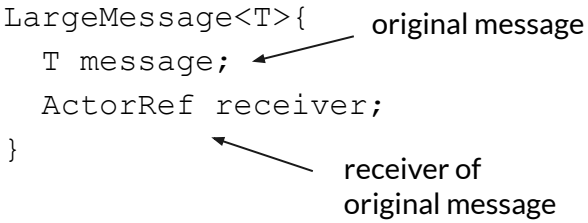
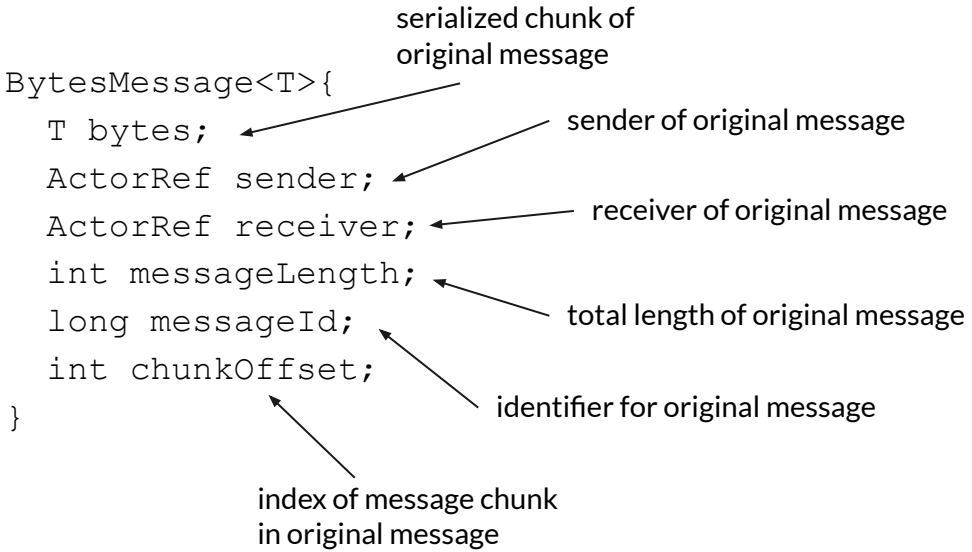
Task 2: Large Message Proxy

Team Dally

Message Types





Solution Description

Sender Proxy

- gets `LargeMessage` from Sender

1) splits the message into smaller chunks of fixed size
   - `largeMessageChunkSize` configurable in Configuration
   - serialized to byte array with `KryoPool`

2) separately sends each chunk as `BytesMessage` to Receiver Proxy

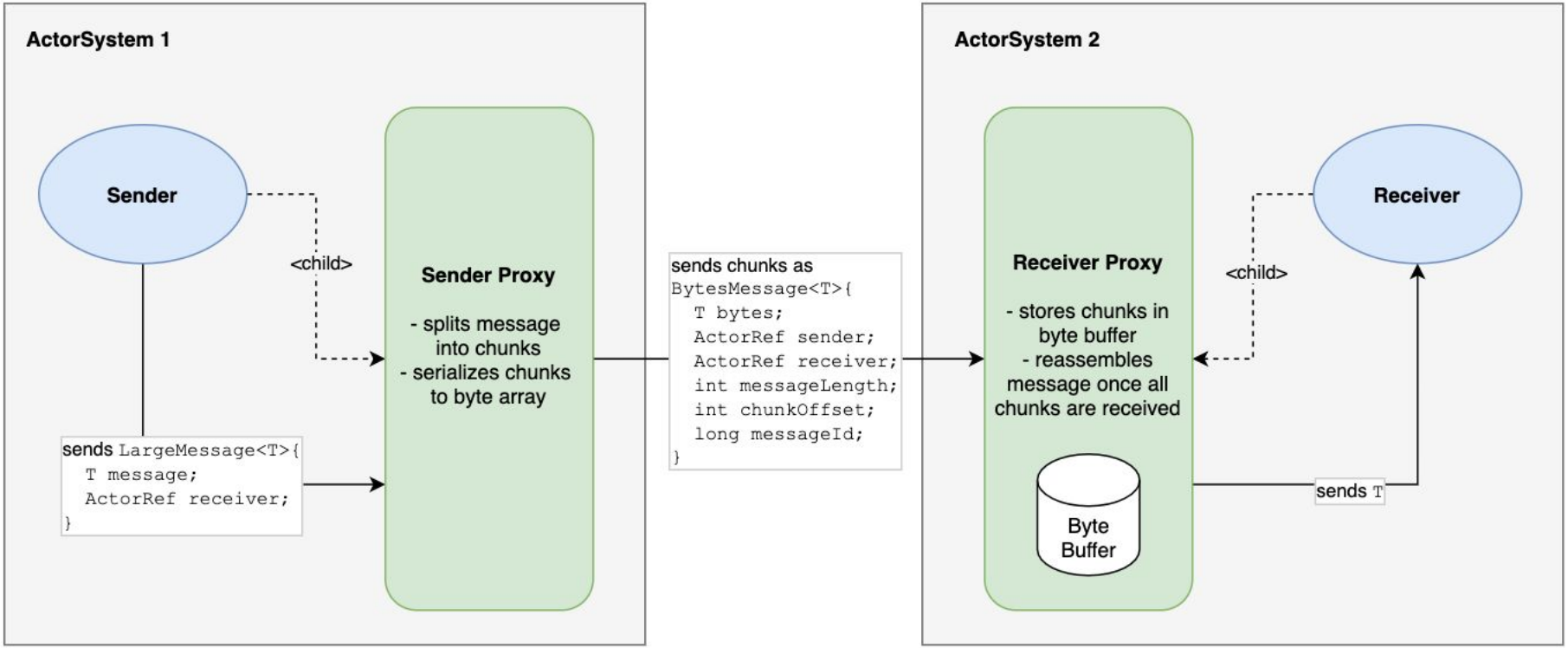
Receiver Proxy

- gets all `BytesMessage` chunks from Sender Proxy

1) stores the message chunks in `ByteBuffer`

2) checks if all chunks are present
   - if yes:
     - reassembles message's content
     - deserializes it with `KryoPool`
     - sends it to Receiver
   - if no: waits for more chunks

Solution Visualization



Critical Reflection of the Solution

- To add more fault tolerance and reliability:
  - Store messages in sender proxy until receiver proxy acknowledges
  - Add a timeout and retries until acknowledgement is received
  - Detection of missing or duplicate messages in receiver proxy
- To ensure autonomy of the process:
  - Use randomly generated UUIDs instead of AtomicCounter for IDs