Cyberscope

Audit Report

Oracle AI

February 2024

SHA256 461eb8fdea089d9049359800be8786759727a2579a311ae72678bbb48259e2a7

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Analysis

Critical Medium Minor / Informative Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Unresolved
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Unresolved

Diagnostics

Critical Medium Minor / Informative

Severity	Code	Description	Status
●	CLI	Cooldown Logic Inconsistency	Unresolved
●	ZD	Zero Division	Unresolved
●	BLC	Business Logic Concern	Unresolved
●	MEM	Misleading Error Messages	Unresolved
●	MC	Missing Check	Unresolved
●	MEE	Missing Events Emission	Unresolved
●	PLPI	Potential Liquidity Provision Inadequacy	Unresolved
●	PTRP	Potential Transfer Revert Propagation	Unresolved
●	PVC	Price Volatility Concern	Unresolved
●	UFP	Unused Function Parameter	Unresolved
●	L02	State Variables could be Declared Constant	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L05	Unused State Variable	Unresolved
●	L07	Missing Events Arithmetic	Unresolved

●	L11	Unnecessary Boolean equality	Unresolved
●	L16	Validate Variable Setters	Unresolved

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Review

Contract Name	CoreToken
Testing Deploy	https://testnet.bscscan.com/address/0x9e144e944397e374d734b7a3c585a358753b69f2
Symbol	Anonnymous
Decimals	18
Total Supply	10,000,000,000
Badge Eligibility	Must Fix Criticals

Audit Updates

Initial Audit	07 Feb 2024

Source Files

Filename	SHA256
contracts/Oracle_Token_Final.sol	461eb8fdea089d9049359800be8786759727a2579a311ae72678bbb48259e2a7
contracts/Antibot.sol	40990b453bf8e16ee944f8388631cd086f6f7436cb82408cc9c9694a6e996466
contracts/lib/IV2Pair.sol	72e4d1f173754ea270e3fbb80e375440e50a4bd75a1654b83d66959b0a2a2bc6
contracts/lib/IRouter02.sol	f377cfd9244dfa9d707118bd71451b5edf8586bbcff343da59fcb034035a0fc5
contracts/lib/IRouter01.sol	13d90aa270f4305a1f70a2eac357b709caacff55d99022138f99f97bcb38cd02

contracts/lib/IFactoryV2.sol	295e59f29cb4b0374666ce6e900db1cb917c7931a5041d8c038b2a240849ef53
contracts/lib/IERC20.sol	11e301dcd4a99fd3fa03e54e6985b4e0b9310465c65e195ad25ec1a48ea2c138

Findings Breakdown

Critical	4
Medium	0
Minor / Informative	14

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	4	0	0	0
Medium	0	0	0	0
Minor / Informative	14	0	0	0

ST - Stops Transactions

Criticality	Critical
Location	contracts/Oracle_Token_Final.sol#L288
Status	Unresolved

Description

The trading initially is disabled and the contract owner has to enable it. The contract owner has to call the `allowTrading` function.

```
if (!tradingEnabled) {
    revert("Trading not yet enabled!");
}
```

Furthermore, the contract owner has the authority to stop the sales, as described in detail in sections ZD, PTRP and PVC. As a result, the contract might operate as a honeypot.

Recommendation

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions.

Temporary Solutions:

These measurements do not decrease the severity of the finding

- Introduce a time-locker mechanism with a reasonable delay.
- Introduce a multi-signature wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

  Permanent Solution:
- Renouncing the ownership, which will eliminate the threats but it is non-reversible.

Furthermore, the team is strongly encouraged to adhere to the recommendations outlined in the respective sections. By doing so, the contract can eliminate any potential of operating as a honeypot.

BC - Blacklists Addresses

Criticality	Critical
Location	contracts/Antibot.sol#L36
Status	Unresolved

Description

The contract owner has the authority to stop addresses from transactions. The owner may take advantage of it by calling the `addBot` function.

```
function addBot(address[] memory botAddresses) public onlyOwner
{
    for (uint i = 0; i < botAddresses.length; i++) {
        if (_botAddress[botAddresses[i]] == true) continue;
         _botAddress[botAddresses[i]] = true;
    }
}
```

Recommendation

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions.

Temporary Solutions:

These measurements do not decrease the severity of the finding

- Introduce a time-locker mechanism with a reasonable delay.
- Introduce a multi-signature wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

Permanent Solution:

- Renouncing the ownership, which will eliminate the threats but it is non-reversible.

CLI - Cooldown Logic Inconsistency

Criticality	Critical
Location	contracts/Oracle_Token_Final.sol#L330,537
Status	Unresolved

Description

The cooldown check `if(block.number - _pastTransactions[to] < 2) revert();` in `_finalizeTransfer` is designed to prevent frequent transfers to the same address. However, in the context of `multiSendTokens`, this check could be bypassed if an address appears multiple times within the `accounts` array in a single `multiSendTokens` call, since the `multiSendTokens` function does not update `_pastTransactions[to]` until after each `_finalizeTransfer` call completes. This means all transfers within the same transaction are considered to occur at the same block number, potentially allowing multiple transfers to the same address within the restricted window.

```
function multiSendTokens(
    address[] memory accounts,
    uint256[] memory amounts
) external {
    require(accounts.length == amounts.length, "Lengths do not
match");
    for (uint8 i = 0; i < accounts.length; i++) {
        require(balanceOf(msg.sender) >= amounts[i]);
        _finalizeTransfer(
            msg.sender,
            accounts[i],
            amounts[i] * 10 ** _decimals,
            false,
            false,
            false,
            true
        );
    }
}

function _finalizeTransfer(
        ...
    ) internal returns (bool) {
        // Revert The transaction if they are is same block or
immediate past block
        if(block.number - _pastTransactions[to] < 2) revert();
        ...
```

Recommendation

It is recommended to re-evaluate the current cooldown logic and introduce a mechanism to enforce the cooldown period more effectively.

ZD - Zero Division

Criticality	Critical
Location	contracts/Oracle_Token_Final.sol#L492
Status	Unresolved

Description

The contract is using variables that may be set to zero as denominators. This can lead to unpredictable and potentially harmful results, such as a transaction revert. Specifically, during the calculation of `devBalance`, since the owner can dynamically set the values of ratios, a scenario can arise where `_ratios.marketing` and `_ratios.dev` are both set to `0`. As a result, `_ratios.total` is equal to `_ratios.liquidity`, and the operation `ratios.total -= ratios.liquidity;` will set `ratios.total` to `0`.

```
function setRatios(
    uint16 liquidity,
    uint16 marketing,
    uint16 dev
) external onlyOwner {
    _ratios.liquidity = liquidity;
    _ratios.marketing = marketing;
    _ratios.dev = dev;
    _ratios.total = liquidity + marketing + dev;
}

ratios.total -= ratios.liquidity;
amtBalance -= liquidityBalance;
uint256 devBalance = (amtBalance * ratios.dev) / ratios.total;
```

Recommendation

It is important to handle division by zero appropriately in the code to avoid unintended behavior and to ensure the reliability and safety of the contract. The contract should ensure that the divisor is always non-zero before performing a division operation. It should prevent the variables to be set to zero, or should not allow the execution of the corresponding statements.

BLC - Business Logic Concern

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L330
Status	Unresolved

Description

The implementation may not follow the expected behavior. The contract verifies that the sender has enough funds to finalize the transfer, but it transfers different transfer `amounts[i]*10**_decimals` to the receiver.

```
function multiSendTokens(
    address[] memory accounts,
    uint256[] memory amounts
) external {
    require(accounts.length == amounts.length, "Lengths do not
match");
    for (uint8 i = 0; i < accounts.length; i++) {
        require(balanceOf(msg.sender) >= amounts[i]);
        _finalizeTransfer(
            msg.sender,
            accounts[i],
            amounts[i] * 10 ** _decimals,
            false,
            false,
            false,
            true
        );
    }
}
```

Recommendation

The team is advised to carefully check if the implementation follows the expected business logic.

MEM - Misleading Error Messages

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L143,336,387
Status	Unresolved

Description

The contract is using misleading error messages. These error messages do not accurately reflect the problem, making it difficult to identify and fix the issue. As a result, the users will not be able to find the root cause of the error.

```
require(!liquidityPoolInitialized)
require(balanceOf(msg.sender) >= amounts[i])
require(balanceOf(msg.sender) >= amounts[i] * 10 ** _decimals)
```

Recommendation

The team is suggested to provide a descriptive message to the errors. This message can be used to provide additional context about the error that occurred or to explain why the contract execution was halted. This can be useful for debugging and for providing more information to users that interact with the contract.

MC - Missing Check

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L243,261
Status	Unresolved

Description

The contract is processing variables that have not been properly sanitized and checked that they form the proper shape. These variables may produce vulnerability issues. Specifically the `` `newRouter `` and `pair` can be set to zero address.

```
function setNewRouter(address newRouter) public onlyOwner {
    IRouter02 _newRouter = IRouter02(newRouter);
    ...
    }

function setLiquidityPoolPair(
    address pair,
    bool enabled
) public onlyOwner {
    if (enabled == false) {
        allLiquidityPoolPairs[pair] = false;
        ...
        allLiquidityPoolPairs[pair] = true;
        timeSinceLastPairCreated = block.timestamp;
    }
}
```

Recommendation

The team is advised to properly check the variables according to the required specifications.

MEE - Missing Events Emission

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L279,295,306,367,395,427
Status	Unresolved

Description

The contract performs actions and state mutations from external methods that do not result in the emission of events. Emitting events for significant actions is important as it allows external parties, such as wallets or dApps, to track and monitor the activity on the contract. Without these events, it may be difficult for external parties to accurately determine the current state of the contract.

```
function setTaxes(
    uint16 buyFee,
    uint16 sellFee,
    uint16 transferFee
) external onlyOwner {
    ...
    _taxRates.buyFee = buyFee;
    _taxRates.sellFee = sellFee;
    _taxRates.transferFee = transferFee;
}

function setRatios(
    uint16 liquidity,
    uint16 marketing,
    uint16 dev
) external onlyOwner {
    _ratios.liquidity = liquidity;
    _ratios.marketing = marketing;
    _ratios.dev = dev;
    _ratios.total = liquidity + marketing + dev;
}

function setMaxTxPercent(
    uint256 percent,
    uint256 divisor
) external onlyOwner {
    ...
    _maxTxAmount = (_tSupply * percent) / divisor;
}

function setSwapSettings(
    ...
) external onlyOwner {
    swapThreshold = (_tSupply * thresholdPercent) /
thresholdDivisor;
    swapAmount = (_tSupply * amountPercent) / amountDivisor;
    contractSwapTimer = time;
}
```

Recommendation

It is recommended to include events in the code that are triggered each time a significant action is taking place within the contract. These events should include relevant details such as the user's address and the nature of the action taken. By doing so, the contract will be more transparent and easily auditable by external parties. It will also help prevent potential issues or disputes that may arise in the future.

PLPI - Potential Liquidity Provision Inadequacy

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L451
Status	Unresolved

Description

The contract operates under the assumption that liquidity is consistently provided to the pair between the contract's token and the native currency. However, there is a possibility that liquidity is provided to a different pair. This inadequacy in liquidity provision in the main pair could expose the contract to risks. Specifically, during eligible transactions, where the contract attempts to swap tokens with the main pair, a failure may occur if liquidity has been added to a pair other than the primary one. Consequently, transactions triggering the swap functionality will result in a revert.

```
function contractSwap(uint256 contractTokenBalance) internal
swapLock {
        ...
        address[] memory path = new address[](2);
        path[0] = address(this);
        path[1] = dexRouter.WETH();


dexRouter.swapExactTokensForETHSupportingFeeOnTransferTokens(
            swapAmt,
            0,
            path,
            address(this),
            block.timestamp
        );

        uint256 amtBalance = address(this).balance;
        uint256 liquidityBalance = (amtBalance * toLiquify) /
swapAmt;

        if (toLiquify > 0) {
            dexRouter.addLiquidityETH{value: liquidityBalance}(
                address(this),
                toLiquify,
                0,
                0,
                DEAD,
                block.timestamp
            );
            emit AutoLiquify(liquidityBalance, toLiquify);
        }
        ...
    }
```

Recommendation

The team is advised to implement a runtime mechanism to check if the pair has adequate liquidity provisions. This feature allows the contract to omit token swaps if the pair does not have adequate liquidity provisions, significantly minimizing the risk of potential failures.

Additionally, the contract could be designed to tolerate potential reverts from the swap functionality, especially when it is a part of the main transfer flow. This can be achieved by executing the contract's token swaps in a non-reversible manner, thereby ensuring a more resilient and predictable operation.

PTRP - Potential Transfer Revert Propagation

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L497,500
Status	Unresolved

Description

The contract sends funds to a `dev` and `marketing` address as part of the transfer flow. These addresses can either be a wallet address or a contract. If the address belongs to a contract then it may revert from incoming payment. As a result, the error will propagate to the token's contract and revert the transfer.

```
if (ratios.dev > 0) {
    _taxWallets.dev.transfer(devBalance);
}
if (ratios.marketing > 0) {
    _taxWallets.marketing.transfer(marketingBalance);
}
```

Recommendation

The contract should tolerate the potential revert from the underlying contracts when the interaction is part of the main transfer flow. This could be achieved by not allowing set contract addresses or by sending the funds in a non-revertable way.

PVC - Price Volatility Concern

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L318,620
Status	Unresolved

Description

The contract accumulates tokens from the taxes to swap them for ETH. The variable `swapThreshold` sets a threshold where the contract will trigger the swap functionality. If the variable is set to a big number, then the contract will swap a huge amount of tokens for ETH.

It is important to note that the price of the token representing it, can be highly volatile. This means that the value of a price volatility swap involving Ether could fluctuate significantly at the triggered point, potentially leading to significant price volatility for the parties involved.

```
function setSwapSettings(
    uint256 thresholdPercent,
    uint256 thresholdDivisor,
    uint256 amountPercent,
    uint256 amountDivisor,
    uint256 time
) external onlyOwner {
    swapThreshold = (_tSupply * thresholdPercent) /
thresholdDivisor;
    swapAmount = (_tSupply * amountPercent) / amountDivisor;
    contractSwapTimer = time;
}

if (contractTokenBalance >= swapThreshold) {
    if (contractTokenBalance >= swapAmount) {
        contractTokenBalance = swapAmount;
    }
    contractSwap(contractTokenBalance);
    lastSwap = block.timestamp;
}
```

Recommendation

The contract could ensure that it will not sell more than a reasonable amount of tokens in a single transaction. A suggested implementation could check that the maximum amount should be less than a fixed percentage of the exchange reserves. Hence, the contract will guarantee that it cannot accumulate a huge amount of tokens in order to sell them.

UFP - Unused Function Parameter

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L527
Status	Unresolved

Description

The function `_finalizeTransfer` has an unused function parameter `bool other`. This parameter is declared but not utilized anywhere within the function's body. Unused parameters can lead to confusion about the function's intended behavior and may suggest that there is incomplete implementation or redundant code.

```
function _finalizeTransfer(
    address from,
    address to,
    uint256 amount,
    bool takeFee,
    bool buy,
    bool sell,
    bool other
) internal returns (bool) {
    // Revert The transaction if they are is same block or
immediate past block
    if(block.number - _pastTransactions[to] < 2) revert();

    _tokenOwned[from] -= amount;
    uint256 amountReceived = (takeFee)
        ? takeTax(from, buy, sell, amount)
        : amount;
    _tokenOwned[to] += amountReceived;

    emit Transfer(from, to, amountReceived);
    _pastTransactions[to] = block.number;
    return true;
}
```

Recommendation

It is recommended to review the purpose of the `bool other` parameter to determine if it was intended for use or if it is redundant. If the parameter is not needed, removing this parameter is advisable to enhance the code's clarity.

L02 - State Variables could be Declared Constant

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L29
Status	Unresolved

Description

State variables can be declared as constant using the constant keyword. This means that the value of the state variable cannot be changed after it has been set. Additionally, the constant variables decrease gas consumption of the corresponding transaction.

```
uint256 internal _tSupply = 100000000000000000000000000000
```

Recommendation

Constant state variables can be useful when the contract wants to ensure that the value of a state variable cannot be changed by any function in the contract. This can be useful for storing values that are important to the contract's behavior, such as the contract's address or the maximum number of times a certain function can be called. The team is advised to add the constant keyword to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L19,22,28,43,51
Status	Unresolved

Description

The Solidity style guide is a set of guidelines for writing clean and consistent Solidity code. Adhering to a style guide can help improve the readability and maintainability of the Solidity code, making it easier for others to understand and work with.

The followings are a few key points from the Solidity style guide:

1. Use camelCase for function and variable names, with the first letter in lowercase (e.g., myVariable, updateCounter).
2. Use PascalCase for contract, struct, and enum names, with the first letter in uppercase (e.g., MyContract, UserStruct, ErrorEnum).
3. Use uppercase for constant variables and enums (e.g., MAX_VALUE, ERROR_CODE).
4. Use indentation to improve readability and structure.
5. Use spaces between operators and after commas.
6. Use comments to explain the purpose and behavior of the code.
7. Keep lines short (around 120 characters) to improve readability.

```
Fees public _taxRates =
        Fees({buyFee: 500, sellFee: 1000, transferFee: 0})

Ratios public _ratios =
        Ratios({liquidity: 6, marketing: 14, dev: 13, total: 6
+ 13 + 14})
uint256 constant taxDivisor = 10000
TaxWallets public _taxWallets
bool public _hasLiquidityBeenAdded = false
```

Recommendation

By following the Solidity naming convention guidelines, the codebase increased the readability, maintainability, and makes it easier to work with.
Find more information on the Solidity documentation
https://docs.soliditylang.org/en/v0.8.17/style-guide.html#naming-convention.

L05 - Unused State Variable

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L33
Status	Unresolved

Description

An unused state variable is a state variable that is declared in the contract, but is never used in any of the contract's functions. This can happen if the state variable was originally intended to be used, but was later removed or never used.

Unused state variables can create clutter in the contract and make it more difficult to understand and maintain. They can also increase the size of the contract and the cost of deploying and interacting with it.

```
mapping(address => bool) internal _isExcluded
```

Recommendation

To avoid creating unused state variables, it's important to carefully consider the state variables that are needed for the contract's functionality, and to remove any that are no longer needed. This can help improve the clarity and efficiency of the contract.

L07 - Missing Events Arithmetic

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L314,325,364,435
Status	Unresolved

Description

Events are a way to record and log information about changes or actions that occur within a contract. They are often used to notify external parties or clients about events that have occurred within the contract, such as the transfer of tokens or the completion of a task.

It's important to carefully design and implement the events in a contract, and to ensure that all required events are included. It's also a good idea to test the contract to ensure that all events are being properly triggered and logged.

```
_maxTxAmount = (_tSupply * percent) / divisor
swapThreshold = (_tSupply * thresholdPercent) /
thresholdDivisor
_decimals = newDecimals
_maxWalletSize = (_tSupply * percent) / divisor
```

Recommendation

By including all required events in the contract and thoroughly testing the contract's functionality, the contract ensures that it performs as intended and does not have any missing events that could cause issues with its arithmetic.

L11 - Unnecessary Boolean equality

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L265
Status	Unresolved

Description

Boolean equality is unnecessary when comparing two boolean values. This is because a boolean value is either true or false, and there is no need to compare two values that are already known to be either true or false.

it's important to be aware of the types of variables and expressions that are being used in the contract's code, as this can affect the contract's behavior and performance. The comparison to boolean constants is redundant. Boolean constants can be used directly and do not need to be compared to true or false.

```
enabled == false
```

Recommendation

Using the boolean value itself is clearer and more concise, and it is generally considered good practice to avoid unnecessary boolean equalities in Solidity code.

L16 - Validate Variable Setters

Criticality	Minor / Informative
Location	contracts/Oracle_Token_Final.sol#L127,136
Status	Unresolved

Description

The contract performs operations on variables that have been configured on user-supplied input. These variables are missing of proper check for the case where a value is zero. This can lead to problems when the contract is executed, as certain actions may not be properly handled when the value is zero.

```
lpPair = pair
```

Recommendation

By adding the proper check, the contract will not allow the variables to be configured with zero value. This will ensure that the contract can handle all possible input values and avoid unexpected behavior or errors. Hence, it can help to prevent the contract from being exploited or operating unexpectedly.

Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
CoreToken	Implementation	IERC20		
		Public	Payable	-
	balanceOf	Public		-
	confirmLP	Public	✓	onlyOwner
	setPairAddress	Public	✓	onlyOwner
	preInitializeTransfer	Public	✓	onlyOwner
	transferOwner	External	✓	onlyOwner
	renounceOwnership	Public	✓	onlyOwner
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	allowance	External		-
	transfer	Public	✓	-
	approve	Public	✓	-
	approveContractContingency	Public	✓	onlyOwner
	transferFrom	External	✓	-
	setNewRouter	Public	✓	onlyOwner

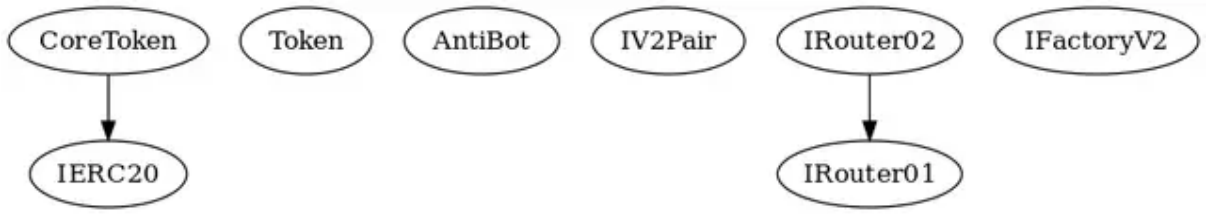
	setLiquidityPoolPair	Public	✓	onlyOwner
	setTaxes	External	✓	onlyOwner
	setRatios	External	✓	onlyOwner
	setMaxTxPercent	External	✓	onlyOwner
	setSwapSettings	External	✓	onlyOwner
	multiSendTokens	External	✓	-
	initAntiBot	Public	✓	-
	reveal	Public	✓	-
	setContractSwapEnabled	External	✓	onlyOwner
	setWallets	External	✓	onlyOwner
	preInitializeTransferMultiple	External	✓	onlyOwner
	allowTrading	Public	✓	onlyOwner
	takeTax	Internal	✓	
	setMaxWalletSize	External	✓	onlyOwner
	setExcludedFromLimits	External	✓	onlyOwner
	sweepContingency	External	✓	onlyOwner
	contractSwap	Internal	✓	swapLock
	isExcludedFromLimits	Public		-
	isExcludedFromFees	Public		-
	setExcludedFromFees	Public	✓	onlyOwner
	getMaxTransaction	Public		-
	getMaxWallet	Public		-
	_finalizeTransfer	Internal	✓	

	_hasLimits	Internal		
	_transfer	Internal	✓	
	_approve	Internal	✓	
	_checkLiquidityAdd	Internal	✓	
Token	Interface			
	reveal	External	✓	-
AntiBot	Implementation			
		Public	✓	-
	setProperties	Public	✓	-
	addBot	Public	✓	onlyOwner
	isBot	Public		-
	removeBot	Public	✓	onlyOwner
IV2Pair	Interface			
	sync	External	✓	-
	factory	External		-
	getReserves	External		-
IRouter02	Interface	IRouter01		
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-

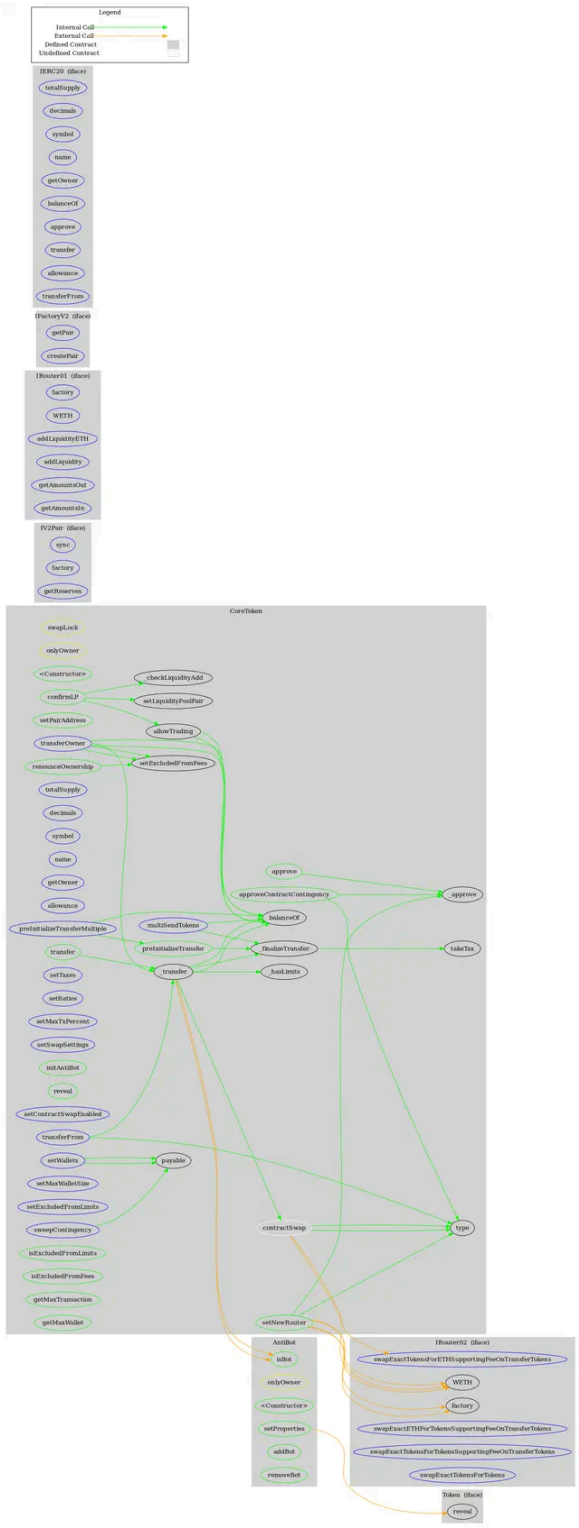
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokens	External	✓	-
IRouter01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidityETH	External	Payable	-
	addLiquidity	External	✓	-
	getAmountsOut	External		-
	getAmountsIn	External		-
IFactoryV2	Interface			
	getPair	External		-
	createPair	External	✓	-
IERC20	Interface			
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	External		-
	approve	External	✓	-

	transfer	External	✓	-
	allowance	External		-
	transferFrom	External	✓	-

Inheritance Graph



Flow Graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
IERC20 (iface)
totalSupply
decimals
symbol
name
getOwner
balanceOf
approve
transfer
allowance
transferFrom
IFactoryV2 (iface)
getPair
createPair
IRouter01 (iface)
factory
WETH
addLiquidityETH
addLiquidity
getAmountsOut
getAmountsIn
IV2Pair (iface)
sync
factory
getReserves
CoreToken
swapLock
onlyOwner
<Constructor>
checkLiquidityAdd
confirmLP
setLiquidityPoolPair
setPairAddress
allowTrading
transferOwner
setExcludedFromFees
renounceOwnership
totalSupply
decimals
symbol
name
getOwner
allowance
approve
approveContractContingency
balanceOf
multiSendTokens
preInitializeTransferMultiple
preInitializeTransfer
finalizeTransfer
takeTax
transfer
transfer
hasLimits
setTaxes
setRatios
setMaxTxPercent
setSwapSettings
initAntiBot
reveal
setContractSwapEnabled
transferFrom
setWallets
payable
setMaxWalletSize
setExcludedFromLimits
sweepContingency
contractSwap
type
isExcludedFromLimits
isExcludedFromFees
getMaxTransaction
getMaxWallet
setNewRouter
AntiBot
isBot
onlyOwner
<Constructor>
setProperties
addBot
removeBot
IRouter02 (iface)
swapExactTokensForETHSupportingFeeOnTransferTokens
WETH
factory
swapExactETHForTokensSupportingFeeOnTransferTokens
swapExactTokensForTokensSupportingFeeOnTransferTokens
swapExactTokensForTokens
Token (iface)
reveal

Summary

Oracle AI contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. There are some functions that can be abused by the owner like stop transactions. A multi-wallet signing pattern will provide security against potential hacks. There is also a limit of max 25% fees.

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The Cyberscope team

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