Kingdom Karnage Token

Smart Contract Audit Report

SYSFIXED

10 Jan 2022

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Kingdom Karnage Token	KKT	Binance Smart Chain

Addresses

Contract address	0xe64017bdacbe7dfc84886c3704a26d566e7550de
Contract deployer address	0x1850E673b4dB3A947e6F4F15D641EBc4b74B262C

Project Website

https://kingdomkarnage.com/

Codebase

https://bscscan.com/address/0xe64017bdacbe7dfc84886c3704a26d566e7550de#code

SUMMARY

The native cryptographically-secured fungible protocol token of Kingdom Karnage (ticker symbol $KKT) is a transferable representation of attributed governance and utility functions specified in the protocol/code of Kingdom Karnage, which is designed to be used solely as an interoperable utility token thereon. $KKT is a functional utility token that will be used as the medium of exchange between players of Kingdom Karnage in a decentralized manner. The goal of introducing $KKT is to provide a convenient and secure method of payment and settlement between participants who interact within the ecosystem of Kingdom Karnage. It is not, and not intended to be, a medium of exchange accepted by the public (or a section of the public) as payment for goods or services or the discharge of a debt, nor is it designed or intended to be used by any person as payment for any goods or services whatsoever that the issuer does not exclusively provide. $KKT does not in any way represent any shareholding, participation, right, title, or interest in the Company, the Distributor, their respective affiliates, or any other company, enterprise, or undertaking, nor will $KKT entitle token holders to any promise of fees, dividends, revenue, profits or investment returns, and are not intended to constitute securities in Singapore or any relevant jurisdiction. $KKT may only be utilized on Kingdom Karnage, and ownership of $KKT carries no rights, express or implied, other than the right to use $KKT to enable usage of and interaction within Kingdom Karnage.

Contract Summary

Documentation Quality

Kingdom Karnage Token provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also dont have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by Kingdom Karnage Token with the discovery of several low issues.

Test Coverage

Test coverage of the project is 100% (Through Codebase)

Audit Findings Summary

- SWC-100 SWC-108 | Explicitly define visibility for all state variables on lines 374.

- SWC-107 | It is recommended to use a reentrancy lock, reentrancy weaknesses detected on lines 615, 615, 619, 619, 512 and 683.
- SWC-110 SWC-123 | It is recommended to use of revert(), assert(), and require() in Solidity, and the new REVERT opcode in the EVM on lines 585 and 612.

CONCLUSION

We have audited the Kingdom Karnage Token project released on January 2022 to discover issues and identify potential security vulnerabilities in Kingdom Karnage Token Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides satisfactory results with low-risk issues.

The Kingdom Karnage Token smart contract code issues do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are some write or read to persistent state following the external call, state variable visibility is not set, and requirement violation. The contract account state is accessed after an external call. To prevent reentrancy issues, consider accessing the state only before the call, especially if the callee is untrusted. Alternatively, a reentrancy lock can be used to prevent untrusted callees from re-entering the contract in an intermediate state. Requirement violation, the requirement was violated in a nested call and the call was reverted as a result. Make sure valid inputs are provided to the nested call (for instance, via passed arguments).

AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	ISSUE FOUND
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	PASS
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	PASS
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
Unprotected Ether Withdrawal	SWC-105	Due to missing or insufficient access controls, malicious parties can withdraw from the contract.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Reentrancy	SWC-107	Check effect interaction pattern should be followed if the code performs recursive call.	ISSUE FOUND
Uninitialized Storage Pointer	SWC-109	Uninitialized local storage variables can point to unexpected storage locations in the contract.	PASS
Assert Violation	SWC-110 SWC-123	Properly functioning code should never reach a failing assert statement.	ISSUE FOUND
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Callee	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS

DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	PASS
Signature Unique ID	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Incorrect Constructor Name	SWC-118	Constructors are special functions that are called only once during the contract creation.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	PASS
Write to Arbitrary Storage Location	SWC-124	The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.	PASS
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS
Insufficient Gas Griefing	SWC-126	Insufficient gas griefing attacks can be performed on contracts which accept data and use it in a sub-call on another contract.	PASS
Arbitrary Jump Function	SWC-127	As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.	PASS

Typographical Error	SWC-129	A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.	PASS
Override control character	SWC-130	Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract.	PASS
Unused variables	SWC-131 SWC-135	Unused variables are allowed in Solidity and they do not pose a direct security issue.	PASS
Unexpected Ether balance	SWC-132	Contracts can behave erroneously when they strictly assume a specific Ether balance.	PASS
Hash Collisions Variable	SWC-133	Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.	PASS
Hardcoded gas amount	SWC-134	The transfer() and send() functions forward a fixed amount of 2300 gas.	PASS
Unencrypted Private Data	SWC-136	It is a common misconception that private type variables cannot be read.	PASS

SMART CONTRACT ANALYSIS

Started	Sunday Jan 09 2022 09:39:47 GMT+0000 (Coordinated Universal Time)
Finished	Monday Jan 10 2022 13:22:20 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	KKT.sol

Detected Issues

ID	Title	Severity	Status
SWC-107	READ OF PERSISTENT STATE FOLLOWING EXTERNAL CALL.	low	acknowledged
SWC-107	WRITE TO PERSISTENT STATE FOLLOWING EXTERNAL CALL.	low	acknowledged
SWC-107	READ OF PERSISTENT STATE FOLLOWING EXTERNAL CALL.	low	acknowledged
SWC-107	WRITE TO PERSISTENT STATE FOLLOWING EXTERNAL CALL.	low	acknowledged
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SWC-107	WRITE TO PERSISTENT STATE FOLLOWING EXTERNAL CALL.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-123	REQUIREMENT VIOLATION.	low	acknowledged
SWC-123	REQUIREMENT VIOLATION.	low	acknowledged

SWC-107 | READ OF PERSISTENT STATE FOLLOWING EXTERNAL CALL.

LINE 615

low SEVERITY

The contract account state is accessed after an external call. To prevent reentrancy issues, consider accessing the state only before the call, especially if the callee is untrusted. Alternatively, a reentrancy lock can be used to prevent untrusted callees from re-entering the contract in an intermediate state.

Source File

- KKT.sol

Locations

```
614
615   _balances[sender] = _balances[sender].sub(
616   amount,
617   "BEP20: transfer amount exceeds balance"
618   );
619
```

SWC-107 | WRITE TO PERSISTENT STATE FOLLOWING EXTERNAL CALL.

LINE 615

low SEVERITY

The contract account state is accessed after an external call. To prevent reentrancy issues, consider accessing the state only before the call, especially if the callee is untrusted. Alternatively, a reentrancy lock can be used to prevent untrusted callees from re-entering the contract in an intermediate state.

Source File

- KKT.sol

Locations

```
614
615   _balances[sender] = _balances[sender].sub(
616   amount,
617   "BEP20: transfer amount exceeds balance"
618   );
619
```

SWC-107 | READ OF PERSISTENT STATE FOLLOWING EXTERNAL CALL.

LINE 619

low SEVERITY

The contract account state is accessed after an external call. To prevent reentrancy issues, consider accessing the state only before the call, especially if the callee is untrusted. Alternatively, a reentrancy lock can be used to prevent untrusted callees from re-entering the contract in an intermediate state.

Source File

- KKT.sol

Locations

```
618   );
619   _balances[recipient] = _balances[recipient].add(amount);
620   emit Transfer(sender, recipient, amount);
621   }
622
623
```

SWC-107 | WRITE TO PERSISTENT STATE FOLLOWING EXTERNAL CALL.

LINE 619

low SEVERITY

The contract account state is accessed after an external call. To prevent reentrancy issues, consider accessing the state only before the call, especially if the callee is untrusted. Alternatively, a reentrancy lock can be used to prevent untrusted callees from re-entering the contract in an intermediate state.

Source File

- KKT.sol

Locations

```
618   );
619   _balances[recipient] = _balances[recipient].add(amount);
620   emit Transfer(sender, recipient, amount);
621   }
622
623
```

SWC-107 | READ OF PERSISTENT STATE FOLLOWING EXTERNAL CALL.

LINE 512

low SEVERITY

The contract account state is accessed after an external call. To prevent reentrancy issues, consider accessing the state only before the call, especially if the callee is untrusted. Alternatively, a reentrancy lock can be used to prevent untrusted callees from re-entering the contract in an intermediate state.

Source File

- KKT.sol

Locations

```
511   _msgSender(),
512   _allowances[sender][_msgSender()].sub(
513   amount,
514   "BEP20: transfer amount exceeds allowance"
515   )
516
```

SWC-107 | WRITE TO PERSISTENT STATE FOLLOWING EXTERNAL CALL.

LINE 683

low SEVERITY

The contract account state is accessed after an external call. To prevent reentrancy issues, consider accessing the state only before the call, especially if the callee is untrusted. Alternatively, a reentrancy lock can be used to prevent untrusted callees from re-entering the contract in an intermediate state.

Source File

- KKT.sol

Locations

```
682
683   _allowances[owner][spender] = amount;
684   emit Approval(owner, spender, amount);
685   }
686
687
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 374

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "BP" is internal. Other possible visibility settings are public and private.

Source File

- KKT.sol

Locations

```
373
374   BPContract BP;
375   bool private bpEnabled;
376   bool private BPDisabledForever;
377
378
```

SWC-123 | REQUIREMENT VIOLATION.

LINE 585

low SEVERITY

A requirement was violated in a nested call and the call was reverted as a result. Make sure valid inputs are provided to the nested call (for instance, via passed arguments).

Source File

- KKT.sol

Locations

```
584   function recoverBEP20(address tokenAddress, uint256 tokenAmount) external onlyOwner
returns (bool) {
585   IBEP20(tokenAddress).transfer(owner(), tokenAmount);
586   return true;
587   }
588
589
```

SWC-123 | REQUIREMENT VIOLATION.

LINE 612

low SEVERITY

A requirement was violated in a nested call and the call was reverted as a result. Make sure valid inputs are provided to the nested call (for instance, via passed arguments).

Source File

- KKT.sol

Locations

```
611   if (bpEnabled && !BPDisabledForever){
612   BP.protect(sender, recipient, amount);
613   }
614
615   _balances[sender] = _balances[sender].sub(
616
```

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