegate = to == address(0) ? address(0) : _delegates[to];

    super._update(from, to, value);

    if (value > 0) {
        if (from != address(0)) {
            _moveDelegates(fromDelegate, address(0), value); // remove from
        }
        if (to != address(0)) {
            _moveDelegates(address(0), toDelegate, value); // add to
        }
    }
}

```

```

fromDelegate
    }
    if (to != address(0)) {
        _moveDelegates(address(0), toDelegate, value); // add to toDelegate
    }
}

```

Then remove the manual `_moveDelegates` calls from `transfer`, `transferFrom`, and `burn` to avoid double-counting.

Or, if using `_afterTokenTransfer`, you can do it there instead; just make sure:

- Mints (`from == address(0)`) call `_moveDelegates(address(0), delegateeOf(to), amount)`.
- Burns (`to == address(0)`) call `_moveDelegates(delegateeOf(from), address(0), amount)`.

Option 2 = Add invariant checks and repair logic

If you want minimal code change:

At minimum, protect `_moveDelegates` from underflow:

```
require(srcRepOld >= amount, "vote underflow");
```

But this only changes failures from “silent math-panic” to explicit revert it does not fix the underlying governance inconsistency that produces `srcRepOld < amount`.

So, Option 2 is only partial; Option 1 is needed for correct and safe governance behaviour.

**Mitigation:** The team has acknowledged the issue where delegation vote accounting is not updated on mint, leading to a potential underflow in `_moveDelegates` and a DoS condition for affected users. At the time of the audit, this risk is being operationally contained through the following controls:

`MINTER_ROLE` is held exclusively by a multisig deployed at inception; there are no additional minter EOAs or auxiliary minter contracts.

No permissionless or automated minting flows are used.

The team has established and is enforcing an internal policy not to mint directly to wallets that have already delegated. Minting for distribution is performed only to non-delegating treasury/multisig addresses, from which tokens are then distributed via standard transfers.

Related functionality (for example staking vault creation and governance flows) is implemented via dedicated contracts, structurally separating mint operations from user governance/delegation interactions.

If necessary, whitelist gating can be enabled to further restrict potential mint recipients to a controlled set of addresses.

These measures significantly reduce the likelihood of the vulnerable state (minting to an already-delegated account) arising in production.



MEDIUM

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## **1. Minted tokens do not grant voting power until further actions [Acknowledge ✓]**

### **Issue:**

Even ignoring the underflow/DoS issue, there is a separate governance logic flaw:

When tokens are minted to an account that already has a delegate, the delegate's vote count is not updated.

`mint(to, amount)` only calls `_mint` → `_update` → no `_moveDelegates`.

The delegate's vote checkpoints are stale until:

- the holder transfers tokens, or
- the holder re-delegates.

That means:

- Delegated voting power can be significantly lower than the sum of delegated balances.
- Governance decisions based on `getCurrentVotes` / `getPriorVotes` will be incorrect and potentially manipulable.

### **Recommendation:**

Same as for Finding High: integrate `_moveDelegates` correctly for mint/burn:

Ensure that all balance changes are reflected in vote checkpoints, not only transfers and manual delegation calls.

After that change, call `getCurrentVotes` / `getPriorVotes` during tests in various mint/burn/transfer sequences to confirm invariants like:

Sum of delegates' votes == `totalSupply` – (tokens held by accounts with no delegate)



LOW

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No low issues were found.



INFORMATIONAL

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No informational issues were found.

# Testing coverage

During the testing phase, custom use cases were written to cover all the logic of contracts. [\\*Check Annexes](#) to see the testing code.

```
tests/test_blink_galaxy.py::test_constructor RUNNING
Transaction sent: 0x6fcaela24b341aa1fb6773a84b1dd46ed5a6832c5481fc4a456b022f197be3ed
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 0
  BlinkGalaxyV2.constructor confirmed (multisig zero)  Block: 1  Gas used: 244886 (2.04%)
Transaction sent: 0xcf98c8da7edf1ca6e0d9998ba0dd64ad860545aa20b62fff009a4fd9f8349924
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 1
  BlinkGalaxyV2.constructor confirmed  Block: 2  Gas used: 2050934 (17.09%)
  BlinkGalaxyV2 deployed at: 0x602C71e4D4C47a042Ee7f46E0aeel7F94A3bA0B6

tests/test_blink_galaxy.py::test_constructor PASSED
tests/test_blink_galaxy.py::test_set_whitelist RUNNING
Transaction sent: 0xd8531fe5b607182247c05d0aabace2871efc58e60f755df7030d2c31ecbf1a
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 2
  BlinkGalaxyV2.constructor confirmed  Block: 3  Gas used: 2050934 (17.09%)
  BlinkGalaxyV2 deployed at: 0xE7eD6747FaC5360f88a2EFC03E00d25789F69291

Transaction sent: 0x8d0b4ce72c0aa3392e4bc41ffd995e623c170a210a7ef584c89ee4315d84b5c
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 0
  BlinkGalaxyV2.setWhitelistEnabled confirmed  Block: 4  Gas used: 25361 (0.21%)

Transaction sent: 0x14a365113cffaea788126cb9b2349c9c3fea3af0979ac0a13a486fc76af9025
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 1
  BlinkGalaxyV2.setWhitelisted confirmed  Block: 5  Gas used: 26339 (0.22%)

Transaction sent: 0x5196964af5655e9dddbc9454f93fa25322b5f3b644ec2dc32197c3fd34dc36ca
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 2
  BlinkGalaxyV2.setWhitelisted confirmed  Block: 6  Gas used: 45551 (0.38%)

Transaction sent: 0x69de3021c4bbd6001220b5b0096918ee34ce737f2d8355c2149b17d4def5b21b
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 3
  BlinkGalaxyV2.batchSetWhitelisted confirmed  Block: 7  Gas used: 16479 (0.14%)

tests/test_blink_galaxy.py::test_set_whitelist PASSED
tests/test_blink_galaxy.py::test_mint RUNNING
Transaction sent: 0xf37d2dfd72a757320a25dd27ec4ddcaabed8b8b3c25376801bb582f529835760
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 3
  BlinkGalaxyV2.constructor confirmed  Block: 8  Gas used: 2050934 (17.09%)
  BlinkGalaxyV2 deployed at: 0x6951b50d815043E3F842c1b026b0Fa888Cc2DD085

Transaction sent: 0x211121aa6ddb2a4efc0ef266f575e29b2a96aacb3d6caf682e0ee00827b21cf
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 4
  BlinkGalaxyV2.mint confirmed (Cap exceeded)  Block: 9  Gas used: 24229 (0.20%)

Transaction sent: 0x3fb4fe02d4177e9e3c27e03d7644d5f76e2c5b646c695b99ac2c0e61b8be9ec8
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 5
  BlinkGalaxyV2.mint confirmed  Block: 10  Gas used: 70631 (0.59%)

Transaction sent: 0xe6eae9a1dad1dd1241ee6d3ea0638f85715ac46a5076542463ba994dad31451d
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 6
  BlinkGalaxyV2.mint confirmed  Block: 11  Gas used: 55643 (0.46%)

Transaction sent: 0xbdf2cf673adb5a97a7a8db6cf99f6e33fb41e1f43ac91f1002ec9ba89abd2708
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 7
  BlinkGalaxyV2.setWhitelistEnabled confirmed  Block: 12  Gas used: 44573 (0.37%)

Transaction sent: 0xdb985541ef9d5ealdf847c97cd93f036308b7faf3df5e4dca90b40f93277f013
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 8
  BlinkGalaxyV2.mint confirmed (to not whitelisted)  Block: 13  Gas used: 26041 (0.22%)

tests/test_blink_galaxy.py::test_mint PASSED
```

```
tests/test_blink_galaxy.py::test_burn RUNNING
Transaction sent: 0x4e600c25ad1601e27eda666fd724d9c4f7f6c5dcc620f49085043abd49d7d9f1
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 4
  BlinkGalaxyV2.constructor confirmed  Block: 14  Gas used: 2050934 (17.09%)
  BlinkGalaxyV2 deployed at: 0xe0aA552A10d7EC8760Fc6c246D391E698a82d0f9

Transaction sent: 0xf9a95800edf5d4f5e4206eab7bab9968aa14f86bda763b9b96c9f322d22dd947
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 9
  BlinkGalaxyV2.mint confirmed  Block: 15  Gas used: 70631 (0.59%)

Transaction sent: 0xf872a8c0e7fb10e3e3ae197bfff95aecac7c743161d4861b83f83c1d3819676d3
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 10
  BlinkGalaxyV2.mint confirmed  Block: 16  Gas used: 55643 (0.46%)

Transaction sent: 0xc55a9395eda17b4110983e26bed366f9141fbcadfcfad816f1d0be7d2a4f3322
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 0
  BlinkGalaxyV2.burn confirmed  Block: 17  Gas used: 38733 (0.32%)

Transaction sent: 0xd5f0fcf89c4f21d635feebcbaf237e54cbdfc0dc75c765b73f296e735667aa13
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 0
  BlinkGalaxyV2.burn confirmed  Block: 18  Gas used: 38733 (0.32%)

Transaction sent: 0xbecceca415662d09a46883930c53f44514ce0092992e02b7e3df29e2f180b9cf
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 11
  BlinkGalaxyV2.setWhitelistEnabled confirmed  Block: 19  Gas used: 44573 (0.37%)

Transaction sent: 0x287a63f6948ab5afc634843ebd5c407afc31917a2722305d538f2541bf2f33de
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 1
  BlinkGalaxyV2.burn confirmed (from not whitelisted)  Block: 20  Gas used: 23526 (0.20%)

tests/test_blink_galaxy.py::test_burn PASSED
tests/test_blink_galaxy.py::test_transfer RUNNING
Transaction sent: 0x86608aa8811f6be37e7a6b9c2ef69aeb46534de2e067d63a2081e6ea54443b8b
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 5
  BlinkGalaxyV2.constructor confirmed  Block: 21  Gas used: 2050934 (17.09%)
  BlinkGalaxyV2 deployed at: 0x6b480e1086912A6Cb24ce3d843b3466e6c72AFd3

Transaction sent: 0xald6ff5bfcc600ae3a45831f8645albae9f016d46f983cea267a201ec73c6900d
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 12
  BlinkGalaxyV2.mint confirmed  Block: 22  Gas used: 70631 (0.59%)

Transaction sent: 0x320ec0a0a9afa981590a8a8b7900480d936c5dcad86ef18d962d7b4a3d0d866c
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 13
  BlinkGalaxyV2.mint confirmed  Block: 23  Gas used: 55643 (0.46%)

Transaction sent: 0xcd6a5af90debc8918dc198b45298521c3ea45113006349ec5c991c417ce36ac6
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 1
  BlinkGalaxyV2.transfer confirmed  Block: 24  Gas used: 38928 (0.32%)

Transaction sent: 0x9fcf091323c9ac801ae379351cff91192e45d93e87624d8d141cf9fabf54b016
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 2
  BlinkGalaxyV2.transfer confirmed  Block: 25  Gas used: 53928 (0.45%)

Transaction sent: 0x7157161ff65d998747948c1b77468032a93ff71470d3d221eb7eb0c7a59497a2
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 14
  BlinkGalaxyV2.setWhitelistEnabled confirmed  Block: 26  Gas used: 44573 (0.37%)

Transaction sent: 0xd818be53cf8f88327d7aa500ebaala57f5c89bc91c2b8b551c932eb5d203f4ef
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 3
  BlinkGalaxyV2.transfer confirmed (transfer not whitelisted)  Block: 27  Gas used: 24126 (0.20%)

Transaction sent: 0x0ab1397880ed0bfb090177c01b7e482c7845803c68c25100fec2613ad91da7b
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 15
  BlinkGalaxyV2.batchSetWhitelisted confirmed  Block: 28  Gas used: 69746 (0.58%)

Transaction sent: 0xc01bf8129da9a2bb59b1401aedd6ba3ea1808614fa6leaf24e4e7ed0252875c9
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 4
  BlinkGalaxyV2.transfer confirmed  Block: 29  Gas used: 40825 (0.34%)

tests/test_blink_galaxy.py::test_transfer PASSED
```

```

tests/test_blink_galaxy.py::test_gas_usage RUNNING
Transaction sent: 0x3e4d453cc0cccd37538fa78c46cd052798625a89f2a0df65e3ed3d389e6
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 7
ERC20Mock.constructor confirmed Block: 30 Gas used: 523834 (4.37%)
ERC20Mock.deployed at: 0x9e4c14403d769a7a8726244e86e93ca090762e9

Transaction sent: 0xb5b368c26794d0c930bd6d0bc3c7688df4773a9155237233346fba63c538f6
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 7
BlinkGalaxyV2.constructor confirmed Block: 31 Gas used: 2058922 (17.09%)
BlinkGalaxyV2.deployed at: 0xccc53294232594f44d017fe065e101d0d8d09

Transaction sent: 0xbab4fe8dc5d68f9429c8686c723900b9562a0d424146df411196f511d8bd7f720
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 18
BlinkGalaxyV2.emergencyWithdraw confirmed (to zero) Block: 32 Gas used: 23263 (0.19%)

Transaction sent: 0xcdd9fc787f600863b245b9e291138ea65e83787a0e597de819e5ebbf0e9b0
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 17
BlinkGalaxyV2.emergencyWithdraw (no tokens) confirmed Block: 33 Gas used: 25754 (0.21%)

Transaction sent: 0xfcfc99f7c3c3e6d273676d4d95a372c6025f335be26d7d7a5x102c8aaecb3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 8
ERC20Mock.mint confirmed Block: 34 Gas used: 65821 (0.55%)

Transaction sent: 0x6d6d3491f79d782971b708e0010837c949e85cd7e6bb9a39be611bb1d01d3741
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 18
BlinkGalaxyV2.emergencyWithdraw confirmed Block: 35 Gas used: 41836 (0.35%)
tests/test_blink_galaxy.py::test_emergency_withdraw PASSED
tests/test_blink_galaxy.py::test_delegate RUNNING
Transaction sent: 0x83394a4b4323a5c033955d4e03dfded0cc7cf8f4819a71f7cce4c8f040e566
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 19
BlinkGalaxyV2.constructor confirmed Block: 36 Gas used: 2058922 (17.09%)
BlinkGalaxyV2.deployed at: 0x3e3530dc2d3f12c8e81319282f8a08d5ee37472

Delegate addrs: 0x0863046686460cf15918b61AE2B1214585345
Delegate addrs: 0x0863046686460cf15918b61AE2B1214585345
Transaction sent: 0x454686329068717ef4a5438571274f05f16d9e10f4f103a44bd9e2d70853f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 5
BlinkGalaxyV2.delegate confirmed Block: 37 Gas used: 45699 (0.38%)
delegate TX: {"DelegateChanged": "OrderedDict([('delegator', '0x0863046686460cf15918b61AE2B1214585345'), ('fromDelegation', '0x0863046686460cf15918b61AE2B1214585345'), ('toDelegation', '0x21b2413b931038f35e7a5224fb0d865d2978a3')])"}
Transaction sent: 0xd51f41cbebb488d3f8a3230+211043236c28394c4d157b64a25458552fe
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 19
BlinkGalaxyV2.mint confirmed Block: 38 Gas used: 70631 (0.59%)
mint TX: {'Transfer': "OrderedDict([('from', '0x0863046686460cf15918b61AE2B1214585345'), ('to', '0x0863046686460cf15918b61AE2B1214585345'), ('value', 5000000000000000000000000000000000000000000000000000000000000000), ('mintAmount', 500000000000000000000000000000000)])", 'Minted': "OrderedDict([('minter', '0x334a622b82D4c84a53e170c638B944ce27cffce3'), ('receiver', '0x0863046686460cf15918b61AE2B1214585345'), ('mintAmount', 500000000000000000000000000000000)])"}}

Get Current votes delegator : 0x0863046686460cf15918b61AE2B1214585345(); 0
Current votes delegator : 0x21b2413b931038f35e7a5224fb0d865d2978a3(); 0
tests/test_blink_galaxy.py::test_delegate FAILED

```

# Annexes

Testing code:

```
from brownie import (
    reverts,
)

from scripts.helpful_scripts import (
    ZERO_ADDRESS,
    DAY_TIMESTAMP,
    get_account,
    get_timestamp,
    get_chain_number,
    increase_timestamp
)

from scripts.deploy import (
    deploy_erc,
    deploy_blink_galaxy,
)

def test_constructor(only_local):
    # Arrange
    owner = get_account(0)
    multisig = get_account(1)

    with reverts("multisig zero"):
        deploy_blink_galaxy(owner, ZERO_ADDRESS)
```

```
blink_token = deploy_blink_galaxy(owner, multisig)

assert blink_token.cap() == 10_000_000_000 * 1e18


def test_set_whitelist(only_local):

    # Arrange

    owner = get_account(0)

    multisig = get_account(1)

    other = get_account(2)

    blink_token = deploy_blink_galaxy(owner, multisig)

    tx = blink_token.setWhitelistEnabled(False, {"from": multisig})

    assert tx.events['WhitelistToggled'][0]['enabled'] == False

    tx = blink_token.setWhitelisted(other, False, {"from": multisig})

    assert tx.events['WhitelistSet'][0]['account'] == other

    assert tx.events['WhitelistSet'][0]['allowed'] == False

    tx = blink_token.setWhitelisted(other, True, {"from": multisig})

    assert tx.events['WhitelistSet'][0]['account'] == other

    assert tx.events['WhitelistSet'][0]['allowed'] == True

    tx = blink_token.batchSetWhitelisted([other], False, {"from": multisig})

    assert tx.events['WhitelistSet'][0]['account'] == other

    assert tx.events['WhitelistSet'][0]['allowed'] == False

def test_mint(only_local):
```

```
# Arrange

owner = get_account(0)

multisig = get_account(1)

other = get_account(2)

another = get_account(3)

blink_token = deploy_blink_galaxy(owner, multisig)

with reverts("Cap exceeded"):

    blink_token.mint(other, 10_000_000_001 * 1e18, {"from": multisig})

    tx = blink_token.mint(other, 10 * 1e18, {"from": multisig})

    assert tx.events['Minted'][0]['minter'] == multisig

    assert tx.events['Minted'][0]['receiver'] == other

    assert tx.events['Minted'][0]['mintAmount'] == 10 * 1e18

tx = blink_token.mint(another, 5 * 1e18, {"from": multisig})

assert tx.events['Minted'][0]['minter'] == multisig

assert tx.events['Minted'][0]['receiver'] == another

assert tx.events['Minted'][0]['mintAmount'] == 5 * 1e18

blink_token.setWhitelistEnabled(True, {"from": multisig})

with reverts("to not whitelisted"):

    blink_token.mint(other, 1 * 1e18, {"from": multisig})

def test_burn(only_local):
```

```
# Arrange

owner = get_account(0)

multisig = get_account(1)

other = get_account(2)

another = get_account(3)

blink_token = deploy_blink_galaxy(owner, multisig)

# mint some tokens

blink_token.mint(other, 10 * 1e18, {"from": multisig})

blink_token.mint(another, 5 * 1e18, {"from": multisig})

tx = blink_token.burn(1e18, {"from": other})

assert tx.events['Burned'][0]['burner'] == other

assert tx.events['Burned'][0]['burnAmount'] == 1 * 1e18

tx = blink_token.burn(1e18, {"from": another})

assert tx.events['Burned'][0]['burner'] == another

assert tx.events['Burned'][0]['burnAmount'] == 1 * 1e18

blink_token.setWhitelistEnabled(True, {"from": multisig})

with reverts("from not whitelisted"):

    blink_token.burn(1e18, {"from": another})

def test_transfer(only_local):

    # Arrange

    owner = get_account(0)
```

```
multisig = get_account(1)

other = get_account(2)

another = get_account(3)

blink_token = deploy_blink_galaxy(owner, multisig)

# mint some tokens

blink_token.mint(other, 10 * 1e18, {"from": multisig})

blink_token.mint(another, 5 * 1e18, {"from": multisig})

tx = blink_token.transfer(another, 1e18, {"from": other})

assert tx.events['Transfer'][0]['from'] == other

assert tx.events['Transfer'][0]['to'] == another

assert tx.events['Transfer'][0]['value'] == 1e18

tx = blink_token.transfer(owner, 1e18, {"from": other})

assert tx.events['Transfer'][0]['from'] == other

assert tx.events['Transfer'][0]['to'] == owner

assert tx.events['Transfer'][0]['value'] == 1e18

blink_token.setWhitelistEnabled(True, {"from": multisig})

with reverts("transfer not whitelisted"):

    blink_token.transfer(another, 1e18, {"from": other})

blink_token.batchSetWhitelisted([other, another], True, {"from": multisig})

tx = blink_token.transfer(another, 1e18, {"from": other})

assert tx.events['Transfer'][0]['from'] == other
```

```

assert tx.events['Transfer'][0]['to'] == another

assert tx.events['Transfer'][0]['value'] == 1e18


def test_emergency_withdraw(only_local):

    # Arrange

    owner = get_account(0)

    multisig = get_account(1)

    other = get_account(2)

    another = get_account(3)

    mock_token = deploy_erc(owner, "test", "test")

    blink_token = deploy_blink_galaxy(owner, multisig)

    with reverts("to zero"):

        blink_token.emergencyWithdraw(mock_token.address, ZERO_ADDRESS, {"from": multisig})

    with reverts("no tokens"):

        blink_token.emergencyWithdraw(mock_token.address, other, {"from": multisig})

    # mint some tokens

    mock_token.mint(blink_token.address, 10e18)

    tx = blink_token.emergencyWithdraw(mock_token.address, other, {"from": multisig})

    assert tx.events['Transfer'][0]['from'] == blink_token.address

    assert tx.events['Transfer'][0]['to'] == other

    assert tx.events['Transfer'][0]['value'] == 10e18


def test_delegate(only_local):

    # Arrange

    owner = get_account(0)

```

```

multisig = get_account(1)

other = get_account(2)

another = get_account(3)

extra = get_account(4)

blink_token = deploy_blink_galaxy(owner, multisig)

print(f"Delegator addr: {other}")

print(f"to Delegate addr: {another}")

tx = blink_token.delegate(another, {"from": other})

print(f"delegate TX: {tx.events}\n")

assert tx.events['DelegateChanged'][0]['delegator'] == other

assert tx.events['DelegateChanged'][0]['fromDelegate'] == ZERO_ADDRESS

assert tx.events['DelegateChanged'][0]['toDelegate'] == another

tx = blink_token.mint(other, 5e18, {"from": multisig})

print(f"mint TX: {tx.events}\n")

assert tx.events['Minted'][0]['minter'] == multisig

assert tx.events['Minted'][0]['receiver'] == other

assert tx.events['Minted'][0]['mintAmount'] == 5e18

print(f"Get Current votes delegator ({other}): {blink_token.getCurrentVotes(other)}")

print(f"Get Current votes toDelegate ({another}): {blink_token.getCurrentVotes(another)}")

assert blink_token.getCurrentVotes(another) != 0

```

# Technical Findings Summary

## Findings

Vulnerability Level	Total	Pending	Not Apply	Acknowledged	Partially Fixed	Fixed
● High	1			1		
● Medium	1			1		
● Low	0					
● Informational	0					

# Assessment Results

## Score Results

Review	Score
<b>Global Score</b>	<b>95/100</b>
Assure KYC	<a href="https://projects.assureddefi.com/project/blink-galaxy">https://projects.assureddefi.com/project/blink-galaxy</a>
Audit Score	95/100

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 must 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. The Global Score is a combination of the evaluations obtained between having or not having KYC and the type of contract audited together with its manual audit.

## **Audit PASS**

Following our comprehensive security audit of the token contract for the Blink Galaxy project, we inform you that the project has met the necessary security standards.

# 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 advocating for the Project, and users relying on this report should not consider this as having any merit for financial Blink Galaxy 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 depreciation of technologies.

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