Anatomy of a cross-chain message

A cross-chain message applies to any message sent across a chain. This applies to asset transfers using theSuperchainERC20 token standard.

How it works

To send a cross-chain message on the Superchain usingSuperchain interoperability , these two aspects must be in place:

1. Each interoperable chain runs a verifying node for each chain in the interoperable set.
2. Each cross-chain message has aninitiating transaction
3. on the source chain and afinalizing transaction
4. on the destination chain.* First/initiating transaction:
5.
    - is submitted to the source chain and emits an event that can be consumed on a destination chain.
6.
    - Second/finalizing transaction:
7.
    - is submitted to a destination chain, where the block builder should only include it if certain that the first transaction was included in the source chain. The block builder can use OP-Supervisor to determine the integrity of the initiating message. Anyone can submit the second transaction.

There is no strict requirement that the executing message is ever submitted. See the specs for details on tracing theexecuting message event(opens in a new tab).

In the example above,Ox123 sends 1 OP from OP Mainnet to Base, but this applies to any asset using the SuperchainERC20 token standard.

Next steps

- More questions? Check out the FAQ section in theSuperchain Interop Explainer
- or check out thisSuperchain interop design video walk-thru(opens in a new tab)
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- Ready to get started? UseSupersim
- , a local dev environment that simulates Superchain interop for testing applications against a local version of the Superchain.
- For more info about how Superchain interoperability works under the hoodcheck out the specs(opens in a new tab)
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