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Security Assessment

CloakNetwork

Date: 16/06/2025

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🟡 Low	Low-level vulnerabilities are primarily associated with outdated or unused code snippets that generally do not significantly impact execution, sometimes they can be ignored.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 CloakNetwork contracts followed by issue reporting, along with mitigation and remediation instructions outlined in this report.

Target Code And Revision

Project	Assure
Language	Solidity
Codebase	https://etherscan.io/address/0xdE496A902836 601E86e79d5B10e713C95580640B#code
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	- Compiler warnings. - Race conditions and Reentrancy. Cross-function race conditions. - Possible delays in data delivery. - Oracle calls. - Front running. - Timestamp dependence. - Integer Overflow and Underflow. - DoS with Revert. - DoS with block gas limit. - Methods execution permissions. - Economy model. - Private user data leaks. - Malicious Event log. - Scoping and Declarations. - Uninitialized storage pointers. - Arithmetic accuracy. - Design Logic. - Cross-function race conditions. - Safe Zeppelin module. - Fallback function security. - Overpowered functions / Owner privileges

.   .

AUDIT OVERVIEW

HIGH

No high severity issues were found.

MEDIUM

1. Market Pair Setter Logic Flaw

Function: setMarketPair

Issue: Owner cannot clear an existing pair because require(!marketPairs[pair]) blocks toggling off.

```
require(!marketPairs[pair], PairAlreadySet());
SetMarketPair(pair, value);
```

Recommendation: Change require to disallow only redundant sets:

```
require(marketPairs[pair] != value, "Already in desired state");
```

2. ERC20 Approval Race Condition

Function: approve / transferFrom

Issue: Standard ERC20 race condition if a spender uses both old and new allowance before the owner transaction.

Recommendation: Encourage migrating to increaseAllowance/decreaseAllowance patterns or ERC-2612 permits.

LOW

No low severity issues were found.

INFORMATIONAL

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_cloak_token.py::test_update_tex_wallet RUNNING
Transaction sent: 0x8e0e8887cb5d5f3f093fd75b02c2e4efb9134a508cd884cb40f1e2510849d4de
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 0
  UniswapV2Factory.constructor confirmed   Block: 1   Gas used: 2412730 (20.11%)
  UniswapV2Factory deployed at: 0x3194cBDC3dbcd3E11a07892e7bA5c3394048Cc87

Transaction sent: 0x8921b1e506ef8feecf0f0287e8391d1db3cb3ff012e9ed98debec7fe0c4eef69
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 1
  WETH9.constructor confirmed   Block: 2   Gas used: 476546 (3.97%)
  WETH9 deployed at: 0x602C71e4DAC47a042Ee7f46E0aee17F94A3bA0B6

Transaction sent: 0x52602bfe59986e1046577eda43ad43d25254def838bfc2c3a0eb06944291f23c
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 2
  UniswapV2Router02.constructor confirmed   Block: 3   Gas used: 3895430 (32.46%)
  UniswapV2Router02 deployed at: 0xE7eD6747FaC5360f88a2EFC03E00d25789F69291

Transaction sent: 0x786c369ebe58617250355822a31a788bf70834a77b51081ae09813e66b6c1415
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 3
  CloakToken.constructor confirmed   Block: 4   Gas used: 4595326 (38.29%)
  CloakToken deployed at: 0x6951b5Bd815043E3F842c1b026b0Fa888Cc2DD85

Transaction sent: 0x53e2cb4437303a1ef7616b33a8885ae617d92a6897c49517e0c723f738d00363
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 0
  CloakToken.updateTaxWallet confirmed (reverted)   Block: 5   Gas used: 22796 (0.19%)

Transaction sent: 0xce236a66ac9bae2526bfa68880cb538b9ba1ca9b012dd2f3fca649eb4e30b242
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 4
  CloakToken.updateTaxWallet confirmed (reverted)   Block: 6   Gas used: 22583 (0.19%)

Transaction sent: 0xb80cf42c6ca9b221e6207c1219101fd3f57fcdaea9d6b2f0ec4ebe8c4c7f4fb0
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 5
  CloakToken.updateTaxWallet confirmed   Block: 7   Gas used: 29995 (0.25%)

tests/test_cloak_token.py::test_update_tex_wallet PASSED
tests/test_cloak_token.py::test_update_dev_wallet RUNNING
Transaction sent: 0xb407585473e3a7bb1172c7d8c764a9883cdc97e12f4798d657afd34c07d7a7e4
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 6
  UniswapV2Factory.constructor confirmed   Block: 8   Gas used: 2412730 (20.11%)
  UniswapV2Factory deployed at: 0x9E4c14403d7d9A8A782044E86a93CAE09D7B2ac9

Transaction sent: 0xd580a7c038bafa813be62226047d9a0bf05f9ceb1738cf3b53cffdcc79e146d8
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 7
  WETH9.constructor confirmed   Block: 9   Gas used: 476546 (3.97%)
  WETH9 deployed at: 0xcCB53c9429d32594F404d01fbe9E65ED1DCda8D9

Transaction sent: 0x7479d2743d0200d8f2b7a232c02484ac45ec2985af93d5e7f71d29d140658b62
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 8
  UniswapV2Router02.constructor confirmed   Block: 10   Gas used: 3895430 (32.46%)
  UniswapV2Router02 deployed at: 0x420b1099B9eF5baba6D92029594eF45E19A04A4A

Transaction sent: 0xbbf703fa669c0f69fbf91e3efd1ee6f2b680b242ba172c9e5e6d78bbd0d48c5b
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 9
  CloakToken.constructor confirmed   Block: 11   Gas used: 4595328 (38.29%)
  CloakToken deployed at: 0xa3B53dDCd2E3fC28e8E130288F2aBD8d5EE37472

Transaction sent: 0x6ac4e0de4f4f2302b90379766b25c68a03f321b6f0d8b44f38d1561a1c93ba49
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 1
  CloakToken.updateDevWallet confirmed (reverted)   Block: 12   Gas used: 22776 (0.19%

Transaction sent: 0x2cf89677bd3d18b3682a44922907353a28e329461434effa0ccd84fb8cbf109b
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 10
```

```
tests/test_cloak_token.py::test_change_limits_enabled RUNNING
Transaction sent: 0x1fe5f68554a998873a4d37b0e235b6e88aa01d0019b1bad9bd1efd83e7c91452
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 12
  UniswapV2Factory.constructor confirmed   Block: 15   Gas used: 2412730 (20.11%)
  UniswapV2Factory deployed at: 0x2c15A315610Bfa5248E4CbCbd693320e9D8E03Cc

Transaction sent: 0x86ccaad7541d8fa6d70fa9cd5ddbf3e65798dfefa273572e714cdabe980c01ba
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 13
  WETH9.constructor confirmed   Block: 16   Gas used: 476546 (3.97%)
  WETH9 deployed at: 0xe692Cf21B12e0B2717C4bF647F9768Fa58861c8b

Transaction sent: 0xead3cccf4bb6bfe8eccdf36404ac96c6416660acd48a11876a53b17b3674d96e
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 14
  UniswapV2Router02.constructor confirmed   Block: 17   Gas used: 3895430 (32.46%)
  UniswapV2Router02 deployed at: 0xe65A7a341978d59d40d30FC23F5014FACB4f575A

Transaction sent: 0xf86ddffdcb06cef5f7136f43377173d1c0d88588914bf850c7f7016e043d791d
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 15
  CloakToken.constructor confirmed   Block: 18   Gas used: 4595328 (38.29%)
  CloakToken deployed at: 0x30375B532345B01cB8c2AD12541b09E9Aa53A93d

Transaction sent: 0x8626156b22b62b0611716c5d5da2148e5916c8641822444c02c65c9d7c1b99f3
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 2
  CloakToken.changeLimitsEnabled confirmed (reverted)   Block: 19   Gas used: 22468 (0.19%)

Transaction sent: 0x6d6f01f91d911f52a94232fb2728687274425bae3c75a259916514eef05fa56f
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 16
  CloakToken.changeLimitsEnabled confirmed   Block: 20   Gas used: 29346 (0.24%)

tests/test_cloak_token.py::test_change_limits_enabled PASSED
tests/test_cloak_token.py::test_set_fees_enabled RUNNING
Transaction sent: 0x9dd2535f875c8e675e426e645766cc3dc7bd7c58b4aa2395e80566cc0eaaf07c
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 17
  UniswapV2Factory.constructor confirmed   Block: 21   Gas used: 2412730 (20.11%)
  UniswapV2Factory deployed at: 0xFbD588c72B438faD4Cf7cD879c8F730Faa213Da0

Transaction sent: 0x49945c297e110185d4afa2af5eded734be1b1f6f723c1542b3373c7ca4f8f152
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 18
  WETH9.constructor confirmed   Block: 22   Gas used: 476546 (3.97%)
  WETH9 deployed at: 0xed00238F9A0F7b4d93842033cdF56cCB32C781c2

Transaction sent: 0xc3737c5933c15487a7c98be6fc87e59f94165ea2e2fe776d9ce20a7a934da81f
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 19
  UniswapV2Router02.constructor confirmed   Block: 23   Gas used: 3895418 (32.46%)
  UniswapV2Router02 deployed at: 0xDae02e4fE488952cFB8c95177154D188647a0146

Transaction sent: 0xccb3e5cbce29b5731b168771ac34011f246a96fcce3eeefdafef2e19fbf04497
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 20
  CloakToken.constructor confirmed   Block: 24   Gas used: 4595328 (38.29%)
  CloakToken deployed at: 0xdCF93F11ef216cEC9C07fd31dD801c9b2b39Afb4

Transaction sent: 0xf44e0f1a89848b8b218aa11f8ee2916446bfc8b659843cb7b799f96732337862
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 3
  CloakToken.setFeesEnabled confirmed (reverted)   Block: 25   Gas used: 22556 (0.19%)

Transaction sent: 0xad9731535db761775ffec476e348a86df0f7a53d72595b1f5aae0628049f7c9f
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 21
  CloakToken.setFeesEnabled confirmed   Block: 26   Gas used: 29434 (0.25%)

tests/test_cloak_token.py::test_set_fees_enabled PASSED
```

```
tests/test_cloak_token.py::test_set_max_buy_limit RUNNING
Transaction sent: 0x4025830a1bff8e2ffa9c389bbbab94519b0b8cf25f9ce2855f5be0d506ae075c
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 22
  UniswapV2Factory.constructor confirmed   Block: 27   Gas used: 2412730 (20.11%)
  UniswapV2Factory deployed at: 0xD22363efee93190f82b52FCD62B7Dbcb920eF658

Transaction sent: 0x2ed5d2d82cb760c9eef2fb31254dc2ce5c73c0309d70e0217d20438fcc8dc2
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 23
  WETH9.constructor confirmed   Block: 28   Gas used: 476546 (3.97%)
  WETH9 deployed at: 0x4D1B781ce59B8C184F63B99D39d6719A522f46B5

Transaction sent: 0xba4cc7280390f1d32ba65ca763103fe1907d45ce3971d534f19449a058a8fe81
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 24
  UniswapV2Router02.constructor confirmed   Block: 29   Gas used: 3895430 (32.46%)
  UniswapV2Router02 deployed at: 0xf9C8Cf55f2E520B08d869df7bc76aa3d3ddDF913

Transaction sent: 0x458cafc646f881bb87cb18af574b9f5314d9597e5ab14a5c26d9743ec801f6e8
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 25
  CloakToken.constructor confirmed   Block: 30   Gas used: 4595338 (38.29%)
  CloakToken deployed at: 0x654f70d8442EA18904FA1AD79114f7250F7E9336

Transaction sent: 0xbea711cbd7ff19c2753d9669152d104bc0d5492ca6e2c66279eee53e78f139dc
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 4
  CloakToken.setMaxBuyLimit confirmed (reverted)   Block: 31   Gas used: 22456 (0.19%)

Transaction sent: 0x6094dd9dedc52630a6bac1530444cb3d39d469c630b3ff857c0a8c9cfef51c33
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 26
  CloakToken.setMaxBuyLimit confirmed (reverted)   Block: 32   Gas used: 23431 (0.20%)

Transaction sent: 0x88dd226a3de86f35236c45630541f53b0b8a0a45f34605736dfda43ab3881948
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 27
  CloakToken.setMaxBuyLimit confirmed   Block: 33   Gas used: 29482 (0.25%)

tests/test_cloak_token.py::test_set_max_buy_limit PASSED
tests/test_cloak_token.py::test_set_tax RUNNING
Transaction sent: 0x87435c43bd8873d6e952a0cd565f887ed8d5fdb8b52ea07c4ea91e59008b5728
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 28
  UniswapV2Factory.constructor confirmed   Block: 34   Gas used: 2412730 (20.11%)
  UniswapV2Factory deployed at: 0xA95916C3D979400C7443961330b3092510a229Ba

Transaction sent: 0x1ca3026bb912b5bd4eb030660d58490ea5fa5604501aa14cfd23cd08a31da789
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 29
  WETH9.constructor confirmed   Block: 35   Gas used: 476546 (3.97%)
  WETH9 deployed at: 0x42E8D004c84E6B5Bad559D3b5CE7947AADb9E0bc

Transaction sent: 0x7e060473562ea39a556739317b76c5b10fd5e9f75eda8d453bcbe0c4af7a19fc
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 30
  UniswapV2Router02.constructor confirmed   Block: 36   Gas used: 3895430 (32.46%)
  UniswapV2Router02 deployed at: 0xF06D5f5BfFFCB6a52c84cfebc03AD35637728E73

Transaction sent: 0x1a03aa5261d6af7e29211920493890c2b510956f85cfa1583f69245405c95e3d
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 31
  CloakToken.constructor confirmed   Block: 37   Gas used: 4595338 (38.29%)
  CloakToken deployed at: 0x82c83b7f88aef2eD99d4869D547b6ED28e69C8df

Transaction sent: 0x7aa001695374049bcca496bd17e6e5a68e19795c920d48344ab3fa9364c6255d
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 5
  CloakToken.setTax confirmed (reverted)   Block: 38   Gas used: 22669 (0.19%)

Transaction sent: 0xb81c7fca6d9f68c92878a00c07e72571737f8b6e0f6496224ff2fbb33a8aca72
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 32
  CloakToken.setTax confirmed (reverted)   Block: 39   Gas used: 22675 (0.19%)
```

```
tests/test_cloak_token.py::test_transfer RUNNING
Transaction sent: 0xe57b32f725a9257ccfc8d9a5a91e71768ffbe22dc9be279bcc3511040a51b5a8
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 37
  UniswapV2Factory.constructor confirmed   Block: 45   Gas used: 2412730 (20.11%)
  UniswapV2Factory deployed at: 0x4B0FccF53589c1F185B35db88bB315a0bBF9a3e0

Transaction sent: 0xfc9439a0cde81a590d579ca8e3c55f53919af25ff6cd4dccaaac9ed8d8b8efb2
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 38
  WETH9.constructor confirmed   Block: 46   Gas used: 476546 (3.97%)
  WETH9 deployed at: 0xFE0F4Cf81B5c0a6Fd65a610FD9488F33aE9095cB

Transaction sent: 0xe252b215d9f2ecb5d86f2c1d4ccea88678aa57f0ea411586273d18d7531e779c
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 39
  UniswapV2Router02.constructor confirmed   Block: 47   Gas used: 3895430 (32.46%)
  UniswapV2Router02 deployed at: 0x4e3E7dC9D84dA7BE8f017f4C36153A61341736d4

Transaction sent: 0xc9f145abb3899dfe365ff1f2ceb66227c5263891b2b8c561b8871d8c2124843d
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 40
  CloakToken.constructor confirmed   Block: 48   Gas used: 4595328 (38.29%)
  CloakToken deployed at: 0x0AC45e945A008D3fc19da8f591be8601C1F63130

Transaction sent: 0x522ed908e855434dc857d209b9c532994a73e4dd66ae526b81041b72134c44f9
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 41
  CloakToken.transfer confirmed   Block: 49   Gas used: 59938 (0.50%)

Transaction sent: 0xc476e0cd1dd623a6f50b7dd3ddbdaee9b99790d2a80919edcbfb46965a13b047
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 7
  CloakToken.transfer confirmed (reverted)   Block: 50   Gas used: 24816 (0.21%)

Transaction sent: 0xdedee1b1bd2a89d313c1bbf59edf4da66613acf3a8b037d80caae9675b8b97bc
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 8
  CloakToken.enableTrading confirmed (reverted)   Block: 51   Gas used: 22289 (0.19%)

Transaction sent: 0x63bfa604f7969930a6800c6bf600946f20de0a68f61d20bfdbd0376346c6c963
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 42
  CloakToken.enableTrading confirmed   Block: 52   Gas used: 69685 (0.58%)

Transaction sent: 0x9fd118564aacc8468f3df43c21a74f0061c8fba4f11342946f666ae6d50b87dc
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 9
  CloakToken.transfer confirmed   Block: 53   Gas used: 72665 (0.61%)

Transaction sent: 0xf9beaa75faf13f0170855d96821a44e777354b2928db1f67aee6eb507b0af411
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 43
  CloakToken.changeTransferTax confirmed   Block: 54   Gas used: 44569 (0.37%)

Transaction sent: 0x66c2c06cf8860cb01b68541c5539f0291f12788c4471d946967326d9a1e43f77
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 10
  CloakToken.transfer confirmed   Block: 55   Gas used: 83400 (0.69%)

Transaction sent: 0x6c6730853c9479be18de06fd43d704b58afda6f00998594074538540d542e164
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 11
  CloakToken.transfer confirmed   Block: 56   Gas used: 79674 (0.66%)

Transaction sent: 0xc0c9a688fea6282256641ac0d5e47718a8f0d44d3143016d8e873c552e81876a
  Gas price: 0.0 gwei   Gas limit: 12000000   Nonce: 1
  CloakToken.transfer confirmed   Block: 57   Gas used: 66445 (0.55%)

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

Annexes

Testing code:

```python
from brownie import (
    reverts,
)

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

from scripts.deploy import (
    deploy_weth,
    deploy_factory,
    deploy_router,
    deploy_cloak_token
)

def test_update_tex_wallet(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)

    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_cloak_token(owner, router.address)
```

```python
    with reverts():
        token.updateTaxWallet(extra, {"from": other})
    with reverts("InvalidAddress: "):
        token.updateTaxWallet(ZERO_ADDRESS, {"from": owner})
    assert token.taxWallet() == "0x01957900Bd3D9788682bc590D5a38248BAc656dd"
    token.updateTaxWallet(extra, {"from": owner})
    assert token.taxWallet() == extra


def test_update_dev_wallet(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)


    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_cloak_token(owner, router.address)


    with reverts():
        token.updateDevWallet(extra, {"from": other})
    with reverts("InvalidAddress: "):
        token.updateDevWallet(ZERO_ADDRESS, {"from": owner})
    assert token.devWallet() == "0x64B7FaBdd619B9020859a19f1151a86A9c867bcA"
    token.updateDevWallet(extra, {"from": owner})
    assert token.devWallet() == extra


def test_change_limits_enabled(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)
```

```python
    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_cloak_token(owner, router.address)


    with reverts():
        token.changeLimitsEnabled(False, {"from": other})
    assert token.limitsEnabled() == True
    token.changeLimitsEnabled(False, {"from": owner})
    assert token.limitsEnabled() == False


def test_set_fees_enabled(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)


    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_cloak_token(owner, router.address)


    with reverts():
        token.setFeesEnabled(False, {"from": other})
    assert token.feesEnabled() == True
    token.setFeesEnabled(False, {"from": owner})
    assert token.feesEnabled() == False


def test_set_max_buy_limit(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)
```

```python
    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_cloak_token(owner, router.address)


    with reverts():
        token.setMaxBuyLimit(1e18, {"from": other})
    with reverts("AmountTooSmall: "):
        token.setMaxBuyLimit(1e18, {"from": owner})


    assert token.maxBuyLimit() == (token.totalSupply() * 155) / 10000
    new_max_buy_limit = ((token.totalSupply() * 2) / 1000) + 1
    token.setMaxBuyLimit(new_max_buy_limit, {"from": owner})
    assert token.maxBuyLimit() == new_max_buy_limit

def test_set_tax(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)


    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_cloak_token(owner, router.address)


    with reverts():
        token.setTax(10, 10, {"from": other})
    with reverts("FeeTooHigh: "):
        token.setTax(40, 10, {"from": owner})
    with reverts("FeeTooHigh: "):
        token.setTax(10, 40, {"from": owner})


    assert token.buyTax() == 25
```

```python
    assert token.sellTax() == 25
    token.setTax(10, 10, {"from": owner})
    assert token.buyTax() == 10
    assert token.sellTax() == 10


    with reverts():
        token.changeTransferTax(10, {"from": other})
    with reverts("FeeTooHigh: "):
        token.changeTransferTax(50, {"from": owner})


    assert token.transferTax() == 0
    token.changeTransferTax(10, {"from": owner})
    assert token.transferTax() == 10

def test_transfer(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)


    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_cloak_token(owner, router.address)
    pair = token.swapPair()


    tx = token.transfer(other, 10e18, {"from": owner})
    assert tx.events['Transfer'][0]['from'] == owner
    assert tx.events['Transfer'][0]['to'] == other
    assert tx.events['Transfer'][0]['value'] == 10e18


    # trading no active
    with reverts("NotActivated: "):
        token.transfer(extra, 10e18, {"from": other})
```

```python
    with reverts(""):
        token.enableTrading({"from": other})


    tx = token.enableTrading({"from": owner})
    assert "Activation" in tx.events


    # no fees on transfer
    tx = token.transfer(extra, 1e18, {"from": other})
    assert tx.events['Transfer'][0]['from'] == other
    assert tx.events['Transfer'][0]['to'] == extra
    assert tx.events['Transfer'][0]['value'] == 1e18


    # set fees on transfers
    token.changeTransferTax(10, {"from": owner})


    tx = token.transfer(extra, 1e18, {"from": other})
    assert tx.events['Transfer'][0]['from'] == other
    assert tx.events['Transfer'][0]['to'] == token.address
    assert tx.events['Transfer'][0]['value'] == 0.1e18
    assert tx.events['Transfer'][1]['from'] == other
    assert tx.events['Transfer'][1]['to'] == extra
    assert tx.events['Transfer'][1]['value'] == 0.9e18


    # buy (25%)
    tx = token.transfer(pair, 2e18, {"from": other})
    assert tx.events['Transfer'][0]['from'] == other
    assert tx.events['Transfer'][0]['to'] == token.address
    assert tx.events['Transfer'][0]['value'] == 0.5e18
    assert tx.events['Transfer'][1]['from'] == other
    assert tx.events['Transfer'][1]['to'] == pair
    assert tx.events['Transfer'][1]['value'] == 1.5e18


    # sell (25%)
    tx = token.transfer(extra, 1e18, {"from": pair})
```

```python
assert tx.events['Transfer'][0]['from'] == pair
assert tx.events['Transfer'][0]['to'] == token.address
assert tx.events['Transfer'][0]['value'] == 0.25e18
assert tx.events['Transfer'][1]['from'] == pair
assert tx.events['Transfer'][1]['to'] == extra
assert tx.events['Transfer'][1]['value'] == 0.75e18
```

Technical Findings Summary

Findings

Vulnerability Level	Total	Pending	Not Apply	Acknowledged	Partially Fixed	Fixed
🔴 High	0					
🟠 Medium	2					
🟡 Low	0					
🟢 Informational	0					

Assessment Results

Score Results

Review	Score
Global Score	**90/100**
Assure KYC	Not completed
Audit Score	90/100

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 CloakNetwork 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 adCloakNetwork 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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