



Cyberscope

## Audit Report

# MultiMoney.Global

November 2022

Type      BEP20

Network    BSC

Address    0x44C4eDDef663fC65E93987A153c31314cC4C9eb1

Audited by   © cyberscope

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## Contract Review

|                         |                                                                                                                                                         |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contract Name</b>    | MultiMoney                                                                                                                                              |
| <b>Compiler Version</b> | v0.5.10+commit.5a6ea5b1                                                                                                                                 |
| <b>Optimization</b>     | 200 runs                                                                                                                                                |
| <b>Licence</b>          | MIT                                                                                                                                                     |
| <b>Explorer</b>         | <a href="https://bscscan.com/token/0x44C4eDDef663fC65E93987A153c31314cC4C9eb1">https://bscscan.com/token/0x44C4eDDef663fC65E93987A153c31314cC4C9eb1</a> |
| <b>Symbol</b>           | MMGT                                                                                                                                                    |
| <b>Decimals</b>         | 18                                                                                                                                                      |
| <b>Total Supply</b>     | 1,599,999                                                                                                                                               |

## Source Files

|                     |                                                                  |
|---------------------|------------------------------------------------------------------|
| <b>Filename</b>     | <b>SHA256</b>                                                    |
| <b>contract.sol</b> | 9b614e7f8e3173edb87dbee24036213fd45722e29a8e27fa093c2c64a323a26f |

## Audit Updates

|                      |                    |
|----------------------|--------------------|
| <b>Initial Audit</b> | 23rd November 2022 |
| <b>Corrected</b>     |                    |

# Contract Analysis

● Critical ● Medium ● Minor / Informative ● Pass

| Severity | Code | Description                        | Status     |
|----------|------|------------------------------------|------------|
| ●        | ST   | Stops Transactions                 | Passed     |
| ●        | OCTD | Transfers Contract's Tokens        | Unresolved |
| ●        | OTUT | Transfers User's Tokens            | Passed     |
| ●        | ELFM | Exceeds Fees Limit                 | Passed     |
| ●        | ULTW | Transfers Liquidity to Team Wallet | Passed     |
| ●        | MT   | Mints Tokens                       | Passed     |
| ●        | BT   | Burns Tokens                       | Passed     |
| ●        | BC   | Blacklists Addresses               | Passed     |

## OCTD - Transfers Contract's Tokens

|             |                   |
|-------------|-------------------|
| Criticality | Medium            |
| Location    | contract.sol#L139 |
| Status      | Unresolved        |

### Description

Any user has the authority to claim all the balance of the contract. The caller may take advantage of it by continuously calling the `getAirdrop` function when the blocks are open.

```
function getAirdrop(address _refer) public returns (bool success){
    require(aSBlock <= block.number && block.number <= aEBlock);
    require(aTot < aCap || aCap == 0);
    aTot ++;
    if(msg.sender != _refer && balanceOf(_refer) != 0 && _refer !=
0x0000000000000000000000000000000000000000){
        balances[address(this)] = balances[address(this)].sub(aAmt / 1);
        balances[_refer] = balances[_refer].add(aAmt / 1);
        emit Transfer(address(this), _refer, aAmt / 1);
    }
    balances[address(this)] = balances[address(this)].sub(aAmt);
    balances[msg.sender] = balances[msg.sender].add(aAmt);
    emit Transfer(address(this), msg.sender, aAmt);
    return true;
}
```

### Recommendation

The method could implement a mechanism that does not allow the users to claim the amount twice.

# Contract Diagnostics

● Critical   ● Medium   ● Minor / Informative

| Severity | Code | Description                                | Status     |
|----------|------|--------------------------------------------|------------|
| ●        | TSD  | Total Supply Diversion                     | Unresolved |
| ●        | ZD   | Zero Division                              | Unresolved |
| ●        | CO   | Code Optimization                          | Unresolved |
| ●        | CR   | Code Repetition                            | Unresolved |
| ●        | L01  | Public Function could be Declared External | Unresolved |
| ●        | L04  | Conformance to Solidity Naming Conventions | Unresolved |
| ●        | L07  | Missing Events Arithmetic                  | Unresolved |
| ●        | L13  | Divide before Multiply Operation           | Unresolved |

## TSD - Total Supply Diversion

|                    |                  |
|--------------------|------------------|
| <b>Criticality</b> | Medium           |
| <b>Location</b>    | contract.sol#L84 |
| <b>Status</b>      | Unresolved       |

### Description

The amount that is added to the total supply does not equal the amount that is added to the balances. As a result, the sum of balances is diverse from the total supply. The `totalSupply` function, at its current state, doesn't return the total supply but the circulating supply.

```
function totalSupply() public view returns (uint) {  
    return _totalSupply.sub(balances[address(0)]);  
}
```

### Recommendation

The sum of balances should always be equal to the total supply.

## ZD - Zero Division

|                    |                       |
|--------------------|-----------------------|
| <b>Criticality</b> | minor / informative   |
| <b>Location</b>    | contract.sol#L160,164 |
| <b>Status</b>      | Unresolved            |

### Description

The contract is using variables that may be set to zero as denominators. As a result, the transactions will revert.

```
uint256 _price = _eth / sPrice;  
.....  
_tkns = _eth / sPrice;
```

### Recommendation

The contract should prevent those variables to be set to zero or should not allow to execute the corresponding statements.

## CO - Code Optimization

|                    |                           |
|--------------------|---------------------------|
| <b>Criticality</b> | minor / informative       |
| <b>Location</b>    | contract.sol#L144,145,146 |
| <b>Status</b>      | Unresolved                |

### Description

There are code segments that could be optimized. A segment may be optimized so that it becomes a smaller size, consumes less memory, executes more rapidly, or performs fewer operations.

```
balances[address(this)] = balances[address(this)].sub(aAmt / 1);  
balances[_refer] = balances[_refer].add(aAmt / 1);  
emit Transfer(address(this), _refer, aAmt / 1);
```

### Recommendation

The authors are advised to remove the division to 1 as it is redundant.

## CR - Code Repetition

|                    |                                               |
|--------------------|-----------------------------------------------|
| <b>Criticality</b> | minor / informative                           |
| <b>Location</b>    | contract.sol#L144-146,148-150,168-170,172-174 |
| <b>Status</b>      | Unresolved                                    |

### Description

There are code segments that are repetitive in the contract. Those segments increase the code size and the readability of the contract unnecessarily.

```
balances[address(this)] = balances[address(this)].sub(aAmt / 1);  
balances[_refer] = balances[_refer].add(aAmt / 1);  
emit Transfer(address(this), _refer, aAmt / 1);
```

```
balances[address(this)] = balances[address(this)].sub(aAmt);  
balances[msg.sender] = balances[msg.sender].add(aAmt);  
emit Transfer(address(this), msg.sender, aAmt);
```

```
balances[address(this)] = balances[address(this)].sub(_tkns / 10);  
balances[_refer] = balances[_refer].add(_tkns / 10);  
emit Transfer(address(this), _refer, _tkns / 10);
```

```
balances[address(this)] = balances[address(this)].sub(_tkns);  
balances[msg.sender] = balances[msg.sender].add(_tkns);  
emit Transfer(address(this), msg.sender, _tkns);
```

### Recommendation

The contract could reuse these code segments. A suggested implementation is to use an internal function that contains the code segment.

## L01 - Public Function could be Declared External

|                    |                      |
|--------------------|----------------------|
| <b>Criticality</b> | minor / informative  |
| <b>Location</b>    | contract.sol#L111,35 |
| <b>Status</b>      | Unresolved           |

### Description

Public functions that are never called by the contract should be declared external to save gas.

```
approveAndCall  
receiveApproval
```

### Recommendation

Use the external attribute for functions never called from the contract.

## L04 - Conformance to Solidity Naming Conventions

|                    |                                     |
|--------------------|-------------------------------------|
| <b>Criticality</b> | minor / informative                 |
| <b>Location</b>    | contract.sol#L70,192,185,53,154,139 |
| <b>Status</b>      | Unresolved                          |

### Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow `_` at the beginning of the `mixed_case` match for private variables and unused parameters.

```
_totalSupply  
_sChunk  
_aSBlock  
_sEBlock  
_newOwner  
_aCap  
_sPrice  
_refer  
_aAmt  
...
```

### Recommendation

Follow the Solidity naming convention.

<https://docs.soliditylang.org/en/v0.8.17/style-guide.html#naming-conventions>.

## L07 - Missing Events Arithmetic

|                    |                       |
|--------------------|-----------------------|
| <b>Criticality</b> | minor / informative   |
| <b>Location</b>    | contract.sol#L185,192 |
| <b>Status</b>      | Unresolved            |

### 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.

```
aSBlock = _aSBlock  
sSBlock = _sSBlock
```

### Recommendation

Emit an event for critical parameter changes.

## L13 - Divide before Multiply Operation

|                    |                     |
|--------------------|---------------------|
| <b>Criticality</b> | minor / informative |
| <b>Location</b>    | contract.sol#L154   |
| <b>Status</b>      | Unresolved          |

### Description

Performing divisions before multiplications may cause lose of prediction.

```
_price = _eth / sPrice
```

### Recommendation

The multiplications should be prior to the divisions.

# Contract Functions

| Contract                      | Type              | Bases                 |            |           |
|-------------------------------|-------------------|-----------------------|------------|-----------|
|                               | Function Name     | Visibility            | Mutability | Modifiers |
|                               |                   |                       |            |           |
| <b>SafeMath</b>               | Library           |                       |            |           |
|                               | add               | Internal              |            |           |
|                               | sub               | Internal              |            |           |
|                               | mul               | Internal              |            |           |
|                               | div               | Internal              |            |           |
|                               |                   |                       |            |           |
| <b>BEP20Interface</b>         | Implementation    |                       |            |           |
|                               | totalSupply       | Public                |            | -         |
|                               | balanceOf         | Public                |            | -         |
|                               | allowance         | Public                |            | -         |
|                               | transfer          | Public                | ✓          | -         |
|                               | approve           | Public                | ✓          | -         |
|                               | transferFrom      | Public                | ✓          | -         |
|                               |                   |                       |            |           |
| <b>ApproveAndCallFallback</b> | Implementation    |                       |            |           |
|                               | receiveApproval   | Public                | ✓          | -         |
|                               |                   |                       |            |           |
| <b>Owned</b>                  | Implementation    |                       |            |           |
|                               | <Constructor>     | Public                | ✓          | -         |
|                               | transferOwnership | Public                | ✓          | onlyOwner |
|                               | acceptOwnership   | Public                | ✓          | -         |
|                               |                   |                       |            |           |
| <b>TokenBEP20</b>             | Implementation    | BEP20Interface, Owned |            |           |
|                               | <Constructor>     | Public                | ✓          | -         |
|                               | totalSupply       | Public                |            | -         |
|                               | balanceOf         | Public                |            | -         |
|                               | transfer          | Public                | ✓          | -         |

|                   |                |            |         |           |
|-------------------|----------------|------------|---------|-----------|
|                   | approve        | Public     | ✓       | -         |
|                   | transferFrom   | Public     | ✓       | -         |
|                   | allowance      | Public     |         | -         |
|                   | approveAndCall | Public     | ✓       | -         |
|                   | <Fallback>     | External   | Payable | -         |
|                   |                |            |         |           |
| <b>MultiMoney</b> | Implementation | TokenBEP20 |         |           |
|                   | getAirdrop     | Public     | ✓       | -         |
|                   | tokenSale      | Public     | Payable | -         |
|                   | viewAirdrop    | Public     |         | -         |
|                   | viewSale       | Public     |         | -         |
|                   | startAirdrop   | Public     | ✓       | onlyOwner |
|                   | startSale      | Public     | ✓       | onlyOwner |
|                   | clearETH       | Public     | ✓       | onlyOwner |
|                   | <Fallback>     | External   | Payable | -         |

# Contract Flow



## Summary

The Smart Contract analysis reported one medium severity issue. Any user has the authority to drain the contract's tokens. There are also some recommendations.

This contract cannot renounce the ownership.

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Cyberscope is a blockchain cybersecurity company that was founded with the vision to make web3.0 a safer place for investors and developers. Since its launch, it has worked with thousands of projects and is estimated to have secured tens of millions of investors' funds.

Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.



The Cyberscope team

<https://www.cyberscope.io>