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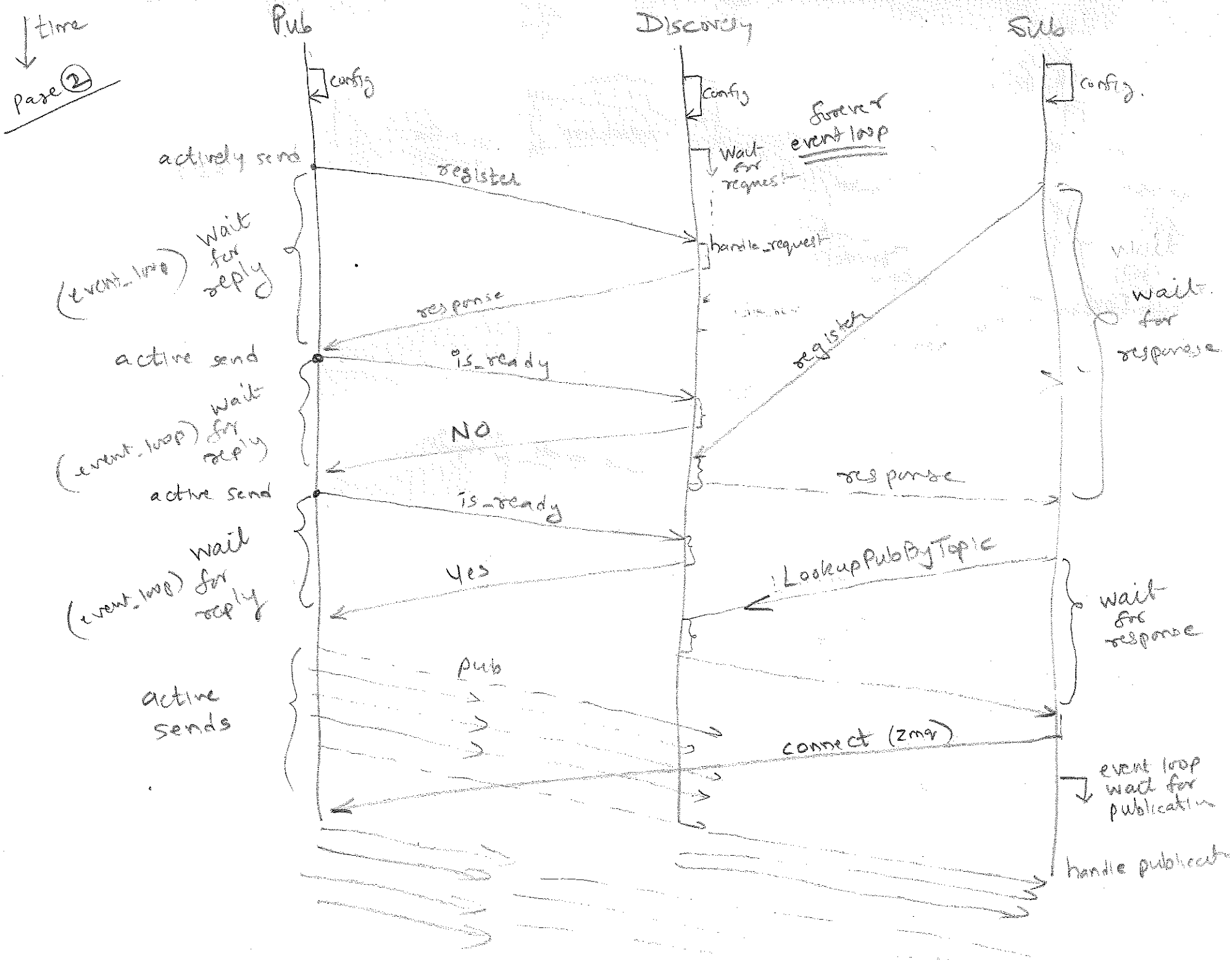
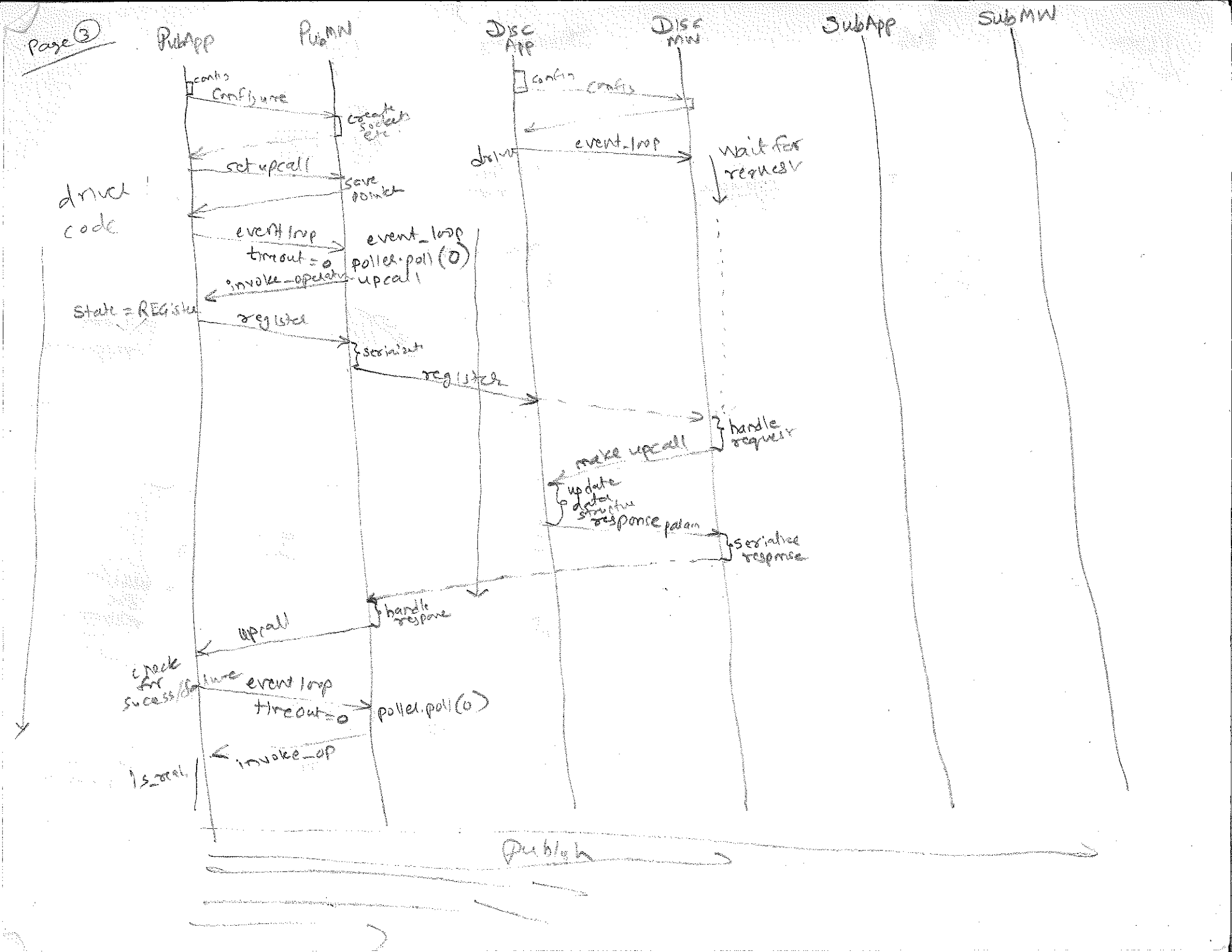
What Roles are we playing?

	High Level	Low level ZMQ
(1) Publisher	(a) client of Discovery service (b) publisher of topics	REQ, connect to discovery at IP:port PUB, bind to that socket on a port num
(2) Subscriber	(a) client of Discovery service (b) subscriber to topics	REQ, connect to Discovery at IP:port SUB, setsockopt to subscribe, connect to IP:port of publisher that publishes that topic
(3) Discovery	(a) server for lookup operation	REP, bind socket to a port
(4) Broker	(a) client of Discovery service (b) publisher of topics (on behalf of real publishers) (c) subscriber of topics (on behalf of real subscribers)	REQ PUB SUB


time
Pase ②
Pub
Discovery
Sub
config
config
config.
actively send
register
Start event loop
Wait for request
handle_request
(event_loop)
Wait for reply
response
active send
is_ready
register
(event_loop)
Wait for reply
NO
response
active send
is_ready
(event_loop)
Wait for reply
Yes
LookupPubByTopic
wait for response
active sends
Pub
connect (zmq)
event loop wait for publication
handle publication


Page 3
PubApp
PubMW
DiscApp
DiscMW
SubApp
SubMW
config
Configure
create socket etc
set upcall
save pointer
driver code
event loop
timeout = 0
invoke_operation
event_loop
poller.poll(0)
upcall
State = REGistered
register
serialize
register
driver
event_loop
wait for request
handle request
make upcall
update data structure
response param
serialize response
handle response
upcall
check for success/failure
event loop
timeout = 0
poller.poll(0)
is_real
invoke_op
Publish