



Cyberscope

Audit Report

Dark Knight

November 2022

Type BEP20

Network BSC

Address 0xfe876055bf992519f07c0c52763d42bc91422cfe

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Contract Review

Contract Name	Token
Compiler Version	v0.8.17+commit.8df45f5f
Optimization	200 runs
Licence	None
Explorer	https://bscscan.com/token/0xfe876055bf992519f07c0c52763d42bc91422cfe
Symbol	DK
Decimals	9
Total Supply	100,000,000
Domain	darkknight.top

Source Files

Filename	SHA256
contract.sol	5c319977f953c5240c718ccb442a4c990232f1bc619d3ce33b831a39340d71f5

Audit Updates

Initial Audit	10th November 2022
Corrected	

Contract Analysis

● Critical ● Medium ● Minor / Informative ● Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OCTD	Transfers Contract's Tokens	Passed
●	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

Contract Diagnostics

● Critical ● Medium ● Minor / Informative

Severity	Code	Description	Status
●	FSA	Fixed Swap Address	Unresolved
●	L02	State Variables could be Declared Constant	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L07	Missing Events Arithmetic	Unresolved
●	L09	Dead Code Elimination	Unresolved

FSA - Fixed Swap Address

Criticality	minor / informative
Location	contract.sol#L431-436
Status	Unresolved

Description

The swap address is assigned once in the constructor and it can not be changed. The decentralized swaps sometimes create a new swap version or abandon the current. A contract that cannot change the swap address may not be able to catch-up the upgrade.

```
IUniswapV2Router02 _uniswapV2Router =  
IUniswapV2Router02(0x10ED43C718714eb63d5aA57B78B54704E256024E);  
  
uniswapPair = IUniswapV2Factory(_uniswapV2Router.factory())  
    .createPair(address(this), _uniswapV2Router.WETH());  
  
uniswapV2Router = _uniswapV2Router;
```

Recommendation

It could be better to allow the swap address mutation in case of future swap updates.

L02 - State Variables could be Declared Constant

Criticality	minor / informative
Location	contract.sol#L378,403,377,376,404,382
Status	Unresolved

Description

Constant state variables should be declared constant to save gas.

```
_decimals  
swapAndLiquifyEnabled  
_symbol  
_name  
swapAndLiquifyByLimitOnly  
deadAddress
```

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor / informative
Location	contract.sol#L203,219,525,202,390,238,384,392
Status	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.

```
PERMIT_TYPEHASH  
MINIMUM_LIQUIDITY  
OpenTrade  
DOMAIN_SEPARATOR  
_marketingFee  
WETH  
_balances  
_totalTax
```

Recommendation

Follow the Solidity naming convention.

<https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions>.

L07 - Missing Events Arithmetic

Criticality	minor / informative
Location	contract.sol#L515,511
Status	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.

```
_marketingFee = value  
minimumTokensBeforeSwap = newLimit
```

Recommendation

Emit an event for critical parameter changes.

L09 - Dead Code Elimination

Criticality	minor / informative
Location	contract.sol#L94,110,114,119,83,106,102
Status	Unresolved

Description

Functions that are not used in the contract, and make the code's size bigger.

```
sendValue  
functionCallWithValue  
_functionCallWithValue  
isContract  
functionCall
```

Recommendation

Remove unused functions.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
Address	Library			
	isContract	Internal		
	sendValue	Internal	✓	
	functionCall	Internal	✓	
	functionCall	Internal	✓	
	functionCallWithValue	Internal	✓	
	functionCallWithValue	Internal	✓	

	_functionCallWithValue	Private	✓	
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	waiveOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
IUniswapV2Factory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IUniswapV2Pair	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-
	nonces	External		-
	permit	External	✓	-
	MINIMUM_LIQUIDITY	External		-
	factory	External		-

	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
IUniswapV2Router01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-
	removeLiquidityETH	External	✓	-
	removeLiquidityWithPermit	External	✓	-
	removeLiquidityETHWithPermit	External	✓	-
	swapExactTokensForTokens	External	✓	-
	swapTokensForExactTokens	External	✓	-
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
IUniswapV2Router02	Interface	IUniswapV2Router01		

	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
Token	Implementation	Context, IERC20, Ownable		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	allowance	Public		-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	minimumTokensBeforeSwapAmount	Public		-
	approve	Public	✓	-
	_approve	Private	✓	
	setIsExcludedFromFee	Public	✓	onlyOwner
	setMarketPairStatus	Public	✓	onlyOwner
	setNumTokensBeforeSwap	External	✓	onlyOwner
	setMarketingFee	External	✓	onlyOwner
	setMarketingWallet	External	✓	onlyOwner
	OpenTrade	External	✓	onlyOwner
	getCirculatingSupply	Public		-
	transferToAddressETH	Private	✓	
	<Receive Ether>	External	Payable	-
	transfer	Public	✓	-
	transferFrom	Public	✓	-
	_transfer	Private	✓	

	_basicTransfer	Internal	✓	
	swapAndLiquify	Private	✓	lockTheSwap
	swapTokensForBNB	Private	✓	
	takeFee	Internal	✓	

Contract Flow



Domain Info

Domain Name	darkknight.top
Registry Domain ID	D20221107G10001G_90863805-top
Creation Date	2022-11-07T12:46:18Z
Updated Date	2022-11-07T13:00:10Z
Registry Expiry Date	2023-11-07T12:46:18Z
Registrar WHOIS Server	whois.namesilo.com
Registrar URL	https://www.namesilo.com
Registrar	NameSilo,LLC
Registrar IANA ID	1479

The domain was created 3 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

Dark Knight is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. There is also a limit of max 10% fees.

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About Cyberscope

Coinscope audit and K.Y.C. service has been rebranded to Cyberscope.

Cyberscope is the leading early coin listing, voting and auditing authority firm. The audit process is analyzing and monitoring many aspects of the project. That way, it gives the community a good sense of security using an informative report and a generic score.

Cyberscope and Coinscope are aiming to make crypto discoverable and efficient globally. They provide all the essential tools to assist users draw their own conclusions.



The Cyberscope team

<https://www.cyberscope.io>