



METATRUST

Draft
Security Assessment for
**192-2022-12-tigris
(1Positive-WOI)**






July 23, 2023

Executive Summary

Overview			
Project Name	192-2022-12-tigris (1Positive-WOI)	Critical Issues	The issue can cause large economic losses, large-scale data disorder, loss of control of authority management, failure of key functions, or indirectly affect the correct operation of other smart contracts interacting with it.
Codebase URL	https://github.com/code-423n4/2022-12-tigris	High Risk Issues	The issue puts a large number of users' sensitive information at risk or is reasonably likely to lead to catastrophic impacts on clients' reputations or serious financial implications for clients and users.
Scan Engine	AI Analyzer	Medium Risk Issues	The issue puts a subset of users' sensitive information at risk, would be detrimental to the client's reputation if exploited, or is reasonably likely to lead to moderate financial impact.
Scan Time	2023/07/23 21:55:32	Low Risk Issues	The risk is relatively small and could not be exploited on a recurring basis, or is a risk that the client has indicated is low-impact in view of the client's business circumstances.
Commit Id	588c84b	Informational Issue	The issue does not pose an immediate risk but is relevant to security best practices or Defence in Depth.

Total	
Critical Issues	0
High risk Issues	1
Medium risk Issues	0
Low risk Issues	0
Informational Issues	0



	Critical Issues	0%	0
	High risk Issues	100%	1
	Medium risk Issues	0%	0
	Low risk Issues	0%	0
	Informational Issues	0%	0

Summary of Findings

MetaScan security assessment was performed on **July 23, 2023 21:55:32** on project **192-2022-12-tigris (1Positive-WOI)** with the repository **<https://github.com/code-423n4/2022-12-tigris>** on branch **default branch**. The assessment was carried out by scanning the project's codebase using the scan engine **AI Analyzer**. There are in total **1** vulnerabilities / security risks discovered during the scanning session, among which **0** critical vulnerabilities, **1** high risk vulnerabilities, **0** medium risk vulnerabilities, **0** low risk vulnerabilities, **0** informational issues.

ID	Description	Severity
MSA-001	MWE-209: Wrong Order for Interest or ExchangeRate	High risk



Findings

Critical (0)

No Critical vulnerabilities found here

High risk (1)

1. MWE-209: Wrong Order for Interest or ExchangeRate

 High risk Security Analyzer

Update of interest or exchange rate should be executed before calculating new balance, share, stake, loan or fee.

File(s) Affected

contracts/Trading.sol #255-305

```
255     function addToPosition(  
256         uint _id,  
257         uint _addMargin,  
258         PriceData calldata _priceData,  
259         bytes calldata _signature,  
260         address _stableVault,  
261         address _marginAsset,  
262         ERC20PermitData calldata _permitData,  
263         address _trader  
264     )  
265     external  
266     {  
267         _validateProxy(_trader);  
268         _checkOwner(_id, _trader);  
269         _checkDelay(_id, true);  
270         IPosition.Trade memory _trade = position.trades(_id);  
271         tradingExtension.validateTrade(_trade.asset, _trade.tigAsset, _trade.margin + _addMargin, _trade.  
272         _checkVault(_stableVault, _marginAsset);  
273         if (_trade.orderType != 0) revert("4"); //IsLimit  
274         uint _fee = _handleOpenFees(_trade.asset, _addMargin*_trade.leverage/1e18, _trader, _trade.tig?  
275         _handleDeposit(  
276             _trade.tigAsset,  
277             _marginAsset,  
278             _addMargin - _fee,  
279             _stableVault,  
280             _permitData,  
281             _trader  
282         );  
283         position.setAccInterest(_id);  
284         unchecked {  
285             (uint256 _price,) = tradingExtension.getVerifiedPrice(_trade.asset, _priceData, _signature,  
286             uint _positionSize = (_addMargin - _fee) * _trade.leverage / 1e18;  
287             if (_trade.direction) {  
288                 tradingExtension.modifyLongOi(_trade.asset, _trade.tigAsset, true, _positionSize);  
289             } else {  
290                 tradingExtension.modifyShortOi(_trade.asset, _trade.tigAsset, true, _positionSize);  
291             }  
292             _updateFunding(_trade.asset, _trade.tigAsset);  
293             _addMargin -= _fee;  
294             uint _newMargin = _trade.margin + _addMargin;  
295             uint _newPrice = _trade.price*_trade.margin/_newMargin + _price*_addMargin/_newMargin;  
296  
297             position.addToPosition(  
298                 _trade.id,  
299                 _newMargin,  
300                 _newPrice  
301             );  
302  
303             emit AddToPosition(_trade.id, _newMargin, _newPrice, _trade.trader);  
304         }  
305     }
```

Recommendation

Check the business logic and move the statements about updating exchange rate or interest forward.

Medium risk (0)

No Medium risk vulnerabilities found here

Low risk (0)

No Low risk vulnerabilities found here

Informational (0)

No Informational vulnerabilities found here

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