

Draft Security Assessment for

54-2021-11-unlock (10K-UT)

July 23, 2023

The issue can cause large economic losses, large-scale data disorder, loss of control of authority



Executive Summary

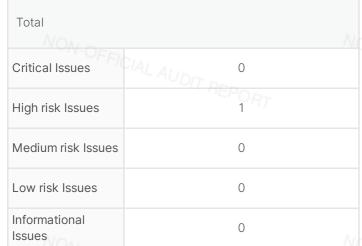
Overview	Overview Open Advantage (2004)		
Project Name	54-2021-11-unlock (10K-UT)		
Codebase URL	https://github.com/code-423n4/2021- 11-unlock		
Scan Engine	Al Analyzer		
Scan Time	2023/07/23 22:55:20		
Commit Id	84086b6		

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	Critical Issues	management, failure of key functions, or indirectly affect the correct operation of other smart contracts interacting with it.
	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.
	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.
	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.
	Informational Issue	The issue does not pose an immediate risk but is relevant to security best practices or Defence in Depth.

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Critical Issues







Summary of Findings

MetaScan security assessment was performed on July 23, 2023 22:55:20 on project 54-2021-11-unlock (10K-UT) with the repository https://github.com/code-423n4/2021-11-unlock on branch default branch. The assessment was carried out by scanning the project's codebase using the scan engine Al 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-207: Unauthorized Transfer	High risk



Findings



Critical (0)

No Critical vulnerabilities found here

FICIAL AUDIT REPORT 4 High risk (1)



1. MWE-207: Unauthorized Transfer

← High risk

Security Analyzer

The contract allows transferring tokens from an address different from the message sender without checking the approval of the address owner.

File	S	Affected

s(s) Affecteu



smart-contracts/contracts/mixins/MixinTransfer.sol #109-166

```
function transferFrom(
        address from,
        address _recipient,
        uint _tokenId
114 public
        onlyIfAlive
        hasValidKey(_from)
        onlyKeyManagerOrApproved(_tokenId)
        require(ownerOf(_tokenId) == _from, 'TRANSFER_FROM: NOT_KEY_OWNER');
        require(transferFeeBasisPoints < BASIS_POINTS_DEN, 'KEY_TRANSFERS_DISABLED');</pre>
        require(_recipient != address(0), 'INVALID_ADDRESS');
        uint fee = getTransferFee(_from, 0);
        Key storage fromKey = keyByOwner[_from];
        Key storage toKey = keyByOwner[_recipient];
        uint previousExpiration = toKey.expirationTimestamp,

// subtract the fee from the senders key before the transfer
        if (toKey.tokenId == 0) {
         toKey.tokenId = _tokenId;
          _recordOwner(_recipient, _tokenId);
          // Clear any previous approvals
          _clearApproval(_tokenId);
                                                                                                       NON-OFFI
        if (previousExpiration <= block.timestamp) {</pre>
          // The recipient did not have a key, or had a key but it expired. The new expiration is the sende
          // An expired key is no longer a valid key, so the new tokenID is the sender's tokenID
          toKey.expirationTimestamp = fromKey.expirationTimestamp;
          toKey.tokenId = _tokenId;
          // Reset the key Manager to the key owner
          _setKeyManagerOf(_tokenId, address(0));
          _recordOwner(_recipient, _tokenId);
        } else {
          // The recipient has a non expired key. We just add them the corresponding remaining time
          // The recipient has a non capital all.
// SafeSub is not required since the if confirms `previousExpiration - block.timestamp` cannot up
          toKey.expirationTimestamp = fromKey.expirationTimestamp + previousExpiration - block.timestamp;
                                                                        UDIT REPORT
        }
        // Effectively expiring the key for the previous owner
        fromKey.expirationTimestamp = block.timestamp;
        // Set the tokenID to 0 for the previous owner to avoid duplicates
        fromKev.tokenId = 0;
        // trigger event
        emit Transfer(
          _from,
          _recipient,
          _tokenId
```



```
166 }
```

Recommendation

Check the business logic about the transfer and add the approval check if necessary.



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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