Receivers

Receivers are contracts that implement theIXReceiver interface:

```

Copy interfaceIXReceiver{ functionxReceive( bytes32_transferId, uint256_amount, address_asset, address_originSender, uint32_origin, bytesmemory_callData )externalreturns(bytesmemory); }

```

These are the main contracts that integrators implement. Connext provides a few abstract receivers that should be inherited in order to gain the built-in security and error handling.

ForwarderXReceiver

TheForwarderXReceiver is used for unauthenticated calls. The receiver has two virtual functions that the integrator should implement to 1) prepare and 2) forward the call.

_prepare

```

Copy function_prepare( bytes32_transferId, bytesmemory_data, uint256_amount, address_asset )internalvirtualreturns(bytesmemory)

```

Preparation steps should be performed in_prepare , which can include operations like swapping funds.

_forwardFunctionCall

```

Copy function_forwardFunctionCall( bytesmemory_preparedData, bytes32_transferId, uint256_amount, address_asset )internalvirtualreturns(bool)

```

The_forwardFunctionCall should contain the logic that calls the destination target contract.

AuthForwarderXReceiver

TheAuthForwarderXReceiver is used for authenticated calls. It follows the same two-step pattern as theForwarderXReceiver (_prepare +_forwardFunctionCall).

onlyOrigin

In addition, thexReceive method is guarded by anonlyOrigin modifier which ensures that:

1. The originating call comes from a registered origin domain.
2. The originating call comes from the expected origin contract of the origin domain.
3. The call to this contract comes from Connext.
4.

These checks guarantee that any successful call to anAuthForwarderXReceiver contains validated data. For more information on authentication, see the Authentication section.

originRegistry

This contract also holds anoriginRegistry which maps origin domain IDs to origin sender contracts. This registry is checked to uphold requirement #2 for the modifier above.

The contract isOwnable and only the owner canaddOrigin andremoveOrigin . All expected origins and senders should be registered in this mapping.

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