



TechRate
AUDIT COMPANY

ExoniumDEX

Smart Contract Security Audit

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by ExoniumDEX to perform an audit of smart contracts:

- <https://bscscan.com/address/0xe2fab6c603c70aae2ccdef140dcd8b7d6ccdff35#code> (FAANGToken)
- <https://bscscan.com/address/0xebe1f3221fb51ddab6d760bda3fabb288c1b8ee7#code> (FAANGOOrchestrator)
- <https://bscscan.com/address/0xF1afb5674Bf946458BD1163163F62dE683B07D65#code> (TEXOToken)
- <https://bscscan.com/address/0xD8980CCdD4096e60bb3198F91d6f79CeEF29369c#code> (TEXOOrchestrator)
- <https://bscscan.com/address/0xC52329f4164E115ca40B3D5Ab8E1FF3F85E9A253#code> (Timelock)
- <https://polygonscan.com/address/0xD8980CCdD4096e60bb3198F91d6f79CeEF29369c#code> (TEXOOrchestrator)
- <https://polygonscan.com/address/0xc52329f4164e115ca40b3d5ab8e1ff3f85e9a253#code> (FAANGOOrchestrator)
- <https://polygonscan.com/address/0xAa40849abB7Ba1689cC1272f0D00Ccc04c9bAA04#code> (FAANGToken)
- <https://polygonscan.com/address/0xF1afb5674Bf946458BD1163163F62dE683B07D65#code> (TEXOToken)
- <https://polygonscan.com/address/0x362e7d903359e5649965e12b90f3d5abbee698b9#code> (Timelock)

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Issues Checking Status

Issue description		Checking status
1.	Compiler errors.	Passed
2.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3.	Possible delays in data delivery.	Passed
4.	Oracle calls.	Passed
5.	Front running.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow.	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Low issue
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Low issue
12.	The impact of the exchange rate on the logic.	Passed
13.	Private user data leaks.	Passed
14.	Malicious Event log.	Passed
15.	Scoping and Declarations.	Passed
16.	Uninitialized storage pointers.	Passed
17.	Arithmetic accuracy.	Passed
18.	Design Logic.	Passed
19.	Cross-function race conditions.	Passed
20.	Safe Open Zeppelin contracts implementation and usage.	Passed
21.	Fallback function security.	Passed

Security Issues

✓ High Severity Issues

No high severity issues found.

✓ Medium Severity Issues

No medium severity issues found.

✓ Low Severity Issues

1. Out of gas

Issue:

- Functions `massUpdatePools()` uses the loop to update all loops from the `poolInfo` list. Function will be aborted with `OUT_OF_GAS` exception if there will be a pool addresses list.

Recommendation:

Check that the `poolInfo` array length is not too big.

2. Reset data

Issue:

- The function `emergencyWithdraw()` in `TEXOOrchestrator` contract does not nullify `rewardLockedUp` property.

Recommendation:

Make it equal to zero.

3. Execution order

Issue:

- The function `setEmissionRate()` in `TEXOOrchestrator` contract updates all pools only after initializing `tEXOPerBlock` variable with new value.

Recommendation:

Update pools with old rate.

📎 Information

1. Extra code

`TEXOOrchestrator` contract has useless condition in `add()` and `set()` functions: `_inActiveBlock > 0 ? _inActiveBlock : 0` .

Owner privileges (In the period when the owner is not renounced)

TEXOToken:

- Owner can mint.

FAANGToken:

- Owner can mint.

TEXOOrchestrator:

- Dev address can change dev address.
- Fee address can change fee address.
- Owner can add pool.
- Owner can change:
 - referral bonus;
 - deposit fee in basis points of pool;
 - allocation points of pool;
 - block number in pool from which is allowed to receive reward;
 - block number in pool from which is not allowed to stake and generate rewards;
 - emission rate;
 - block number from which contract should start reduce emission rate;
 - referral bonus;

FAANGOOrchestrator:

- Owner can add pool.
- Owner can change start block.

Conclusion

Smart contracts contain low severity issues!

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.



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