#HashEx
BLOCKCHAIN SECURITY

ZeusD

smart contracts final audit report

March 2025

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Version Summary

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Report Information

Title	Version	Type
ZeusD Contracts Final Audit Report	V2.0	Project team Encryption

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Table of Content

1. Introduction

The effective test time of this report is from March 17, 2025 to March 22, 2025 . During this period, the security and standardization of the **ZeusD smart contract controller, staking mining pool, strategy and vault contract code** will be audited and used as the statistical basis for the report.

The scope of this smart contract security audit does not include external contract calls, new attack methods that may appear in the future, and code after contract upgrades or tampering. (With the development of the project, the smart contract may add a new pool , New functional modules, new external contract calls, etc.), does not include front-end security and server security.

In this audit report, engineers conducted a comprehensive analysis of the common vulnerabilities of smart contracts (Chapter 3). **The smart contract code of the ZeusD** is comprehensively assessed as **SAFE**.

Results of this smart contract security audit： SAFE

Since the testing is under non-production environment, all codes are the latest version. In addition, the testing process is communicated with the relevant engineer, and testing operations are carried out under the controllable operational risk to avoid production during the testing process, such as: Operational risk, code security risk.

Report information of this audit:

Report Time:

March 23, 2025

Report query address link:
https://github.com/HashExAudit/ZeusD/blob/main/ZeusD%20Smart%20Contract%20Audit%20Report.pdf

Target information of the ZeusD audit:

Target information		
Project name	ZeusD	
Token address	DeFi protocol code, BSC smart contract code	
Code type	Purchase	0x1322e13bef2313049b0bd8708c4f0fb25530352c
	Token	0xb1fcf3c62e516a11d7f0e800d99f81720d9feccc
	TokenDistributor	0x6526ac708cf74392f24f38f1f8234c611dddc4a1
	TokenLibrary	0xb1fcf3c62e516a11d7f0e800d99f81720d9feccc
Code language	Solidity	

Contract documents and hash:

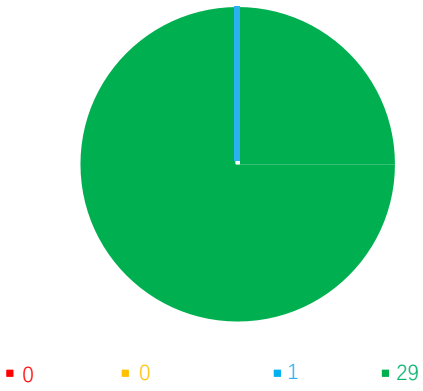
Contract documents	MD5
Token.sol	09a2f4882b27151a14746b85756f853b
Purchase.sol	9a9991aa066228293971b4ba9cc3f313
Tokendistributor.sol	01dce63e29d83f38bfc95b7966cc00d2
TokenLibrary.sol	c8efc05bd2d69b4ffb4af95c8f6acd81

2. Code vulnerability analysis

2.1 Vulnerability Level Distribution

Vulnerability risk statistics by level:

Vulnerability risk level statistics table			
High	Medium	Low	Pass
0	0	1	29



2.2 Audit Result

Result of audit			
Audit Target	Audit	Status	Audit Description
Business security testing	Purchase contract	Pass	After testing, there is no such safety vulnerability.
	Strategic contract	Pass	After testing, there is no such safety vulnerability.
	vault contract	Pass	After testing, there is no such safety vulnerability.
Basic code vulnerability detection	Compiler version security	Pass	After testing, there is no such safety vulnerability.
	Redundant code	Pass	After testing, there is no such safety vulnerability.
	Use of safe arithmetic library	Pass	After testing, there is no such safety vulnerability.
	Not recommended encoding	Pass	After testing, there is no such safety vulnerability.
	Reasonable use of require/assert	Pass	After testing, there is no such safety vulnerability.
	fallback function safety	Pass	After testing, there is no such safety vulnerability.
	tx.oriigin authentication	Pass	After testing, there is no such safety vulnerability.
	Owner permission control	Pass	After testing, there is no such safety vulnerability.

	Gas consumption detection	Pass	After testing, there is no such safety vulnerability.
	call injection attack	Pass	After testing, there is no such safety vulnerability.
	Low-level function safety	Pass	After testing, there is no such safety vulnerability.
	Vulnerability of additional token issuance	Pass	After testing, there is no such safety vulnerability.
	Access control defect detection	Pass	After testing, there is no such safety vulnerability.
	Numerical overflow detection	Pass	After testing, there is no such safety vulnerability.
	Arithmetic accuracy error	Pass	After testing, there is no such safety vulnerability.
	Wrong use of random number detection	Pass	After testing, there is no such safety vulnerability.
	Unsafe interface use	Pass	After testing, there is no such safety vulnerability.
	Variable coverage	Pass	After testing, there is no such safety vulnerability.
	Uninitialized storage pointer	Pass	After testing, there is no such safety vulnerability.
	Return value call verification	Pass	After testing, there is no such safety vulnerability.
	Transaction order dependency detection	Pass	After testing, there is no such safety vulnerability.

	Timestamp dependent attack	Pass	After testing, there is no such safety vulnerability.
	Denial of service attack detection	Pass	After testing, there is no such safety vulnerability.
	Fake recharge vulnerability detection	Pass	After testing, there is no such safety vulnerability.
	Reentry attack detection	Pass	After testing, there is no such safety vulnerability.
	Replay attack detection	Pass	After testing, there is no such safety vulnerability.
	Rearrangement attack detection	Pass	After testing, there is no such safety vulnerability.

3.Analysis of code audit results

3.1. Purchase contract【PASS】

Audit analysis: The TokenPurchase contract is implemented in the Purchase.sol contract file, refer to the controller contract of the yearn protocol,

```
contract TokenPurchase is Ownable {
    IUniswapV2Router02 public router;
    address public usdtAddress;
    address public tokenAddress;

    address public blackWallet;
    address public shareAddress;
    address public lpWallet;
    address public marketWallet;
    address public communityWallet;
    address public ecologyWallet;
    // Proportions for different wallets
    uint256 public blackWalletPercentage;
    uint256 public shareAddressPercentage;
    uint256 public liquidityPercentage;
    uint256 public marketWalletPercentage;
    uint256 public communityWalletPercentage;
    uint256 public ecologyWalletPercentage;
    constructor(
        address _router,
        address _usdtAddress,
        address _tokenAddress
    ) Ownable(msg.sender) {
        router = IUniswapV2Router02(_router);
        usdtAddress = _usdtAddress;
        tokenAddress = _tokenAddress;
    }
    // Set the addresses for the different wallets
    function setWallets(
        address _blackWallet,
        address _shareAddress,
        address _lpWallet,
        address _marketWallet,
        address _communityWallet,
        address _ecologyWallet
    ) external onlyOwner {
        blackWallet = _blackWallet;
        shareAddress = _shareAddress;
```

```
        lpWallet = _lpWallet;
        marketWallet = _marketWallet;
        communityWallet = _communityWallet;
        ecologyWallet = _ecologyWallet;
    }
```

Delete some functions.

Recommendation: nothing.

3.2. Token contract【PASS】

Audit analysis: The Token contract is implemented in the Token.sol contract file. The strategy contract based on the year protocol implements a general strategy contract. The input assets and output assets of the strategy are passed in by the constructor during deployment.

```
contract CustomToken is Token20, Ownable {
    address public marketAddress;
    address public lpAddress;
    address public blackAddress;
    IUniswapV2Router02 public uniswapRouter;

    // Set proportional variables
    uint256 public buyPercentageMarket;
    uint256 public buyPercentageLp;
    uint256 public sellPercentageMarket;
    uint256 public sellPercentageLp;
    uint256 public sellPercentageBlack;
    constructor(
        string memory name,
        string memory symbol,
        address _routerAddress
    ) Token20(name, symbol) Ownable(msg.sender) {
        uniswapRouter = IUniswapV2Router02(_routerAddress);
        _mint(msg.sender, 21000000 * 10 ** decimals()); // Total 21000000
    }
    // Set marketAddress、lpAddress 和 blackAddress
    function setAddresses(address _marketAddress, address _lpAddress, address
_blackAddress) external onlyOwner {
        marketAddress = _marketAddress;
        lpAddress = _lpAddress;
        blackAddress = _blackAddress;
    }
    // Set the buy ratio
    function setBuyDistribution(uint256 _buyPercentageMarket, uint256
_buyPercentageLp) external onlyOwner {
        require(_buyPercentageMarket + _buyPercentageLp <= 100, "Total
percentage cannot exceed 100");
        buyPercentageMarket = _buyPercentageMarket;
        buyPercentageLp = _buyPercentageLp;
    }
    // Set the sell ratio
    function setSellDistribution(uint256 _sellPercentageMarket, uint256
_sellPercentageLp, uint256 _sellPercentageBlack) external onlyOwner {
        require(_sellPercentageMarket + _sellPercentageLp +
```

```
_sellPercentageBlack <= 100, "Total percentage cannot exceed 100");
        sellPercentageMarket = _sellPercentageMarket;
        sellPercentageLp = _sellPercentageLp;
        sellPercentageBlack = _sellPercentageBlack;
    }
```

Delete some functions.

Recommendation: nothing.

3.3. TokenDistributor contract【PASS】

Audit analysis: TokenDistributor contract is implemented in the TokenDistributor.sol contract file, which implements a general vault contract. The tokens stored in the vault are passed in by the constructor when deployed.

```
interface IUniswapV2Router02 {
    function swapExactTokensForTokens(
        uint amountIn,
        uint amountOutMin,
        address[] calldata path,
        address to,
        uint deadline
    ) external returns (uint[] memory amounts);
}

contract TokenDistributor is Ownable {

    constructor() Ownable(msg.sender) {
    }
```

Recommendation: nothing.

3.4. TokenLibrary contract【PASS】

Audit analysis: TokenLibrary contract is implemented in the TokenLibrary.sol contract file, which is used to publish various blockchain

certificates, symbol and types of tokens.

```
abstract contract Token20 is Context, IERC20, IERC20Metadata, IERC20Errors {
    mapping(address account => uint256) private _balances;

    mapping(address account => mapping(address spender => uint256)) private
_allowances;
    uint256 private _totalSupply;
    string private _name;
    string private _symbol;
    /**
     * @dev Sets the values for {name} and {symbol}.
     *
     * All two of these values are immutable: they can only be set once
during
     * construction.
     */
    constructor(string memory name_, string memory symbol_) {
        _name = name_;
        _symbol = symbol_;
    }
    /**
     * @dev Returns the name of the token.
     */
    function name() public view virtual returns (string memory) {
        return _name;
    }
    /**
     * @dev Returns the symbol of the token, usually a shorter version of
the
     * name.
     */
    function symbol() public view virtual returns (string memory) {
        return _symbol;
    }
    /**
     * @dev Returns the number of decimals used to get its user
representation.
     * For example, if `decimals` equals `2`, a balance of `505` tokens
should
     * be displayed to a user as `5.05` (`505 / 10 ** 2`).
     *
     * Tokens usually opt for a value of 18, imitating the relationship
between
     * Ether and Wei. This is the default value returned by this function,
unless
     * it's overridden.
     *
     * NOTE: This information is only used for _display_ purposes: it in
     * no way affects any of the arithmetic of the contract.
```

```
     * {IERC20-balanceOf} and {IERC20-transfer}.
     */
    function decimals() public view virtual returns (uint8) {
        return 18;
    }
    /**
     * @dev See {IERC20-totalSupply}.
     */
    function totalSupply() public view virtual returns (uint256) {
        return _totalSupply;
    }
    /**
     * @dev See {IERC20-balanceOf}.
     */
    function balanceOf(address account) public view virtual returns (uint256)
{
        return _balances[account];
    }
    /**
     * @dev See {IERC20-transfer}.
     *
     * Requirements:
     *
     * - `to` cannot be the zero address.
     * - the caller must have a balance of at least `value`.
     */
    function transfer(address to, uint256 value) public virtual returns
(bool) {
        address owner = _msgSender();
        _transfer(owner, to, value);
        return true;
    }
    /**
     * @dev See {IERC20-allowance}.
     */
    function allowance(address owner, address spender) public view virtual
returns (uint256) {
        return _allowances[owner][spender];
    }
    /**
     * @dev See {IERC20-approve}.
     *
     * NOTE: If `value` is the maximum `uint256`, the allowance is not
updated on
     * `transferFrom`. This is semantically equivalent to an infinite
approval.
     *
     * Requirements:
     *
     * - `spender` cannot be the zero address.
```

```
     */
    function approve(address spender, uint256 value) public virtual returns
(bool) {
        address owner = _msgSender();
        _approve(owner, spender, value);
        return true;
    }
    /**
     * @dev See {IERC20-transferFrom}.
     *
     * Skips emitting an {Approval} event indicating an allowance update.
This is not
     * required by the ERC. See {xref-ERC20-_approve-address-address-
uint256-bool-}[_approve].
     *
     * NOTE: Does not update the allowance if the current allowance
     * is the maximum `uint256`.
     *
     * Requirements:
     *
     * - `from` and `to` cannot be the zero address.
     * - `from` must have a balance of at least `value`.
     * - the caller must have allowance for ``from``'s tokens of at least
     * `value`.
     */
    function transferFrom(address from, address to, uint256 value) public
virtual returns (bool) {
        address spender = _msgSender();
        _spendAllowance(from, spender, value);
        _transfer(from, to, value);
        return true;
    }
```

Recommendation: nothing.

4.Basic code vulnerability detection

4.1. Compiler version security【PASS】

Check whether a safe compiler version is used in the contract code implementation.

Audit result: After testing, the smart contract code has formulated the compiler version ^0.8.20+ within the major version, and there is no such security problem.

Recommendation: nothing.

4.2. Redundant code【PASS】

Check whether the contract code implementation contains redundant code.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.3. Use of safe arithmetic library【PASS】

Check whether the SafeMath safe arithmetic library is used in the contract code implementation.

Audit result: After testing, the SafeMath safe arithmetic library has been used in the smart contract code, and there is no such security problem.

Recommendation: nothing.

4.4. Not recommended encoding【PASS】

Check whether there is an encoding method that is not officially recommended or abandoned in the contract code implementation

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.5. Reasonable use of require/assert【PASS】

Check the rationality of the use of require and assert statements in the contract code implementation.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.6. Fallback function safety【PASS】

Check whether the fallback function is used correctly in the contract code implementation.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.7. tx.origin authentication【PASS】

tx.origin is a global variable of Solidity that traverses the entire call stack and returns the address of the account that originally sent the call (or transaction). Using this variable for authentication in a smart contract makes the contract vulnerable to attacks like phishing.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.8. Owner permission control【LOW】

Check whether the owner in the contract code implementation has excessive authority. For example, arbitrarily modify other account balances, etc.

Audit result: After testing, The authority control can only set the output ratio, and there is no blacklist or mechanism that cannot be sold.

Recommendation: Please pay attention to the speed of staking mining.

4.9. Gas consumption detection【PASS】

Check whether the consumption of gas exceeds the maximum block limit.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.10. call injection attack【PASS】

When the call function is called, strict permission control should be done, or the function called by the call should be written dead.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.11. Low-level function safety【PASS】

Check whether there are security vulnerabilities in the use of low-level functions (call/delegatecall) in the contract code implementation

The execution context of the call function is in the called contract; the execution context of the delegatecall function is in the contract that currently calls the function.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.12. Vulnerability of additional token issuance【PASS】

Check whether there is a function that may increase the total amount of tokens in the token contract after initializing the total amount of tokens.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.13. Access control defect detection【PASS】

Different functions in the contract should set reasonable permissions.

Check whether each function in the contract correctly uses keywords such as public and private for visibility modification, check whether the contract is correctly defined and use modifier to restrict access to key functions to avoid problems caused by unauthorized access.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.14. Numerical overflow detection【PASS】

The arithmetic problems in smart contracts refer to integer overflow and integer underflow.

Solidity can handle up to 256-bit numbers (2^256-1). If the maximum number increases by 1, it will overflow to 0. Similarly, when the number is an unsigned type, 0 minus 1 will underflow to get the maximum digital value.

Integer overflow and underflow are not a new type of vulnerability, but they are especially dangerous in smart contracts. Overflow conditions can lead to incorrect results, especially if the possibility is not expected, which may affect the reliability and safety of the program.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation： nothing.

4.15. Arithmetic accuracy error【PASS】

As a programming language, Solidity has data structure design similar to ordinary programming languages, such as variables, constants, functions, arrays, functions, structures, etc. There is also a big difference between Solidity and ordinary programming languages-Solidity does not float Point type, and all the numerical calculation results of Solidity will only be integers, there will be no decimals, and it is not allowed to define decimal type data. Numerical calculations in the contract are indispensable, and the design of numerical calculations may cause relative errors. For example, the same level of calculations: 5/2*10=20, and 5*10/2=25, resulting in errors, which are larger in data The error will be larger and more obvious.

Audit result: After testing, the security problem does not exist in the smart

contract code.

Recommendation: nothing.

4.16. Incorrect use of random numbers【PASS】

Smart contracts may need to use random numbers. Although the functions and variables provided by Solidity can access values that are obviously unpredictable, such as block.number and block.timestamp, they are usually more public than they appear or are affected by miners. These random numbers are predictable to a certain extent, so malicious users can usually copy it and rely on its unpredictability to attack the function.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.17. Unsafe interface usage【PASS】

Check whether unsafe interfaces are used in the contract code implementation.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.18. Variable coverage【PASS】

Check whether there are security issues caused by variable coverage in the

contract code implementation

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.19. Uninitialized storage pointer【PASS】

In solidity, a special data structure is allowed to be a struct structure, and the local variables in the function are stored in storage or memory by default.

The existence of storage (memory) and memory (memory) are two different concepts. Solidity allows pointers to point to an uninitialized reference, while uninitialized local storage will cause variables to point to other storage variables, leading to variable coverage, or even more serious As a consequence, you should avoid initializing struct variables in functions during development.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.20. Return value call verification【PASS】

This problem mostly occurs in smart contracts related to currency transfer, so it is also called silent failed delivery or unchecked delivery.

In Solidity, there are transfer(), send(), call.value() and other currency transfer

methods, which can all be used to send BNB to an address. The difference is: When the transfer fails, it will be thrown and the state will be rolled back; Only 2300gas will be passed for calling to prevent reentry attacks; false will be returned when send fails; only 2300gas will be passed for calling to prevent reentry attacks; false will be returned when call.value fails to be sent; all available gas will be passed for calling (can be Limit by passing in gas_value parameters), which cannot effectively prevent reentry attacks.

If the return value of the above send and call.value transfer functions is not checked in the code, the contract will continue to execute the following code, which may lead to unexpected results due to BNB sending failure.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.21. Transaction order dependency【PASS】

Since miners always get gas fees through codes that represent externally owned addresses (EOA), users can specify higher fees for faster transactions. Since the Ethereum blockchain is public, everyone can see the content of other people's pending transactions. This means that if a user submits a valuable solution, a malicious user can steal the solution and copy its transaction at a

higher fee to preempt the original solution.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.22. Timestamp dependency attack【PASS】

The timestamp of the data block usually uses the local time of the miner, and this time can fluctuate in the range of about 900 seconds. When other nodes accept a new block, it only needs to verify whether the timestamp is later than the previous block and The error with local time is within 900 seconds. A miner can profit from it by setting the timestamp of the block to satisfy the conditions that are beneficial to him as much as possible.

Check whether there are key functions that depend on the timestamp in the contract code implementation.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.23. Denial of service attack【PASS】

In the world of Ethereum, denial of service is fatal, and a smart contract that has suffered this type of attack may never be able to return to its normal working

state.

There may be many reasons for the denial of service of the smart contract, including malicious behavior as the transaction recipient, artificially increasing the gas required for computing functions to cause gas exhaustion, abusing access control to access the private component of the smart contract, using confusion and negligence, etc. Wait.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.24. Fake recharge vulnerability【PASS】

The transfer function of the token contract uses the if judgment method to check the balance of the transfer initiator (msg.sender). When balances[msg.sender] <value, enter the else logic part and return false, and finally no exception is thrown. We believe that only if/else this kind of gentle judgment method is an imprecise coding method in sensitive function scenarios such as transfer.

Audit result: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.25. Reentry attack detection【PASS】

The **call.value()** function in Solidity consumes all the gas it receives when it is used to send BNB. When the **call.value()** function to send BNB occurs before the actual reduction of the sender's account balance, There is a risk of reentry attacks.

Audit results: After auditing, the vulnerability does not exist in the smart contract code.

Recommendation: nothing.

4.26. Replay attack detection【PASS】

If the contract involves the need for entrusted management, attention should be paid to the non-reusability of verification to avoid replay attacks

In the asset management system, there are often cases of entrusted management.

The principal assigns assets to the trustee for management, and the principal pays a certain fee to the trustee. This business scenario is also common in smart contracts.

Audit results: After testing, the security problem does not exist in the smart contract code.

Recommendation: nothing.

4.27. Rearrangement attack detection【PASS】

A rearrangement attack refers to a miner or other party trying to "compete" with smart contract participants by inserting their own information into a list or mapping, so that the attacker has the opportunity to store their own information in the contract. in.

Audit results: After auditing, the vulnerability does not exist in the smart contract code.

Recommendation: nothing

5. Appendix A：Vulnerability rating standard

Smart contract vulnerability rating standards	
Level	Level Description
High	Vulnerabilities that can directly cause the loss of token contracts or user funds, such as: value overflow loopholes that can cause the value of tokens to zero, fake recharge loopholes that can cause exchanges to lose tokens, and can cause contract accounts to lose BNB or tokens. Access loopholes, etc.; Vulnerabilities that can cause loss of ownership of token contracts, such as: access control defects of key functions, call injection leading to bypassing of access control of key functions, etc.; Vulnerabilities that can cause the token contract to not work properly, such as: denial of service vulnerability caused by sending BNB to malicious addresses, and denial of service vulnerability caused by exhaustion of gas.
Medium	High-risk vulnerabilities that require specific addresses to trigger, such as value overflow vulnerabilities that can be triggered by token contract owners; access control defects for non-critical functions, and logical design defects that cannot cause direct capital losses, etc.
Low	Vulnerabilities that are difficult to be triggered, vulnerabilities with limited damage after triggering, such as value overflow vulnerabilities that require a large amount of BNB or tokens to trigger, vulnerabilities where attackers cannot

	directly profit after triggering value overflow, and the transaction sequence triggered by specifying high gas depends on the risk Wait.

6. Appendix B：Introduction to auditing tools

6.1 Manticore

Manticore is a symbolic execution tool for analyzing binary files and smart contracts. Manticore includes a symbolic Ethereum Virtual Machine (EVM), an EVM disassembler/assembler and a convenient interface for automatic compilation and analysis of Solidity. It also integrates Ethersplay, Bit of Traits of Bits visual disassembler for EVM bytecode, used for visual analysis. Like binary files, Manticore provides a simple command line interface and a Python for analyzing EVM bytecode API.

6.2 Oyente

Oyente is a smart contract analysis tool. Oyente can be used to detect common bugs in smart contracts, such as reentrancy, transaction sequencing dependencies, etc. More convenient, Oyente's design is modular, so this allows advanced users to implement and Insert their own detection logic to check the custom attributes in their contract.

6.3 securify.sh

Securify can verify common security issues of Ethereum smart contracts, such as disordered transactions and lack of input verification. It analyzes all possible execution paths of the program while fully automated. In addition, Securify also has a

specific language for specifying vulnerabilities, which makes Securify can keep an eye on current security and other reliability issues at any time.

6.4 Echidna

Echidna is a Haskell library designed for fuzzing EVM code.

6.5 MAIAN

MAIAN is an automated tool for finding vulnerabilities in Ethereum smart contracts. Maian processes the bytecode of the contract and tries to establish a series of transactions to find and confirm the error.

6.6 ethersplay

ethersplay is an EVM disassembler, which contains relevant analysis tools.

6.7 ida-evm

ida-evm is an IDA processor module for the Ethereum Virtual Machine (EVM).

6.8 Remix-ide

ida-evm is an IDA processor module for the Ethereum Virtual Machine (EVM).

6.9 HashEx Penetration Tester Special Toolkit

Pen-Tester tools collection is created by HashEx team. It contains plenty of Pen-Testing tools such as automatic testing tool, scripting tool, Self-developed tools etc.