



# Audit Report

## **Fractional Rocket Vault**

February 2022

Source      Github  
commit      573b1c6536c35e0fb9e8b03bd00339ee839cc645  
Audited by   © coinscope

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## Contract Review

<b>Github</b>	<a href="https://github.com/Fr0ck/audit">https://github.com/Fr0ck/audit</a>
<b>Commit</b>	573b1c6536c35e0fb9e8b03bd00339ee839cc645
<b>File</b>	Vault/Vault.sol

## Audit Updates

<b>Initial Audit</b>	16h of February 2022
<b>Corrected</b>	18h of February 2022

## 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 The locker can claim the rewards even if the amount cannot be withdrawn.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
●	L01	Public Function could be Declared External
●	L04	Conformance to Solidity Naming Conventions

## L01 - Public Function could be Declared External

**Criticality**

minor

**Location**

build/contract/Vault/Vault.sol#L110

### Description

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

`claimDividen`

### Recommendation

Use the external attribute for functions never called from the contract

## L04 - Conformance to Solidity Naming Conventions

<b>Criticality</b>	minor
<b>Location</b>	build/contract/Vault/Vault.sol#L51,52,53,54,89

### 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.

```
_withdrawAmount  
_maxAmountPerWithdraw  
_periodPerWithdraw  
_lockPeriode  
_amountFrockTokenLoked
```

### Recommendation

Follow the Solidity naming convention.

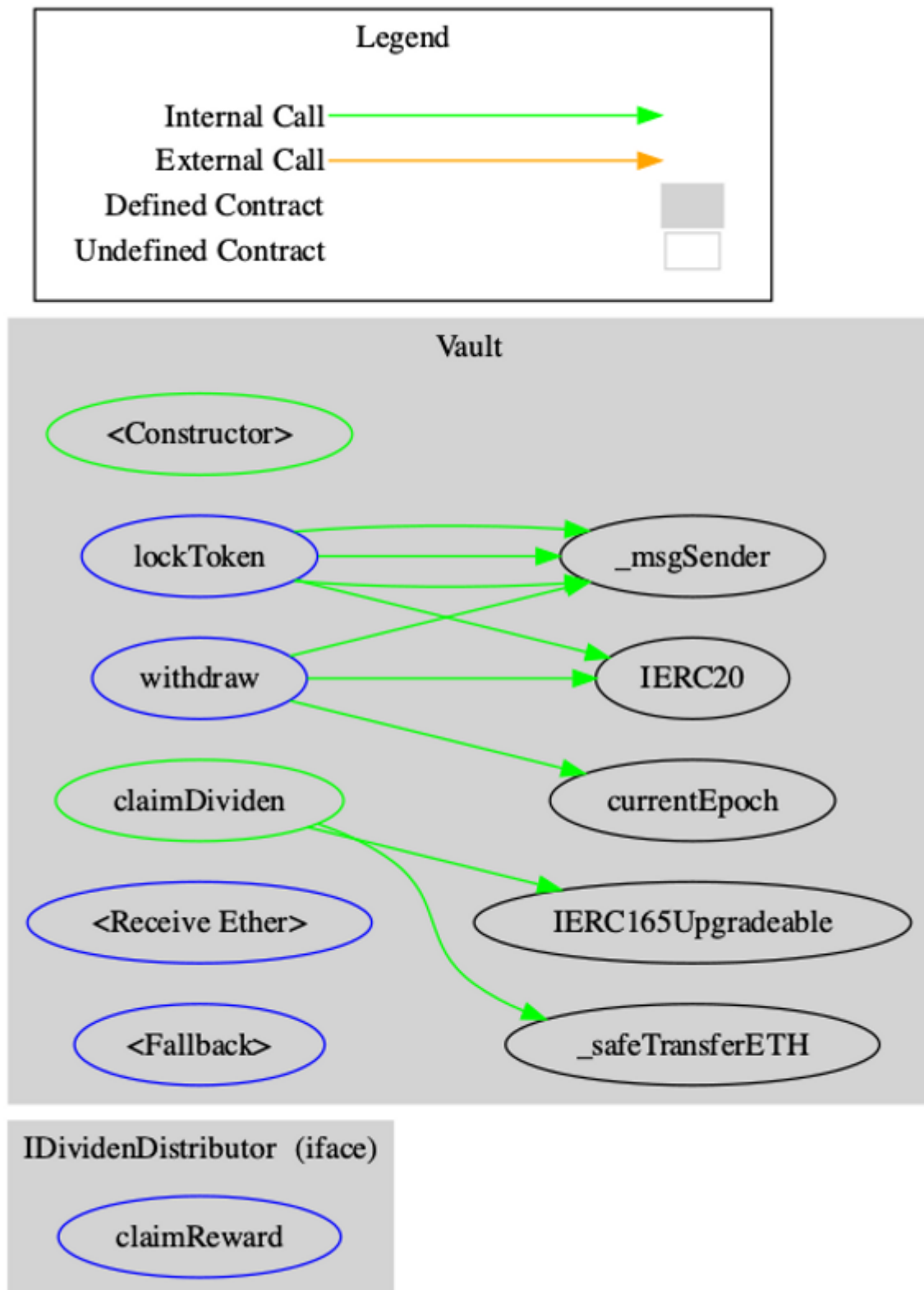
<https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions>

# Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
<b>IDividendDistributor</b>	Interface			
	claimReward	External	✓	-
<b>Vault</b>	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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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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