MQ4CPP
Message Queuing For C++

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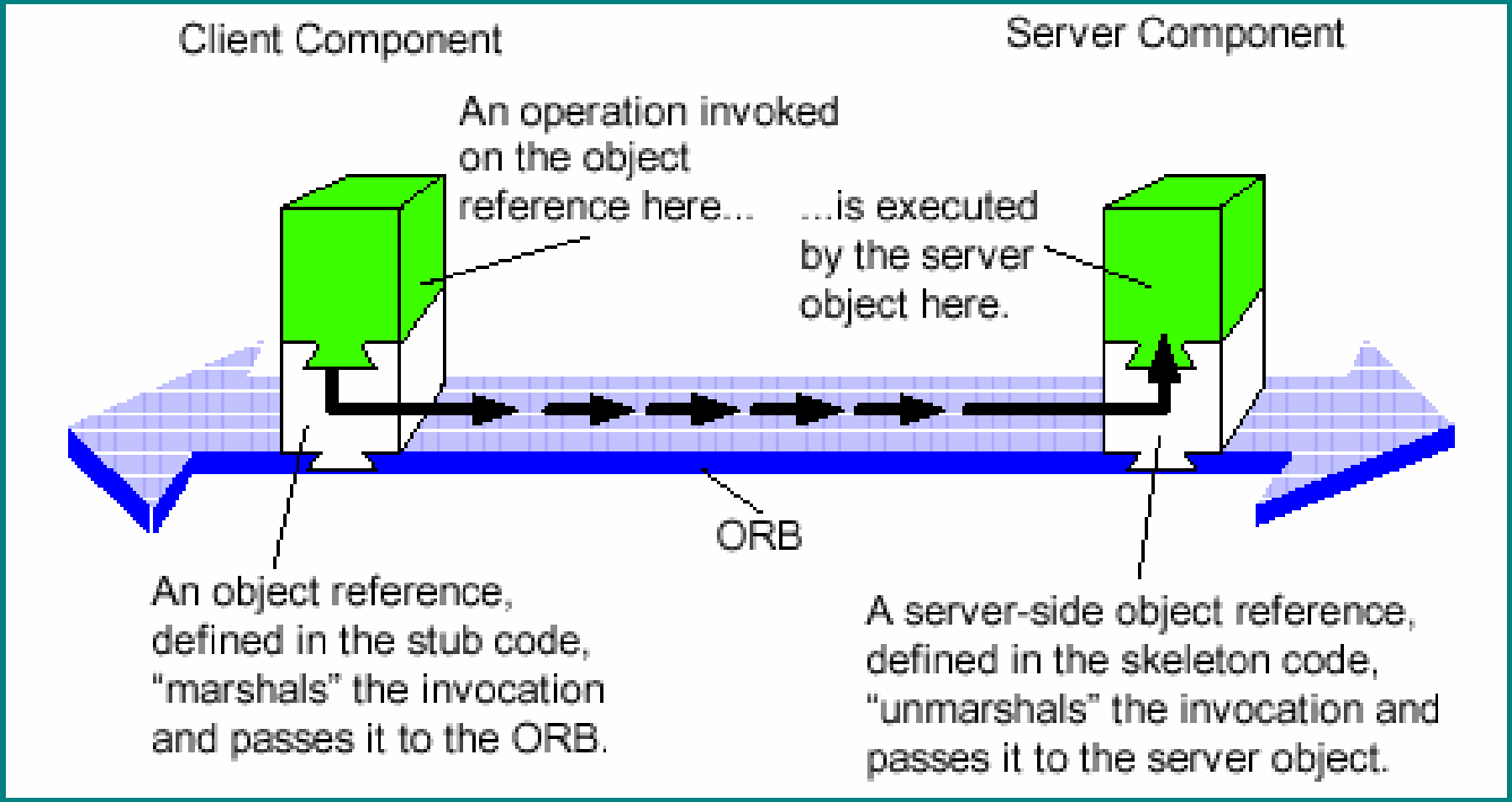
What is?

- MQ4CPP is a Message-Oriented Middleware (MOM) and implements the following messaging paradigms:
  - Direct/Indirect messaging (local)
  - Unsolicited messaging (remote)
  - Request/Reply (remote)
  - Conversation (remote)
  - Broadcast (local/remote)
  - Publish/Subscribe
  - Store & Forward
  - Memory Channel
  - File Transfer
  - Distributed Lock Manager

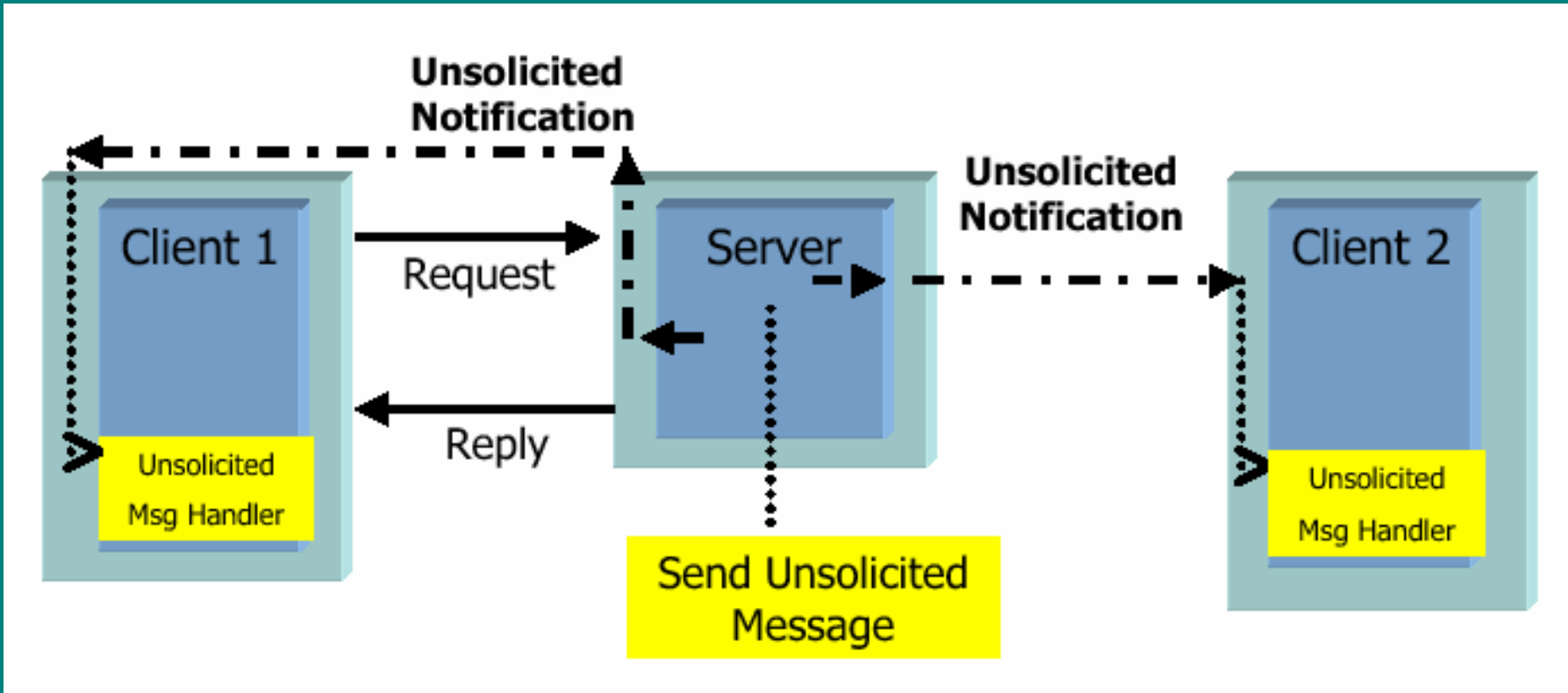
- Support of:
  - Multithreading (pthread, Win Thread)
  - Sockets (berkley , Win Sock2)
  - Cluster (failover, session replication)
  - Encription (Rijndael 128/256)
  - Compression
  - Service lookup (local/remote)
  - Message routing

- Tested platforms:
  - Linux (x86, IA64) POSIX
  - Windows (x86, IA64) SDK

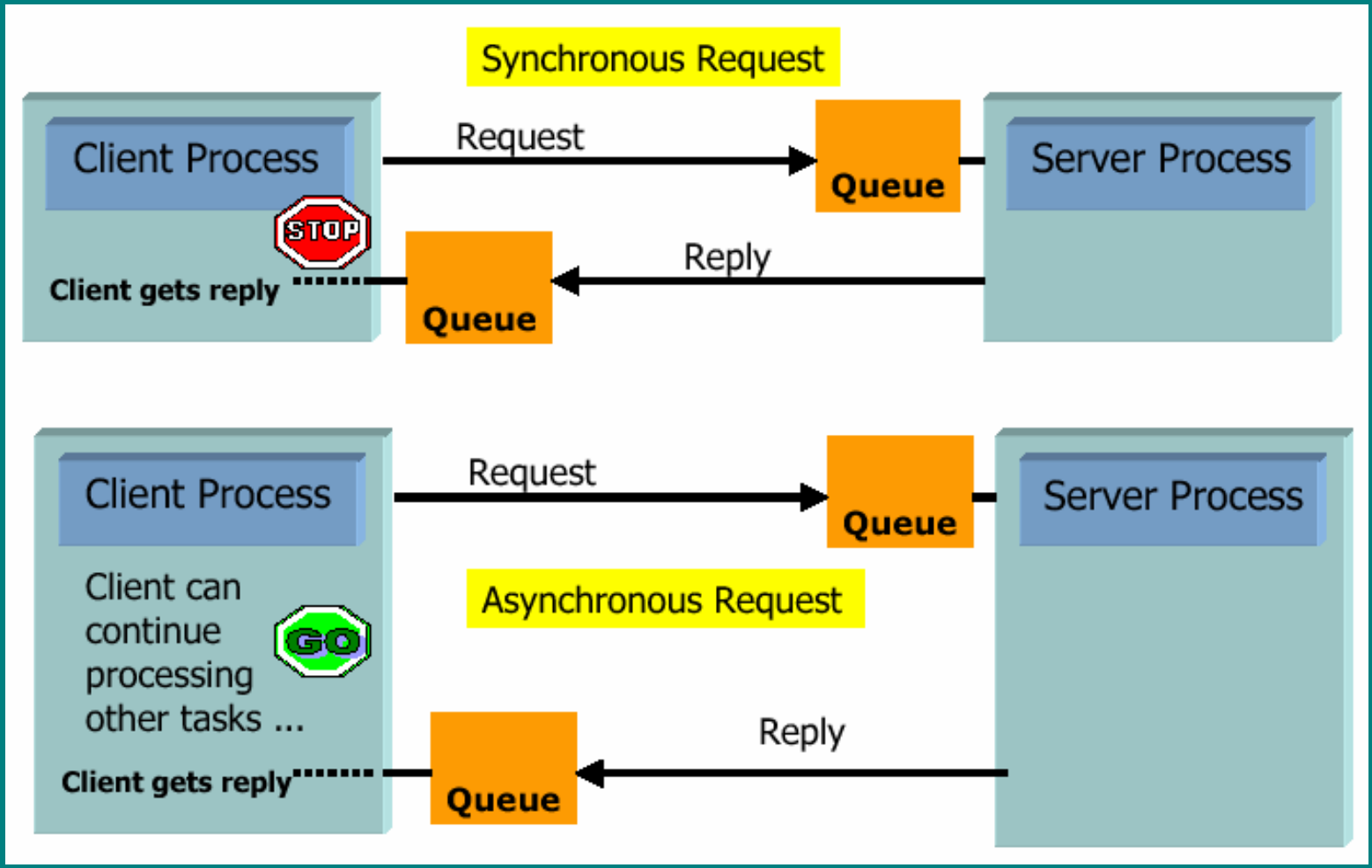
Object Request Broker Paradigm



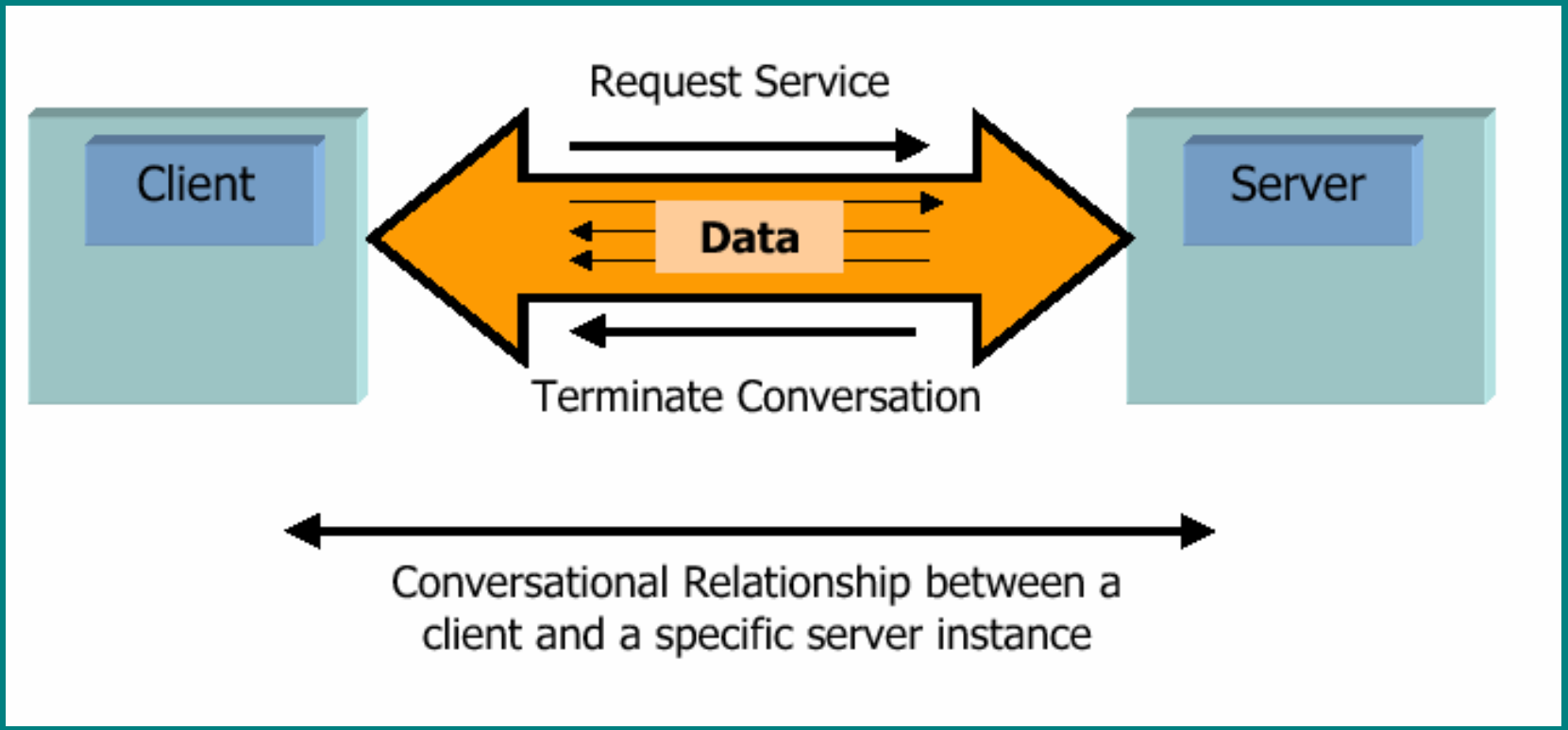
Unsolicited Messaging Paradigm



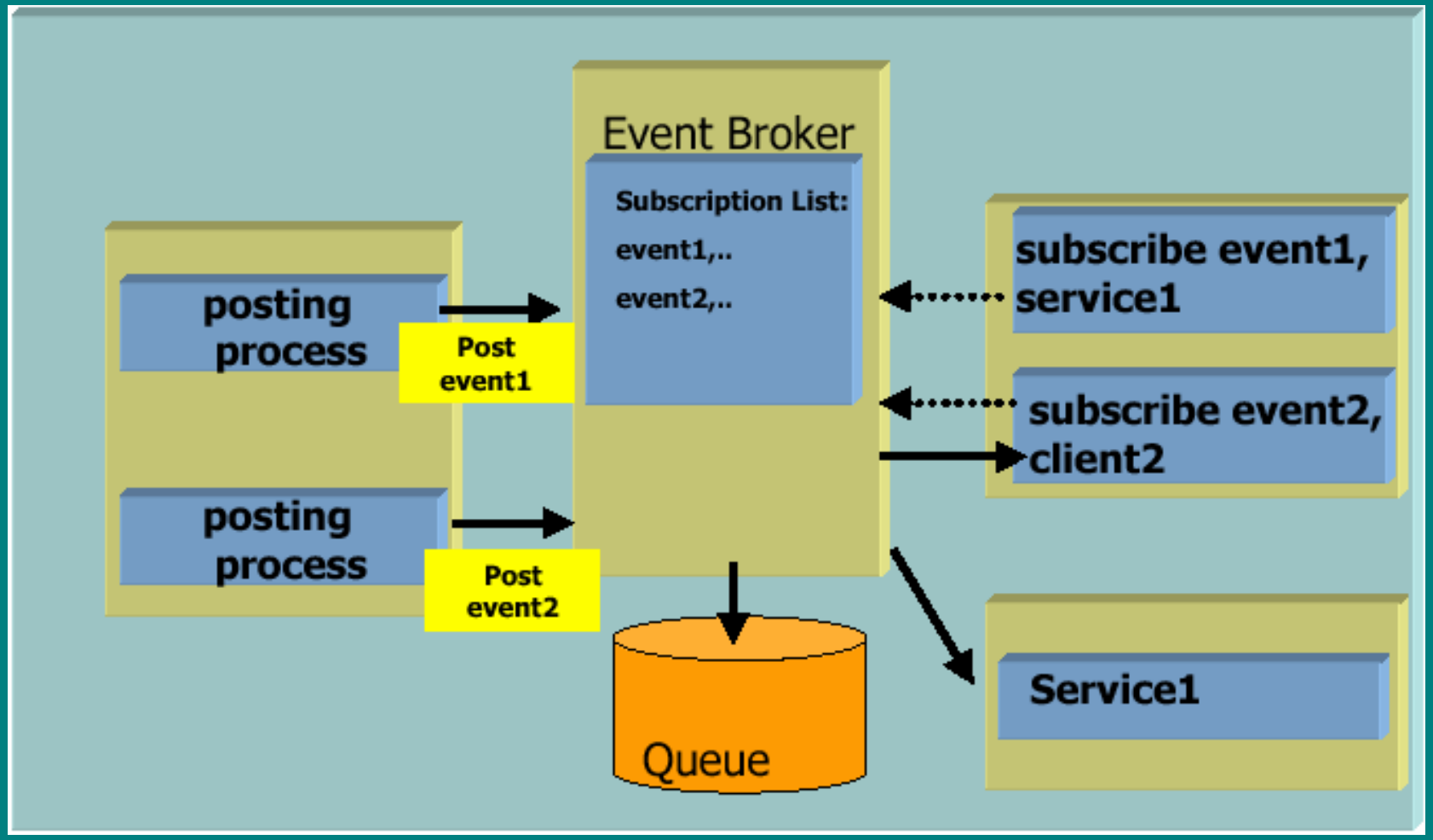
Request/Reply Paradigm



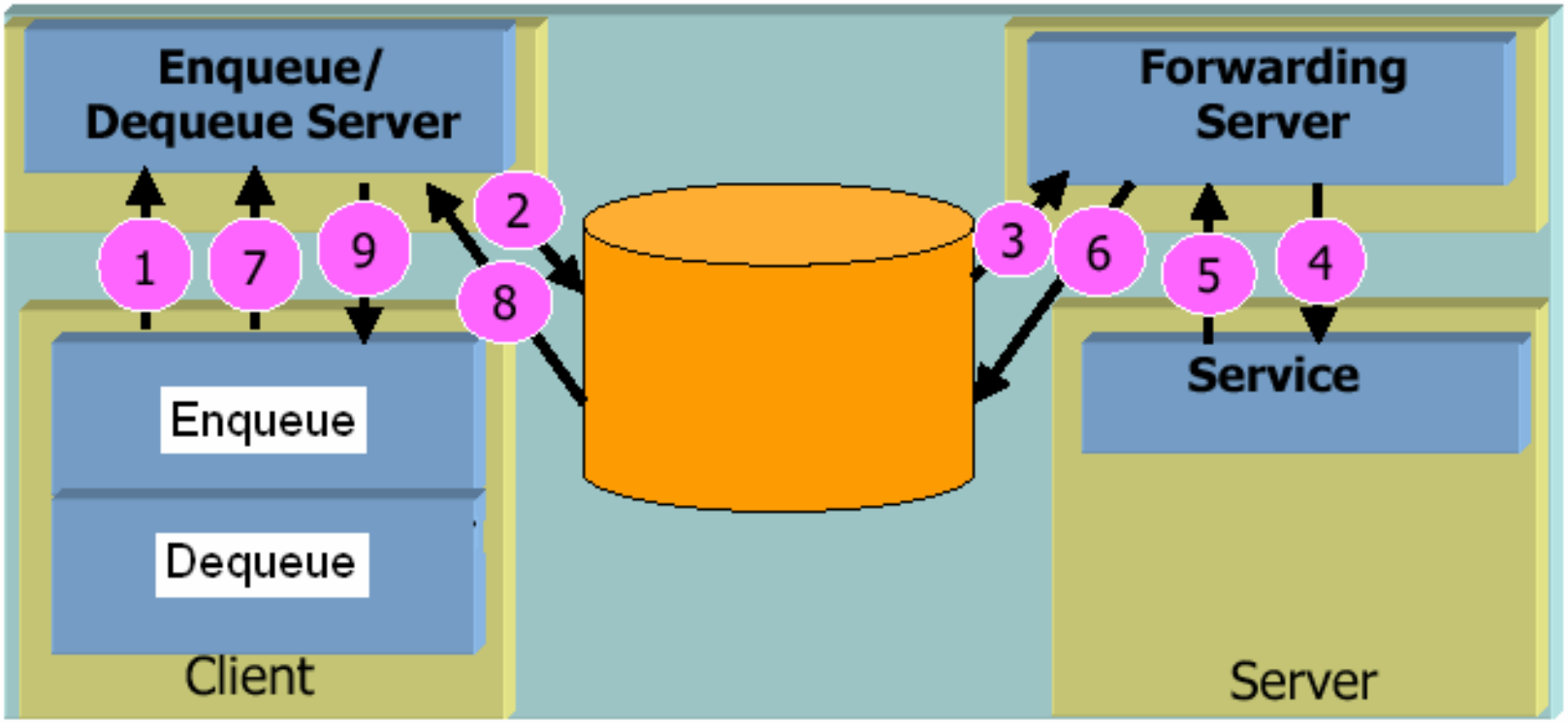
Conversation Paradigm



Publish & Subscribe Paradigm

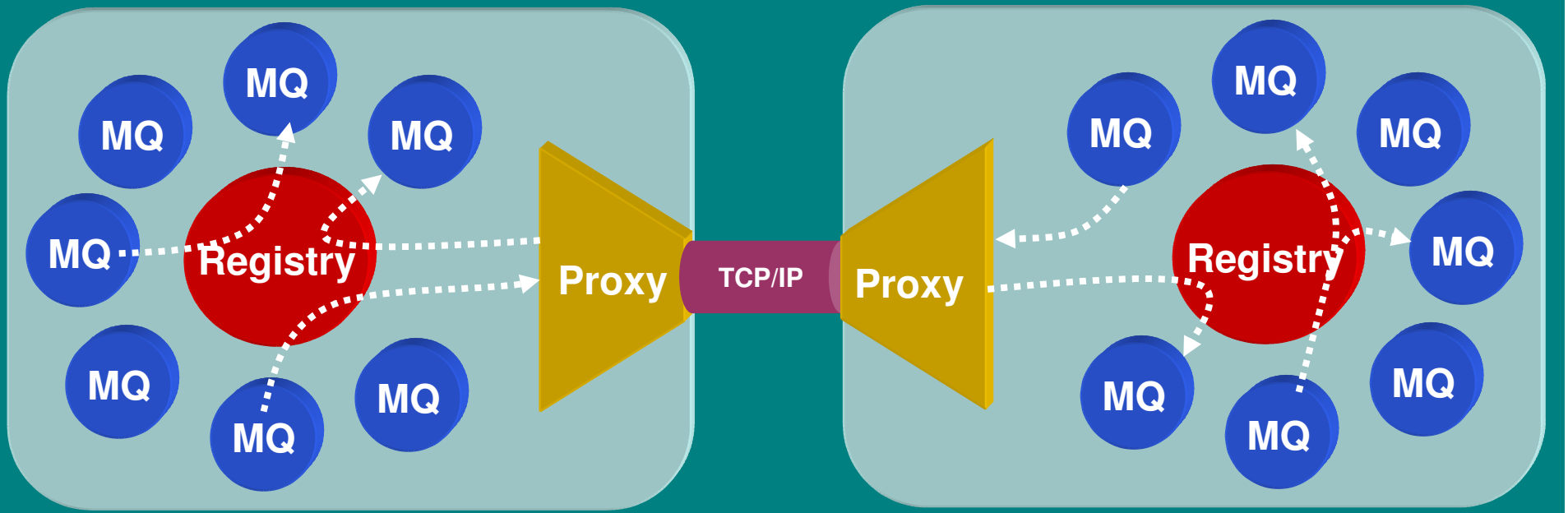


Store & Forward paradigm

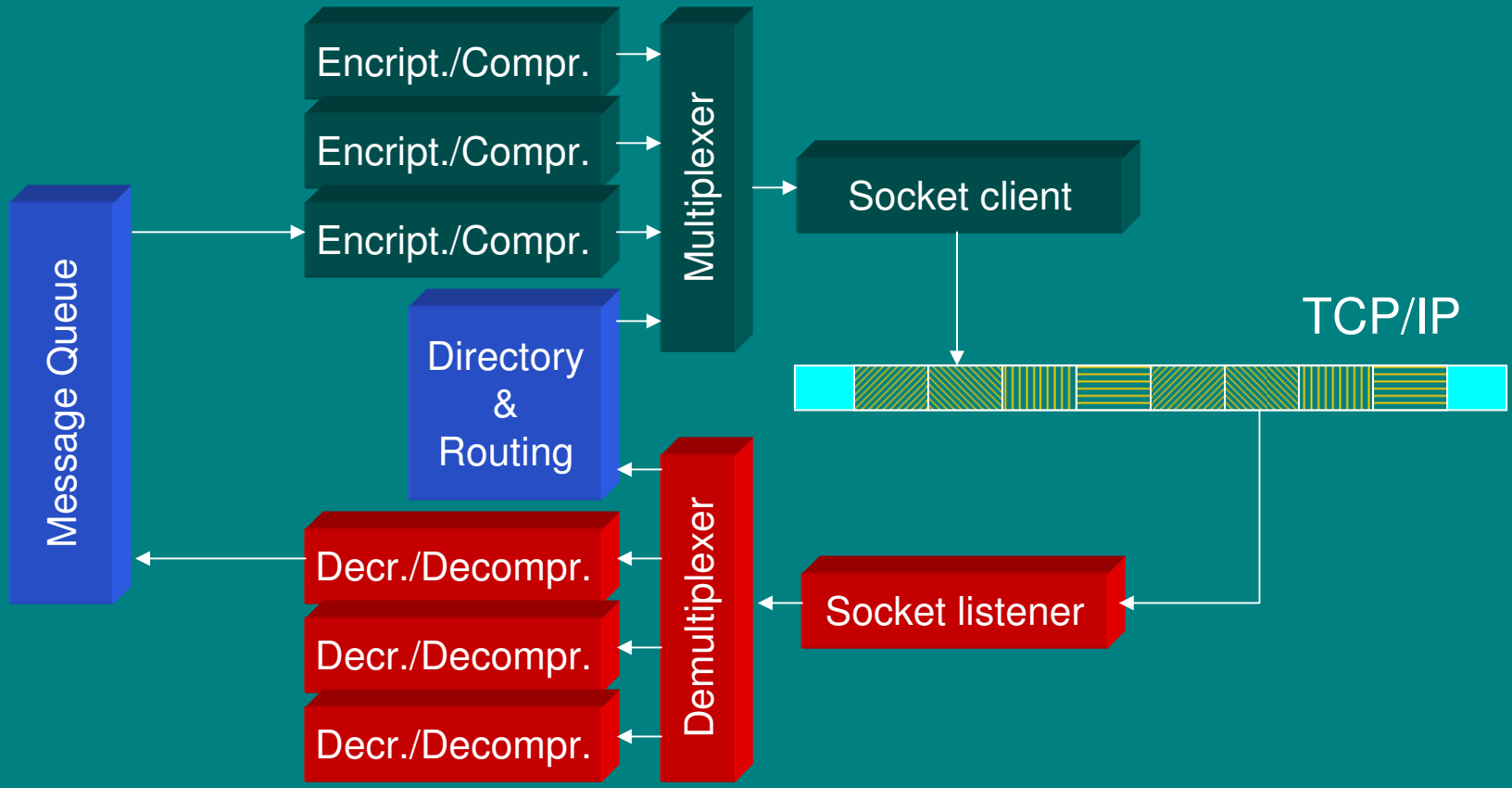


1-Client Requests Enqueue
2-E/D Server Writes Request
3-Fwd Server reads Request
4-Fwd Server Calls Service
5-Service Sends Reply
6-Fwd Server Writes Reply
7-Client Requests Dequeue
8-E/D Server Reads Reply
9-E/D Server Returns Reply

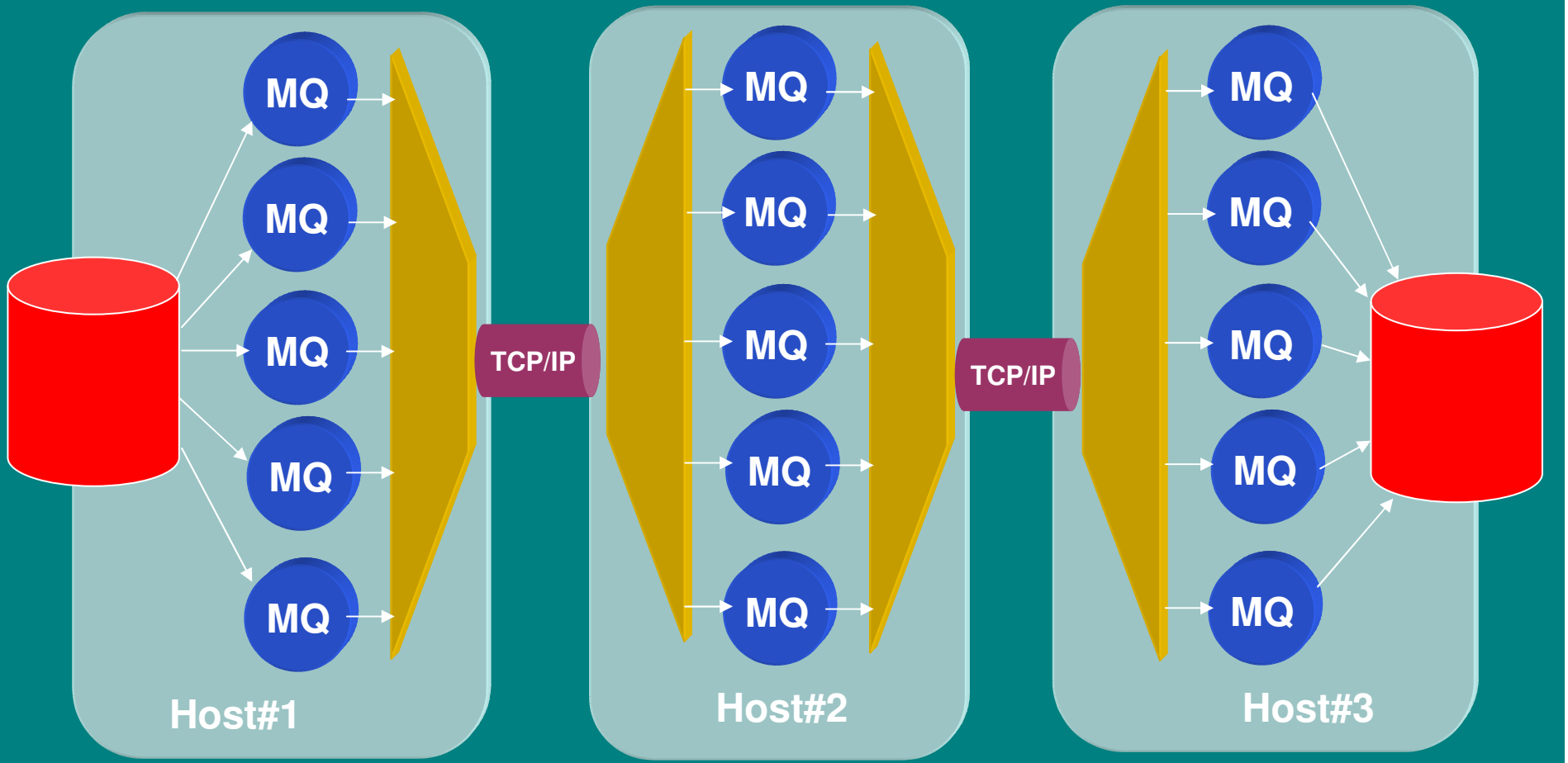
MQ4CPP logical architecture



MQ4CPP networking architecture



MQ4CPP high-perfomance computing model



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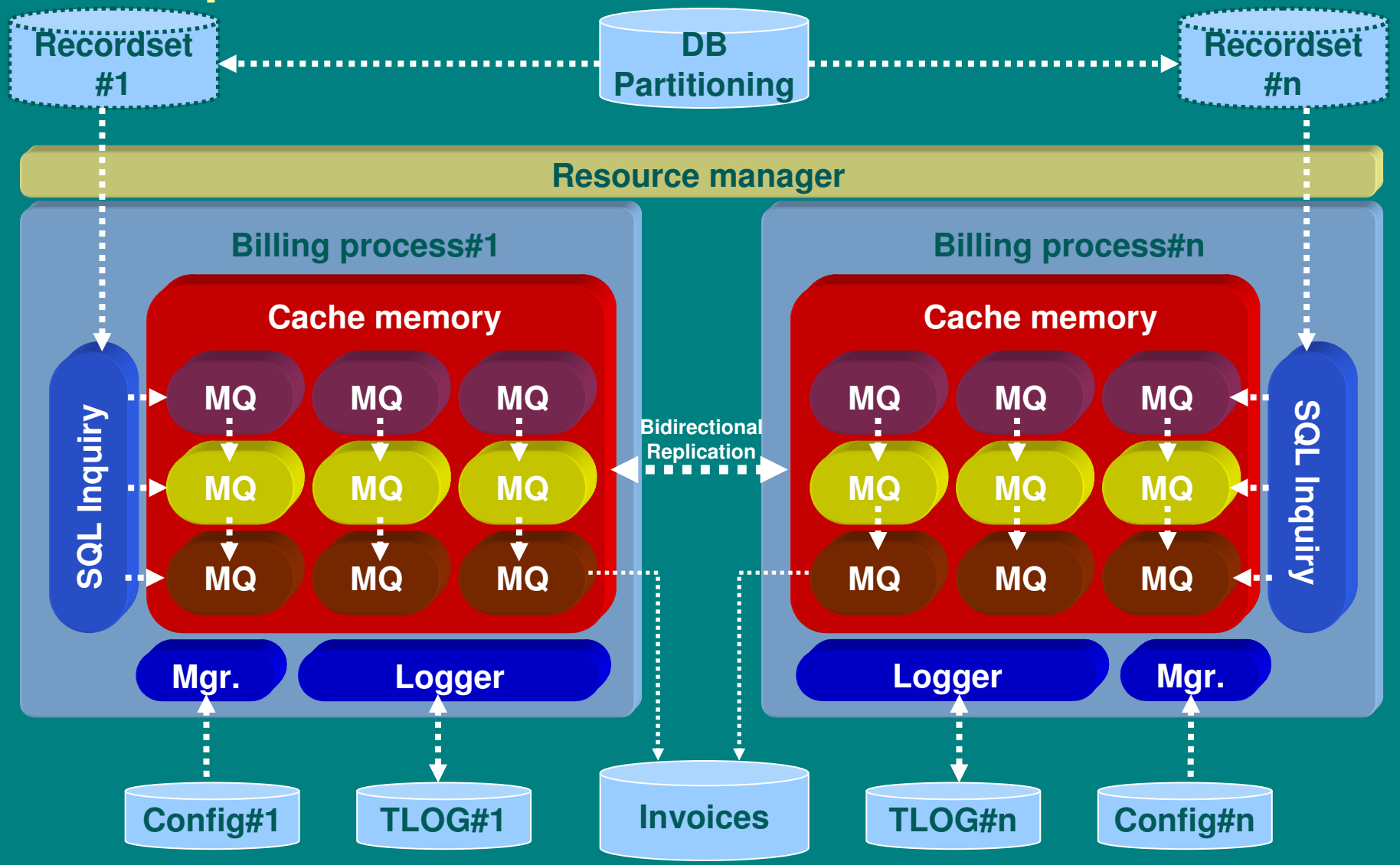
Pipelined architecture model



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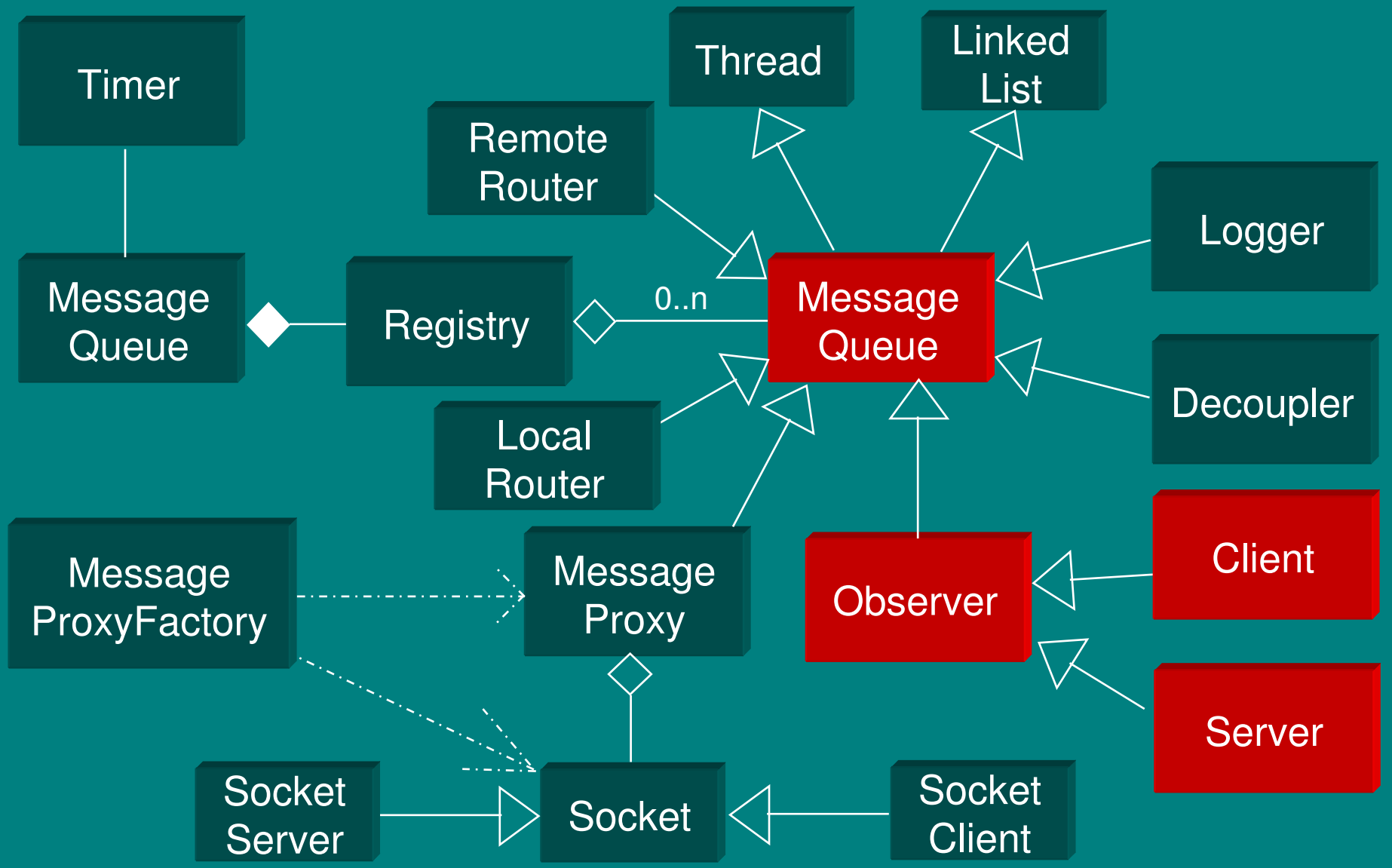
Main class diagram



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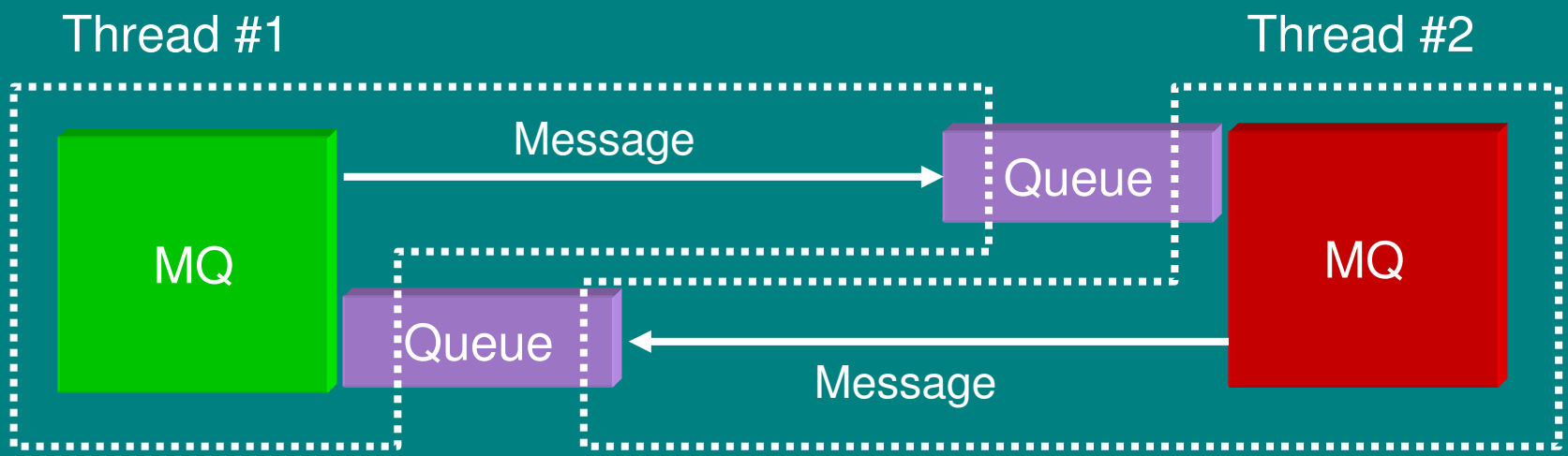
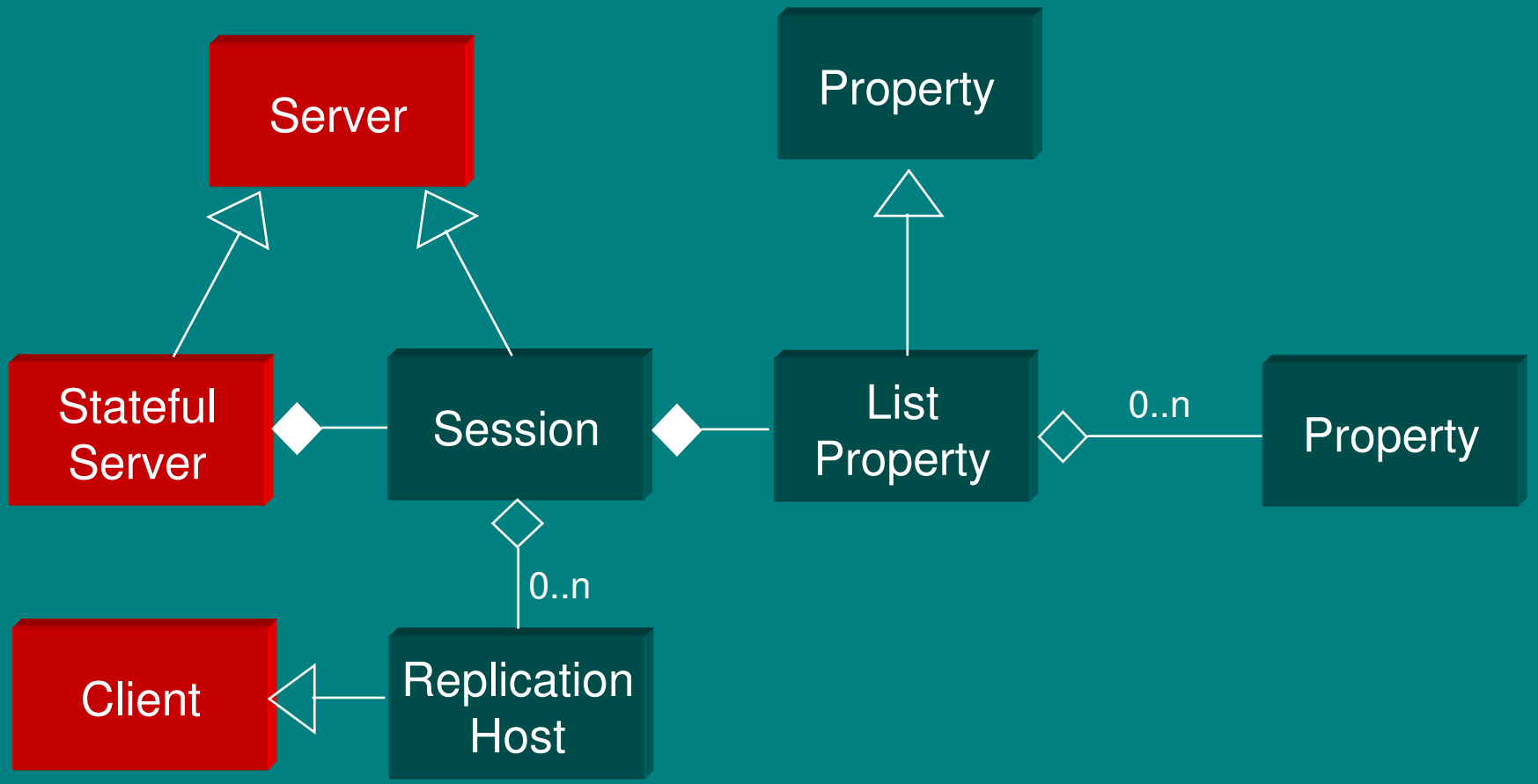
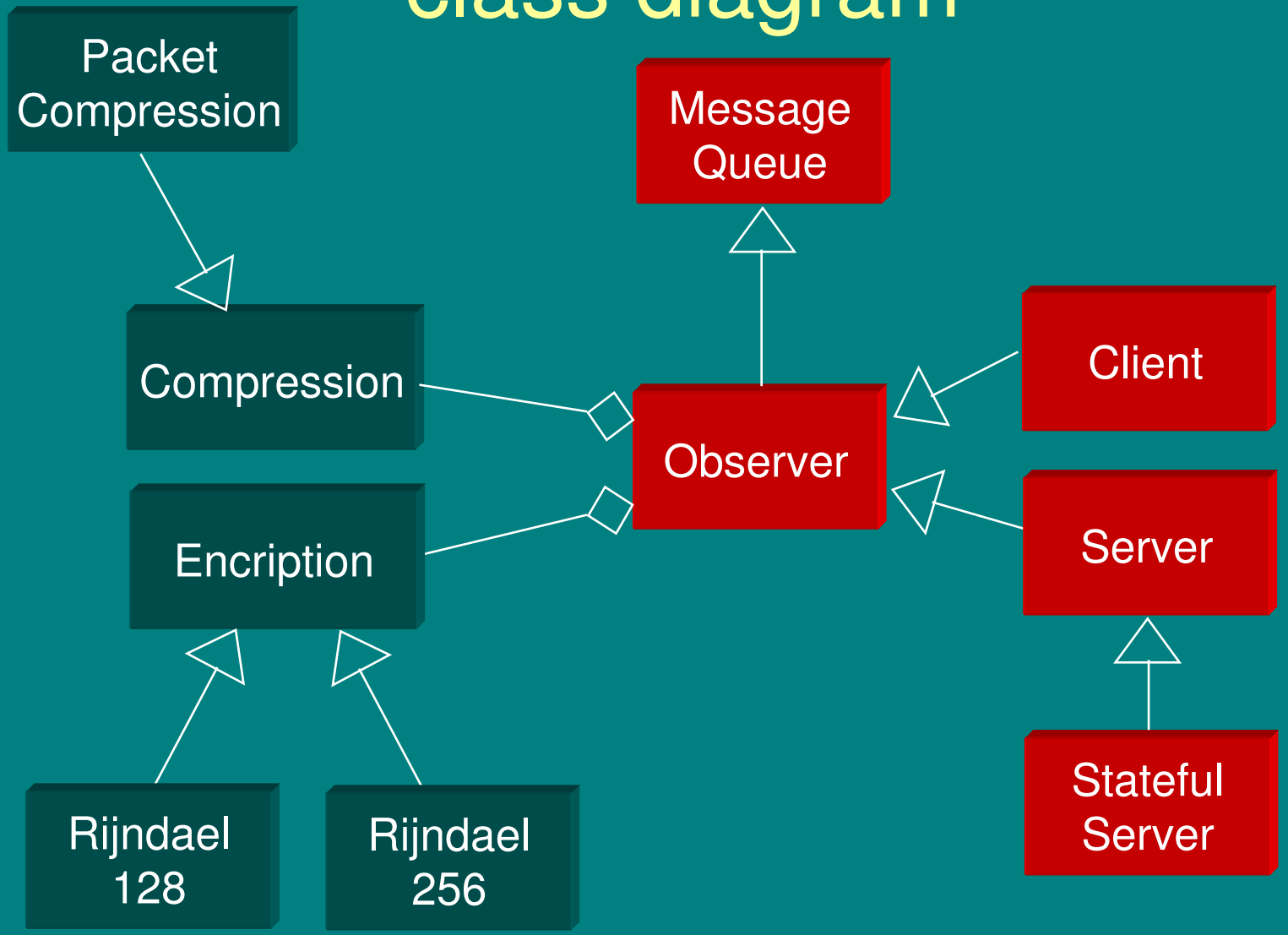
MQ4CPP threads decoupling



Session management class diagram



Encription & Compression class diagram



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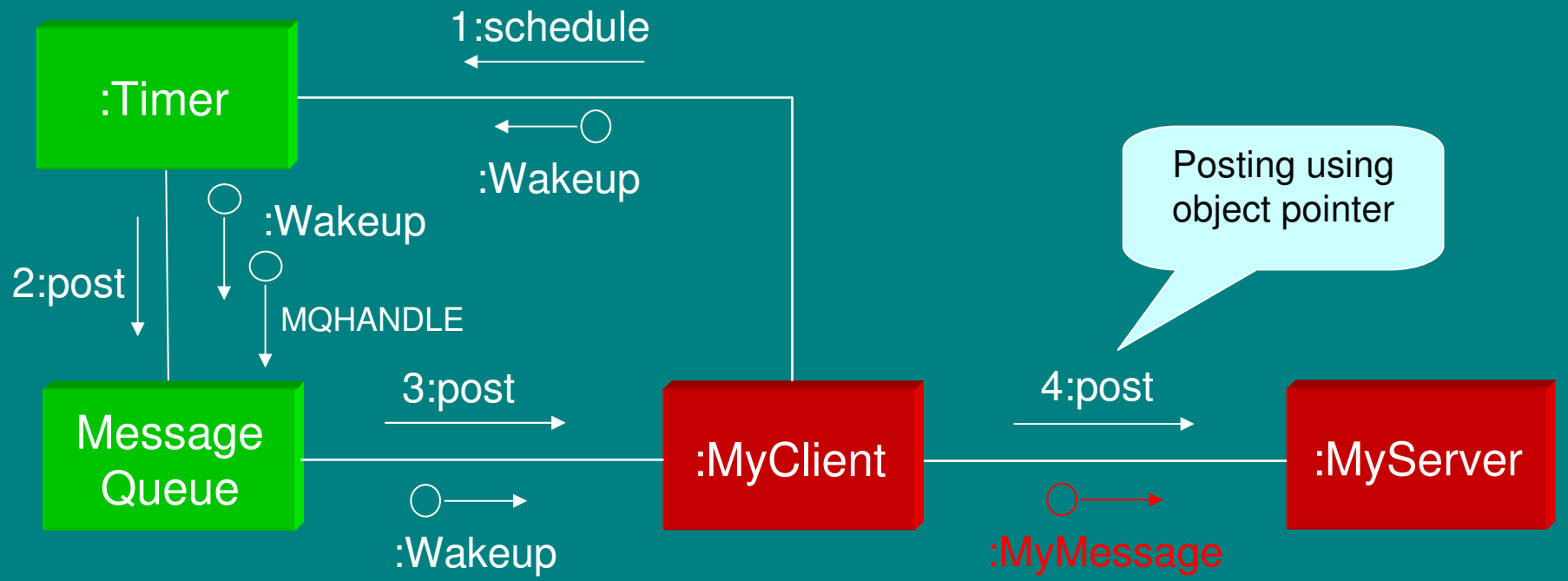
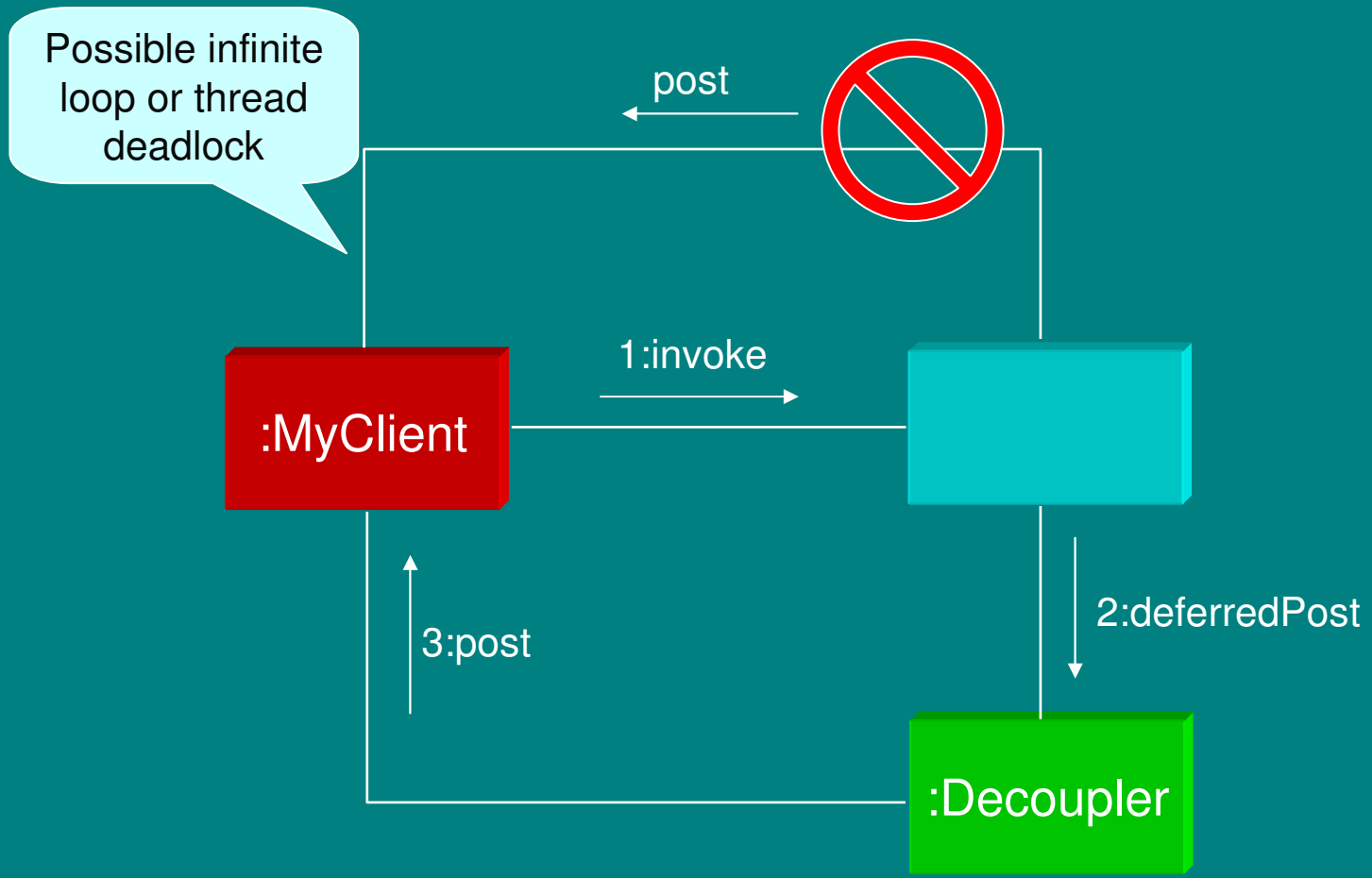
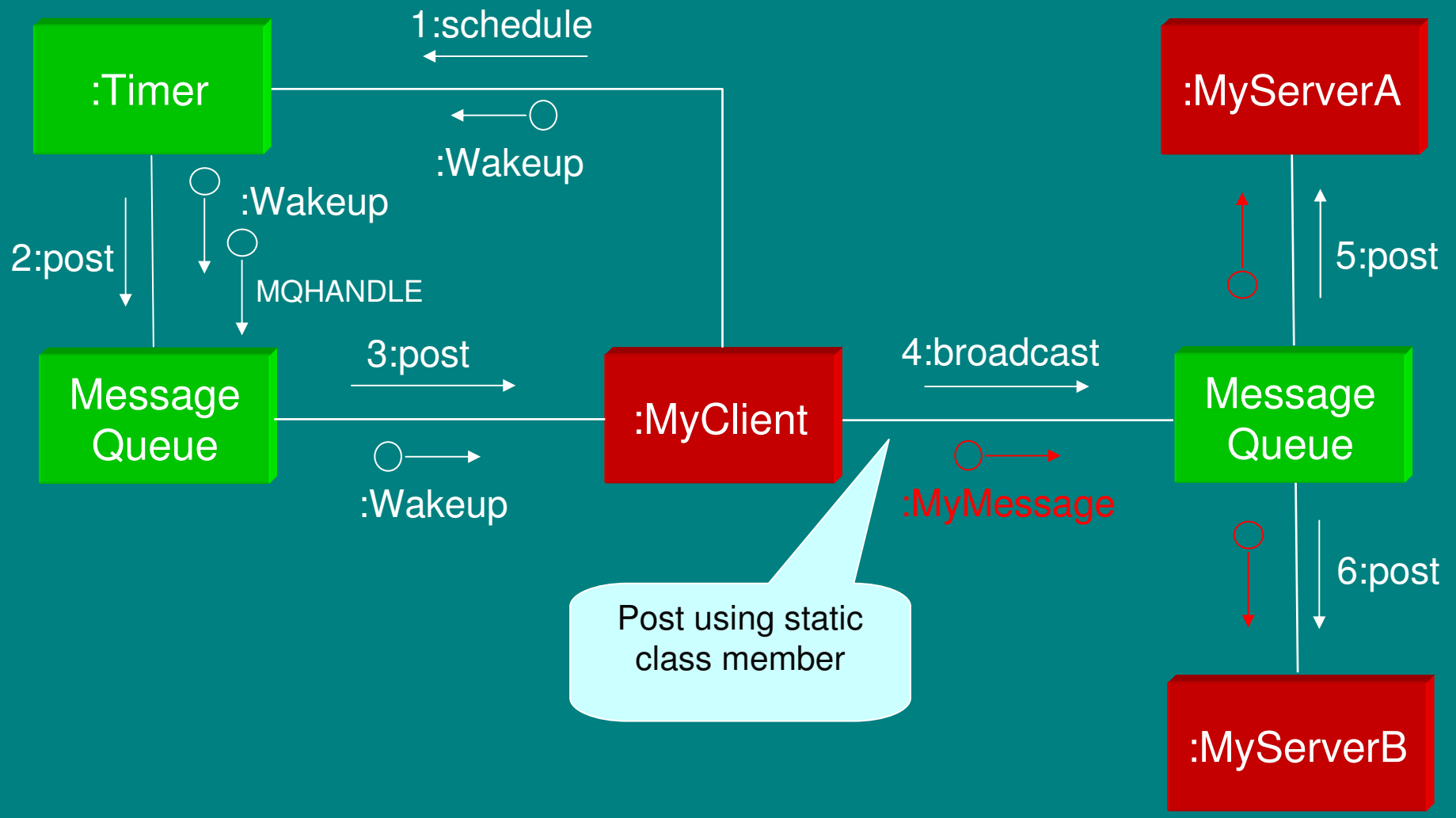
Direct messaging (example1.cpp)



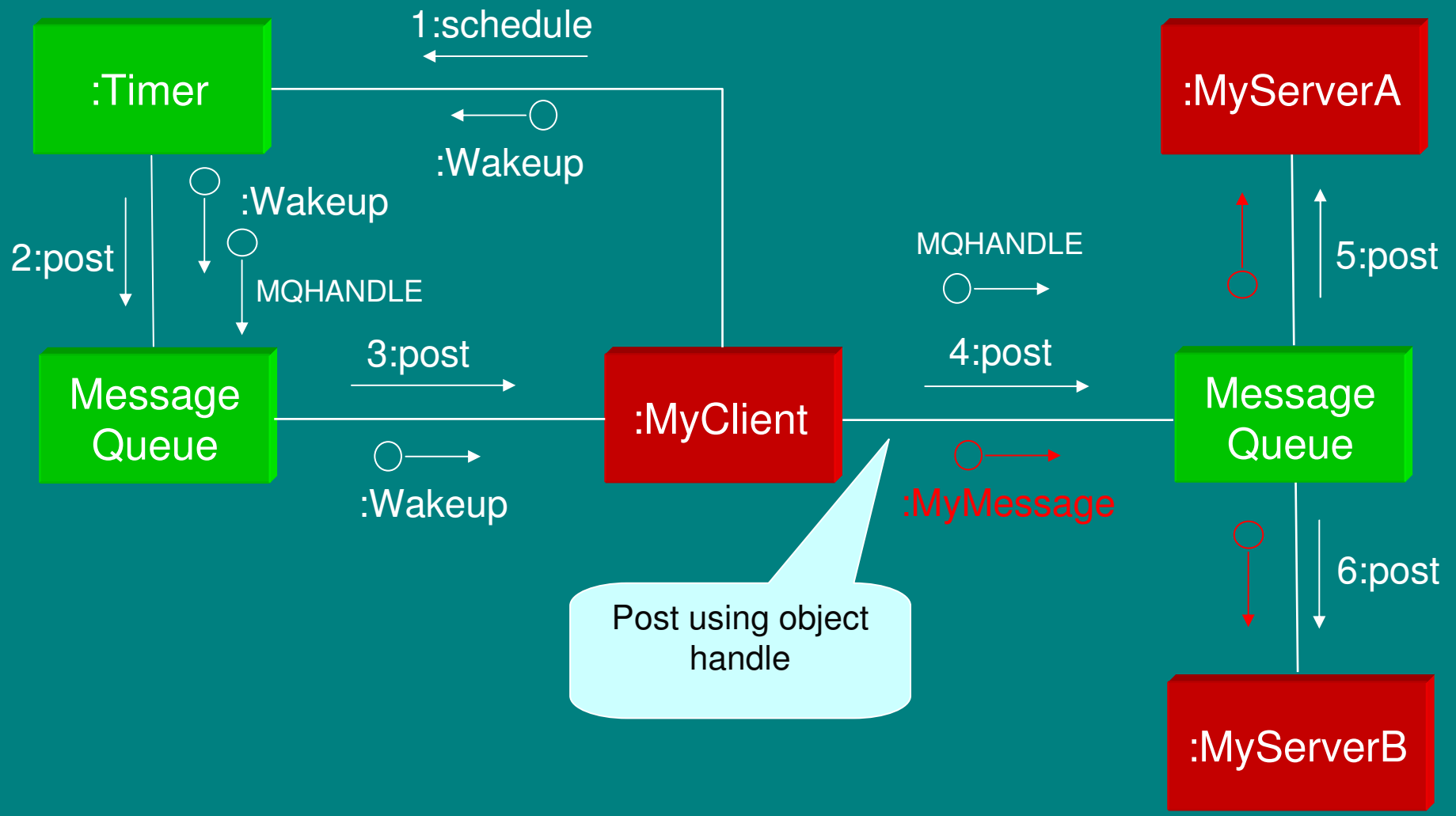
Deferred messaging



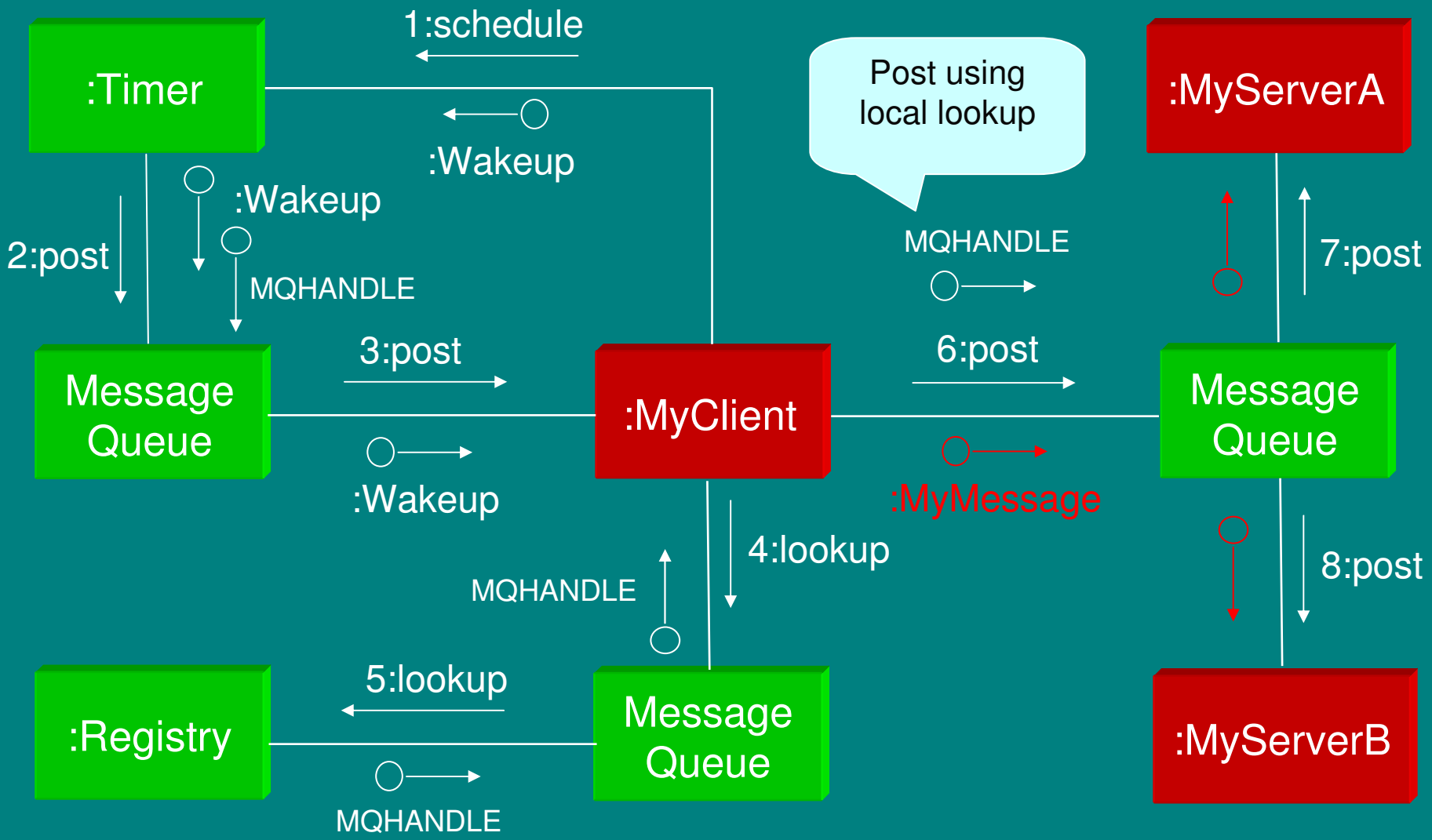
Broadcast (example2.cpp)



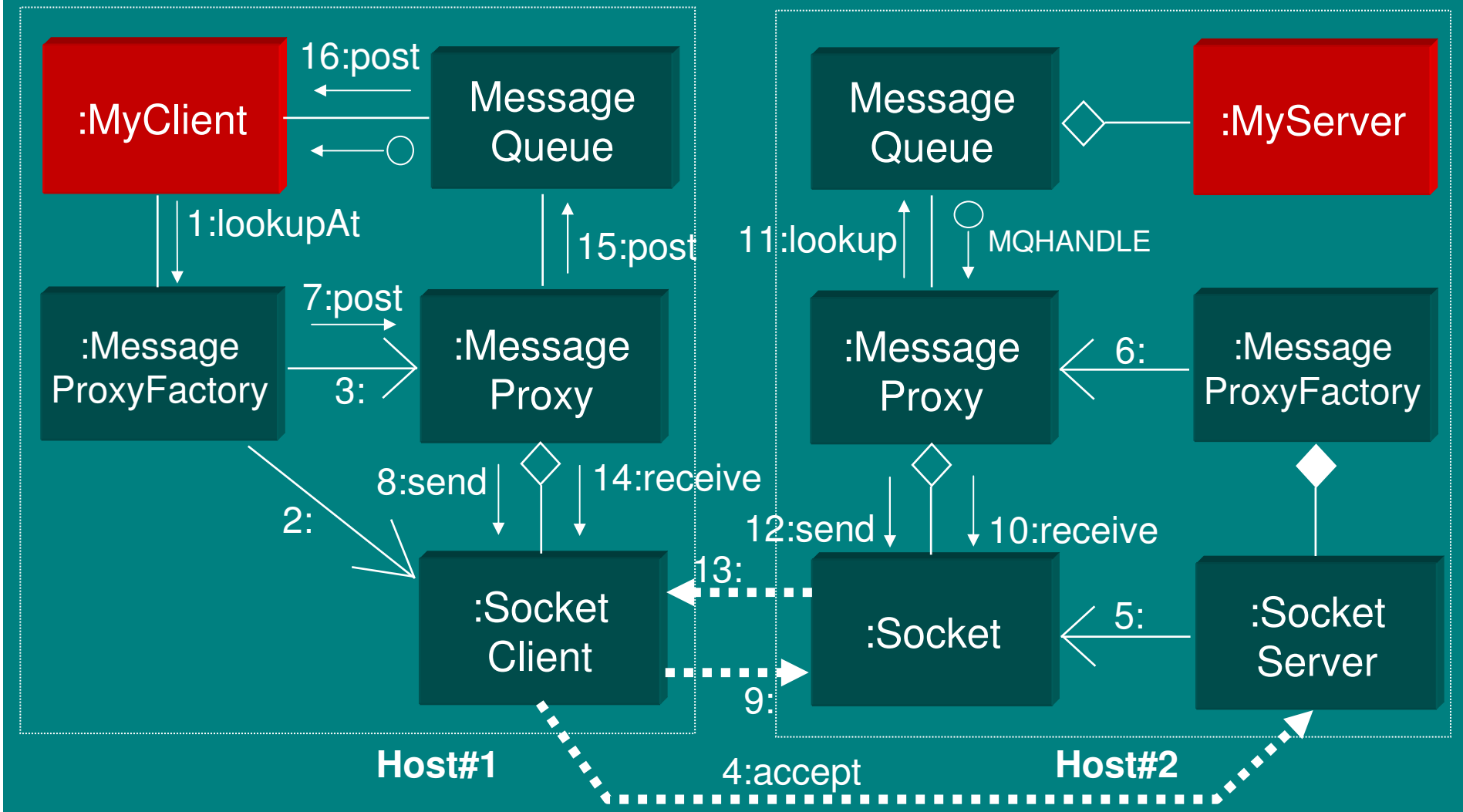
Indirect messaging (example3.cpp)



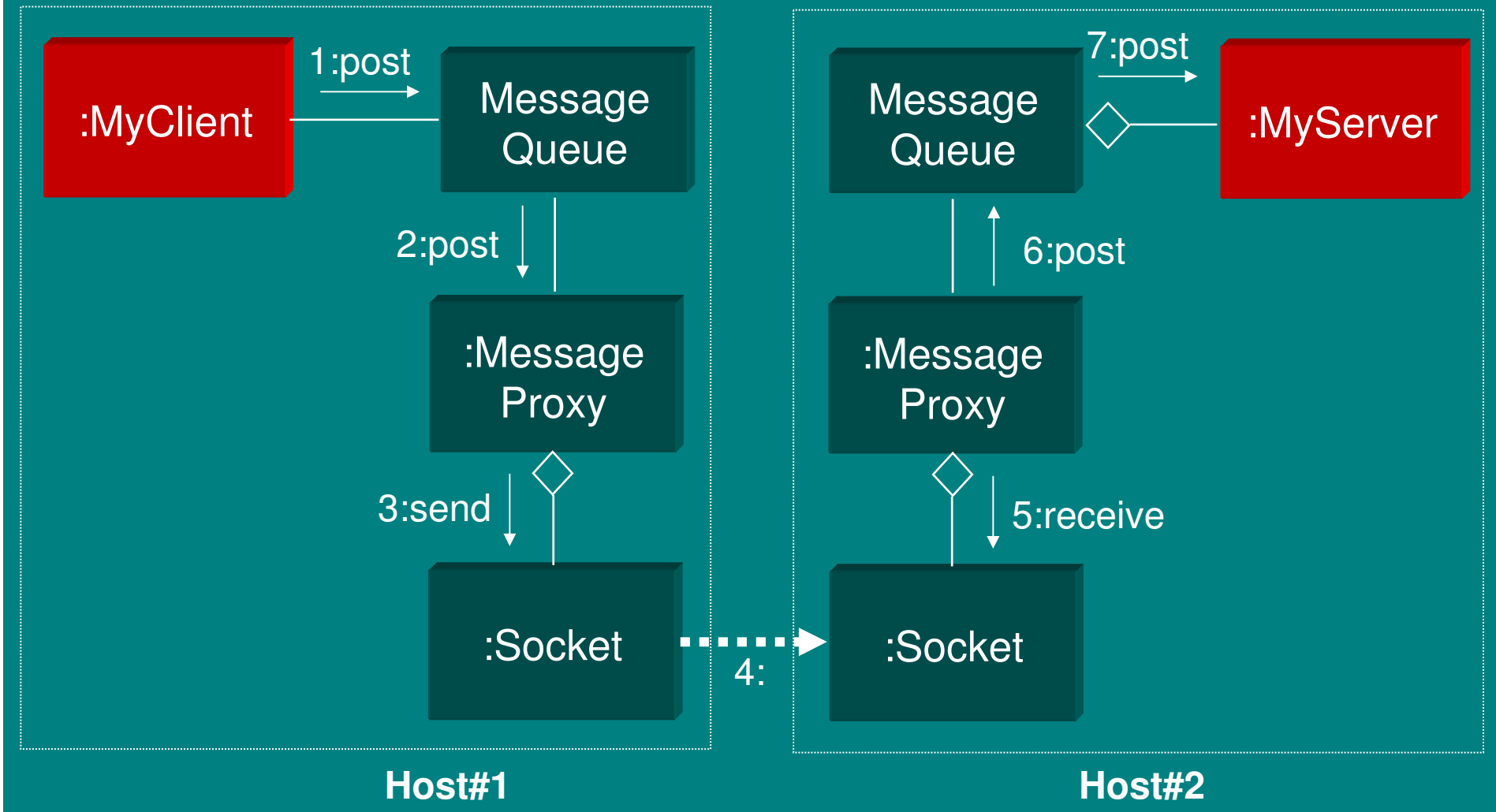
Local lookup (example4.cpp)



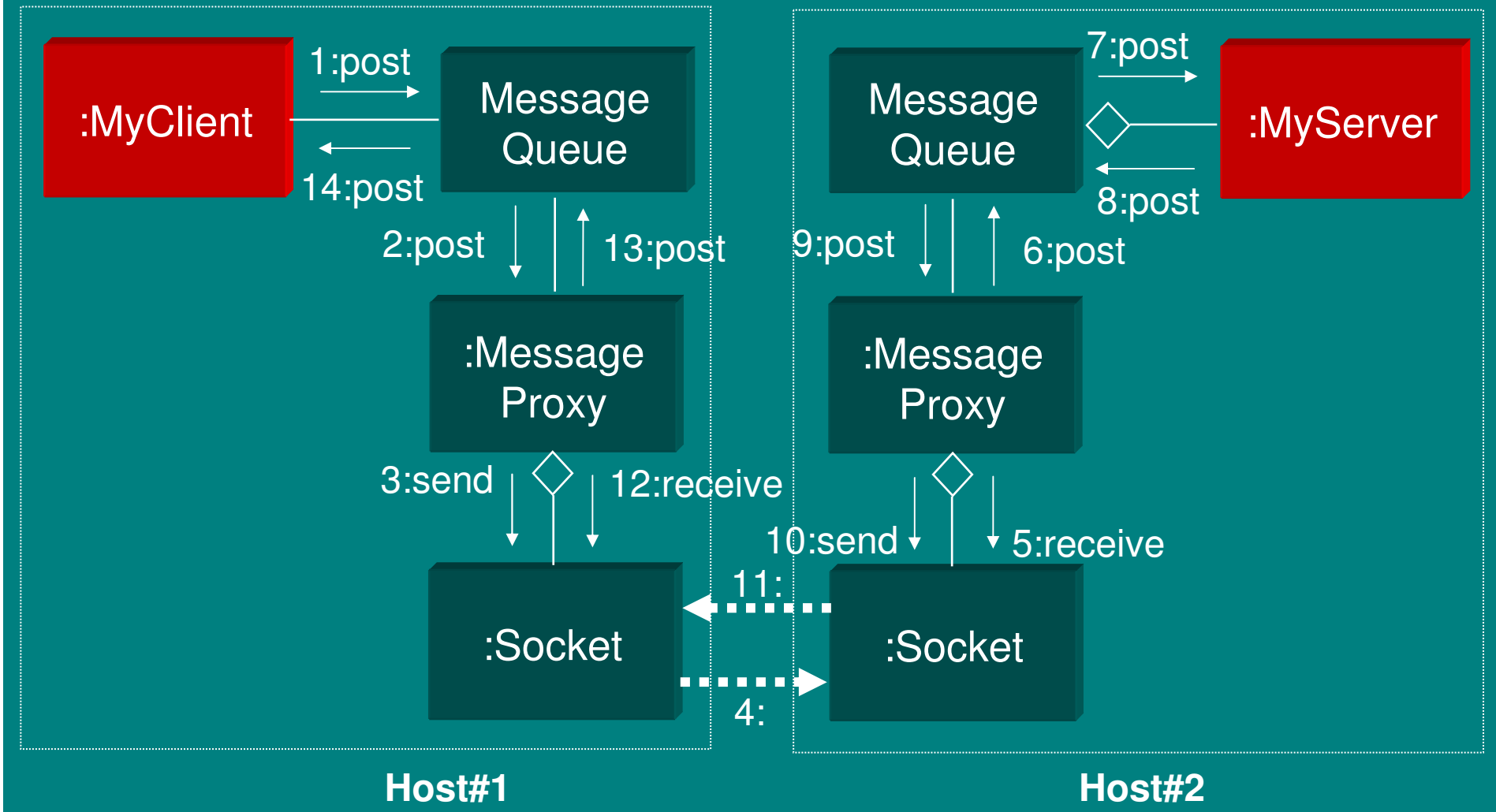
Remote lookup



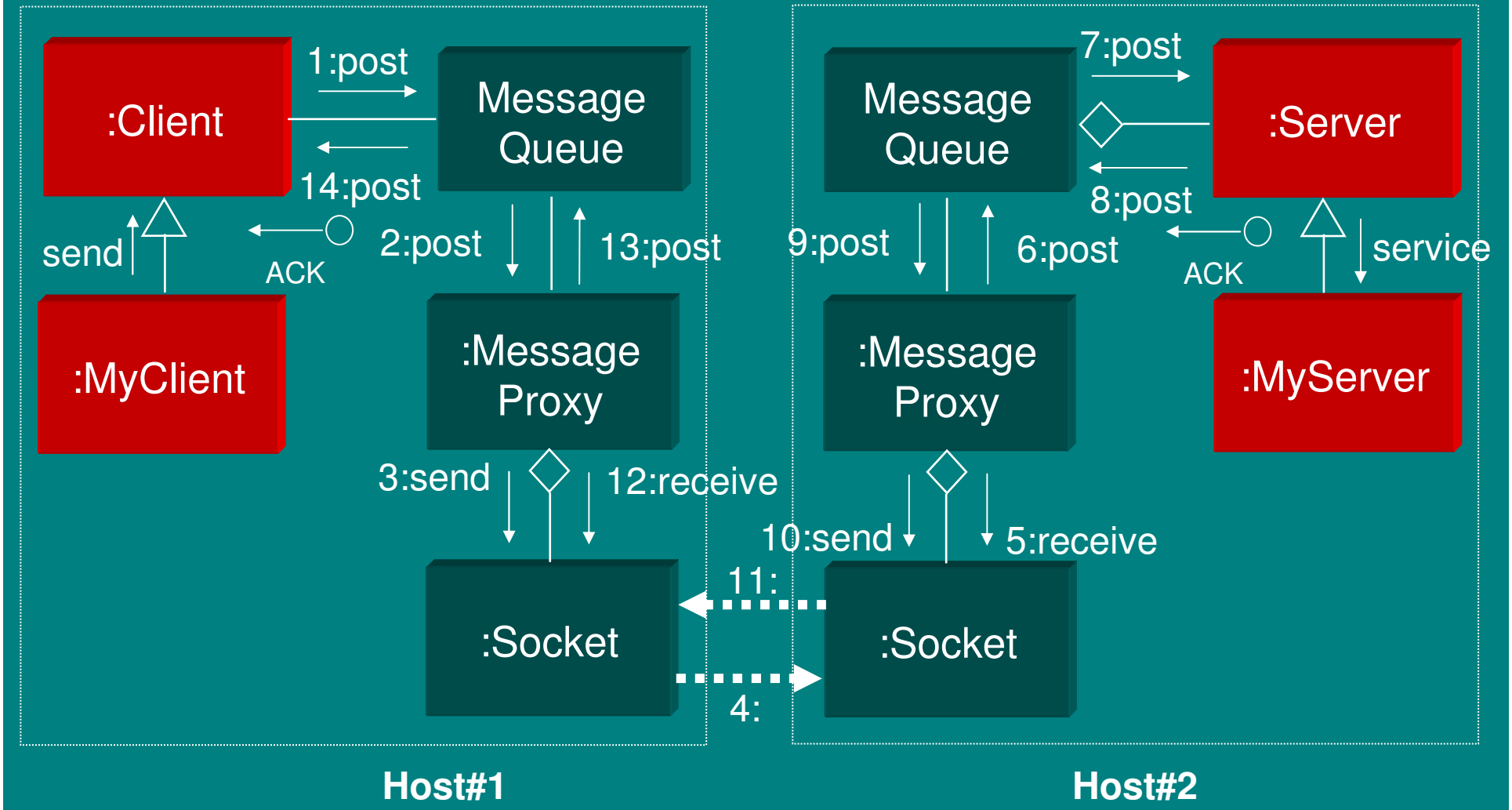
Unsolicited messaging (example5.cp)



Conversation (example6.cpp)



Reliable Request/Reply (example7.cpp)



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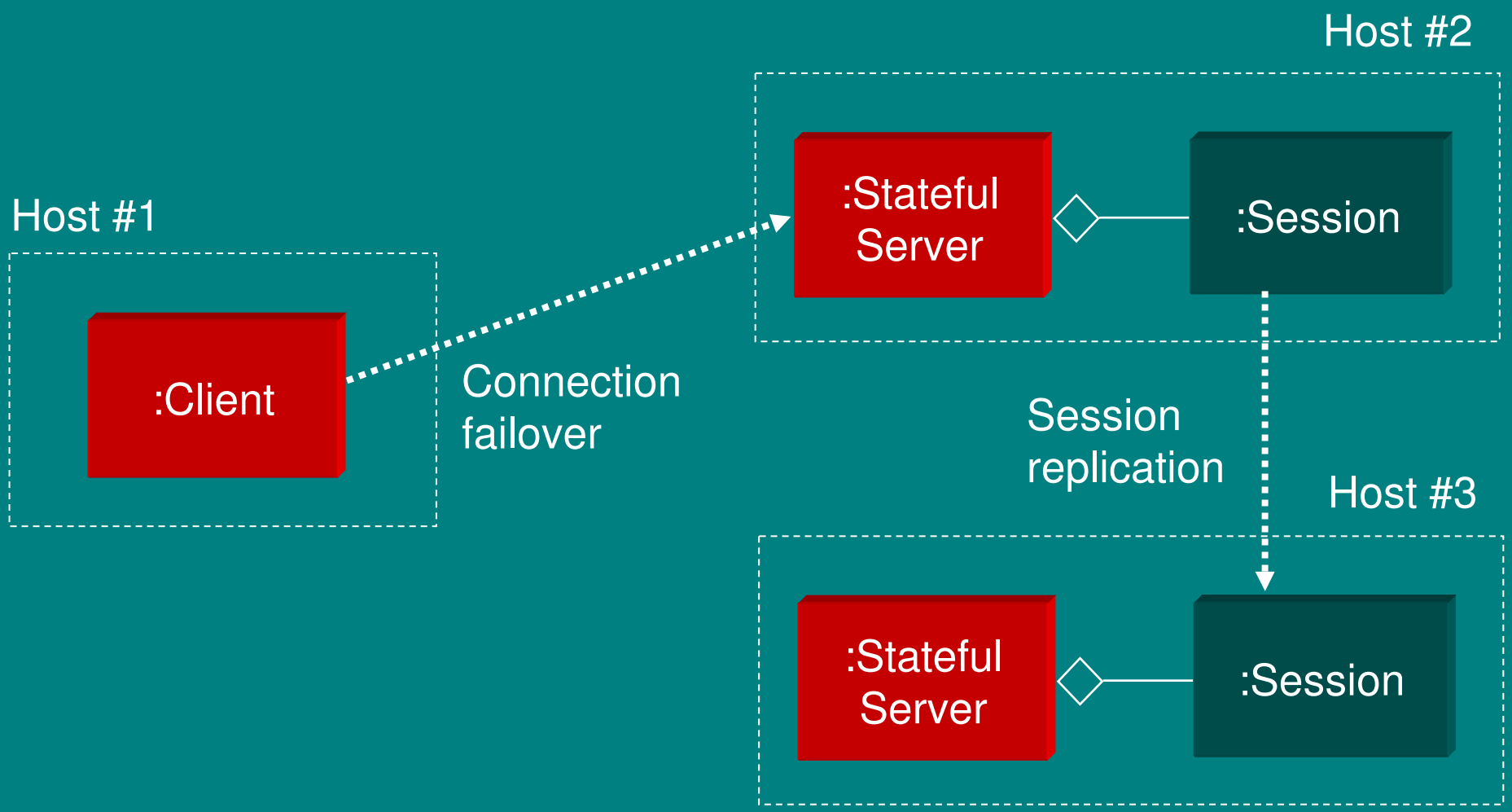
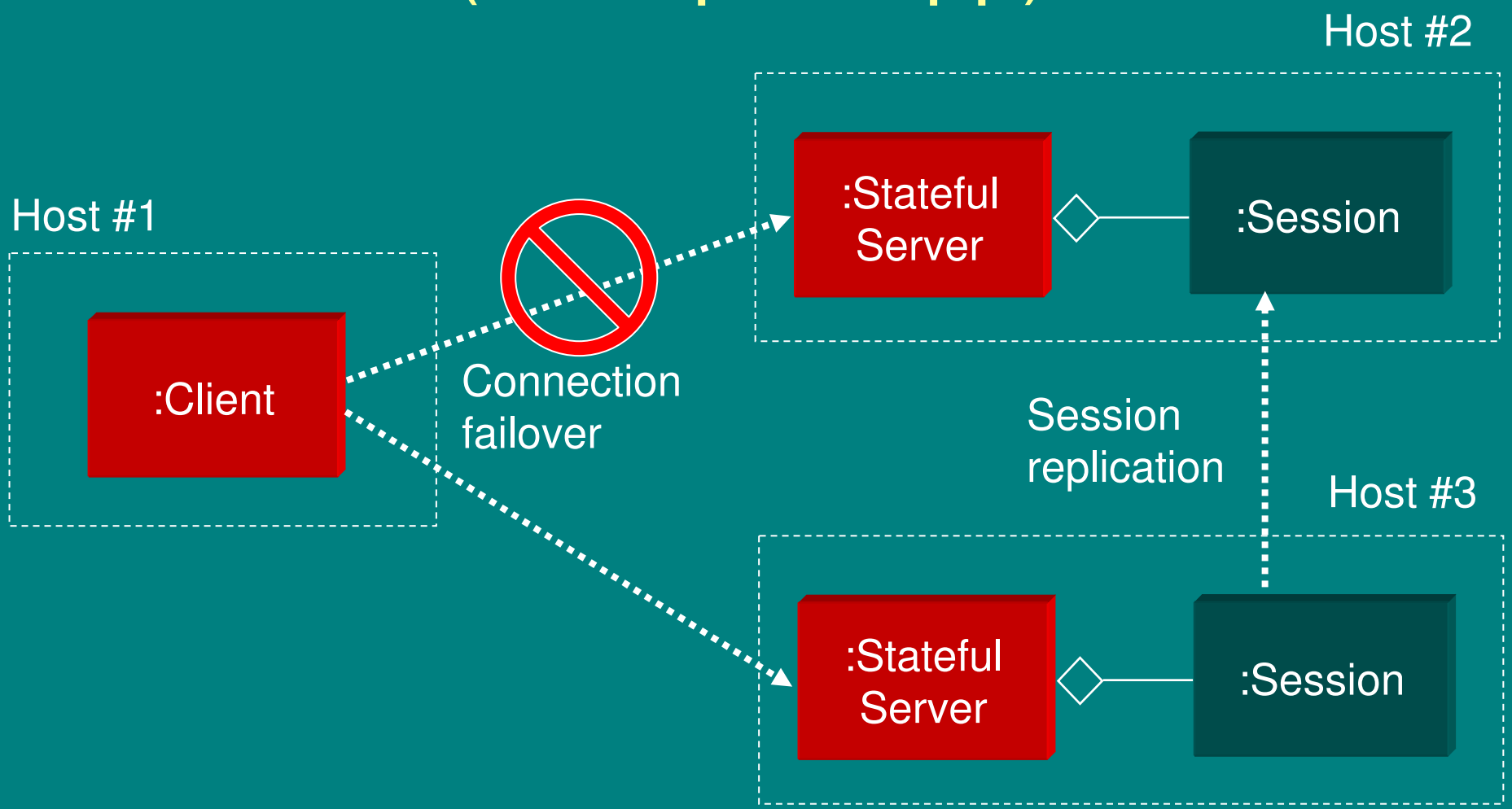
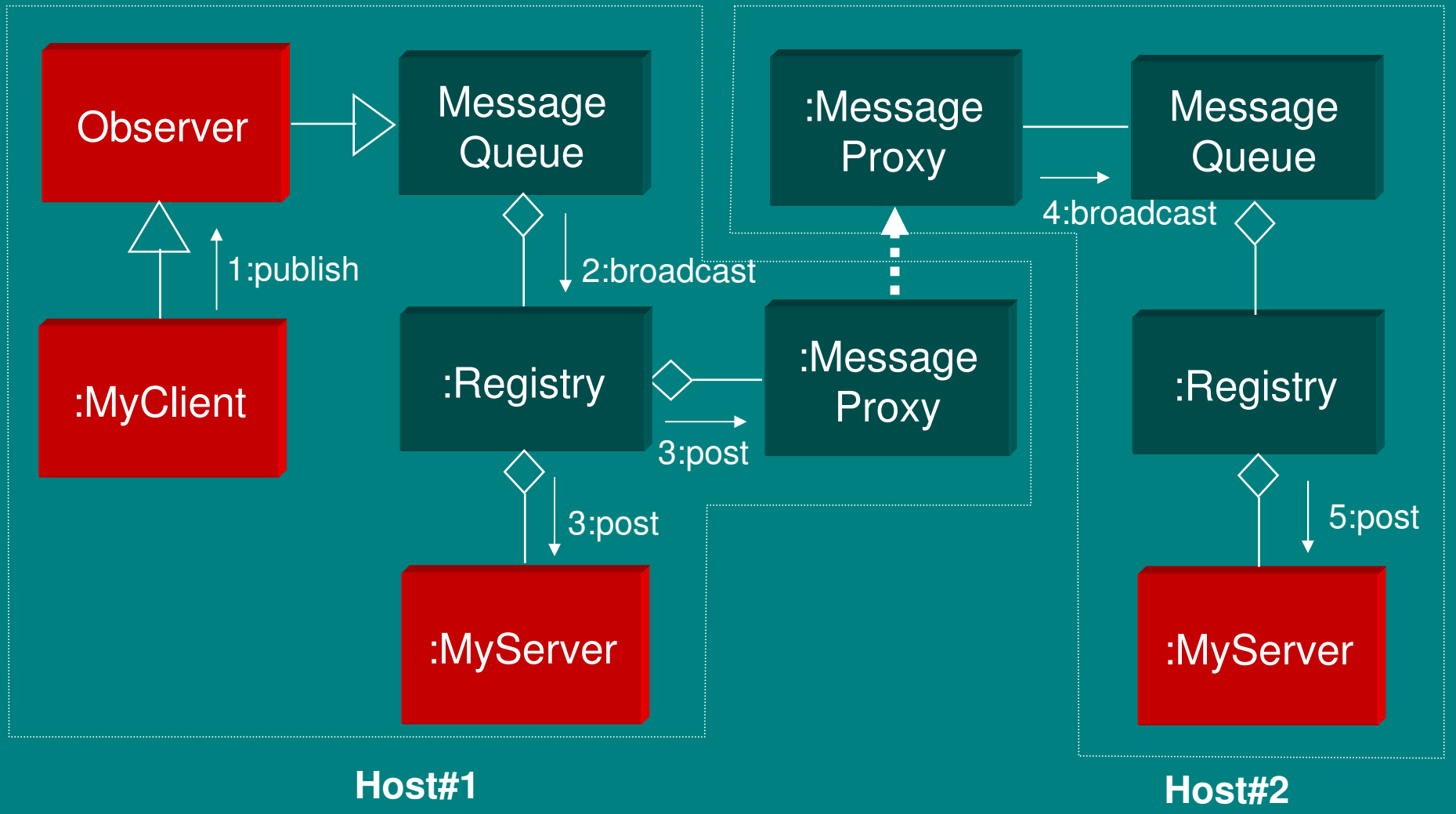
Session replication (example8.cpp)



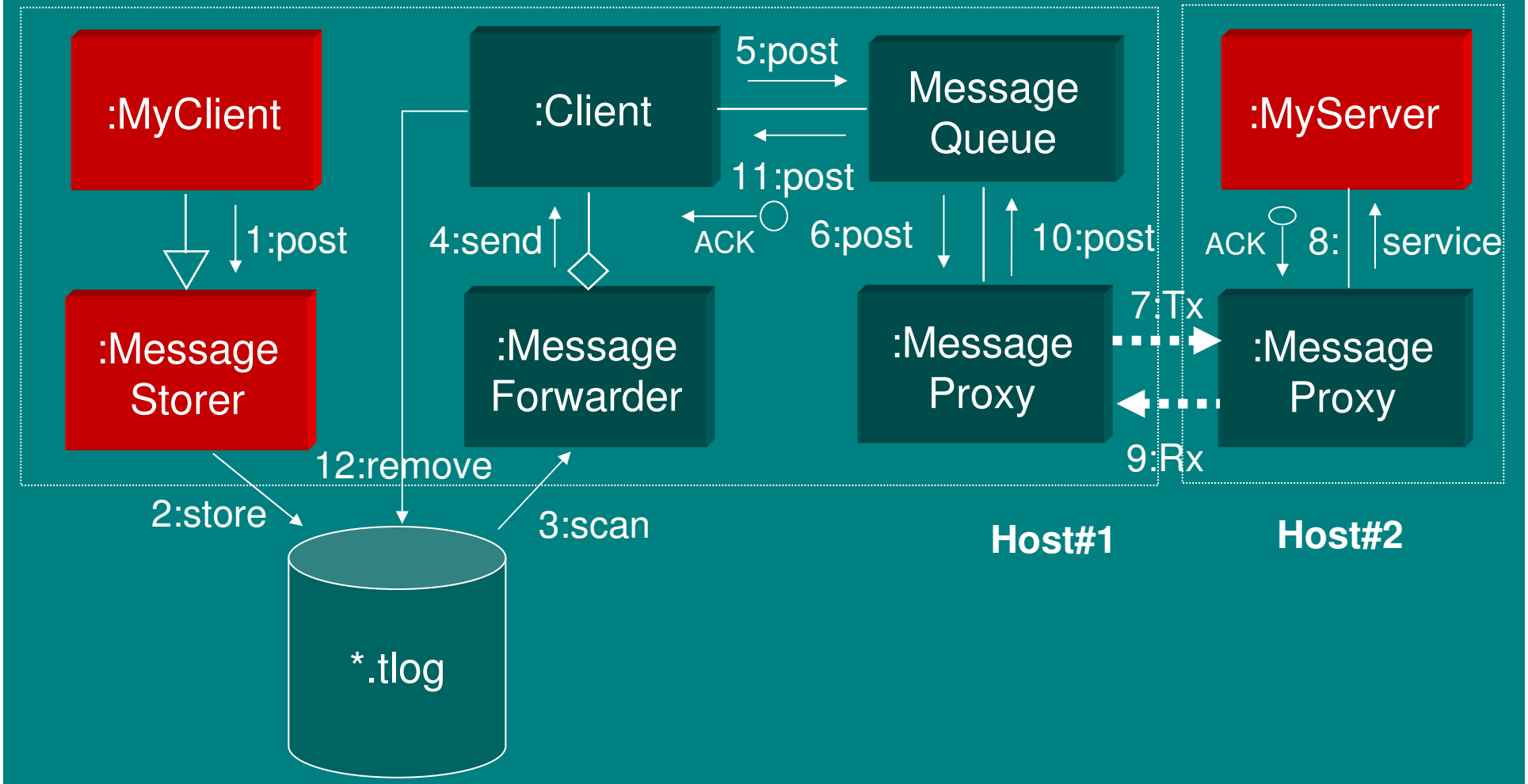
Failover & session replication (example8.cpp)



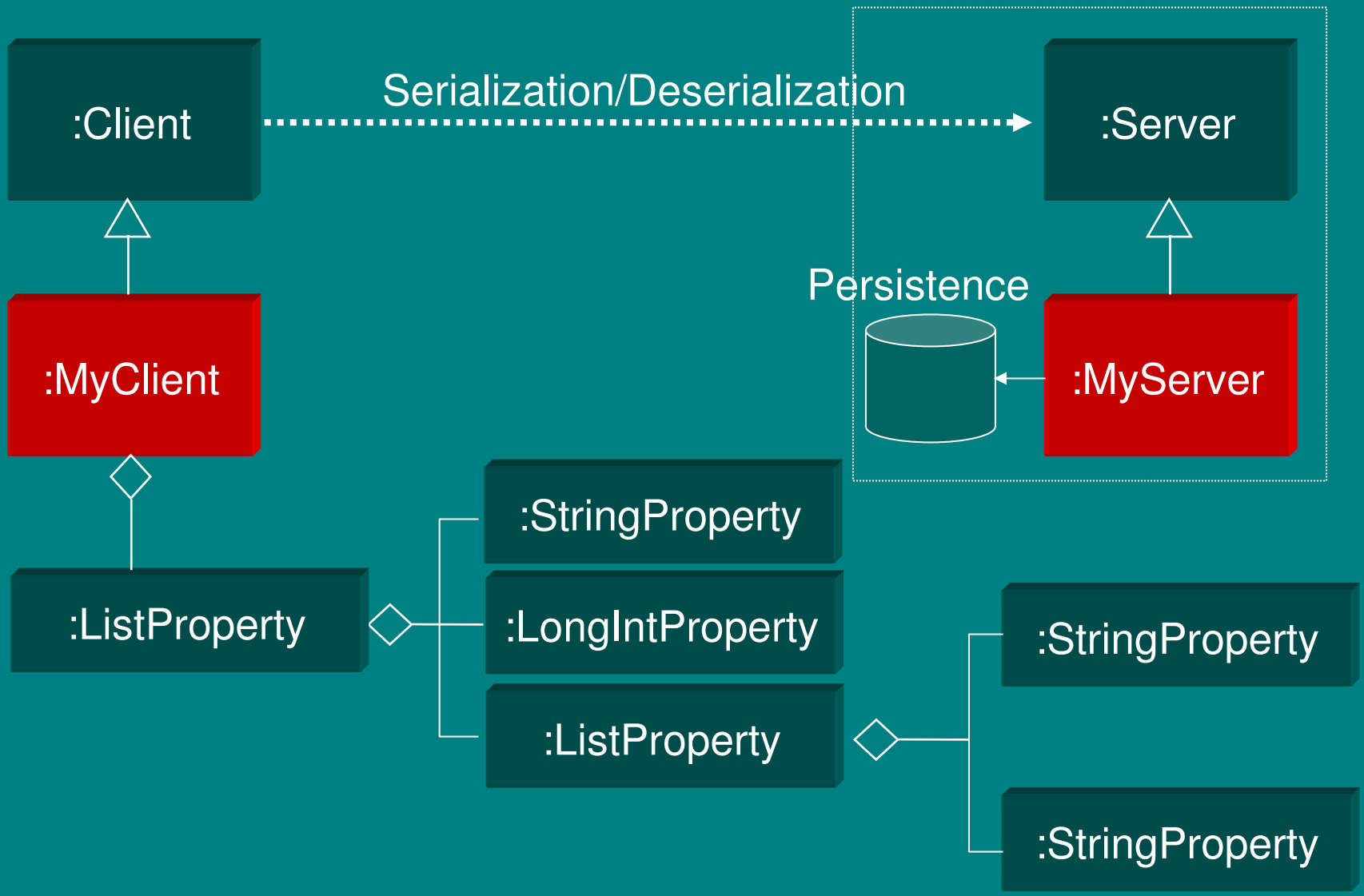
Publish/Subscribe (example9.cpp)



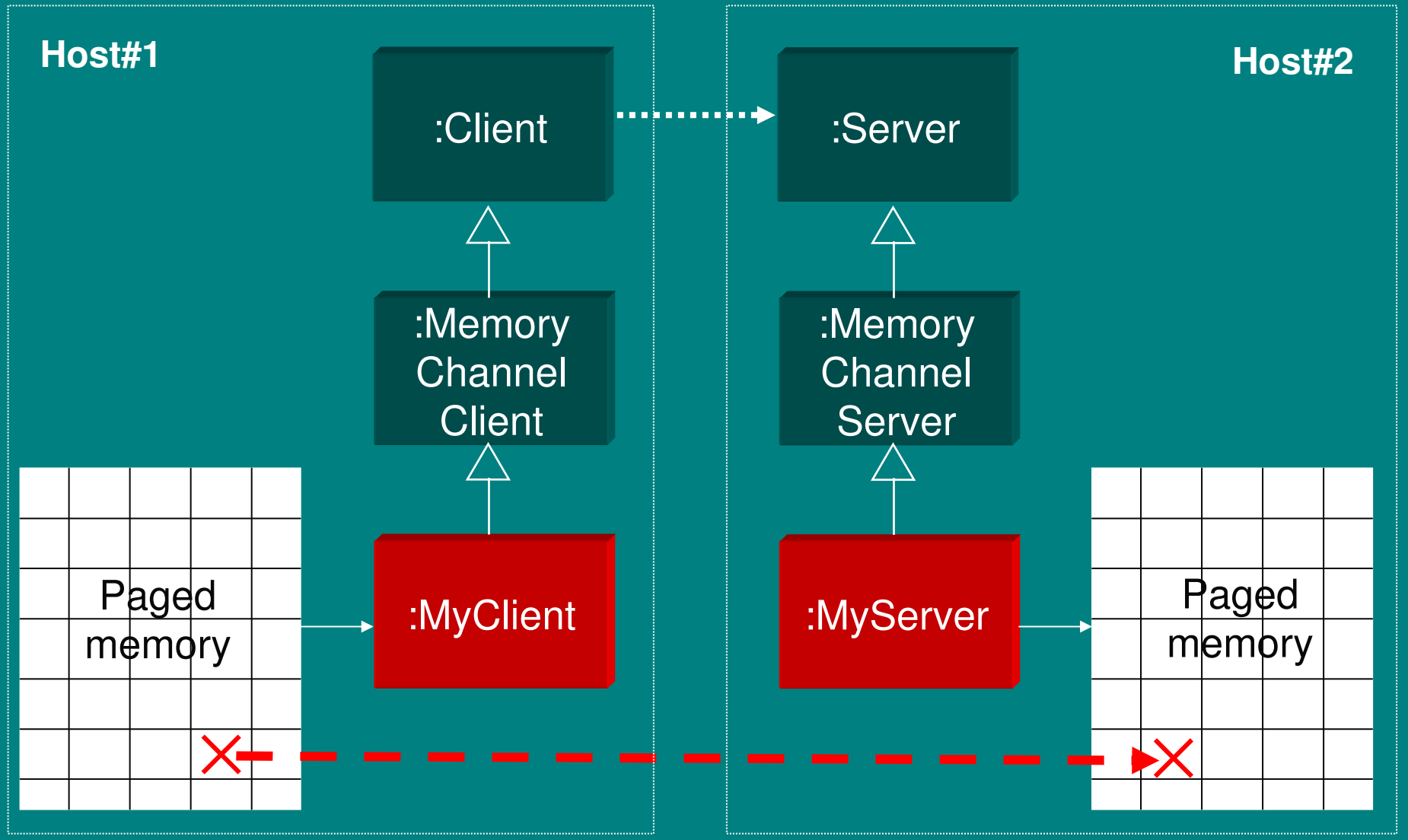
Store & Forward (example10.cpp)



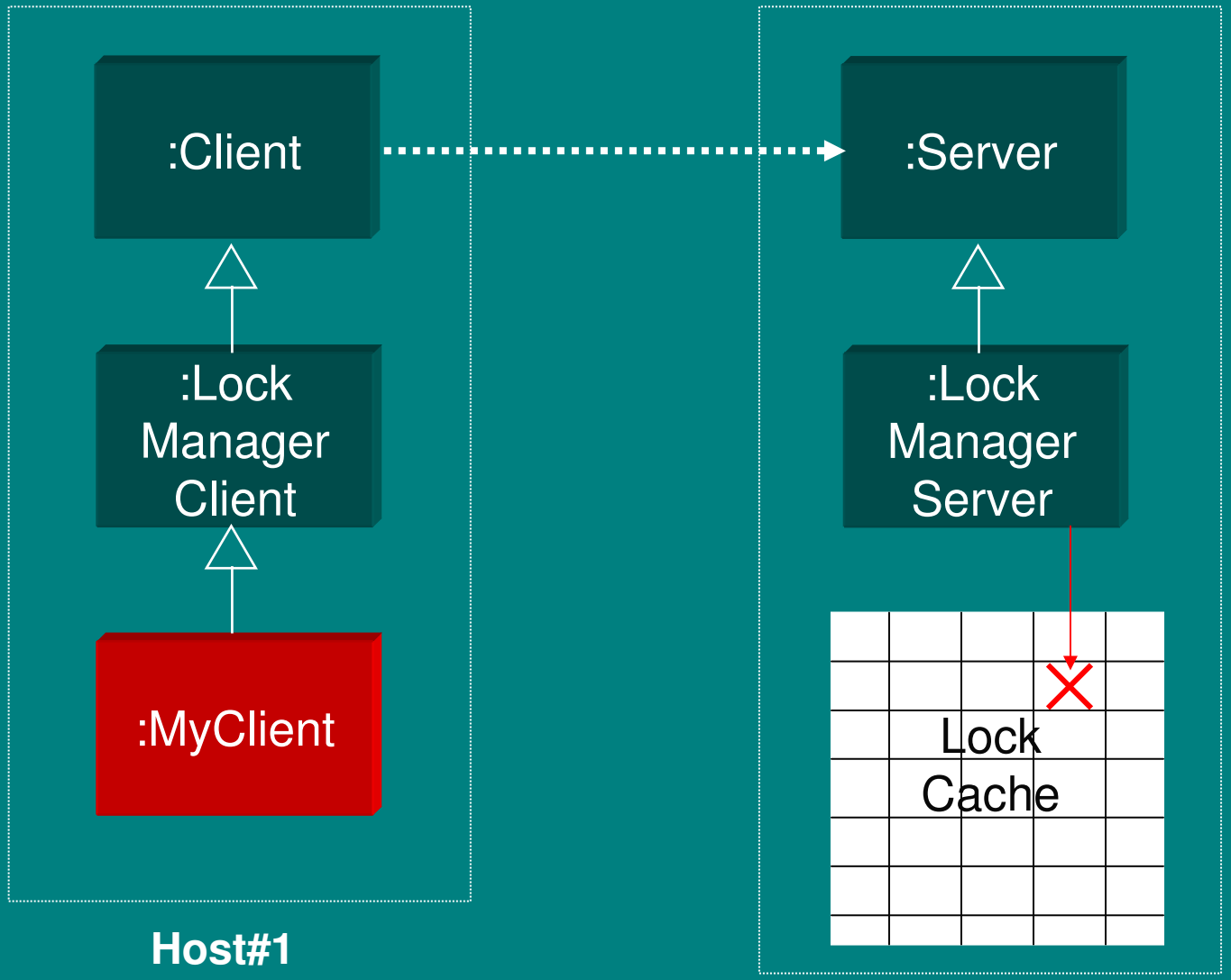
Properties (example11.cpp)



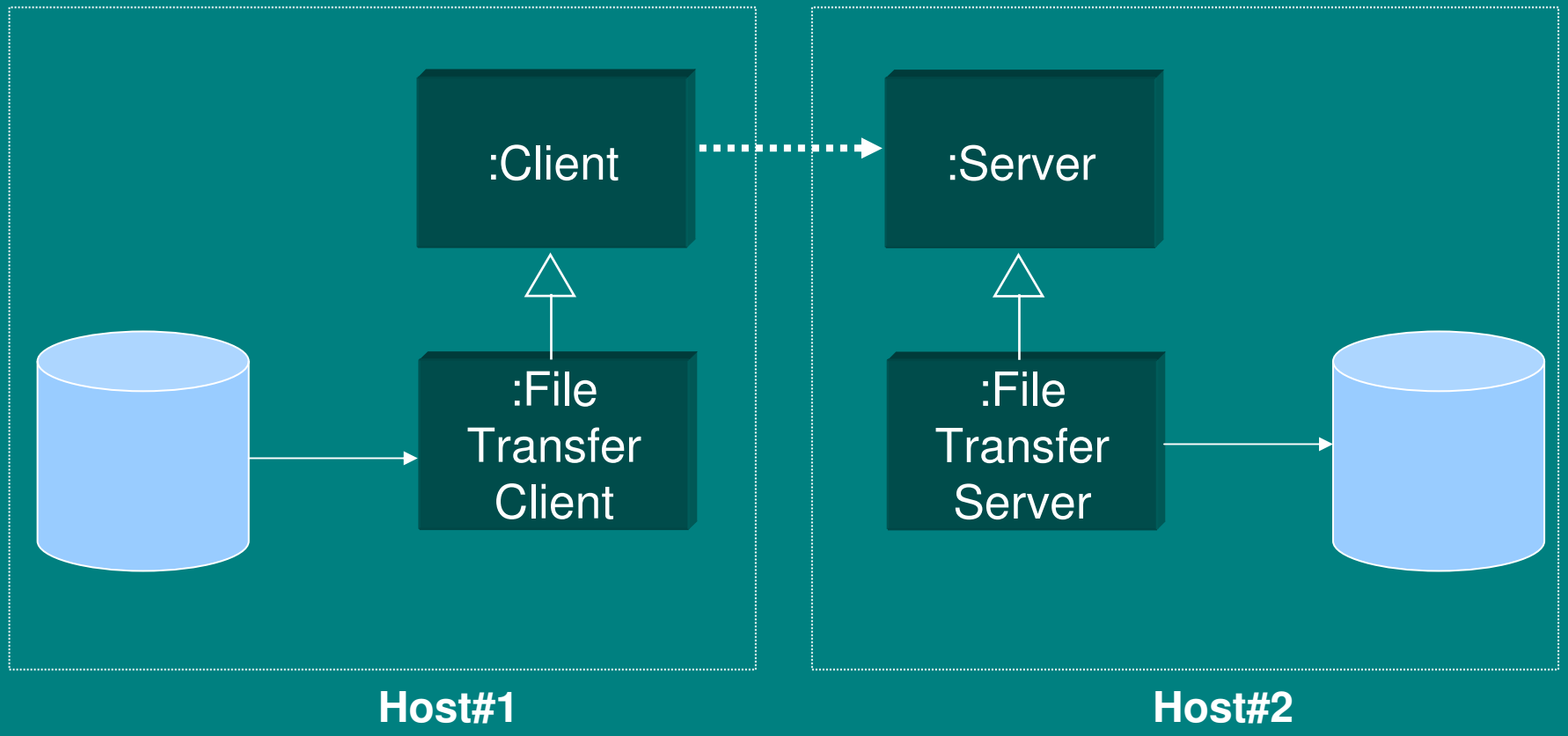
MemoryChannel (example12.cpp)



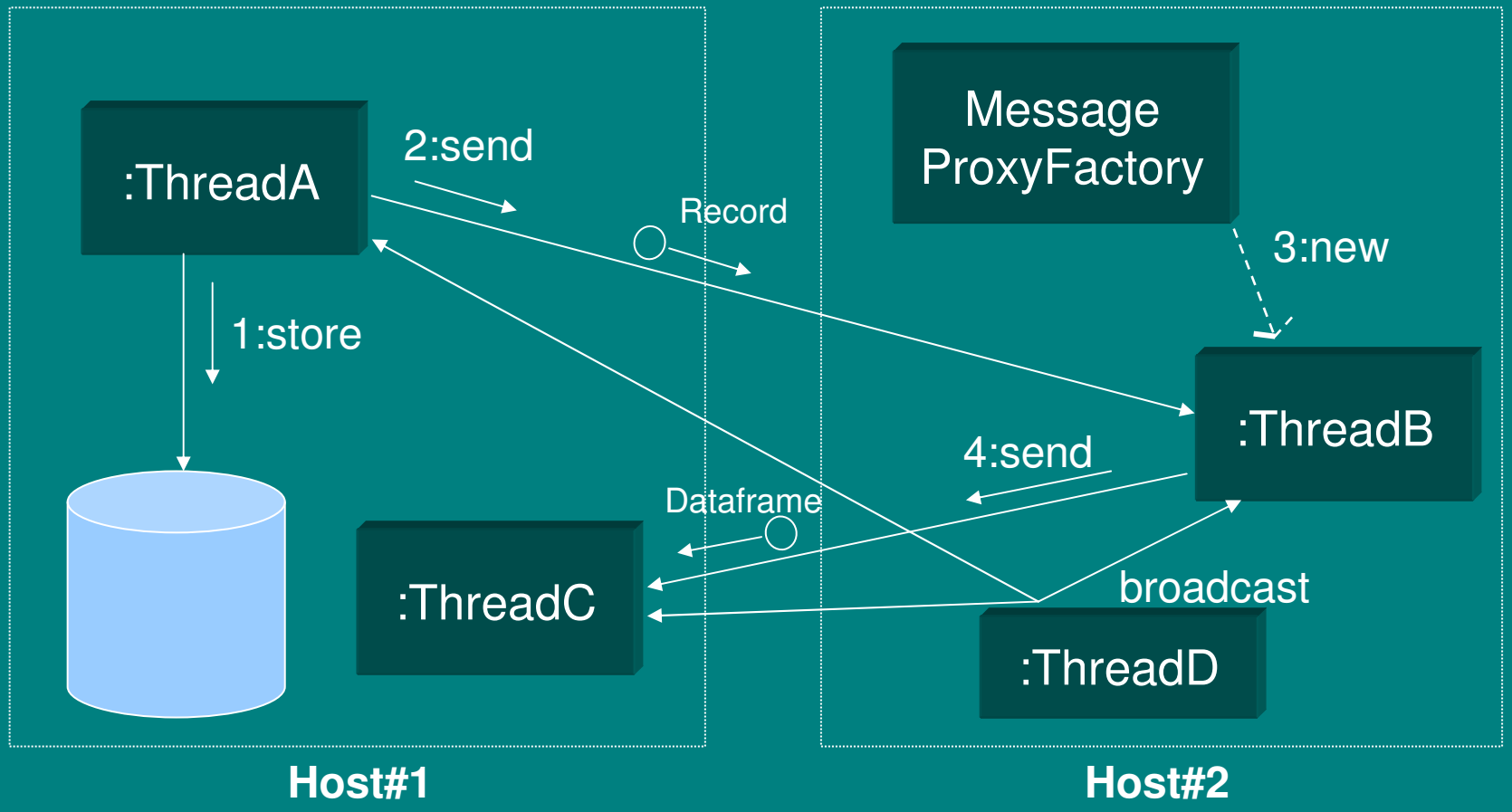
LockManager (example13.cpp)



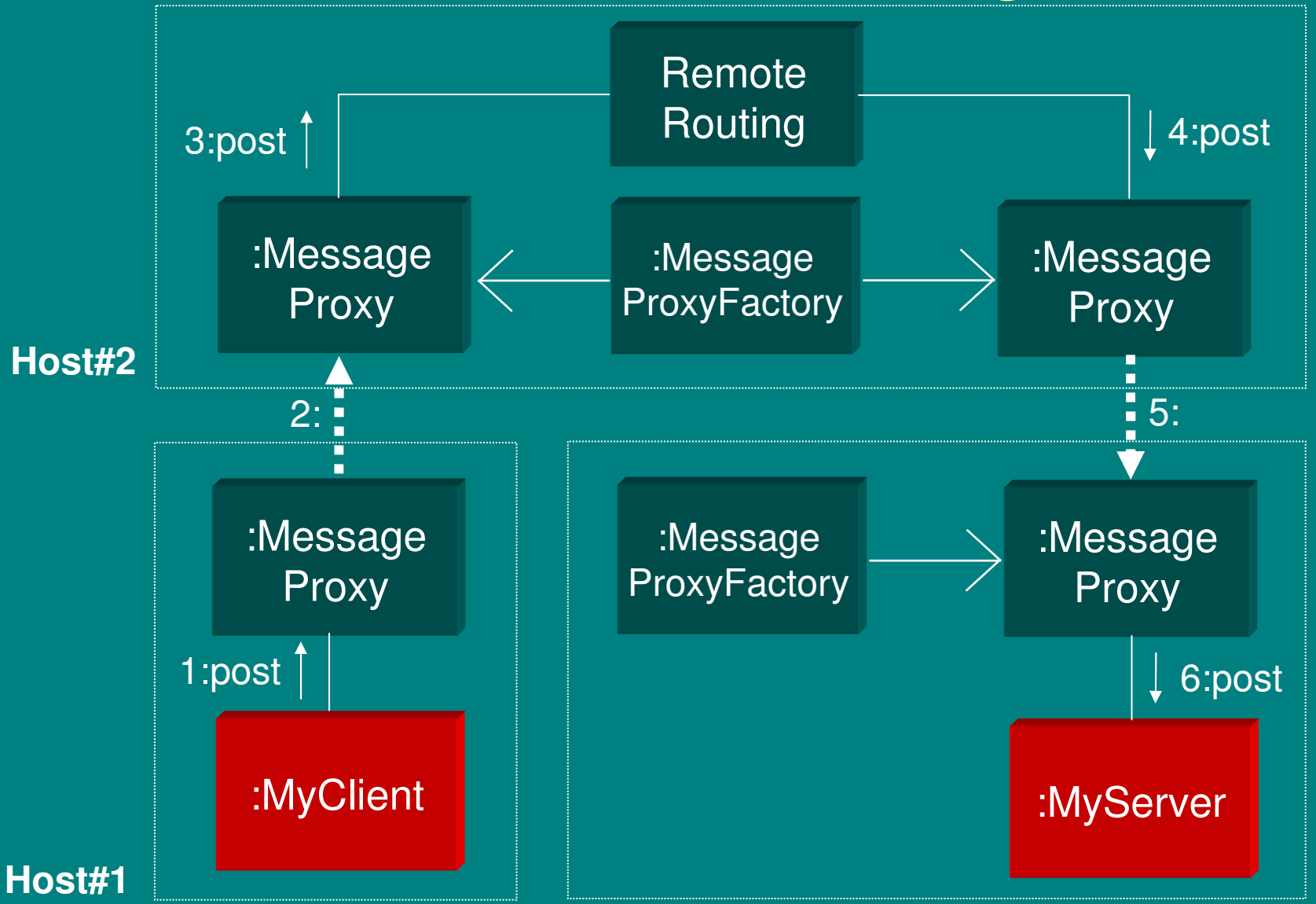
FileTransfer (mqftp.cpp)



Peer to peer (peer.cpp)



Remote routing



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Local routing