## **Registration Smart Contract**

Parameter Registration.registerEntity(address,Registration.EntityType).\_entityAddress (Registration.sol#36) is not in mixedCase Parameter Registration.registerEntity(address,Registration.EntityType).\_entityType (Registration.sol#36) is not in mixedCase Parameter Registration.removeEntity(address).\_entityAddress (Registration.sol#46) is not in mixedCase Parameter Registration.getEntity(address).\_entityAddress (Registration.sol#52) is not in mixedCase Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions Registration.sol analyzed (1 contracts with 81 detectors), 4 result(s) found

## **Verifier Smart Contract**

Pairing.addition(Pairing.G1Point,Pairing.G1Point) (Verifier.sol#40-53) uses assembly

- INLINE ASM (Verifier.sol#47-51)

Pairing.scalar\_mul(Pairing.G1Point,uint256) (Verifier.sol#58-70) uses assembly

- INLINE ASM (Verifier.sol#64-68)

Pairing.pairing(Pairing.G1Point[],Pairing.G2Point[]) (Verifier.sol#75-98) uses assembly

- INLINE ASM (Verifier.sol#91-95)

Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#assembly-usage Verifier.sol analyzed (2 contracts with  $81 \pm 1$  detectors), 3 result(s) found

## **Violation Reporting Smart Contract**

```
Reentrancy in ViolationsReporting.grantAccess(address) (ViolationReporting.sol#341-345):
       External calls:

    onlyVerifyingOracle() (ViolationReporting.sol#341)

       - (entitytype,isRegistered) = Registration.getEntity(msg.sender) (ViolationReporting.sol#297) State variables written after the call(s):
       - accessWhitelist[_user] = true (ViolationReporting.sol#342)
Reentrancy in ViolationsReporting.recordViolation(string,int256,int256) (ViolationReporting.sol#314-319):
       External calls:
       - onlyReportingOracle() (ViolationReporting.sol#314)
               - (entitytype,isRegistered) = Registration.getEntity(msg.sender) (ViolationReporting.sol#285)
       State variables written after the call(s):
       - nonReentrant() (ViolationReporting.sol#314)
             - _status = _NOT_ENTERED (ViolationReporting.sol#71)
- _status = _ENTERED (ViolationReporting.sol#65)

    reportCount ++ (ViolationReporting.sol#315)

       - violationReports[reportCount] = ViolationReport(msg.sender,block.timestamp, latitude, longitude,bytes32(bytes(_evidencehash)),true) (ViolationReporting.sol#316)
Reentrancy in ViolationsReporting.revokeAccess(address) (ViolationReporting.sol#348-351):
       External calls:
       - onlyRegulatoryAuthority() (ViolationReporting.sol#348)
                (entitytype,isRegistered) = Registration.getEntity(msg.sender) (ViolationReporting.sol#279)
       State variables written after the call(s):
       - accessWhitelist[ user] = false (ViolationReporting.sol#349)
Reentrancy in ViolationsReporting.updateVerifier(address) (ViolationReporting.sol#354-357):
       - onlyRegulatoryAuthority() (ViolationReporting.sol#354)
       - (entitytype,isRegistered) = Registration.getEntity(msg.sender) (ViolationReporting.sol#279) State variables written after the call(s):
        Verifier = IVerifier(_verifier) (ViolationReporting.sol#355)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-2
Reentrancy in ViolationsReporting.grantAccess(address) (ViolationReporting.sol#341-345):
       External calls:
       - onlyVerifyingOracle() (ViolationReporting.sol#341)
              - (entitytype,isRegistered) = Registration.getEntity(msg.sender) (ViolationReporting.sol#297)
       Event emitted after the call(s):
       - Whitelisted(_user,block.timestamp) (ViolationReporting.sol#343)
Reentrancy in ViolationsReporting.recordViolation(string,int256,int256) (ViolationReporting.sol#314-319):
       External calls:
       - onlyReportingOracle() (ViolationReporting.sol#314)
               - (entitytype,isRegistered) = Registration.getEntity(msg.sender) (ViolationReporting.sol#285)
       Event emitted after the call(s):
       - NewViolationReport(reportCount,msg.sender,_latitude,_longitude,block.timestamp,bytes32(bytes(_evidencehash))) (ViolationReporting.sol#318)
Reentrancy in ViolationsReporting.revokeAccess(address) (ViolationReporting.sol#348-351):
       External calls:
       - onlyRegulatoryAuthority() (ViolationReporting.sol#348)
               - (entitytype,isRegistered) = Registration.getEntity(msg.sender) (ViolationReporting.sol#279)
       Event emitted after the call(s):
       - AccessRevoked(msg.sender,_user,block.timestamp) (ViolationReporting.sol#350)
Reentrancy in ViolationsReporting.revokeReportValidity(uint256) (ViolationReporting.sol#329-336):
          External calls:
           - onlyRegulatoryAuthority() (ViolationReporting.sol#329)
                     - (entitytype,isRegistered) = Registration.getEntity(msg.sender) (ViolationReporting.sol#279)
           Event emitted after the call(s):
           - ReportValidityRevoked(msg.sender,_violationReportId,block.timestamp) (ViolationReporting.sol#335)
Reentrancy in ViolationsReporting.updateVerifier(address) (ViolationReporting.sol#354-357):
           External calls:
           - onlyRegulatoryAuthority() (ViolationReporting.sol#354)
                      - (entitytype,isRegistered) = Registration.getEntity(msg.sender) (ViolationReporting.sol#279)
           Event emitted after the call(s):
           - VerifierUpdated(msg.sender,_verifier,block.timestamp) (ViolationReporting.sol#356)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3
ReentrancyGuard._reentrancyGuardEntered() (ViolationReporting.sol#78-80) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code
ViolationReporting.sol analyzed (5 contracts with 81 detectors), 10 result(s) found
```