



Audit Report

Fractional Rocket Vault

February 2022

Source Github
commit 186bee2a13455ec944fb73b8922ea971a05aa52b
Audited by © coinscope

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Contract Review

Github	https://github.com/Fr0ck/audit
Commit	186bee2a13455ec944fb73b8922ea971a05aa52b
File	Vault/Vault.sol

Audit Updates

Initial Audit	16h of February 2022
Corrected	

Contract Analysis

The contract implements a time-locker feature. It locks a specific amount of tokens for a period of time. After that period, the address that locked the tokens can periodically withdraw the amount. The locker works once and only for a single address. The locker cannot be reused.

The lock can be connected with an external contract that implements the *claimReward()* function. That means that it can be connected with the Fractional Rocket Dividend Distributor and claim the rewards that are proportional to the locked address. The locker can claim the rewards even if the amount cannot be withdrawn.

Contract Diagnostics

● Critical ● Medium ● Minor

Severity	Code	Description
●	CO	Code Optimization
●	CR	Code Repetition

CO - Code Optimization

Criticality

minor

Location

contract.sol#L83,84,89

Description

There are code segments that could be optimized. A segment may be optimized so that it becomes a smaller size, consumes less memory, executes more rapidly, or performs fewer operations.

The variables *startLock* and *lockPeriode* are used only as a combination in order to calculate the end lock period.

```
startLock + lockPeriode
```

Recommendation

The endLock could be calculated once in the `lockToken()` function.

CR - Code Repetition

Criticality

minor

Location

contract.sol#L83,89

Description

There are code segments that are repetitive in the contract. Those segments increase the code size of the contract unnecessarily.

The `currentEpoch()` function is used once in the `withdraw()` function. The `currentEpoch()` requires the lock period to be elapsed. The same requirement exists in the `withdraw()` function.

```
require(block.timestamp > startLock + lockPeriode, "Vault: Cannot Calculate Epoch");
...
require(block.timestamp > startLock + lockPeriode, "Vault: Cannot Withdraw");
```

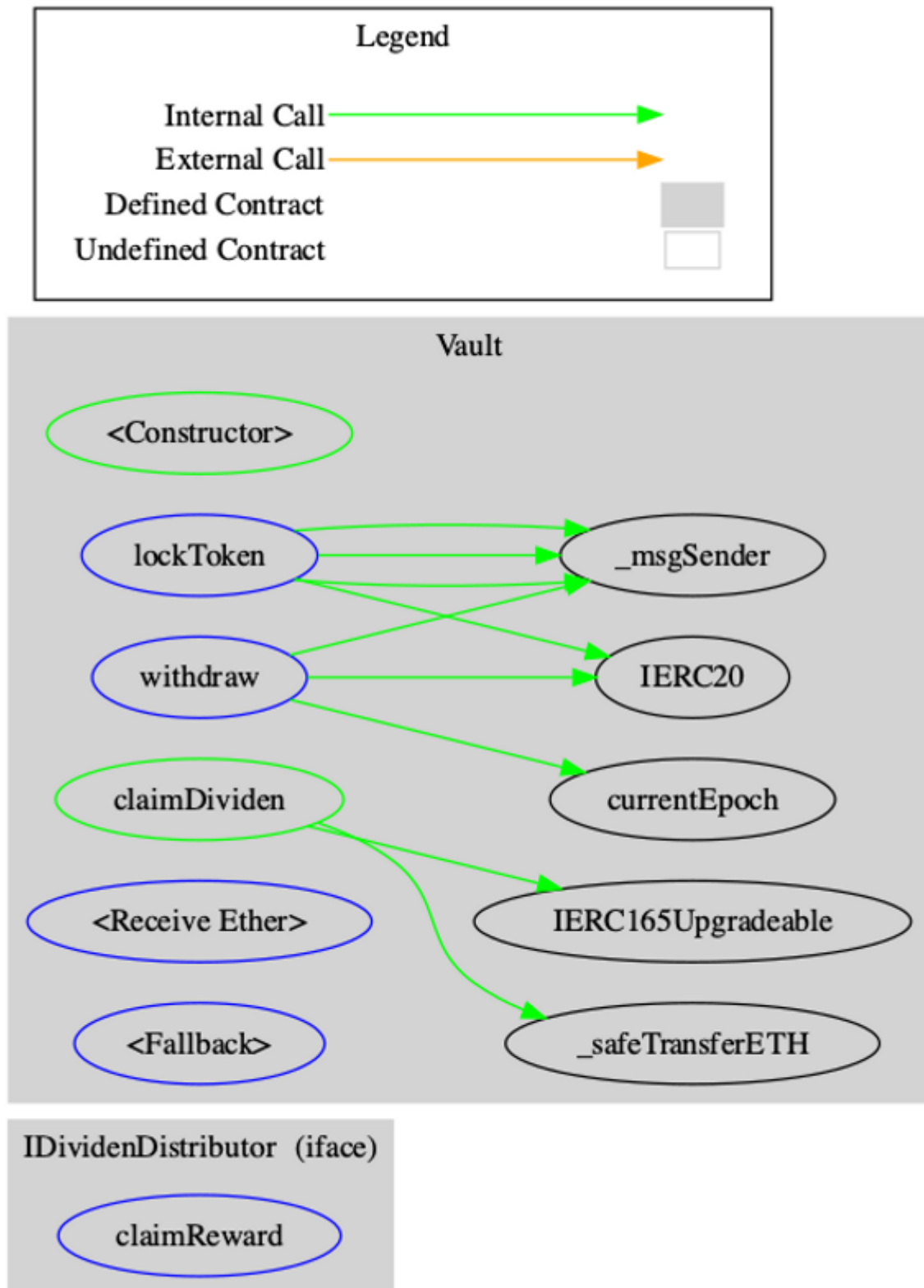
Recommendation

The requirement could be removed from the `withdraw()` function since it is called the `currentEpoch()` function.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
IDividendDistributor	Interface			
	claimReward	External	✓	-
Vault	Implementation	Context		
	<Constructor>	Public	✓	-
	lockToken	External	✓	-
	currentEpoch	Public		-
	withdraw	External	✓	-
	claimDividen	Public	✓	-
	_safeTransferETH	Internal	✓	
	<Receive Ether>	External	Payable	-
	<Fallback>	External	Payable	-

Contract Flow



Summary

The Smart Contract analysis reported no compiler error or critical issues. The contract implements a fundamental time-lock mechanism. In this audit we analyse the business logic, security investigation and suggest some improvements.

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About Coinscope

Coinscope 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.

Coinscope is aiming to make crypto discoverable and efficient globally. It provides all the essential tools to assist users draw their own conclusions.



The Coinscope.co team

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