



DeBridge – Contracts v1

Smart Contract Security Audit

Prepared by: Halborn

Date of Engagement: November 15th, 2022 – November 18th, 2022

Visit: Halborn.com

DOCUMENT REVISION HISTORY	3
CONTACTS	4
1 EXECUTIVE OVERVIEW	5
1.1 INTRODUCTION	6
1.2 AUDIT SUMMARY	6
1.3 TEST APPROACH & METHODOLOGY	6
RISK METHODOLOGY	7
1.4 SCOPE	9
2 ASSESSMENT SUMMARY & FINDINGS OVERVIEW	10
3 FINDINGS & TECH DETAILS	11
3.1 (HAL-01) USE ++I INSTEAD OF I++ IN LOOPS FOR GAS OPTIMIZATION - INFORMATIONAL	13
Description	13
Code Location	13
Risk Level	19
Recommendation	19
Remediation Plan	19
3.2 (HAL-02) ZERO ADDRESS NOT CHECKED - INFORMATIONAL	20
Description	20
Code Location	20
Risk Level	22
Recommendation	22
Remediation Plan	22
4 MANUAL TESTING	23
5 AUTOMATED TESTING	25

5.1	STATIC ANALYSIS REPORT	26
	Description	26
	Slither results	26
5.2	AUTOMATED SECURITY SCAN	43
	Description	43
	MythX results	43

DOCUMENT REVISION HISTORY

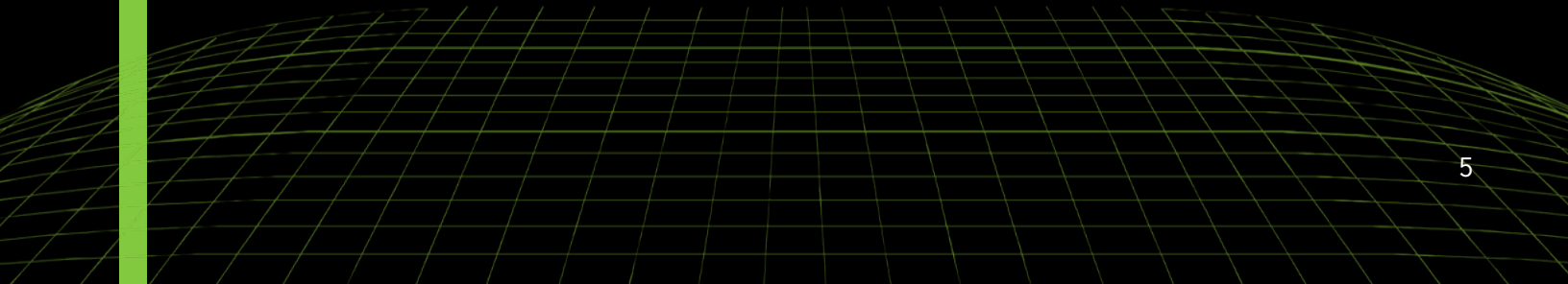
VERSION	MODIFICATION	DATE	AUTHOR
0.1	Document Creation	11/16/2022	Omar Alshaeb
0.2	Draft Review	11/18/2022	Kubilay Onur Gungor
0.3	Draft Review	11/18/2022	Gabi Urrutia
1.0	Remediation Plan	02/07/2023	Omar Alshaeb
1.1	Remediation Plan Review	02/07/2023	Roberto Reigada
1.2	Remediation Plan Review	02/07/2023	Piotr Cielas
1.3	Remediation Plan Review	02/07/2023	Gabi Urrutia

CONTACTS

CONTACT	COMPANY	EMAIL
Rob Behnke	Halborn	Rob.Behnke@halborn.com
Steven Walbroehl	Halborn	Steven.Walbroehl@halborn.com
Gabi Urrutia	Halborn	Gabi.Urrutia@halborn.com
Omar Alshaeb	Halborn	Omar.Alshaeb@halborn.com
Roberto Reigada	Halborn	Roberto.Reigada@halborn.com
Piotr Cielas	Halborn	Piotr.Cielas@halborn.com



EXECUTIVE OVERVIEW



1.1 INTRODUCTION

DeBridge is a cross-chain interoperability and liquidity transfer protocol that allows truly decentralized transfer of assets between various blockchains.

DeBridge engaged Halborn to conduct a security audit on their smart contracts beginning on November 15th, 2022 and ending on November 18th, 2022. The security assessment was scoped to the smart contracts provided to the Halborn team.

1.2 AUDIT SUMMARY

The team at Halborn was provided one week for the engagement and assigned a full-time security engineer to audit the security of the smart contract. The security engineer is a blockchain and smart-contract security expert with advanced penetration testing, smart-contract hacking, and deep knowledge of multiple blockchain protocols.

The purpose of this audit is to:

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

In summary, Halborn identified two informational findings that were acknowledged by the DeBridge team.

1.3 TEST APPROACH & METHODOLOGY

Halborn performed a combination of manual and automated security testing to balance efficiency, timeliness, practicality, and accuracy in regard to the scope of this audit. While manual testing is recommended to uncover flaws in logic, process, and implementation; automated testing techniques

help enhance coverage of the bridge code and can quickly identify items that do not follow security best practices. The following phases and associated tools were used throughout the term of the audit:

- Research into architecture and purpose
- Smart contract manual code review and walkthrough
- Graphing out functionality and contract logic/connectivity/functions ([solgraph](#))
- Manual assessment of use and safety for the critical Solidity variables and functions in scope to identify any arithmetic related vulnerability classes
- Manual testing by custom scripts
- Scanning of solidity files for vulnerabilities, security hotspots or bugs. ([MythX](#))
- Static Analysis of security for scoped contract, and imported functions. ([Slither](#))
- Testnet deployment ([Brownie](#), [Remix IDE](#))

RISK METHODOLOGY:

Vulnerabilities or issues observed by Halborn are ranked based on the risk assessment methodology by measuring the **LIKELIHOOD** of a security incident and the **IMPACT** should an incident occur. This framework works for communicating the characteristics and impacts of technology vulnerabilities. The quantitative model ensures repeatable and accurate measurement while enabling users to see the underlying vulnerability characteristics that were used to generate the Risk scores. For every vulnerability, a risk level will be calculated on a scale of 5 to 1 with 5 being the highest likelihood or impact.

RISK SCALE - LIKELIHOOD

- 5 - Almost certain an incident will occur.
- 4 - High probability of an incident occurring.
- 3 - Potential of a security incident in the long term.
- 2 - Low probability of an incident occurring.
- 1 - Very unlikely issue will cause an incident.

RISK SCALE - IMPACT

- 5 - May cause devastating and unrecoverable impact or loss.
- 4 - May cause a significant level of impact or loss.
- 3 - May cause a partial impact or loss to many.
- 2 - May cause temporary impact or loss.
- 1 - May cause minimal or un-noticeable impact.

The risk level is then calculated using a sum of these two values, creating a value of 10 to 1 with 10 being the highest level of security risk.

CRITICAL	HIGH	MEDIUM	LOW	INFORMATIONAL
----------	------	--------	-----	---------------

- 10 - CRITICAL
- 9 - 8 - HIGH
- 7 - 6 - MEDIUM
- 5 - 4 - LOW
- 3 - 1 - VERY LOW AND INFORMATIONAL

1.4 SCOPE

IN-SCOPE:

The security assessment was scoped to the following [smart contracts](#):

- [contracts/libraries/Flags.sol](#)
- [contracts/libraries/SignatureUtil.sol](#)
- [contracts/periphery/CallProxy.sol](#)
- [contracts/periphery/DeBridgeToken.sol](#)
- [contracts/periphery/DeBridgeTokenPaused.sol](#)
- [contracts/periphery/DeBridgeTokenProxy.sol](#)
- [contracts/periphery/FeeProxy.sol](#)
- [contracts/periphery/FeesCalculator.sol](#)
- [contracts/periphery/SimpleFeeProxy.sol](#)
- [contracts/periphery/UpgradeableBeacon.sol](#)
- [contracts/transfers/DeBridgeGate.sol](#)
- [contracts/transfers/DeBridgeTokenDeployer.sol](#)
- [contracts/transfers/OraclesManager.sol](#)
- [contracts/transfers/SignatureVerifier.sol](#)
- [contracts/transfers/WethGate.sol](#)

Commit ID: [a542b0bba3274aea8a9af7b087b8c9b3c8e0619b](#)

- DeBridgeGate old deployed implementation address:

[0x24455aa55DED7728783c9474bE8eA2f5C935f8EB](#)

- DeBridgeGate new deployed implementation address:

[0x797161BCC625155D2302251404ccB93c2632658e](#)

2. ASSESSMENT SUMMARY & FINDINGS OVERVIEW

CRITICAL	HIGH	MEDIUM	LOW	INFORMATIONAL
0	0	0	0	2

LIKELIHOOD

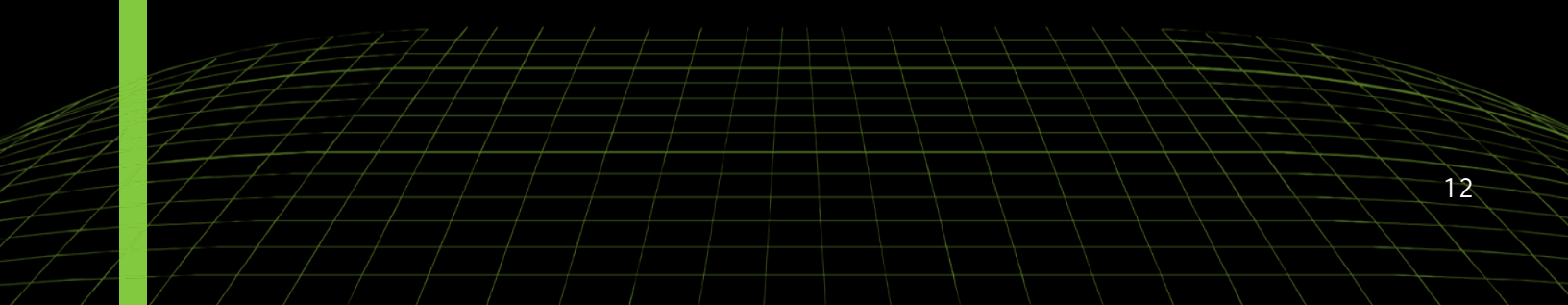
IMPACT

	(HAL-01) (HAL-02)			

SECURITY ANALYSIS	RISK LEVEL	REMEDATION DATE
HAL01 - USE ++I INSTEAD OF I++ IN LOOPS FOR GAS OPTIMIZATION	Informational	ACKNOWLEDGED
HAL02 - ZERO ADDRESS NOT CHECKED	Informational	ACKNOWLEDGED



FINDINGS & TECH DETAILS



3.1 (HAL-01) USE ++I INSTEAD OF I++ IN LOOPS FOR GAS OPTIMIZATION - INFORMATIONAL

Description:

In various code sections, within the loops, the variable `i` is incremented using `i++`. It is known that, in loops, using `++i` costs less gas per iteration than `i++`. This also affects variables incremented inside the loop code block.

Code Location:

Listing 1: DeBridgeToken.sol (Line 71)

```

54  function initialize(
55      string memory name_,
56      string memory symbol_,
57      uint8 decimals_,
58      address admin,
59      address[] memory minters
60 ) public initializer {
61     _decimals = decimals_;
62     name_ = string(abi.encodePacked("deBridge ",
63         bytes(name_).length == 0 ? symbol_ : name_));
64     symbol_ = string(abi.encodePacked("de", symbol_));
65
66     __ERC20_init_unchained(name_, symbol_);
67
68     _setupRole(DEFAULT_ADMIN_ROLE, admin);
69     _setupRole(PAUSER_ROLE, admin);
70     uint256 mintersCount = minters.length;
71     for (uint256 i = 0; i < mintersCount; i++) {
72         _setupRole(MINTER_ROLE, minters[i]);
73     }
74
75     uint256 chainId;
76     assembly {
77         chainId := chainid()

```

```

78     }
79     DOMAIN_SEPARATOR = keccak256(
80         abi.encode(
81             keccak256(
82                 "EIP712Domain(string name,string version,uint256
↳ chainId,address verifyingContract)"
83             ),
84             keccak256(bytes(name_)),
85             keccak256(bytes("1")),
86             chainId,
87             address(this)
88         )
89     );
90 }

```

Listing 2: DeBridgeGate.sol (Line 387)

```

381 function updateChainSupport(
382     uint256[] memory _chainIds,
383     ChainSupportInfo[] memory _chainSupportInfo,
384     bool _isChainFrom
385 ) external onlyAdmin {
386     if (_chainIds.length != _chainSupportInfo.length) revert
↳ WrongArgument();
387     for (uint256 i = 0; i < _chainIds.length; i++) {
388         if(_isChainFrom){
389             getChainFromConfig[_chainIds[i]] = _chainSupportInfo[i
↳ ];
390         }
391         else {
392             getChainToConfig[_chainIds[i]] = _chainSupportInfo[i];
393         }
394         emit ChainsSupportUpdated(_chainIds[i], _chainSupportInfo[
↳ i], _isChainFrom);
395     }
396 }

```

Listing 3: DeBridgeGate.sol (Line 421)

```

414 function updateAssetFixedFees(
415     bytes32 _debridgeId,
416     uint256[] memory _supportedChainIds,
417     uint256[] memory _assetFeesInfo

```

```

418 ) external onlyAdmin {
419     if (_supportedChainIds.length != _assetFeesInfo.length) revert
    ↳ WrongArgument();
420     DebridgeFeeInfo storage debridgeFee = getDebridgeFeeInfo[
    ↳ _debridgeId];
421     for (uint256 i = 0; i < _supportedChainIds.length; i++) {
422         debridgeFee.getChainFee[_supportedChainIds[i]] =
    ↳ _assetFeesInfo[i];
423     }
424 }

```

Listing 4: DeBridgeGate.sol (Line 538)

```

537 function blockSubmission(bytes32[] memory _submissionIds, bool
    ↳ isBlocked) external onlyAdmin {
538     for (uint256 i = 0; i < _submissionIds.length; i++) {
539         isBlockedSubmission[_submissionIds[i]] = isBlocked;
540         if (isBlocked) {
541             emit Blocked(_submissionIds[i]);
542         } else {
543             emit Unblocked(_submissionIds[i]);
544         }
545     }
546 }

```

Listing 5: DeBridgeTokenDeployer.sol (Line 181)

```

176 function setOverridedTokenInfo (
177     bytes32[] memory _debridgeIds,
178     OverridedTokenInfo[] memory _tokens
179 ) external onlyAdmin {
180     if (_debridgeIds.length != _tokens.length) revert
    ↳ WrongArgument();
181     for (uint256 i = 0; i < _debridgeIds.length; i++) {
182         overridedTokens[_debridgeIds[i]] = _tokens[i];
183     }
184 }

```

Listing 6: SignatureVerifier.sol (Lines 73,77)

```

58 function submit(
59     bytes32 _submissionId,

```

```

60     bytes memory _signatures,
61     uint8 _excessConfirmations
62 ) external override onlyDeBridgeGate {
63     //Need confirmation to confirm submission
64     uint8 needConfirmations = _excessConfirmations >
    ↳ minConfirmations
65         ? _excessConfirmations
66         : minConfirmations;
67     // Count of required(DSRM) oracles confirmation
68     uint256 currentRequiredOraclesCount;
69     // stack variable to aggregate confirmations and write to
    ↳ storage once
70     uint8 confirmations;
71     uint256 signaturesCount = _countSignatures(_signatures);
72     address[] memory validators = new address[](signaturesCount);
73     for (uint256 i = 0; i < signaturesCount; i++) {
74         (bytes32 r, bytes32 s, uint8 v) = _signatures.
    ↳ parseSignature(i * 65);
75         address oracle = ecrecover(_submissionId.getUnsignedMsg(),
    ↳ v, r, s);
76         if (getOracleInfo[oracle].isValid) {
77             for (uint256 k = 0; k < i; k++) {
78                 if (validators[k] == oracle) revert
    ↳ DuplicateSignatures();
79             }
80             validators[i] = oracle;
81
82             confirmations += 1;
83             emit Confirmed(_submissionId, oracle);
84             if (getOracleInfo[oracle].required) {
85                 currentRequiredOraclesCount += 1;
86             }
87             if (
88                 confirmations >= needConfirmations &&
89                 currentRequiredOraclesCount >=
    ↳ requiredOraclesCount
90             ) {
91                 break;
92             }
93         }
94     }
95
96     if (currentRequiredOraclesCount != requiredOraclesCount)
97         revert NotConfirmedByRequiredOracles();

```

```

98
99     if (confirmations >= minConfirmations) {
100         if (currentBlock == uint40(block.number)) {
101             submissionsInBlock += 1;
102         } else {
103             currentBlock = uint40(block.number);
104             submissionsInBlock = 1;
105         }
106         emit SubmissionApproved(_submissionId);
107     }
108
109     if (submissionsInBlock > confirmationThreshold) {
110         if (confirmations < excessConfirmations) revert
111         ↳ NotConfirmedThreshold();
112     }
113     if (confirmations < needConfirmations) revert
114     ↳ SubmissionNotConfirmed();

```

Listing 7: OraclesManager.sol (Line 89)

```

82     function addOracles(
83         address[] memory _oracles,
84         bool[] memory _required
85     ) external onlyAdmin {
86         if (_oracles.length != _required.length) revert WrongArgument
87         ↳ ();
88         if (minConfirmations < (oracleAddresses.length + _oracles.
89         ↳ length) / 2 + 1) revert LowMinConfirmations();
90         for (uint256 i = 0; i < _oracles.length; i++) {
91             OracleInfo storage oracleInfo = getOracleInfo[_oracles[i]
92             ↳ []];
93             if (oracleInfo.exist) revert OracleAlreadyExist();
94
95             oracleAddresses.push(_oracles[i]);
96
97             if (_required[i]) {
98                 requiredOraclesCount += 1;
99             }
100
101             oracleInfo.exist = true;
102             oracleInfo.isValid = true;

```

```

101         oracleInfo.required = _required[i];
102
103         emit AddOracle(_oracles[i], _required[i]);
104     }
105 }

```

Listing 8: OraclesManager.sol (Line 129)

```

111     function updateOracle(
112         address _oracle,
113         bool _isValid,
114         bool _required
115     ) external onlyAdmin {
116         //If oracle is invalid, it must be not required
117         if (!_isValid && _required) revert WrongArgument();
118
119         OracleInfo storage oracleInfo = getOracleInfo[_oracle];
120         if (!oracleInfo.exist) revert OracleNotFound();
121
122         if (oracleInfo.required && !_required) {
123             requiredOraclesCount -= 1;
124         } else if (!oracleInfo.required && _required) {
125             requiredOraclesCount += 1;
126         }
127         if (oracleInfo.isValid && !_isValid) {
128             // remove oracle from oracleAddresses array without
129             ↳ keeping an order
130             for (uint256 i = 0; i < oracleAddresses.length; i++) {
131                 if (oracleAddresses[i] == _oracle) {
132                     oracleAddresses[i] = oracleAddresses[
133                         ↳ oracleAddresses.length - 1];
134                     oracleAddresses.pop();
135                     break;
136                 }
137             }
138             } else if (!oracleInfo.isValid && _isValid) {
139                 if (minConfirmations < (oracleAddresses.length + 1) / 2 +
140                 ↳ 1) revert LowMinConfirmations();
141                 oracleAddresses.push(_oracle);
142             }
143             oracleInfo.isValid = _isValid;
144             oracleInfo.required = _required;
145             emit UpdateOracle(_oracle, _required, _isValid);
146         }

```

Risk Level:

Likelihood - 2

Impact - 1

Recommendation:

It is recommended to use `++i` instead of `i++` to increment the value of a `uint` variable inside a loop. This also applies to variables declared inside the `for` loop, but does not apply outside of loops.

Remediation Plan:

ACKNOWLEDGED: The DeBridge team acknowledged this issue.

3.2 (HAL-02) ZERO ADDRESS NOT CHECKED – INFORMATIONAL

Description:

In some code sections, contract address variables are not being checked to avoid pointing to the zero address.

Code Location:

Listing 9: WethGate.sol (Line 27)

```
26  constructor(IWETH _weth) {
27      weth = _weth;
28  }
```

Listing 10: SignatureVerifier.sol (Line 128)

```
127  function setDebridgeAddress(address _debridgeAddress) external
    ↳ onlyAdmin {
128      debridgeAddress = _debridgeAddress;
129  }
```

Listing 11: DeBridgeTokenDeployer.sol (Lines 77,78,79)

```
72  function initialize(
73      address _tokenImplementation,
74      address _deBridgeTokenAdmin,
75      address _debridgeAddress
76 ) public initializer {
77      tokenImplementation = _tokenImplementation;
78      deBridgeTokenAdmin = _deBridgeTokenAdmin;
79      debridgeAddress = _debridgeAddress;
80
81      _setupRole(DEFAULT_ADMIN_ROLE, msg.sender);
82  }
```

Listing 12: DeBridgeGate.sol (Line 450)

```
449 function setCallProxy(address _callProxy) external onlyAdmin {  
450     callProxy = _callProxy;  
451     emit CallProxyUpdated(_callProxy);  
452 }
```

Listing 13: DeBridgeGate.sol (Line 477)

```
476 function setSignatureVerifier(address _verifier) external  
    ↳ onlyAdmin {  
477     signatureVerifier = _verifier;  
478 }
```

Listing 14: DeBridgeGate.sol (Line 483)

```
482 function setDeBridgeTokenDeployer(address _deBridgeTokenDeployer)  
    ↳ external onlyAdmin {  
483     deBridgeTokenDeployer = _deBridgeTokenDeployer;  
484 }
```

Listing 15: DeBridgeGate.sol (Line 489)

```
488 function setFeeContractUpdater(address _value) external  
    ↳ onlyAdmin {  
489     feeContractUpdater = _value;  
490 }
```

Listing 16: DeBridgeGate.sol (Line 495)

```
494 function setWethGate(IWethGate _wethGate) external onlyAdmin {  
495     wethGate = _wethGate;  
496 }
```

Listing 17: DeBridgeGate.sol (Line 531)

```
530 function setFeeProxy(address _feeProxy) external onlyAdmin {  
531     feeProxy = _feeProxy;  
532 }
```

Risk Level:

Likelihood - 2

Impact - 1

Recommendation:

When setting an address variable, always make sure the value is not zero.

Remediation Plan:

ACKNOWLEDGED: The DeBridge team acknowledged this issue.



MANUAL TESTING

Halborn performed several manual tests in the following contracts:

- `contracts/libraries/Flags.sol`
- `contracts/libraries/SignatureUtil.sol`
- `contracts/periphery/CallProxy.sol`
- `contracts/periphery/DeBridgeToken.sol`
- `contracts/periphery/DeBridgeTokenPaused.sol`
- `contracts/periphery/DeBridgeTokenProxy.sol`
- `contracts/periphery/FeeProxy.sol`
- `contracts/periphery/FeesCalculator.sol`
- `contracts/periphery/SimpleFeeProxy.sol`
- `contracts/periphery/UpgradeableBeacon.sol`
- `contracts/transfers/DeBridgeGate.sol`
- `contracts/transfers/DeBridgeTokenDeployer.sol`
- `contracts/transfers/OraclesManager.sol`
- `contracts/transfers/SignatureVerifier.sol`
- `contracts/transfers/WethGate.sol`

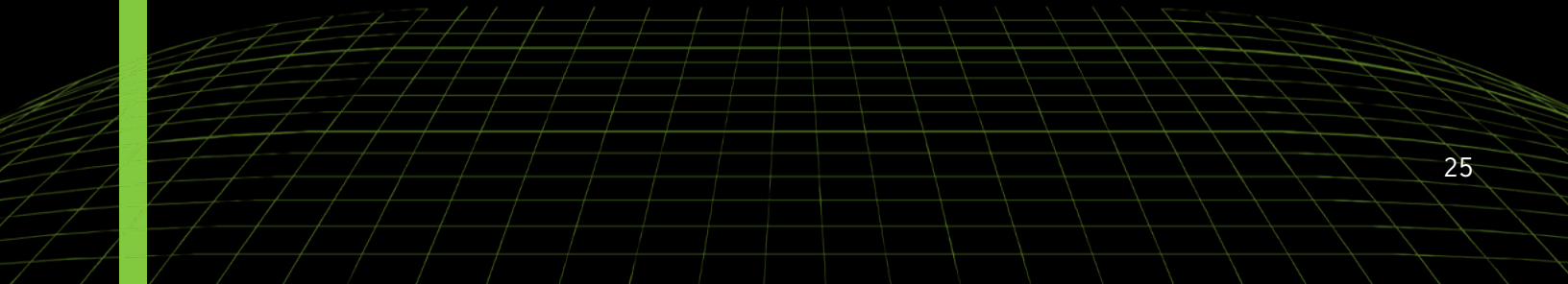
The manual tests were focused on testing the main functions of these contracts:

- `sendMessage()`
- `claim()`
- `_publishSubmission()`
- `deployNewAsset()`
- `addOracles()`
- `submit()`
- `withdraw()`
- `call()`
- `callERC20()`
- `permit()`
- `withdrawFee()`
- `withdrawNativeFee()`
- `updateAsset()`

No other issues than those mentioned during manual testing have been found.



AUTOMATED TESTING



5.1 STATIC ANALYSIS REPORT

Description:

Halborn used automated testing techniques to enhance the coverage of certain areas of the scoped contracts. Among the tools used was Slither, a Solidity static analysis framework. After Halborn verified all the contracts in the repository and was able to compile them correctly into their ABI and binary formats, Slither was run on the all-scoped contracts. This tool can statically verify mathematical relationships between Solidity variables to detect invalid or inconsistent usage of the contracts' APIs across the entire code-base.

Slither results:

contracts/libraries/Flags.sol

```
Flags.getFlag(uint256,uint256) (contracts/libraries/Flags.sol#24-30) is never used and should be removed
Flags.setFlag(uint256,uint256,bool) (contracts/libraries/Flags.sol#36-40) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Parameter Flags.getFlag(uint256,uint256)._packedFlags (contracts/libraries/Flags.sol#25) is not in mixedCase
Parameter Flags.getFlag(uint256,uint256)._flag (contracts/libraries/Flags.sol#26) is not in mixedCase
Parameter Flags.setFlag(uint256,uint256,bool)._packedFlags (contracts/libraries/Flags.sol#37) is not in mixedCase
Parameter Flags.setFlag(uint256,uint256,bool)._flag (contracts/libraries/Flags.sol#38) is not in mixedCase
Parameter Flags.setFlag(uint256,uint256,bool)._value (contracts/libraries/Flags.sol#39) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
```

contracts/libraries/SignatureUtil.sol

```
SignatureUtil.parseSignature(bytes,uint256) (contracts/libraries/SignatureUtil.sol#32-49) uses assembly
- INLINE ASM (contracts/libraries/SignatureUtil.sol#41-45)
SignatureUtil.toUint256(bytes,uint256) (contracts/libraries/SignatureUtil.sol#51-61) uses assembly
- INLINE ASM (contracts/libraries/SignatureUtil.sol#60-64)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#assembly-usage

SignatureUtil.getUnsignedMsg(bytes32) (contracts/libraries/SignatureUtil.sol#13-15) is never used and should be removed
SignatureUtil.parseSignature(bytes,uint256) (contracts/libraries/SignatureUtil.sol#32-49) is never used and should be removed
SignatureUtil.splitSignature(bytes) (contracts/libraries/SignatureUtil.sol#19-30) is never used and should be removed
SignatureUtil.toUint256(bytes,uint256) (contracts/libraries/SignatureUtil.sol#51-61) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Parameter SignatureUtil.getUnsignedMsg(bytes32)._submissionId (contracts/libraries/SignatureUtil.sol#13) is not in mixedCase
Parameter SignatureUtil.splitSignature(bytes)._signature (contracts/libraries/SignatureUtil.sol#19) is not in mixedCase
Parameter SignatureUtil.parseSignature(bytes,uint256)._signature (contracts/libraries/SignatureUtil.sol#32) is not in mixedCase
Parameter SignatureUtil.toUint256(bytes,uint256)._bytes (contracts/libraries/SignatureUtil.sol#51) is not in mixedCase
Parameter SignatureUtil.toUint256(bytes,uint256)._offset (contracts/libraries/SignatureUtil.sol#51) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
```

contracts/periphery/CallProxy.sol

```

BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) performs a multiplication on the result of a division:
-astore(uint256,uint256)(%c_concatStorage_asm_0 = aload(uint256)(%postsbyte = 0x20) / %div1m %32 = mlength_concatStorage_asm_0 * 0x100 ** 32 - mlength_concatStorage_asm_0 * mlength_concatSto
0)
BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) performs a multiplication on the result of a division:
-astore(uint256,uint256)(%c_concatStorage_asm_0 = aload(uint256)(%c_concatStorage_asm_0 / mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#189)
BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) performs a multiplication on the result of a division:
-astore(uint256,uint256)(%c_concatStorage_asm_0 = aload(uint256)(%c_concatStorage_asm_0 / mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#223)
BytesLib.equalStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#439-589) performs a multiplication on the result of a division:
-fload_equalStorage_asm_0 = fload_equalStorage_asm_0 / 0x100 * 0x100 (contracts/libraries/BytesLib.sol#446)
Reference: https://github.com/crytic/silther/wiki/Detector-Documentation#divide-before-multiply

CallProxy.call(address,address,bytes,uint256,bytes,uint256)..._reserveAddress (contracts/periphery/CallProxy.sol#75) lacks a zero-check on :
(success) = _reserveAddress.call(value: amount)(new bytes(0)) (contracts/periphery/CallProxy.sol#99)
Reference: https://github.com/crytic/silther/wiki/Detector-Documentation#missing-zero-address-validation

Variables 'BytesLib.concatStorage(bytes,bytes).%c_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#147)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
uint256(0x0,0x20) = slangib_concatStorage_asm_0 / 32 (contracts/libraries/BytesLib.sol#195)
Variable 'BytesLib.concatStorage(bytes,bytes).submod_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#161)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used bef
Used_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#206)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#162)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
d_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#208)
Variable 'BytesLib.concatStorage(bytes,bytes).submod_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#161)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used bef
Used_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#206)
Variable 'BytesLib.concatStorage(bytes,bytes).submod_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#161)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used bef
mod_concatStorage_asm_0 - 1 (contracts/libraries/BytesLib.sol#207)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#164)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
d_concatStorage_asm_0 - 1 (contracts/libraries/BytesLib.sol#207)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#162)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
m_0,slod(uint256)(%c_concatStorage_asm_0 = mload(uint256)(%c_concatStorage_asm_0) & mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#249)
Variable 'BytesLib.concatStorage(bytes,bytes).%c_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#167)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
m_0,slod(uint256)(%c_concatStorage_asm_0 = mload(uint256)(%c_concatStorage_asm_0) & mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#289)
Variable 'BytesLib.concatStorage(bytes,bytes).%c_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#164)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
asm_0,slod(uint256)(%c_concatStorage_asm_0 = mload(uint256)(%c_concatStorage_asm_0) & mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#289)
Variable 'BytesLib.concatStorage(bytes,bytes).%c_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#167)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
m_0 - 1 (contracts/libraries/BytesLib.sol#225)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#162)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
asm_0 - 0x20 (contracts/libraries/BytesLib.sol#213)
Variable 'BytesLib.concatStorage(bytes,bytes).end_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#163)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
asm_0 (contracts/libraries/BytesLib.sol#214)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#163)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
asm_0 (contracts/libraries/BytesLib.sol#214)
Variable 'BytesLib.concatStorage(bytes,bytes).end_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#163)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
atStorage_asm_0 - end_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#221)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#162)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
atStorage_asm_0 - end_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#221)
Variable 'BytesLib.concatStorage(bytes,bytes).mask_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#164)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
mcConcatStorage_asm_0 - 0 (contracts/libraries/BytesLib.sol#222)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#162)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
m_0,mload(uint256)(%c_concatStorage_asm_0) / mask_concatStorage_asm_0 & mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#223)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#167)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
m_0,mload(uint256)(%c_concatStorage_asm_0) / mask_concatStorage_asm_0 & mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#223)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#164)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
asm_0,mload(uint256)(%c_concatStorage_asm_0) / mask_concatStorage_asm_0 & mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#223)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#167)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
m_0,mload(uint256)(%c_concatStorage_asm_0) / mask_concatStorage_asm_0 & mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#223)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#167)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
m_0,mload(uint256)(%c_concatStorage_asm_0) / mask_concatStorage_asm_0 & mask_concatStorage_asm_0) (contracts/libraries/BytesLib.sol#223)
Variable 'BytesLib.concatStorage(bytes,bytes).mc_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#167)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
asm_0 - 1 (contracts/libraries/BytesLib.sol#215)
Variable 'BytesLib.concatStorage(bytes,bytes).%c_concatStorage_asm_0 (contracts/libraries/BytesLib.sol#167)' in BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) potentially used before
asm_0 - 0x20 (contracts/libraries/BytesLib.sol#216)
Reference: https://github.com/crytic/silther/wiki/Detector-Documentation#pre-declaration-usage-of-local-variables

Reentrancy in CallProxy.callERC20(address,address,bytes,uint256,bytes,uint256) (contracts/periphery/CallProxy.sol#185-138):
  External calls:
    -_customApprove(IERC20Upgradeable(%token),_receiver,amount) (contracts/periphery/CallProxy.sol#116)
      -returndata = address(token).functionCall(abi.encodeWithSelector(token.approve.selector,spender,value),ERC20 approve failed (contracts/periphery/CallProxy.sol#218-221))
      -success = _target.call(value: value)(data: (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
  External calls sending eth:
    -_customApprove(IERC20Upgradeable(%token),_receiver,amount) (contracts/periphery/CallProxy.sol#116)
      -success,returndata = _target.call(value: value)(data: (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
  State variables written after the call(s):
    -_result = _externalCall(_receiver,%data,_nativeSender,_chainIdFrom,_flags) (contracts/periphery/CallProxy.sol#118-125)
      -submitterChainIdFrom = _chainIdFrom (contracts/periphery/CallProxy.sol#177)
      -submitterChainIdFrom = 0 (contracts/periphery/CallProxy.sol#212)
    -_result = _externalCall(_receiver,%data,_nativeSender,_chainIdFrom,_flags) (contracts/periphery/CallProxy.sol#118-125)
      -submitterChainIdFrom = _nativeSender (contracts/periphery/CallProxy.sol#178)
      -submitterChainIdFrom = 0 (contracts/periphery/CallProxy.sol#213)
  Reference: https://github.com/crytic/silther/wiki/Detector-Documentation#reentrancy-vulnerabilities-2

AddressUpgradeable.isContract(address) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#27-37) uses assembly
  - INLINE ASM (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#33-35)
AddressUpgradeable.verifyCallResult(bytes,bytes,string) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#169-189) uses assembly
  - INLINE ASM (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#181-186)
BytesLib.concat(bytes,bytes) (contracts/libraries/BytesLib.sol#43-89) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#43-89)
BytesLib.concatStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#91-226) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#92-225)
BytesLib.slice(bytes,uint256,uint256) (contracts/libraries/BytesLib.sol#228-295) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#252-292)
BytesLib.toAddress(bytes,uint256) (contracts/libraries/BytesLib.sol#297-306) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#298-306)
BytesLib.toUint8(bytes,uint256) (contracts/libraries/BytesLib.sol#308-317) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#312-314)
BytesLib.toUint64(bytes,uint256) (contracts/libraries/BytesLib.sol#319-328) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#323-325)
BytesLib.toUint32(bytes,uint256) (contracts/libraries/BytesLib.sol#330-339) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#336-340)
BytesLib.toUint64(bytes,uint256) (contracts/libraries/BytesLib.sol#341-350) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#345-347)
BytesLib.toUint96(bytes,uint256) (contracts/libraries/BytesLib.sol#352-361) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#357-360)
BytesLib.toUint128(bytes,uint256) (contracts/libraries/BytesLib.sol#363-372) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#367-369)
BytesLib.toUint256(bytes,uint256) (contracts/libraries/BytesLib.sol#374-383) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#378-380)
BytesLib.toHexString(bytes,uint256) (contracts/libraries/BytesLib.sol#385-394) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#389-391)
BytesLib.equal(bytes,bytes) (contracts/libraries/BytesLib.sol#396-437) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#399-430)
BytesLib.equalStorage(bytes,bytes) (contracts/libraries/BytesLib.sol#439-589) uses assembly
  - INLINE ASM (contracts/libraries/BytesLib.sol#449-586)
MultisendCallOnly._multisend(bytes) (contracts/libraries/MultisendCallOnly.sol#21-68) uses assembly
  - INLINE ASM (contracts/libraries/MultisendCallOnly.sol#23-64)
CallProxy._externalCall(address,uint256,bytes,bytes,uint256,uint256) (contracts/periphery/CallProxy.sol#163-215) uses assembly
  - INLINE ASM (contracts/periphery/CallProxy.sol#167-190)
  - INLINE ASM (contracts/periphery/CallProxy.sol#206-208)
Reference: https://github.com/crytic/silther/wiki/Detector-Documentation#assembly-usage

Different versions of Solidity are used:
  - Version used: [">=0.7.0<0.9.0"], ">=0.8.0<0.9.0", "<0.8.0", "<0.8.7"]
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#4)
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#4)
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/proxy/utils/Initializable.sol#4)
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/IERC20Upgradeable.sol#4)
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#4)
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#4)
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#4)
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/utils/StringsUpgradeable.sol#4)
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/IERC165Upgradeable.sol#4)
  - "<0.8.0 (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/IERC165Upgradeable.sol#4)
  - "<0.8.7 (contracts/interfaces/ICallProxy.sol#2)
  - ">=0.8.0<0.9.0 (contracts/libraries/BytesLib.sol#9)
  - "<0.8.7 (contracts/libraries/Flags.sol#2)
  - ">=0.7.0<0.9.0 (contracts/libraries/MultisendCallOnly.sol#2)
  - "<0.8.7 (contracts/periphery/CallProxy.sol#2)
  Reference: https://github.com/crytic/silther/wiki/Detector-Documentation#different-pragma-directives-are-used

AccessControlUpgradeable._AccessControl_init() (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#51-55) is never used and should be removed
AccessControlUpgradeable._setRoleAdmin(bytes32,bytes32) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#283-287) is never used and should be removed

```



```
contracts/periphery/DeBridgeTokenProxy.sol
```

```

ERC1967/upgrade_upgradeToAndCall(address,bytes,bool) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#64-73) ignores return value by Address.functionDelegateCall(newImplementation,data) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#71)
ERC1967/upgrade_upgradeToAndCallSecure(address,bytes,bool) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#80-108) ignores return value by Address.functionDelegateCall(newImplementation,data) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#80)
ERC1967/upgrade_upgradeToAndCallSecure(address,bytes,bool) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#80-108) ignores return value by Address.functionDelegateCall(newImplementation,abi.encode(bytes)) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#98-101)
ERC1967/upgrade_upgradeBeaconToAndCall(address,bytes,bool) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#183-193) ignores return value by Address.functionDelegateCall(IBeacon(newBeacon).imp
s/proxy/ERC1967/ERC1967Upgrade.sol#191)
Reference: https://github.com/cryptic/ether/wiki/Detector-Documentation#unused-return

```

```
reentrancy in ERC1967Upgrade_upgradeToAndCallSecured(bytes, bool) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#880-1088):
  External call:
    - Address.functionDelegateCall(newImplementation, data) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#908)
    - Address.functionDelegateCall(newImplementation, abi.encodeWithSignature(UpgradeTo(address, oldImplementation)) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#909-911)
  Event emitted after the call(s):
    - Upgrade(newImplementation) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#856)
    - UpgradeTo(newImplementation) (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#860)
Reference: https://github.com/cryptic-eth/wiki/Detector-Documentation#reentrancy-vulnerabilities-3
```

```
Proxy_delegate(address) (node_modules/@openzeppelin/contracts/proxy/Proxy.sol#222-45) use assembly
    - INLINE ASM (node_modules/@openzeppelin/contracts/proxy/Proxy.sol#222-34)
    - INLINE ASM (node_modules/@openzeppelin/contracts/proxy/Proxy.sol#222-37) use assembly
    - INLINE ASM (node_modules/@openzeppelin/contracts/Utils/Address.sol#333-35)
    - INLINE ASM (node_modules/@openzeppelin/contracts/Utils/Address.sol#216-218) use assembly
    - INLINE ASM (node_modules/@openzeppelin/contracts/Utils/Address.sol#218-219)
    - INLINE ASM (node_modules/@openzeppelin/contracts/Utils/Address.sol#218-219) use assembly
    - INLINE ASM (node_modules/@openzeppelin/contracts/Utils/Address.sol#218-219) use assembly
StorageSlot_getAddressSlot(bytes12) (node_modules/@openzeppelin/contracts/Utils/StorageSlot.sol#162-166) use assembly
StorageSlot_getAddressSlot(bytes12) (node_modules/@openzeppelin/contracts/Utils/StorageSlot.sol#162-166) use assembly
StorageSlot_getBooleanSlot(bytes12) (node_modules/@openzeppelin/contracts/Utils/StorageSlot.sol#161-165) use assembly
    - INLINE ASM (node_modules/@openzeppelin/contracts/Utils/StorageSlot.sol#162-164)
StorageSlot_getBooleanSlot(bytes12) (node_modules/@openzeppelin/contracts/Utils/StorageSlot.sol#162-164) use assembly
StorageSlot_getBooleanSlot(bytes12) (node_modules/@openzeppelin/contracts/Utils/StorageSlot.sol#167-174) use assembly
    - INLINE ASM (node_modules/@openzeppelin/contracts/Utils/StorageSlot.sol#167-173)
StorageSlot_getUint256Slot(bytes12) (node_modules/@openzeppelin/contracts/Utils/StorageSlot.sol#167-173) use assembly
    - INLINE ASM (node_modules/@openzeppelin/contracts/Utils/StorageSlot.sol#167-173) use assembly
Reference: https://github.com/cyfrin/silver/wiki/Detector-Documentation#assembly-usage
```

```

Different versions of Soli are used:
- Version used: ["0.8.0", "0.8.2", "0.8.7"]
- ~0.8.0 (node_modules/openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#4)
- ~0.8.0 (node_modules/openzeppelin/contracts/proxy/beacon/BeaconProxy.sol#4)
- ~0.8.0 (node_modules/openzeppelin/contracts/proxy/beacon/BeaconProxy.sol#4)
- ~0.8.0 (node_modules/openzeppelin/contracts/proxy/beacon/BeaconProxy.sol#4)
- ~0.8.0 (node_modules/openzeppelin/contracts/utility/StorageSlot.sol#4)
- ~0.8.7 (contracts/priphery/BeidBridgeTokenProxy.sol#2)
Reference: https://github.com/crytic/silencer/wiki/Detector-Documentation#different-pragma-directives-are-used

```

```

Pragma version<0.8.2 (node_modules/@openzeppelin/contracts/proxy/ERC1967/ERC1967Upgrade.sol#4) allows old versions
Pragma version<0.8.0 (node_modules/@openzeppelin/contracts/proxy/Proxy.sol#4) allows old versions
Pragma version<0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/BeaconProxy.sol#4) allows old versions
Pragma version<0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/BeaconProxyImplementation.sol#4) allows old versions
Pragma version<0.8.0 (node_modules/@openzeppelin/contracts/utils/Address.sol#4) allows old versions
Pragma version<0.8.0 (node_modules/@openzeppelin/contracts/utils/StorageSlot.sol#4) allows old versions
Reference: https://github.com/crytic/sliether/wiki/Detector-Documentation#incorrect-versions-of-solidity

```

```
Low level call in Address.sendValue(address,uint256) (node_modules/@openzeppelin/contracts/utils/Address.sol#55-64):
- (success) = recipient.call(value: amount)( ) (node_modules/@openzeppelin/contracts/utils/Address.sol#58-64)
Low level call in Address.functionCallWithValue(address,bytes,uint256,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#123-134):
- (success,returnData) = target.call(value:value)(data) (node_modules/@openzeppelin/contracts/utils/Address.sol#132)
Low level call in Address.functionDelegateCall(address,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#152-161):
- (success,returnData) = target.staticCall(data) (node_modules/@openzeppelin/contracts/utils/Address.sol#159)
Low level call in Address.functionDelegateCall(address,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#179-188):
- (success,returnData) = target.delegatecall(data) (node_modules/@openzeppelin/contracts/utils/Address.sol#186)
Reference: https://github.com/cryptic/etherwiki/Detector-Documentation/Low-level-calls
```



```
contracts/periphery/SimpleFeeProxy.sol
```

33

contracts/periphery/UpgradeableBeacon.sol

```

Address.isContract(address) (node_modules/@openzeppelin/contracts/utils/Address.sol#27-37) uses assembly
    In:HE ASM (node_modules/@openzeppelin/contracts/utils/Address.sol#33-35)
Address.verifyCallResult(bool,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#196-216) uses assembly
    In:HE ASM (node_modules/@openzeppelin/contracts/utils/Address.sol#200-211)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#assembly-usage

Different versions of Solidity are used:
  Version used: ["0.8.0", "0.8.7"]
  - 0.8.0 (node_modules/@openzeppelin/contracts/access/AccessControl.sol#4)
  - 0.8.0 (node_modules/@openzeppelin/contracts/access/AccessControl.sol#4)
  - 0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/Beacon.sol#4)
  - 0.8.0 (node_modules/@openzeppelin/contracts/utils/Address.sol#4)
  - 0.8.0 (node_modules/@openzeppelin/contracts/utils/Context.sol#4)
  - 0.8.0 (node_modules/@openzeppelin/contracts/utils/Strings.sol#4)
  - 0.8.0 (node_modules/@openzeppelin/contracts/utils/introspection/ERC165.sol#4)
  - 0.8.0 (node_modules/@openzeppelin/contracts/utils/introspection/ERC165.sol#4)
  - 0.8.7 contracts/periphery/UpgradeableBeacon.sol#4
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#different-pragma-directives-are-used

AccessControl._setRoleAdmin(bytes32,bytes32) (node_modules/@openzeppelin/contracts/access/AccessControl.sol#194-198) is never used and should be removed
Address.functionCall(address,bytes) (node_modules/@openzeppelin/contracts/utils/Address.sol#80-82) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256) (node_modules/@openzeppelin/contracts/utils/Address.sol#98-100) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256) (node_modules/@openzeppelin/contracts/utils/Address.sol#109-115) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#123-134) is never used and should be removed
Address.functionDelegateCall(address,bytes) (node_modules/@openzeppelin/contracts/utils/Address.sol#169-171) is never used and should be removed
Address.functionDelegateCall(address,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#179-188) is never used and should be removed
Address.functionStaticCall(address,bytes) (node_modules/@openzeppelin/contracts/utils/Address.sol#142-144) is never used and should be removed
Address.functionStaticCall(address,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#152-161) is never used and should be removed
Address.sendValue(address,uint256) (node_modules/@openzeppelin/contracts/utils/Address.sol#65-68) is never used and should be removed
Address.verifyCallResult(bool,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#196-216) is never used and should be removed
Context._msgData() (node_modules/@openzeppelin/contracts/utils/Context.sol#22-23) is never used and should be removed
Strings.toLowerCase(uint256) (node_modules/@openzeppelin/contracts/utils/Strings.sol#48-51) is never used and should be removed
Strings.toString(uint256) (node_modules/@openzeppelin/contracts/utils/Strings.sol#15-35) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/access/AccessControl.sol#4) allows old versions
Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/access/AccessControl.sol#4) allows old versions
Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/Beacon.sol#4) allows old versions
Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/Beacon.sol#4) allows old versions
Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/Beacon.sol#4) allows old versions
Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/Beacon.sol#4) allows old versions
Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/Beacon.sol#4) allows old versions
Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/Beacon.sol#4) allows old versions
Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/Beacon.sol#4) allows old versions
Pragma version^0.8.0 (node_modules/@openzeppelin/contracts/proxy/beacon/Beacon.sol#4) allows old versions
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Low level call in Address.sendValue(address,uint256) (node_modules/@openzeppelin/contracts/utils/Address.sol#65-68):
  - (success) = recipient.call{value: amount}() (node_modules/@openzeppelin/contracts/utils/Address.sol#58)
Low level call in Address.functionCallWithValue(address,bytes,uint256,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#123-134):
  - (success,returndata) = target.call{value: value}(data) (node_modules/@openzeppelin/contracts/utils/Address.sol#123)
Low level call in Address.functionStaticCall(address,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#152-161):
  - (success,returndata) = target.staticcall(data) (node_modules/@openzeppelin/contracts/utils/Address.sol#159)
Low level call in Address.functionDelegateCall(address,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#179-188):
  - (success,returndata) = target.delegatecall(data) (node_modules/@openzeppelin/contracts/utils/Address.sol#186)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Variable UpgradeableBeacon._implementation (contracts/periphery/UpgradeableBeacon.sol#17) is too similar to UpgradeableBeacon.constructor(address).implementation. (contracts/periphery/UpgradeableBeacon.sol#41)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-are-too-similar

grantRole(bytes32,address) should be declared external:
  - AccessControl.grantRole(bytes32,address) (node_modules/@openzeppelin/contracts/access/AccessControl.sol#138-132)
revokeRole(bytes32,address) should be declared external:
  - AccessControl.revokeRole(bytes32,address) (node_modules/@openzeppelin/contracts/access/AccessControl.sol#143-145)
renounceRole(bytes32,address) should be declared external:
  - AccessControl.renounceRole(bytes32,address) (node_modules/@openzeppelin/contracts/access/AccessControl.sol#161-165)
implementation() should be declared external:
  - UpgradeableBeacon.implementation() (contracts/periphery/UpgradeableBeacon.sol#49-51)
upgradeTo(address) should be declared external:
  - UpgradeableBeacon.upgradeTo(address) (contracts/periphery/UpgradeableBeacon.sol#43-46)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#public-function-that-could-be-declared-external

```

contracts/transfers/DeBridgeGate.sol

```

Reentrancy in DeBridgeGate._send(bytes,address,uint256,uint256,bool) (contracts/transfers/DeBridgeGate.sol#635-781):
  External calls:
    - _validateToken(tokenAddress) (contracts/transfers/DeBridgeGate.sol#646)
      - (success) = token.call(abi.encodeWithSignature(decimals())) (contracts/transfers/DeBridgeGate.sol#661)
      - (success, None) = token.call(abi.encodeWithSignature(symbol())) (contracts/transfers/DeBridgeGate.sol#665)
    - IERC20Permit(tokenAddress).permit(msg.sender, address(this), permitAmount, deadline, v, r, s) (contracts/transfers/DeBridgeGate.sol#654-661)
    - with.deposit(value: _amount)() (contracts/transfers/DeBridgeGate.sol#760)
    - token.safeTransferFrom(msg.sender, address(this), _amount) (contracts/transfers/DeBridgeGate.sol#768)
    - _safeTransferETH(msg.sender, msg.value - nativeFee) (contracts/transfers/DeBridgeGate.sol#746)
      - (success) = to.call(value: value)(new bytes(0)) (contracts/transfers/DeBridgeGate.sol#965)
  External calls sending eth:
    - with.deposit(value: _amount)() (contracts/transfers/DeBridgeGate.sol#783)
    - _safeTransferETH(msg.sender, msg.value - nativeFee) (contracts/transfers/DeBridgeGate.sol#760)
      - (success) = to.call(value: value)(new bytes(0)) (contracts/transfers/DeBridgeGate.sol#965)
  State variables written after the call(s):
    - deBridge.balance = amountAfterFee (contracts/transfers/DeBridgeGate.sol#774)
    - deBridge.balance = amountAfterFee (contracts/transfers/DeBridgeGate.sol#777)
    - getDeBridgeFeeInfo(nativeDeBridgeId).collectedFees += nativeFee (contracts/transfers/DeBridgeGate.sol#749)
    - getDeBridgeFeeInfo(nativeDeBridgeId).collectedFees += nativeFee (contracts/transfers/DeBridgeGate.sol#749)
    - deBridgeFee.collectedFees = totalFee (contracts/transfers/DeBridgeGate.sol#763)
  Reference: https://github.com/cryptic/sliether/wiki/Detector-Documentation#reentrancy-vulnerabilities

DeBridgeGate._normalizeTokenAmount(address,uint256) (contracts/transfers/DeBridgeGate.sol#987-1000) performs a multiplication on the result of a division:
  - _amount = _amount / multiplier * multiplier (contracts/transfers/DeBridgeGate.sol#997)
  Reference: https://github.com/cryptic/sliether/wiki/Detector-Documentation#divide-before-multiply

DeBridgeGate._send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes) (contracts/transfers/DeBridgeGate.sol#229-279) uses a dangerous strict equality:
  - autoParams.data.length > 0 && autoParams.fallbackAddress.length == 0 (contracts/transfers/DeBridgeGate.sol#261)
  Reference: https://github.com/cryptic/sliether/wiki/Detector-Documentation#dangerous-strict-equalities

Reentrancy in DeBridgeGate.deployNewAsset(bytes,uint256,string,string,uint8,bytes) (contracts/transfers/DeBridgeGate.sol#343-364):
  - ISignatureVerifier(signaturesVerifier).submit(deployId,_signatures,excessConfirmations) (contracts/transfers/DeBridgeGate.sol#358)
  - deBridgeTokenAddress = IDeBridgeTokenDeployer(deBridgeTokenDeployer).deployAsset(debridgeId,_name,_symbol,_decimals) (contracts/transfers/DeBridgeGate.sol#348-361)
  State variables written after the call(s):
    - _addAsset(debridgeId,deBridgeTokenAddress,_nativeTokenAddress,_nativeChainId) (contracts/transfers/DeBridgeGate.sol#363)
      - deBridge.exist = true (contracts/transfers/DeBridgeGate.sol#404)
      - deBridge.tokenAddress = tokenAddress (contracts/transfers/DeBridgeGate.sol#405)
      - deBridge.chainId = _nativeChainId (contracts/transfers/DeBridgeGate.sol#406)
      - deBridge.maxAmount = type(uint256).max (contracts/transfers/DeBridgeGate.sol#409)
      - deBridge.minFeePerGas = uint16(0) (contracts/transfers/DeBridgeGate.sol#612)
  Reference: https://github.com/cryptic/sliether/wiki/Detector-Documentation#reentrancy-vulnerabilities-1

DeBridgeGate._send(bytes,address,uint256,uint256,bool,assetsFixedFee) (contracts/transfers/DeBridgeGate.sol#721) is a local variable never initialized
DeBridgeGate._sendMessage(uint256,bytes,bytes,uint256,uint32,autoParams) (contracts/transfers/DeBridgeGate.sol#721) is a local variable never initialized
DeBridgeGate._claim(bytes,uint256,uint256,bytes,bytes,bool,uint32,bytes,autoParams) (contracts/transfers/DeBridgeGate.sol#252) is a local variable never initialized
DeBridgeGate._claim(bytes,uint256,uint256,bytes,bytes,bool,uint32,bytes,autoParams) (contracts/transfers/DeBridgeGate.sol#293) is a local variable never initialized
  Reference: https://github.com/cryptic/sliether/wiki/Detector-Documentation#uninitialized-local-variables

DeBridgeGate._setFeeContractUpdater(address) (contracts/transfers/DeBridgeGate.sol#438-490) should emit an event for:
  - feeContractUpdater = value (contracts/transfers/DeBridgeGate.sol#489)
DeBridgeGate._setFeeProxy(address) (contracts/transfers/DeBridgeGate.sol#538-532) should emit an event for:
  - feeProxy = feeProxy (contracts/transfers/DeBridgeGate.sol#532)
  Reference: https://github.com/cryptic/sliether/wiki/Detector-Documentation#missing-events-access-control

DeBridgeGate._initialize(uint8,uint256,uint256) (contracts/transfers/DeBridgeGate.sol#144-173) should emit an event for:
  - excessConfirmations = _excessConfirmations (contracts/transfers/DeBridgeGate.sol#168)
DeBridgeGate._updateExcessConfirmations(uint8) (contracts/transfers/DeBridgeGate.sol#428-431) should emit an event for:
  - excessConfirmations = _excessConfirmations (contracts/transfers/DeBridgeGate.sol#430)
  Reference: https://github.com/cryptic/sliether/wiki/Detector-Documentation#missing-events-arithmetic

DeBridgeGate._setCallProxy(address).callProxy (contracts/transfers/DeBridgeGate.sol#449) lacks a zero-check on :
  - callProxy = callProxy (contracts/transfers/DeBridgeGate.sol#450)
DeBridgeGate._setSignatureVerifier(address).verifier (contracts/transfers/DeBridgeGate.sol#476) lacks a zero-check on :
  - signatureVerifier = verifier (contracts/transfers/DeBridgeGate.sol#477)
DeBridgeGate._setDeBridgeTokenDeployer(address).deBridgeTokenDeployer (contracts/transfers/DeBridgeGate.sol#482) lacks a zero-check on :
  - deBridgeTokenDeployer = deBridgeTokenDeployer (contracts/transfers/DeBridgeGate.sol#483)
DeBridgeGate._setContractUpdater(address).value (contracts/transfers/DeBridgeGate.sol#488) lacks a zero-check on :
  - feeContractUpdater = value (contracts/transfers/DeBridgeGate.sol#489)
DeBridgeGate._setFeeProxy(address).feeProxy (contracts/transfers/DeBridgeGate.sol#532) lacks a zero-check on :
  - feeProxy = feeProxy (contracts/transfers/DeBridgeGate.sol#532)
  Reference: https://github.com/cryptic/sliether/wiki/Detector-Documentation#missing-zero-address-validation

Reentrancy in DeBridgeGate._send(bytes,address,uint256,uint256,bool) (contracts/transfers/DeBridgeGate.sol#635-781):
  External calls:
    - _validateToken(tokenAddress) (contracts/transfers/DeBridgeGate.sol#646)
      - (success) = token.call(abi.encodeWithSignature(decimals())) (contracts/transfers/DeBridgeGate.sol#661)
      - (success, None) = token.call(abi.encodeWithSignature(symbol())) (contracts/transfers/DeBridgeGate.sol#665)
    - IERC20Permit(tokenAddress).permit(msg.sender, address(this), permitAmount, deadline, v, r, s) (contracts/transfers/DeBridgeGate.sol#654-661)
    - State variables written after the call(s):
      - _addAsset(debridgeId,assetAddress,abi.encodePacked(assetAddress),getChainId()) (contracts/transfers/DeBridgeGate.sol#688-693)
      - getAmountThreshold(debridgeId) = type(uint256).max (contracts/transfers/DeBridgeGate.sol#614)
      - _addAsset(debridgeId,assetAddress,abi.encodePacked(assetAddress),getChainId()) (contracts/transfers/DeBridgeGate.sol#688-693)
      - deBridge.exist = true (contracts/transfers/DeBridgeGate.sol#404)
      - deBridge.tokenAddress = tokenAddress (contracts/transfers/DeBridgeGate.sol#405)
      - deBridge.chainId = _nativeChainId (contracts/transfers/DeBridgeGate.sol#406)
      - deBridge.maxAmount = type(uint256).max (contracts/transfers/DeBridgeGate.sol#409)
      - deBridge.minFeePerGas = uint16(0) (contracts/transfers/DeBridgeGate.sol#612)
      - _addAsset(debridgeId,assetAddress,abi.encodePacked(assetAddress),getChainId()) (contracts/transfers/DeBridgeGate.sol#688-693)
      - tokenInfo.nativeChainId = _nativeChainId (contracts/transfers/DeBridgeGate.sol#610)
      - tokenInfo.nativeAddress = _nativeAddress (contracts/transfers/DeBridgeGate.sol#619)
  Reentrancy in DeBridgeGate.deployNewAsset(bytes,uint256,string,string,uint8,bytes) (contracts/transfers/DeBridgeGate.sol#343-364):
    - External calls:
      - ISignatureVerifier(signaturesVerifier).submit(deployId,_signatures,excessConfirmations) (contracts/transfers/DeBridgeGate.sol#358)
      - deBridgeTokenAddress = IDeBridgeTokenDeployer(deBridgeTokenDeployer).deployAsset(debridgeId,_name,_symbol,_decimals) (contracts/transfers/DeBridgeGate.sol#348-361)
    - State variables written after the call(s):
      - _addAsset(debridgeId,deBridgeTokenAddress,_nativeTokenAddress,_nativeChainId) (contracts/transfers/DeBridgeGate.sol#363)
      - getAmountThreshold(debridgeId) = type(uint256).max (contracts/transfers/DeBridgeGate.sol#614)
      - _addAsset(debridgeId,deBridgeTokenAddress,_nativeTokenAddress,_nativeChainId) (contracts/transfers/DeBridgeGate.sol#363)
      - tokenInfo.nativeChainId = _nativeChainId (contracts/transfers/DeBridgeGate.sol#610)
      - tokenInfo.nativeAddress = _nativeAddress (contracts/transfers/DeBridgeGate.sol#619)
  Reentrancy in DeBridgeGate._send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes) (contracts/transfers/DeBridgeGate.sol#229-279):
    - External calls:
      - (amountAfterFee,debridgeId,feeParams) = _send(permitEnvelope,tokenAddress,_amount,_chainIdTo,_useAssetFee) (contracts/transfers/DeBridgeGate.sol#244-250)
      - returndata = address(token).functionCall(data,SafeERC20-low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#93)
      - (success) = to.call(value: value)(new bytes(0)) (contracts/transfers/DeBridgeGate.sol#965)
      - (success) = token.call(abi.encodeWithSignature(decimals())) (contracts/transfers/DeBridgeGate.sol#661)
      - (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
      - (success, None) = token.call(abi.encodeWithSignature(symbol())) (contracts/transfers/DeBridgeGate.sol#665)
      - IERC20Permit(tokenAddress).permit(msg.sender, address(this), permitAmount, deadline, v, r, s) (contracts/transfers/DeBridgeGate.sol#654-661)
      - token.safeTransferFrom(msg.sender, address(this), _amount) (contracts/transfers/DeBridgeGate.sol#768)
      - IDeBridgeToken(debridgeId.tokenAddress).burn(amountAfterFee) (contracts/transfers/DeBridgeGate.sol#778)
    - External calls sending eth:
      - (amountAfterFee,debridgeId,feeParams) = _send(permitEnvelope,tokenAddress,_amount,_chainIdTo,_useAssetFee) (contracts/transfers/DeBridgeGate.sol#244-250)
      - (success) = to.call(value: value)(new bytes(0)) (contracts/transfers/DeBridgeGate.sol#965)
      - (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
      - with.deposit(value: _amount)() (contracts/transfers/DeBridgeGate.sol#763)
      - token.safeTransferFrom(msg.sender, address(this), _amount) (contracts/transfers/DeBridgeGate.sol#768)
      - IDeBridgeToken(debridgeId.tokenAddress).burn(amountAfterFee) (contracts/transfers/DeBridgeGate.sol#778)
    - State variables written after the call(s):
      - _publishSubmission(debridgeId,_chainIdTo,_amountAfterFee,_receiver,feeParams,_referralCode,autoParams,true) (contracts/transfers/DeBridgeGate.sol#269-278)
      - nonce += (contracts/transfers/DeBridgeGate.sol#844)
  Reentrancy in DeBridgeGate._sendMessage(uint256,bytes,bytes,uint256,uint32) (contracts/transfers/DeBridgeGate.sol#190-226):
    - External calls:
      - (amountAfterFee,debridgeId,feeParams) = _send(address(0),0,_chainIdTo,false) (contracts/transfers/DeBridgeGate.sol#202-208)
      - returndata = address(token).functionCall(data,SafeERC20-low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#93)
      - (success) = to.call(value: value)(new bytes(0)) (contracts/transfers/DeBridgeGate.sol#965)
      - (success) = token.call(abi.encodeWithSignature(decimals())) (contracts/transfers/DeBridgeGate.sol#661)
      - (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
      - (success, None) = token.call(abi.encodeWithSignature(symbol())) (contracts/transfers/DeBridgeGate.sol#665)
      - IERC20Permit(tokenAddress).permit(msg.sender, address(this), permitAmount, deadline, v, r, s) (contracts/transfers/DeBridgeGate.sol#654-661)
      - with.deposit(value: _amount)() (contracts/transfers/DeBridgeGate.sol#763)
      - token.safeTransferFrom(msg.sender, address(this), _amount) (contracts/transfers/DeBridgeGate.sol#768)
      - IDeBridgeToken(debridgeId.tokenAddress).burn(amountAfterFee) (contracts/transfers/DeBridgeGate.sol#778)
    - External calls sending eth:
      - (amountAfterFee,debridgeId,feeParams) = _send(address(0),0,_chainIdTo,false) (contracts/transfers/DeBridgeGate.sol#202-208)
      - (success) = to.call(value: value)(new bytes(0)) (contracts/transfers/DeBridgeGate.sol#965)
      - (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
      - with.deposit(value: _amount)() (contracts/transfers/DeBridgeGate.sol#763)
    - State variables written after the call(s):
      - _publishSubmission(debridgeId,_chainIdTo,0,targetContractAddress,feeParams,_referralCode,autoParams,true) (contracts/transfers/DeBridgeGate.sol#216-225)
      - nonce += (contracts/transfers/DeBridgeGate.sol#844)
  Reference: https://github.com/cryptic/sliether/wiki/Detector-Documentation#reentrancy-vulnerabilities-2

Reentrancy in DeBridgeGate._claim(bytes32,bytes32,address,uint256,uint256,DeBridgeGate.SubmissionAutoParamsFrom) (contracts/transfers/DeBridgeGate.sol#874-942):
  External calls:

```

```

- _mintOrTransfer(token,msg.sender,_autoParams.executionFee,isNativeToken)(contracts/transfers/DeBridgeGate.sol#898)
- returndata = address(token).functionCall(data,SafeERC20: low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#95)
- ERC20Upgradeable(token).safeTransfer(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#952)
- _IDeBridgeToken(token).mint(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#954)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- _withdrawWith(callProxy,_amount)(contracts/transfers/DeBridgeGate.sol#966)
- returndata = address(token).functionCall(data,SafeERC20: low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#93)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- with.withdrawal(_amount) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#973)
- _IERC20Upgradeable(address(with)).safeTransfer(address(withData),_amount)(contracts/transfers/DeBridgeGate.sol#977)
- withDate.withdrawal(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#978)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- status = ICallProxy(callProxy).call(autoParams.fallbackAddress,_receiver,_autoParams.data,_autoParams.flags,_autoParams.nativeSender,_chainIdFrom)(contracts/transfers/DeBridgeGate.sol#987-914)
- _mintOrTransfer(token,_callProxy,_amount,isNativeToken)(contracts/transfers/DeBridgeGate.sol#917)
- returndata = address(token).functionCall(data,SafeERC20: low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#93)
- ERC20Upgradeable(token).safeTransfer(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#952)
- _IDeBridgeToken(token).mint(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#954)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- status = ICallProxy(callProxy).call(ERC20_token,_autoParams.fallbackAddress,_receiver,_autoParams.data,_autoParams.flags,_autoParams.nativeSender,_chainIdFrom)(contracts/transfers/DeBridgeGate.sol#919-9)
External calls sending eth:
- _mintOrTransfer(token,msg.sender,_autoParams.executionFee,isNativeToken)(contracts/transfers/DeBridgeGate.sol#898)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- _withdrawWith(callProxy,_amount)(contracts/transfers/DeBridgeGate.sol#966)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- _mintOrTransfer(token,_callProxy,_amount,isNativeToken)(contracts/transfers/DeBridgeGate.sol#917)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
Event emitted after the call(s):
- AutoRequestExecuted_submissionId,status,_callProxy)(contracts/transfers/DeBridgeGate.sol#929)
Reentrancy in DeBridgeGate_claim(bytes32,bytes32,address,uint256,uint256,DeBridgeGate.SubmissionId,AutoParamsFrom)(contracts/transfers/DeBridgeGate.sol#874-942):
External calls:
- _mintOrTransfer(token,msg.sender,_autoParams.executionFee,isNativeToken)(contracts/transfers/DeBridgeGate.sol#898)
- ERC20Upgradeable(token).safeTransfer(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#952)
- _IDeBridgeToken(token).mint(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#954)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- _withdrawWith(callProxy,_amount)(contracts/transfers/DeBridgeGate.sol#966)
- returndata = address(token).functionCall(data,SafeERC20: low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#93)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- with.withdrawal(_amount)(contracts/transfers/DeBridgeGate.sol#973)
- _IERC20Upgradeable(address(with)).safeTransfer(address(withData),_amount)(contracts/transfers/DeBridgeGate.sol#977)
- withDate.withdrawal(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#978)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- status = ICallProxy(callProxy).call(autoParams.fallbackAddress,_receiver,_autoParams.data,_autoParams.flags,_autoParams.nativeSender,_chainIdFrom)(contracts/transfers/DeBridgeGate.sol#987-914)
- _mintOrTransfer(token,_callProxy,_amount,isNativeToken)(contracts/transfers/DeBridgeGate.sol#917)
- ERC20Upgradeable(token).safeTransfer(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#952)
- _IDeBridgeToken(token).mint(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#954)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- _withdrawWith(callProxy,_amount)(contracts/transfers/DeBridgeGate.sol#966)
- returndata = address(token).functionCall(data,SafeERC20: low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#93)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- with.withdrawal(_amount)(contracts/transfers/DeBridgeGate.sol#973)
- _IERC20Upgradeable(address(with)).safeTransfer(address(withData),_amount)(contracts/transfers/DeBridgeGate.sol#977)
- withDate.withdrawal(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#978)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- _mintOrTransfer(token,receiver,_amount,isNativeToken)(contracts/transfers/DeBridgeGate.sol#934)
- returndata = address(token).functionCall(data,SafeERC20: low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#93)
- ERC20Upgradeable(token).safeTransfer(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#952)
- _IDeBridgeToken(token).mint(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#954)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
External calls sending eth:
- _mintOrTransfer(token,msg.sender,_autoParams.executionFee,isNativeToken)(contracts/transfers/DeBridgeGate.sol#898)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- _withdrawWith(callProxy,_amount)(contracts/transfers/DeBridgeGate.sol#966)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- _mintOrTransfer(token,_callProxy,_amount,isNativeToken)(contracts/transfers/DeBridgeGate.sol#917)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- _withdrawWith(callProxy,_amount)(contracts/transfers/DeBridgeGate.sol#966)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
Event emitted after the call(s):
- MonitoringClaimEvent_submissionId,debridge.balance,IERC20Upgradeable(debridge.tokenAddress).totalSupply() (contracts/transfers/DeBridgeGate.sol#937-941)
Reentrancy in DeBridgeGate_send(bytes,address,uint256,uint256,bool)(contracts/transfers/DeBridgeGate.sol#835-781):
External calls:
- _validateToken(token,address)(contracts/transfers/DeBridgeGate.sol#844)
- (success) = token.call(abi.encodeWithSignature(decimals)) (contracts/transfers/DeBridgeGate.sol#861)
- (success, None) = token.call(abi.encodeWithSignature(symbol)) (contracts/transfers/DeBridgeGate.sol#865)
- _IERC20Permit(token,address).permit(msg.sender,address(this),permitAmount,deadline,v,r,s)(contracts/transfers/DeBridgeGate.sol#654-661)
Event emitted after the call(s):
- PairAdded_debridgeId,_tokenAddress,_nativeAddress,_nativeChainId,debridge.maxAmount,debridge.minReserveBps)(contracts/transfers/DeBridgeGate.sol#621-628)
- _addAsset(debridgeId,_tokenAddress,abi.encodePacked(assetAddress).getChainId()) (contracts/transfers/DeBridgeGate.sol#658-693)
Reentrancy in DeBridgeGate_claim(bytes32,uint256,address,uint256,bytes,bytes)(contracts/transfers/DeBridgeGate.sol#282-334):
External calls:
- _checkConfirmations(submissionId,_debridgeId,_amount,_signatures)(contracts/transfers/DeBridgeGate.sol#313)
- ISignatureVerifier(signatureVerifier).submit(submissionId,_signatures,excessConfirmations)(contracts/transfers/DeBridgeGate.sol#581-585)
- ISignatureVerifier(signatureVerifier).submit(submissionId,_signatures,0)(contracts/transfers/DeBridgeGate.sol#581-585)
- isNativeToken = claim(submissionId,_debridgeId,_receiver,_amount,_chainIdFrom,_autoParams.isNativeToken)(contracts/transfers/DeBridgeGate.sol#315-322)
- returndata = address(token).functionCall(data,SafeERC20: low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#93)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- with.withdrawal(_amount)(contracts/transfers/DeBridgeGate.sol#973)
- _IERC20Upgradeable(token).safeTransfer(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#992)
- _IERC20Upgradeable(address(with)).safeTransfer(address(withData),_amount)(contracts/transfers/DeBridgeGate.sol#977)
- _IDeBridgeToken(token).mint(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#954)
- withDate.withdrawal(receiver,_amount)(contracts/transfers/DeBridgeGate.sol#978)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- status = ICallProxy(callProxy).call(autoParams.fallbackAddress,_receiver,_autoParams.data,_autoParams.flags,_autoParams.nativeSender,_chainIdFrom)(contracts/transfers/DeBridgeGate.sol#987-914)
- status = ICallProxy(callProxy).call(ERC20_token,_autoParams.fallbackAddress,_receiver,_autoParams.data,_autoParams.flags,_autoParams.nativeSender,_chainIdFrom)(contracts/transfers/DeBridgeGate.sol#919-9)
External calls sending eth:
- isNativeToken = claim(submissionId,_debridgeId,_receiver,_amount,_chainIdFrom,_autoParams)(contracts/transfers/DeBridgeGate.sol#315-322)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
Event emitted after the call(s):
- AutoRequestExecuted_submissionId,status,_callProxy)(contracts/transfers/DeBridgeGate.sol#929)
- Claimed(submissionId,_debridgeId,_amount,_receiver,_nonce,_chainIdFrom,_autoParams.isNativeToken)(contracts/transfers/DeBridgeGate.sol#315-322)
- MonitoringClaimEvent(submissionId,debridge.balance,IERC20Upgradeable(debridge.tokenAddress).totalSupply() (contracts/transfers/DeBridgeGate.sol#937-941)
- isNativeToken = claim(submissionId,_debridgeId,_receiver,_amount,_chainIdFrom,_autoParams)(contracts/transfers/DeBridgeGate.sol#315-322)
Reentrancy in DeBridgeGate_deployNewAsset(bytes,uint256,string,uint256,bytes)(contracts/transfers/DeBridgeGate.sol#363-364):
External calls:
- ISignatureVerifier(signatureVerifier).submit(deployId,_signatures,excessConfirmations)(contracts/transfers/DeBridgeGate.sol#358)
- debridgeTokenAddress = DeBridgeTokenDeployer(debridgeTokenDeployer).deployAsset(debridgeId,_name,_symbol,_decimals)(contracts/transfers/DeBridgeGate.sol#368-361)
Event emitted after the call(s):
- PairAdded_debridgeId,_tokenAddress,_nativeAddress,_nativeChainId,debridge.maxAmount,debridge.minReserveBps)(contracts/transfers/DeBridgeGate.sol#621-628)
- _addAsset(debridgeId,debridgeTokenAddress,_nativeTokenAddress,_nativeChainId)(contracts/transfers/DeBridgeGate.sol#363)
Reentrancy in DeBridgeGate_send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes)(contracts/transfers/DeBridgeGate.sol#229-279):
External calls:
- (amountAfterFee,debridgeId,feeParams) = _send_permitEnvelope_tokenAddress,_amount,_chainIdTo,_useAssetFee)(contracts/transfers/DeBridgeGate.sol#244-250)
- returndata = address(token).functionCall(data,SafeERC20: low-level call failed) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/utils/SafeERC20Upgradeable.sol#93)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- (success) = token.call(abi.encodeWithSignature(decimals)) (contracts/transfers/DeBridgeGate.sol#861)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- (success, None) = token.call(abi.encodeWithSignature(symbol)) (contracts/transfers/DeBridgeGate.sol#865)
- _IERC20Permit(token,address).permit(msg.sender,address(this),permitAmount,deadline,v,r,s)(contracts/transfers/DeBridgeGate.sol#654-661)
- with.deposit(value:_amount)() (contracts/transfers/DeBridgeGate.sol#783)
- token.safeTransferFrom(msg.sender,address(this),_amount)(contracts/transfers/DeBridgeGate.sol#788)
- _IDeBridgeToken(debridge.tokenAddress).burn(amountAfterFee)(contracts/transfers/DeBridgeGate.sol#778)
External calls sending eth:
- (amountAfterFee,debridgeId,feeParams) = _send_permitEnvelope_tokenAddress,_amount,_chainIdTo,_useAssetFee)(contracts/transfers/DeBridgeGate.sol#244-250)
- (success) = to.call(value: value)(new bytes(0))(contracts/transfers/DeBridgeGate.sol#965)
- (success, returndata) = target.call(value: value)(data) (node_modules/@openzeppelin/contracts-upgradeable/utils/AddressUpgradeable.sol#132)
- with.deposit(value:_amount)() (contracts/transfers/DeBridgeGate.sol#783)
Event emitted after the call(s):
- MonitoringSendEvent(submissionId,nonce,getDebridgeId(_debridgeId).balance,IERC20Upgradeable(getDebridgeId(_debridgeId).tokenAddress).totalSupply() (contracts/transfers/DeBridgeGate.sol#836-841)
- _publishSubmission(debridgeId,_chainIdTo,amountAfterFee,_receiver,feeParams,_referrerCode,_autoParams,_autoParams.length > 0)(contracts/transfers/DeBridgeGate.sol#269-278)
- Sent(submissionId,_debridgeId,_amount,_receiver,_nonce,_chainIdTo,_referrerCode,_referrerCode,feeParams,abi.encode(autoParams),msg.sender)(contracts/transfers/DeBridgeGate.sol#822-833)
- _publishSubmission(debridgeId,_chainIdTo,amountAfterFee,_receiver,feeParams,_referrerCode,_referrerCode,feeParams,abi.encode(autoParams),msg.sender)(contracts/transfers/DeBridgeGate.sol#822-833)
- _publishSubmission(debridgeId,_chainIdTo,amountAfterFee,_receiver,feeParams,_referrerCode,_referrerCode,feeParams,abi.encode(autoParams),msg.sender)(contracts/transfers/DeBridgeGate.sol#822-833)
Reentrancy in DeBridgeGate_sendMessage(uint256,bytes,bytes,uint256,uint32)(contracts/transfers/DeBridgeGate.sol#198-224):
External calls:
- (amountAfterFee,debridgeId,feeParams) = _send_address(0,0,_chainIdTo,false)(contracts/transfers/DeBridgeGate.sol#202-208)

```



```

Variable ReentrancyGuardUpgradeable. __gap (node_modules/@openzeppelin/contracts-upgradeable/security/ReentrancyGuardUpgradeable.sol#68) is not in mixedCase
Function ContextUpgradeable. __Context_init() (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#18-20) is not in mixedCase
Function ContextUpgradeable. __Context_init_implementation() (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#22-23) is not in mixedCase
Variable ContextUpgradeable. __gap (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#31) is not in mixedCase
Function ERC165Upgradeable. __ERC165_init() (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/ERC165Upgradeable.sol#24-26) is not in mixedCase
Function ERC165Upgradeable. __ERC165_init_implementation() (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/ERC165Upgradeable.sol#28-29) is not in mixedCase
Variable ERC165Upgradeable. __gap (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/ERC165Upgradeable.sol#36) is not in mixedCase
Parameter Flags.getFlag(uint256,uint256). _packedFlags (contracts/libraries/Flags.sol#20) is not in mixedCase
Parameter Flags.getFlag(uint256,uint256). _flag (contracts/libraries/Flags.sol#24) is not in mixedCase
Parameter Flags.setFlag(uint256,uint256,bool). _value (contracts/libraries/Flags.sol#39) is not in mixedCase
Parameter SignatureUtil.getUniginedMsg(bytes32). _submissionId (contracts/libraries/SignatureUtil.sol#13) is not in mixedCase
Parameter SignatureUtil.splitSignature(bytes). _signature (contracts/libraries/SignatureUtil.sol#19) is not in mixedCase
Parameter SignatureUtil.parseSignature(bytes,uint256). _signatures (contracts/libraries/SignatureUtil.sol#32) is not in mixedCase
Parameter SignatureUtil.tolUint256(bytes,uint256). _bytes (contracts/libraries/SignatureUtil.sol#51) is not in mixedCase
Parameter SignatureUtil.tolUint256(bytes,uint256). _offset (contracts/libraries/SignatureUtil.sol#51) is not in mixedCase
Parameter DeBridgeData.initialize(uint8,uint8). _excessConfirmations (contracts/transfers/DeBridgeData.sol#55) is not in mixedCase
Parameter DeBridgeData.initialize(uint8,uint8). _with (contracts/transfers/DeBridgeData.sol#166) is not in mixedCase
Parameter DeBridgeData.sendMessage(uint256,bytes,bytes). _chainId (contracts/transfers/DeBridgeData.sol#179) is not in mixedCase
Parameter DeBridgeData.sendMessage(uint256,bytes,bytes). _targetContractAddress (contracts/transfers/DeBridgeData.sol#288) is not in mixedCase
Parameter DeBridgeData.sendMessage(uint256,bytes,bytes). _targetContractCallData (contracts/transfers/DeBridgeData.sol#311) is not in mixedCase
Parameter DeBridgeData.sendMessage(uint256,bytes,bytes,uint256,uint32). _chainId (contracts/transfers/DeBridgeData.sol#319) is not in mixedCase
Parameter DeBridgeData.sendMessage(uint256,bytes,bytes,uint256,uint32). _targetContractAddress (contracts/transfers/DeBridgeData.sol#329) is not in mixedCase
Parameter DeBridgeData.sendMessage(uint256,bytes,bytes,uint256,uint32). _targetContractCallData (contracts/transfers/DeBridgeData.sol#339) is not in mixedCase
Parameter DeBridgeData.sendMessage(uint256,bytes,bytes,uint256,uint32). _flags (contracts/transfers/DeBridgeData.sol#349) is not in mixedCase
Parameter DeBridgeData.sendMessage(uint256,bytes,bytes,uint256,uint32). _referrer (contracts/transfers/DeBridgeData.sol#359) is not in mixedCase
Parameter DeBridgeData.send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes). _tokenAddress (contracts/transfers/DeBridgeData.sol#230) is not in mixedCase
Parameter DeBridgeData.send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes). _amount (contracts/transfers/DeBridgeData.sol#231) is not in mixedCase
Parameter DeBridgeData.send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes). _chainId (contracts/transfers/DeBridgeData.sol#232) is not in mixedCase
Parameter DeBridgeData.send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes). _receiver (contracts/transfers/DeBridgeData.sol#233) is not in mixedCase
Parameter DeBridgeData.send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes). _permitEnvelope (contracts/transfers/DeBridgeData.sol#234) is not in mixedCase
Parameter DeBridgeData.send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes). _useSetFee (contracts/transfers/DeBridgeData.sol#235) is not in mixedCase
Parameter DeBridgeData.send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes). _referrerCode (contracts/transfers/DeBridgeData.sol#236) is not in mixedCase
Parameter DeBridgeData.send(address,uint256,uint256,bytes,bytes,bool,uint32,bytes). _autoParams (contracts/transfers/DeBridgeData.sol#237) is not in mixedCase
Parameter DeBridgeData.claim(bytes32,uint256,uint256,address,uint256,bytes,bytes). _debridId (contracts/transfers/DeBridgeData.sol#283) is not in mixedCase
Parameter DeBridgeData.claim(bytes32,uint256,uint256,address,uint256,bytes,bytes). _amount (contracts/transfers/DeBridgeData.sol#284) is not in mixedCase
Parameter DeBridgeData.claim(bytes32,uint256,uint256,address,uint256,bytes,bytes). _chainIdFrom (contracts/transfers/DeBridgeData.sol#285) is not in mixedCase
Parameter DeBridgeData.claim(bytes32,uint256,uint256,address,uint256,bytes,bytes). _receiver (contracts/transfers/DeBridgeData.sol#286) is not in mixedCase
Parameter DeBridgeData.claim(bytes32,uint256,uint256,address,uint256,bytes,bytes). _nonce (contracts/transfers/DeBridgeData.sol#287) is not in mixedCase
Parameter DeBridgeData.claim(bytes32,uint256,uint256,address,uint256,bytes,bytes). _signatures (contracts/transfers/DeBridgeData.sol#288) is not in mixedCase
Parameter DeBridgeData.claim(bytes32,uint256,uint256,address,uint256,bytes,bytes). _nativeTokenAddress (contracts/transfers/DeBridgeData.sol#289) is not in mixedCase
Parameter DeBridgeData.deployNewAsset(bytes,uint256,string,string,uint8,bytes). _nativeChainId (contracts/transfers/DeBridgeData.sol#345) is not in mixedCase
Parameter DeBridgeData.deployNewAsset(bytes,uint256,string,string,uint8,bytes). _name (contracts/transfers/DeBridgeData.sol#346) is not in mixedCase
Parameter DeBridgeData.deployNewAsset(bytes,uint256,string,string,uint8,bytes). _symbol (contracts/transfers/DeBridgeData.sol#347) is not in mixedCase
Parameter DeBridgeData.deployNewAsset(bytes,uint256,string,string,uint8,bytes). _decimals (contracts/transfers/DeBridgeData.sol#348) is not in mixedCase
Parameter DeBridgeData.deployNewAsset(bytes,uint256,string,string,uint8,bytes). _signatures (contracts/transfers/DeBridgeData.sol#349) is not in mixedCase
Parameter DeBridgeData.autoDeployFixedNativeFee(uint256). _globalFixedNativeFee (contracts/transfers/DeBridgeData.sol#359) is not in mixedCase
Parameter DeBridgeData.updateChainSupport(uint256). _IDeBridgeData.ChainSupportInfo[] _bool. _chainId (contracts/transfers/DeBridgeData.sol#362) is not in mixedCase
Parameter DeBridgeData.updateChainSupport(uint256). _IDeBridgeData.ChainSupportInfo[] _bool. _chainSupportInfo (contracts/transfers/DeBridgeData.sol#363) is not in mixedCase
Parameter DeBridgeData.updateChainSupport(uint256). _IDeBridgeData.ChainSupportInfo[] _bool. _isChainFrom (contracts/transfers/DeBridgeData.sol#364) is not in mixedCase
Parameter DeBridgeData.updateGlobalFee(uint256,uint16). _globalFixedNativeFee (contracts/transfers/DeBridgeData.sol#362) is not in mixedCase
Parameter DeBridgeData.updateGlobalFee(uint256,uint16). _globalTransfersInfo (contracts/transfers/DeBridgeData.sol#363) is not in mixedCase
Parameter DeBridgeData.updateAssetFixedFee(bytes32,uint256). _assetFixedFee (contracts/transfers/DeBridgeData.sol#415) is not in mixedCase
Parameter DeBridgeData.updateAssetFixedFee(bytes32,uint256). _assetFixedFee (contracts/transfers/DeBridgeData.sol#416) is not in mixedCase
Parameter DeBridgeData.updateAssetFixedFee(bytes32,uint256). _assetFixedFee (contracts/transfers/DeBridgeData.sol#417) is not in mixedCase
Parameter DeBridgeData.updateExcessConfirmations(uint8). _excessConfirmations (contracts/transfers/DeBridgeData.sol#428) is not in mixedCase
Parameter DeBridgeData.setChainSupport(uint256,bool,bool). _chainId (contracts/transfers/DeBridgeData.sol#427) is not in mixedCase
Parameter DeBridgeData.setChainSupport(uint256,bool,bool). _isSupport (contracts/transfers/DeBridgeData.sol#427) is not in mixedCase
Parameter DeBridgeData.setChainSupport(uint256,bool,bool). _isChainFrom (contracts/transfers/DeBridgeData.sol#427) is not in mixedCase
Parameter DeBridgeData.setCallProxy(address). _callProxy (contracts/transfers/DeBridgeData.sol#449) is not in mixedCase
Parameter DeBridgeData.updateAsset(bytes32,uint256,uint16,uint256). _maxAmount (contracts/transfers/DeBridgeData.sol#451) is not in mixedCase
Parameter DeBridgeData.updateAsset(bytes32,uint256,uint16,uint256). _minReserve (contracts/transfers/DeBridgeData.sol#452) is not in mixedCase
Parameter DeBridgeData.updateAsset(bytes32,uint256,uint16,uint256). _amountThreshold (contracts/transfers/DeBridgeData.sol#463) is not in mixedCase
Parameter DeBridgeData.setSignatureVerifier(address). _verifier (contracts/transfers/DeBridgeData.sol#476) is not in mixedCase
Parameter DeBridgeData.setFeeContract(address). _feeContract (contracts/transfers/DeBridgeData.sol#482) is not in mixedCase
Parameter DeBridgeData.setFeeContract(address). _value (contracts/transfers/DeBridgeData.sol#482) is not in mixedCase
Parameter DeBridgeData.setFeeProxy(address). _feeProxy (contracts/transfers/DeBridgeData.sol#493) is not in mixedCase
Parameter DeBridgeData.blockSubmission(bytes32[],bool). _submissionIds (contracts/transfers/DeBridgeData.sol#537) is not in mixedCase
Parameter DeBridgeData.updateFeeDiscount(address,uint16,uint16). _address (contracts/transfers/DeBridgeData.sol#553) is not in mixedCase
Parameter DeBridgeData.updateFeeDiscount(address,uint16,uint16). _discountFlags (contracts/transfers/DeBridgeData.sol#554) is not in mixedCase
Parameter DeBridgeData.updateFeeDiscount(address,uint16,uint16). _discountTransfers (contracts/transfers/DeBridgeData.sol#555) is not in mixedCase
Parameter DeBridgeData.getDebridId(uint256,address). _chainId (contracts/transfers/DeBridgeData.sol#1807) is not in mixedCase
Parameter DeBridgeData.getDebridId(uint256,address). _tokenAddress (contracts/transfers/DeBridgeData.sol#1807) is not in mixedCase
Parameter DeBridgeData.getDebridId(uint256,bytes). _chainId (contracts/transfers/DeBridgeData.sol#1814) is not in mixedCase
Parameter DeBridgeData.getDebridId(uint256,bytes). _tokenAddress (contracts/transfers/DeBridgeData.sol#1814) is not in mixedCase
Parameter DeBridgeData.getSubmissionIdFrom(bytes32,uint256,uint256,address,uint256,DeBridgeData.SubmissionAutoParamsFrom,bool,address). _debridId (contracts/transfers/DeBridgeData.sol#1837) is not in mixedCase
Parameter DeBridgeData.getSubmissionIdFrom(bytes32,uint256,uint256,address,uint256,DeBridgeData.SubmissionAutoParamsFrom,bool,address). _chainIdFrom (contracts/transfers/DeBridgeData.sol#1838) is not in mixedCase
Parameter DeBridgeData.getSubmissionIdFrom(bytes32,uint256,uint256,address,uint256,DeBridgeData.SubmissionAutoParamsFrom,bool,address). _amount (contracts/transfers/DeBridgeData.sol#1839) is not in mixedCase
Parameter DeBridgeData.getSubmissionIdFrom(bytes32,uint256,uint256,address,uint256,DeBridgeData.SubmissionAutoParamsFrom,bool,address). _receiver (contracts/transfers/DeBridgeData.sol#1840) is not in mixedCase
Parameter DeBridgeData.getSubmissionIdFrom(bytes32,uint256,uint256,address,uint256,DeBridgeData.SubmissionAutoParamsFrom,bool,address). _nonce (contracts/transfers/DeBridgeData.sol#1841) is not in mixedCase
Parameter DeBridgeData.getSubmissionIdFrom(bytes32,uint256,uint256,address,uint256,DeBridgeData.SubmissionAutoParamsFrom,bool,address). _autoParams (contracts/transfers/DeBridgeData.sol#1842) is not in mixedCase
Parameter DeBridgeData.getSubmissionIdFrom(bytes32,uint256,uint256,address,uint256,DeBridgeData.SubmissionAutoParamsFrom,bool,address). _hasAutoParams (contracts/transfers/DeBridgeData.sol#1843) is not in mixedCase
Parameter DeBridgeData.getDeployId(bytes32,string,string,uint8). _sender (contracts/transfers/DeBridgeData.sol#1844) is not in mixedCase
Parameter DeBridgeData.getDeployId(bytes32,string,string,uint8). _symbol (contracts/transfers/DeBridgeData.sol#1887) is not in mixedCase
Parameter DeBridgeData.getDeployId(bytes32,string,string,uint8). _decimals (contracts/transfers/DeBridgeData.sol#1888) is not in mixedCase
Reference: https://github.com/crytic/sliether/wiki/Detector-Docmentation#conformance-to-solidity-naming-conventions
ReentrancyGuardUpgradeable. __gap (node_modules/@openzeppelin/contracts-upgradeable/security/ReentrancyGuardUpgradeable.sol#68) is never used in DeBridgeData (contracts/transfers/DeBridgeData.sol#25-1118)
Reference: https://github.com/crytic/sliether/wiki/Detector-Docmentation#unused-state-variable
DeBridgeData.gas (contracts/transfers/DeBridgeData.sol#65) should be constant
DeBridgeData.gas (contracts/transfers/DeBridgeData.sol#82) should be constant
DeBridgeData.lockData (contracts/transfers/DeBridgeData.sol#191) should be constant
Reference: https://github.com/crytic/sliether/wiki/Detector-Docmentation#state-variables-that-could-be-declared-constant
grantRole(bytes32,address) should be declared external:
  - AccessControlUpgradeable.grantRole(bytes32,address) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#139-141)
revokeRole(bytes32,address) should be declared external:
  - AccessControlUpgradeable.revokeRole(bytes32,address) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#152-154)
renounceRole(bytes32,address) should be declared external:
  - AccessControlUpgradeable.renounceRole(bytes32,address) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#170-174)
name() should be declared external:
  - ERC20.name() (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#62-64)
symbol() should be declared external:
  - ERC20.symbol() (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#78-72)
decimals() should be declared external:
  - ERC20.decimals() (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#89-89)
totalSupply() should be declared external:
  - ERC20.totalSupply() (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#94-96)
balanceOf(address) should be declared external:
  - ERC20.balanceOf(address) (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#101-103)
transfer(address,uint256) should be declared external:
  - ERC20.transfer(address,uint256) (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#113-116)
allowance(address,address) should be declared external:
  - ERC20.allowance(address,address) (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#121-123)
approve(address,uint256) should be declared external:
  - ERC20.approve(address,uint256) (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#132-135)
transferFrom(address,address,uint256) should be declared external:
  - ERC20.transferFrom(address,address,uint256) (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#158-164)
increaseAllowance(address,uint256) should be declared external:
  - ERC20.increaseAllowance(address,uint256) (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#178-181)
decreaseAllowance(address,uint256) should be declared external:
  - ERC20.decreaseAllowance(address,uint256) (node_modules/@openzeppelin/contracts/token/ERC20/ERC20.sol#197-205)
initialize(uint8,uint8) should be declared external:
  - DeBridgeData.initialize(uint8,uint8) (contracts/transfers/DeBridgeData.sol#166-173)
Reference: https://github.com/crytic/sliether/wiki/Detector-Docmentation#public-function-that-could-be-declared-external

```



```

- (success) recipient.call(value: amount)() (node_modules/@openzeppelin/contracts/utils/Address.sol#58)
Low level call in Address.functionCallWithValue(address,bytes,uint256,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#123-134):
- (success,returndata) = target.call(value: value(data) (node_modules/@openzeppelin/contracts/utils/Address.sol#132)
Variable AccessControlUpgradeable._gap (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#232) is not in mixedCase
Low level call in Address.functionStaticCall(address,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#152-161):
- (success,returndata) = target.staticCall(data) (node_modules/@openzeppelin/contracts/utils/Address.sol#159)
Low level call in Address.functionDelegateCall(address,bytes,string) (node_modules/@openzeppelin/contracts/utils/Address.sol#179-188):
- (success,returndata) = target.delegateCall(data) (node_modules/@openzeppelin/contracts/utils/Address.sol#186)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

DeBridgeTokenDeployer (contracts/transfers/DeBridgeTokenDeployer.sol#12-193) should inherit from IBeacon (node_modules/@openzeppelin/contracts/proxy/beacon/IBeacon.sol#9-16)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-inheritance

Function AccessControlUpgradeable._AccessControl_init() (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#61-66) is not in mixedCase
Function AccessControlUpgradeable._AccessControl_init_unchecked() (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#57-58) is not in mixedCase
Variable AccessControlUpgradeable._gap (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#232) is not in mixedCase
Function PauseableUpgradeable._Pauseable_init() (node_modules/@openzeppelin/contracts-upgradeable/security/PauseableUpgradeable.sol#36-37) is not in mixedCase
Function PauseableUpgradeable._Pauseable_init_unchecked() (node_modules/@openzeppelin/contracts-upgradeable/security/PauseableUpgradeable.sol#39-41) is not in mixedCase
Variable PauseableUpgradeable._gap (node_modules/@openzeppelin/contracts-upgradeable/security/PauseableUpgradeable.sol#97) is not in mixedCase
Function ERC20Upgradeable._ERC20_init(string,string) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#65-58) is not in mixedCase
Function ERC20Upgradeable._ERC20_init_unchecked(string,string) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#60-63) is not in mixedCase
Variable ERC20Upgradeable._gap (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#92) is not in mixedCase
Function ERC20Upgradeable._ERC20Pauseable_init() (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/extensions/ERC20PauseableUpgradeable.sol#18-22) is not in mixedCase
Function ERC20Upgradeable._ERC20Pauseable_init_unchecked() (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/extensions/ERC20PauseableUpgradeable.sol#26-29) is not in mixedCase
Variable ERC20Upgradeable._gap (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/extensions/ERC20PauseableUpgradeable.sol#42) is not in mixedCase
Function ContextUpgradeable._Context_init() (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#18-20) is not in mixedCase
Function ContextUpgradeable._Context_init_unchecked() (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#22-23) is not in mixedCase
Variable ContextUpgradeable._gap (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#41) is not in mixedCase
Function ERC165Upgradeable._ERC165_init() (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/ERC165Upgradeable.sol#24-26) is not in mixedCase
Function ERC165Upgradeable._ERC165_init_unchecked() (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/ERC165Upgradeable.sol#28-29) is not in mixedCase
Variable ERC165Upgradeable._gap (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/ERC165Upgradeable.sol#43) is not in mixedCase
Parameter DeBridgeToken.mint(address,uint256)._receiver (contracts/periphery/DeBridgeToken.sol#93) is not in mixedCase
Parameter DeBridgeToken.mint(address,uint256)._amount (contracts/periphery/DeBridgeToken.sol#93) is not in mixedCase
Parameter DeBridgeToken.burn(uint256)._amount (contracts/periphery/DeBridgeToken.sol#98) is not in mixedCase
Parameter DeBridgeToken.permit(address,address,uint256,uint8,bytes32,bytes32)._owner (contracts/periphery/DeBridgeToken.sol#111) is not in mixedCase
Parameter DeBridgeToken.permit(address,address,uint256,uint8,bytes32,bytes32)._spender (contracts/periphery/DeBridgeToken.sol#112) is not in mixedCase
Parameter DeBridgeToken.permit(address,address,uint256,uint8,bytes32,bytes32)._value (contracts/periphery/DeBridgeToken.sol#113) is not in mixedCase
Parameter DeBridgeToken.permit(address,address,uint256,uint8,bytes32,bytes32)._deadline (contracts/periphery/DeBridgeToken.sol#114) is not in mixedCase
Parameter DeBridgeToken.permit(address,address,uint256,uint8,bytes32,bytes32)._v (contracts/periphery/DeBridgeToken.sol#115) is not in mixedCase
Parameter DeBridgeToken.permit(address,address,uint256,uint8,bytes32,bytes32)._r (contracts/periphery/DeBridgeToken.sol#116) is not in mixedCase
Parameter DeBridgeToken.permit(address,address,uint256,uint8,bytes32,bytes32)._s (contracts/periphery/DeBridgeToken.sol#117) is not in mixedCase
Variable DeBridgeToken.DOWNSIDE_FACTOR (contracts/periphery/DeBridgeToken.sol#121) is not in mixedCase
Variable DeBridgeToken._decimals (contracts/periphery/DeBridgeToken.sol#129) is not in mixedCase
Parameter DeBridgeTokenDeployer.initialize(address,address,address)._tokenImplementation (contracts/transfers/DeBridgeTokenDeployer.sol#73) is not in mixedCase
Parameter DeBridgeTokenDeployer.initialize(address,address,address)._deBridgeTokenAdmin (contracts/transfers/DeBridgeTokenDeployer.sol#74) is not in mixedCase
Parameter DeBridgeTokenDeployer.initialize(address,address,address)._deBridgeToken (contracts/transfers/DeBridgeTokenDeployer.sol#76) is not in mixedCase
Parameter DeBridgeTokenDeployer.deployAsset(bytes32,string,string,uint8)._deBridgeId (contracts/transfers/DeBridgeTokenDeployer.sol#90) is not in mixedCase
Parameter DeBridgeTokenDeployer.deployAsset(bytes32,string,string,uint8)._name (contracts/transfers/DeBridgeTokenDeployer.sol#91) is not in mixedCase
Parameter DeBridgeTokenDeployer.deployAsset(bytes32,string,string,uint8)._symbol (contracts/transfers/DeBridgeTokenDeployer.sol#92) is not in mixedCase
Parameter DeBridgeTokenDeployer.deployAsset(bytes32,string,string,uint8)._decimals (contracts/transfers/DeBridgeTokenDeployer.sol#93) is not in mixedCase
Parameter DeBridgeTokenDeployer.setTokenImplementation(address)._impl (contracts/transfers/DeBridgeTokenDeployer.sol#104) is not in mixedCase
Parameter DeBridgeTokenDeployer.setDeBridgeTokenAdmin(address)._deBridgeTokenAdmin (contracts/transfers/DeBridgeTokenDeployer.sol#105) is not in mixedCase
Parameter DeBridgeTokenDeployer.setDeBridgeAddress(address)._deBridgeAddress (contracts/transfers/DeBridgeTokenDeployer.sol#168) is not in mixedCase
Parameter DeBridgeTokenDeployer.setOverridedTokenInfo(bytes32,DeBridgeTokenDeployer.OverridedTokenInfo[])._deBridgeIds (contracts/transfers/DeBridgeTokenDeployer.sol#177) is not in mixedCase
Parameter DeBridgeTokenDeployer.setOverridedTokenInfo(bytes32,DeBridgeTokenDeployer.OverridedTokenInfo[])._tokens (contracts/transfers/DeBridgeTokenDeployer.sol#178) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

DeBridgeTokenDeployer.deployAsset(bytes32,string,string,uint8) (contracts/transfers/DeBridgeTokenDeployer.sol#89-142) uses literals with too many digits:
- bytecode = abi.encodePacked(type() (DeBridgeTokenProxy).creationCode,constructorArgs) (contracts/transfers/DeBridgeTokenDeployer.sol#124)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits

ERC20PauseableUpgradeable._gap (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/extensions/ERC20PauseableUpgradeable.sol#42) is never used in DeBridgeToken (contracts/periphery/DeBridgeToken.sol#18-166)
AccessControlUpgradeable._gap (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#232) is never used in DeBridgeTokenDeployer (contracts/transfers/DeBridgeTokenDeployer.sol#12-193)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable

grantRole(bytes32,address) should be declared external:
- AccessControlUpgradeable.grantRole(bytes32,address) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#139-141)
revokeRole(bytes32,address) should be declared external:
- AccessControlUpgradeable.revokeRole(bytes32,address) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#152-154)
renounceRole(bytes32,address) should be declared external:
- AccessControlUpgradeable.renounceRole(bytes32,address) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#170-174)
name() should be declared external:
- ERC20Upgradeable.name() (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#68-70)
symbol() should be declared external:
- ERC20Upgradeable.symbol() (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#76-78)
decimals() should be declared external:
- DeBridgeToken.decimals() (contracts/periphery/DeBridgeToken.sol#145-147)
ERC20Upgradeable.decimals() (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#93-95)
totalSupply() should be declared external:
- ERC20Upgradeable.totalSupply() (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#100-102)
balanceOf(address) should be declared external:
- ERC20Upgradeable.balanceOf(address) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#107-109)
transfer(address,uint256) should be declared external:
- ERC20Upgradeable.transfer(address,uint256) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#119-122)
allowance(address,address) should be declared external:
- ERC20Upgradeable.allowance(address,address) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#127-129)
approve(address,uint256) should be declared external:
- ERC20Upgradeable.approve(address,uint256) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#138-141)
transferFrom(address,address,uint256) should be declared external:
- ERC20Upgradeable.transferFrom(address,address,uint256) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#156-158)
increaseAllowance(address,uint256) should be declared external:
- ERC20Upgradeable.increaseAllowance(address,uint256) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#184-187)
decreaseAllowance(address,uint256) should be declared external:
- ERC20Upgradeable.decreaseAllowance(address,uint256) (node_modules/@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol#203-211)
pause() should be declared external:
- DeBridgeToken.pause() (contracts/periphery/DeBridgeToken.sol#190-192)
unpause() should be declared external:
- DeBridgeToken.unpause() (contracts/periphery/DeBridgeToken.sol#195-197)
initialize(address,address,address) should be declared external:
- DeBridgeTokenDeployer.initialize(address,address,address) (contracts/transfers/DeBridgeTokenDeployer.sol#72-82)
implementation() should be declared external:
- DeBridgeTokenDeployer.implementation() (contracts/transfers/DeBridgeTokenDeployer.sol#145-149)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#public-function-that-could-be-declared-external

```



```

Variable AccessControlUpgradeable..._gap (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#232) is not in mixedCase
Function ContextUpgradeable..._Context_init() (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#18-20) is not in mixedCase
Function ContextUpgradeable..._Context_init_unchained() (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#22-23) is not in mixedCase
Variable ContextUpgradeable..._gap (node_modules/@openzeppelin/contracts-upgradeable/utils/ContextUpgradeable.sol#31) is not in mixedCase
Function ERC160Upgradeable..._ERC160_init() (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/ERC160Upgradeable.sol#24-26) is not in mixedCase
Function ERC160Upgradeable..._ERC160_init_unchained() (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/ERC160Upgradeable.sol#28-29) is not in mixedCase
Variable ERC160Upgradeable..._gap (node_modules/@openzeppelin/contracts-upgradeable/utils/introspection/ERC160Upgradeable.sol#36) is not in mixedCase
Parameter SignatureUtils.getSignature(bytes32)_submissionsId (contracts/libraries/SignatureUtils.sol#183) is not in mixedCase
Parameter SignatureUtils.isValidSignature(bytes)_signature (contracts/libraries/SignatureUtils.sol#191) is not in mixedCase
Parameter SignatureUtils.isValidSignature(bytes,uint256)_signatures (contracts/libraries/SignatureUtils.sol#192) is not in mixedCase
Parameter SignatureUtils.isValidSignature(bytes,uint256)_bytes (contracts/libraries/SignatureUtils.sol#193) is not in mixedCase
Parameter SignatureUtils.isValidSignature(bytes,uint256)_offset (contracts/libraries/SignatureUtils.sol#194) is not in mixedCase
Parameter OracleManager.initialize(uint8,uint8)_minConfirmations (contracts/transfers/OracleManager.sol#56) is not in mixedCase
Parameter OracleManager.initialize(uint8,uint8)_excessConfirmations (contracts/transfers/OracleManager.sol#56) is not in mixedCase
Parameter OracleManager.setMinConfirmations(uint8)_minConfirmations (contracts/transfers/OracleManager.sol#67) is not in mixedCase
Parameter OracleManager.setExcessConfirmations(uint8)_excessConfirmations (contracts/transfers/OracleManager.sol#74) is not in mixedCase
Parameter OracleManager.addOracles(address[]_bool[])_oracles (contracts/transfers/OracleManager.sol#80) is not in mixedCase
Parameter OracleManager.addOracles(address[]_bool[])_required (contracts/transfers/OracleManager.sol#84) is not in mixedCase
Parameter OracleManager.updateOracle(address,bool,bool)_oracle (contracts/transfers/OracleManager.sol#112) is not in mixedCase
Parameter OracleManager.updateOracle(address,bool,bool)_invalid (contracts/transfers/OracleManager.sol#113) is not in mixedCase
Parameter OracleManager.updateOracle(address,bool,bool)_required (contracts/transfers/OracleManager.sol#114) is not in mixedCase
Parameter SignatureVerifier.initialize(uint8,uint8,uint8,address)_minConfirmations (contracts/transfers/SignatureVerifier.sol#46) is not in mixedCase
Parameter SignatureVerifier.initialize(uint8,uint8,uint8,address)_confirmationThreshold (contracts/transfers/SignatureVerifier.sol#47) is not in mixedCase
Parameter SignatureVerifier.initialize(uint8,uint8,uint8,address)_excessConfirmations (contracts/transfers/SignatureVerifier.sol#48) is not in mixedCase
Parameter SignatureVerifier.initialize(uint8,uint8,uint8,address)_debridgeAddress (contracts/transfers/SignatureVerifier.sol#49) is not in mixedCase
Parameter SignatureVerifier.submit(bytes32,bytes,uint8)_submissionsId (contracts/transfers/SignatureVerifier.sol#59) is not in mixedCase
Parameter SignatureVerifier.submit(bytes32,bytes,uint8)_signatures (contracts/transfers/SignatureVerifier.sol#60) is not in mixedCase
Parameter SignatureVerifier.submit(bytes32,bytes,uint8)_excessConfirmations (contracts/transfers/SignatureVerifier.sol#61) is not in mixedCase
Parameter SignatureVerifier.setThreshold(uint8)_confirmationThreshold (contracts/transfers/SignatureVerifier.sol#68) is not in mixedCase
Parameter SignatureVerifier.setDebridgeAddress(address)_debridgeAddress (contracts/transfers/SignatureVerifier.sol#127) is not in mixedCase
Parameter SignatureVerifier.isValidSignature(bytes32,bytes)_signature (contracts/transfers/SignatureVerifier.sol#136) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
AccessControlUpgradeable..._gap (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#232) is never used in SignatureVerifier (contracts/transfers/SignatureVerifier.sol#9-158)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable
grantRole(bytes32,address) should be declared external:
- AccessControlUpgradeable.grantRole(bytes32,address) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#139-141)
revokeRole(bytes32,address) should be declared external:
- AccessControlUpgradeable.revokeRole(bytes32,address) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#152-154)
renounceRole(bytes32,address) should be declared external:
- AccessControlUpgradeable.renounceRole(bytes32,address) (node_modules/@openzeppelin/contracts-upgradeable/access/AccessControlUpgradeable.sol#170-174)
initialize(uint8,uint8,uint8,address) should be declared external:
- SignatureVerifier.initialize(uint8,uint8,uint8,address) (contracts/transfers/SignatureVerifier.sol#45-54)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#public-function-that-could-be-declared-external

```

contracts/transfers/WethGate.sol

```

WethGate.safeTransferETH(address,uint256) (contracts/transfers/WethGate.sol#37-40) sends eth to arbitrary user
Dangerous calls:
- (success) = _to.call(value:_value)(new bytes(0)) (contracts/transfers/WethGate.sol#38)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#functions-that-send-ether-to-arbitrary-destinations
Reentrancy in WethGate.withdraw(address,uint256) (contracts/transfers/WethGate.sol#31-35):
External calls:
- weth.withdraw_wad (contracts/transfers/WethGate.sol#32)
- _safeTransferETH_receiver_wad (contracts/transfers/WethGate.sol#33)
- (success) = _to.call(value:_value)(new bytes(0)) (contracts/transfers/WethGate.sol#38)
External calls sending eth:
- _safeTransferETH_receiver_wad (contracts/transfers/WethGate.sol#33)
- (success) = _to.call(value:_value)(new bytes(0)) (contracts/transfers/WethGate.sol#38)
Event emitted after the call(s):
- Withdrawal_receiver_wad (contracts/transfers/WethGate.sol#34)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3
Low level call in WethGate.safeTransferETH(address,uint256) (contracts/transfers/WethGate.sol#37-40):
- (success) = _to.call(value:_value)(new bytes(0)) (contracts/transfers/WethGate.sol#38)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls
Parameter WethGate.withdraw(address,uint256)_receiver (contracts/transfers/WethGate.sol#31) is not in mixedCase
Parameter WethGate.withdraw(address,uint256)_wad (contracts/transfers/WethGate.sol#31) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

```

- As a result of the tests carried out with the Slither tool, some results were obtained and reviewed by Halborn. Based on the results reviewed, some vulnerabilities were determined to be false positives. The actual vulnerabilities found by Slither are already included in the report findings.

5.2 AUTOMATED SECURITY SCAN

Description:

Halborn used automated security scanners to assist with detection of well-known security issues, and to identify low-hanging fruits on the targets for this engagement. Among the tools used was MythX, a security analysis service for Ethereum smart contracts. MythX performed a scan on all the contracts and sent the compiled results to the analyzers to locate any vulnerabilities.

MythX results:

contracts/libraries/Flags.sol

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

contracts/libraries/SignatureUtil.sol

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

contracts/periphery/CallProxy.sol

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

contracts/periphery/DeBridgeToken.sol

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.
119	(SWC-116) Timestamp Dependence	Low	A control flow decision is made based on The block.timestamp environment variable.

contracts/periphery/DeBridgeTokenPaused.sol

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

contracts/periphery/DeBridgeTokenProxy.sol

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

contracts/periphery/FeeProxy.sol

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

contracts/periphery/FeesCalculator.sol

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

contracts/periphery/SimpleFeeProxy.sol

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

contracts/periphery/UpgradeableBeacon.sol

Line	SWC Title	Severity	Short Description
4	(SWC-103) Floating Pragma	Low	A floating pragma is set.

`contracts/transfers/DeBridgeGate.sol`

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

`contracts/transfers/DeBridgeTokenDeployer.sol`

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

`contracts/transfers/OraclesManager.sol`

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.

`contracts/transfers/SignatureVerifier.sol`

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.
100	(SWC-120) Weak Sources of Randomness from Chain Attributes	Low	Potential use of "block.number" as source of randomness.
103	(SWC-120) Weak Sources of Randomness from Chain Attributes	Low	Potential use of "block.number" as source of randomness.

`contracts/transfers/WethGate.sol`

Line	SWC Title	Severity	Short Description
2	(SWC-103) Floating Pragma	Low	A floating pragma is set.
32	(SWC-107) Reentrancy	Low	A call to a user-supplied address is executed.
38	(SWC-113) DoS with Failed Call	Low	Multiple calls are executed in the same transaction.
38	(SWC-105) Unprotected Ether Withdrawal	High	Any sender can withdraw Ether from the contract account.
38	(SWC-107) Reentrancy	Low	A call to a user-supplied address is executed.

- No major issues found by Mythx. The floating pragma flagged by MythX is a false positive, as the pragma is set in the `truffle-config.js` file to the `0.8.7` version.



THANK YOU FOR CHOOSING

 **HALBORN**

