Audit Report

MetaVersus

January 2022

Type	BEP20
Network	BSC
Address	0xFeA5377AF47742ADA0B1D4D5528ed1D2368D148b
Audited by	© coinscope

Table of Contents

Contract Review

Contract Name	MetaVersus
Compiler Version	v0.8.9+commit.e5eed63a
Optimization	200 runs
Licence	None
Explorer	https://bscscan.com/token/0xFeA5377AF47742ADA0B1D4D5528ed1D2368D148b
Symbol	METAVS
Decimals	9
Total Supply	10,000,000
Source	contract.sol
Domain	metaversus.win

Audit Updates

Initial Audit	23rd January 2022
Corrected	

Contract Analysis

● Critical   ● Medium   ● Minor   ● Pass

Severity	Code	Description
●	ST	Contract Owner is not able to stop or pause transactions
●	OCTD	Contract Owner is not able to transfer tokens from specific address
●	OTUT	Owner Transfer User's Tokens
●	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
●	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
●	MT	Contract Owner is not able to mint new tokens
●	BT	Contract Owner is not able to burn tokens from specific wallet
●	BC	Contract Owner is not able to blacklist wallets from selling

ELFM - Exceed Limit Fees Manipulation

Criticality	medium
Location	contract.sol#L1

Description

The contract owner has the authority to increase over the allowed limit of 25%. The owner may take advantage of it by calling the `setTaxFeePercent` function with a high percentage value.

```solidity
function setTaxFeePercent(uint256 taxFee) external onlyOwner() {
    _taxFee = taxFee;
}
```

Recommendation

The contract could embody a check for the maximum acceptable value.

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. That risk can be prevented by temporarily locking the contract or renouncing ownership.

Contract Diagnostics

● Critical   ● Medium   ● Minor

Severity	Code	Description
●	L01	Public Function could be Declared External
●	L02	State Variables could be Declared Constant
●	L05	Unused State Variable
●	L04	Conformance to Solidity Naming Conventions

L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L485,L68,L61 and 2 more

Description

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

```
transferForeignToken
Ownershipunlock
Ownershiplock
...
```

Recommendation

Use the external attribute for functions never called from the contract

L02 - State Variables could be Declared Constant

Criticality	minor
Location	contract.sol#L164,L184,L183 and 1 more

Description

Constant state variables should be declared constant to save gas.

```
_totalSupply
_initialSellMarketingFee
_initialSellLiquidityFee
...
```

Recommendation

Add the constant attribute to state variables that never change.

L05 - Unused State Variable

Criticality	minor
Location	contract.sol#L186

Description

There are segments that contains unused state variable.

```
_initialSellTotalFee
```

Recommendation

Remove unused state variables.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L191,L190,L189 and 35 more

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.

```
_sellTotalFee
_sellBuybackFee
_sellMarketingFee
...
```

## Recommendation

Follow the Solidity naming convention.
https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
BEP20	Interface			
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Ownable	Implementation			
	<Constructor>	Public	✓	-
	isOwner	Public		-
	transferOwnership	Public	✓	onlyOwner
	getUnlockTime	Public		-
	Ownershiplock	Public	✓	onlyOwner
	Ownershipunlock	Public	✓	-
IDEXFactory	Interface			
	createPair	External	✓	-
IDEXRouter	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-

	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
MetaVersus	Implementation	BEP20, Ownable		
	<Constructor>	Public	✓	Ownable
	<Receive Ether>	External	Payable	-
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	Public		-
	allowance	External		-
	approve	Public	✓	-
	approveMax	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	_transferFrom	Internal	✓	
	_basicTransfer	Internal	✓	
	checkTxLimit	Internal		
	shouldTakeFee	Internal		
	getActualSellFee	Internal	✓	
	takeFee	Internal	✓	
	shouldSwapBack	Internal		
	swapBack	Internal	✓	swapping
	launched	Internal		
	launch	Internal	✓	
	getLiquidityBacking	Public		-
	isOverLiquified	Public		-
	setMaxWallet	External	✓	onlyOwner
	setMaxTx	External	✓	onlyOwner
	setTargetLiquidity	External	✓	onlyOwner

	setIsFeeExempt	External	✓	onlyOwner
	setIsTxLimitExempt	External	✓	onlyOwner
	setBuyFees	External	✓	onlyOwner
	setSellFees	External	✓	onlyOwner
	setFeeReceiver	External	✓	onlyOwner
	setSwapBackSettings	External	✓	onlyOwner
	ClearStuckBalance	External	✓	onlyOwner
	transferForeignToken	Public	✓	onlyOwner

Contract Flow
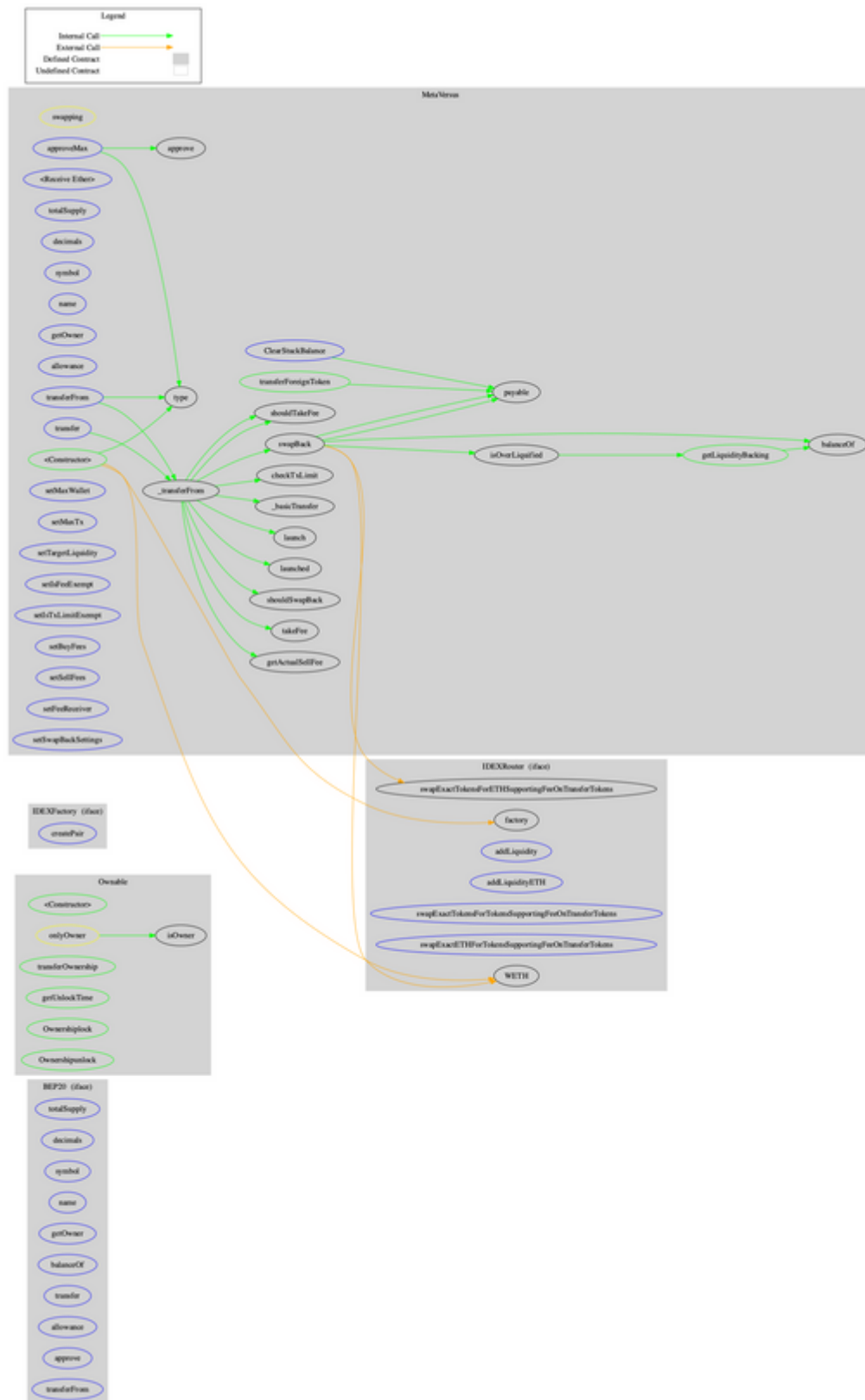
Domain Info

Domain Name	metaversus.win
Registry Domain ID	D6CA6D6369BD74DF99CD38FD21A532325-GDREG
Creation Date	2022-01-15T05:29:51Z
Updated Date	2022-01-20T05:29:51Z
Registry Expiry Date	2023-01-15T05:29:51Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	http://www.namecheap.com
Registrar	NameCheap, Inc.
Registrar IANA ID	1068

The domain has been created 8 days before the creation of the audit. It will expire in 12 months.

There is no public billing information, the creator is protected by the privacy settings.

Summary

The contract analysis reported one medium threat issue. The contract owner can potentially set the total fees to 33%. It could have a check for a more reasonable maximum value like 25%. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats.

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