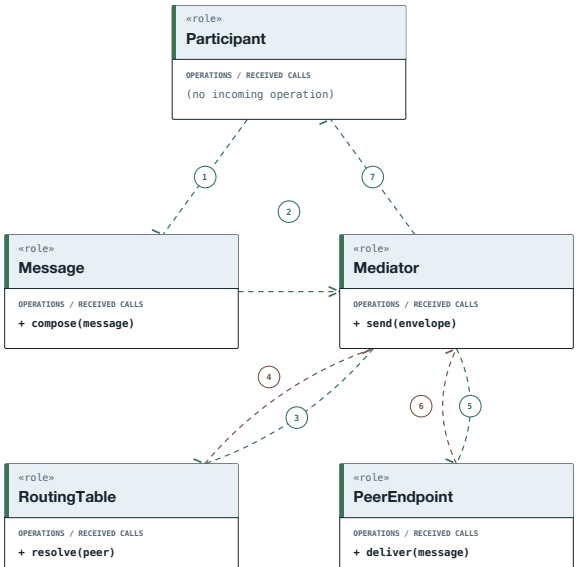
C01 Mediator

Communication / UML CLASS VIEW / ANALYTICAL MODEL

Coordinate interactions through an intermediary.

UML CLASS VIEW

dashed arrow: call dependency · brown: return/failure · analytical, not an observed trace



POINTCUT / PATTERN INTERFACE

CONTEXT	Multiple agents or components exchange messages.
TRIGGER	A participant sends a message or requests coordination.
STRUCTURE	Mediator role, participant address, routing policy, and response path.
EFFECT	Interactions traverse a controlled intermediary rather than direct mutable coupling.

CONTRACT / REQUIRED BEHAVIOR

REQUIRES	Participants have stable identities and message schemas.
ENSURES	The mediator records routing and returns a response or explicit non-delivery.
INVARIANT	Participant bypass does not silently alter mediated ordering.
VIOLATION	Mediator failure, invalid participant, or unavailable target is explicit.

RELATIONSHIPS / ANALYTICAL CALLS

number · caller → callee · message

1 Participant → Message compose(message)
2 Message → Mediator send(envelope)
3 Mediator → RoutingTable resolve(peer)
4 RoutingTable ↩ Mediator return(address)
5 Mediator → PeerEndpoint deliver(message)
6 PeerEndpoint ↩ Mediator return(response)
7 Mediator → Participant return(response)

VARIATION / TEST / NEGATIVE CONTROL

VARIATION	Group-chat manager, coordinator interface, and message mediator.
TEST_OBLIGATION	Test routing, invalid recipient, failure, and participant isolation.
NEGATIVE_CONTROL	A shared global object is not necessarily a mediator.