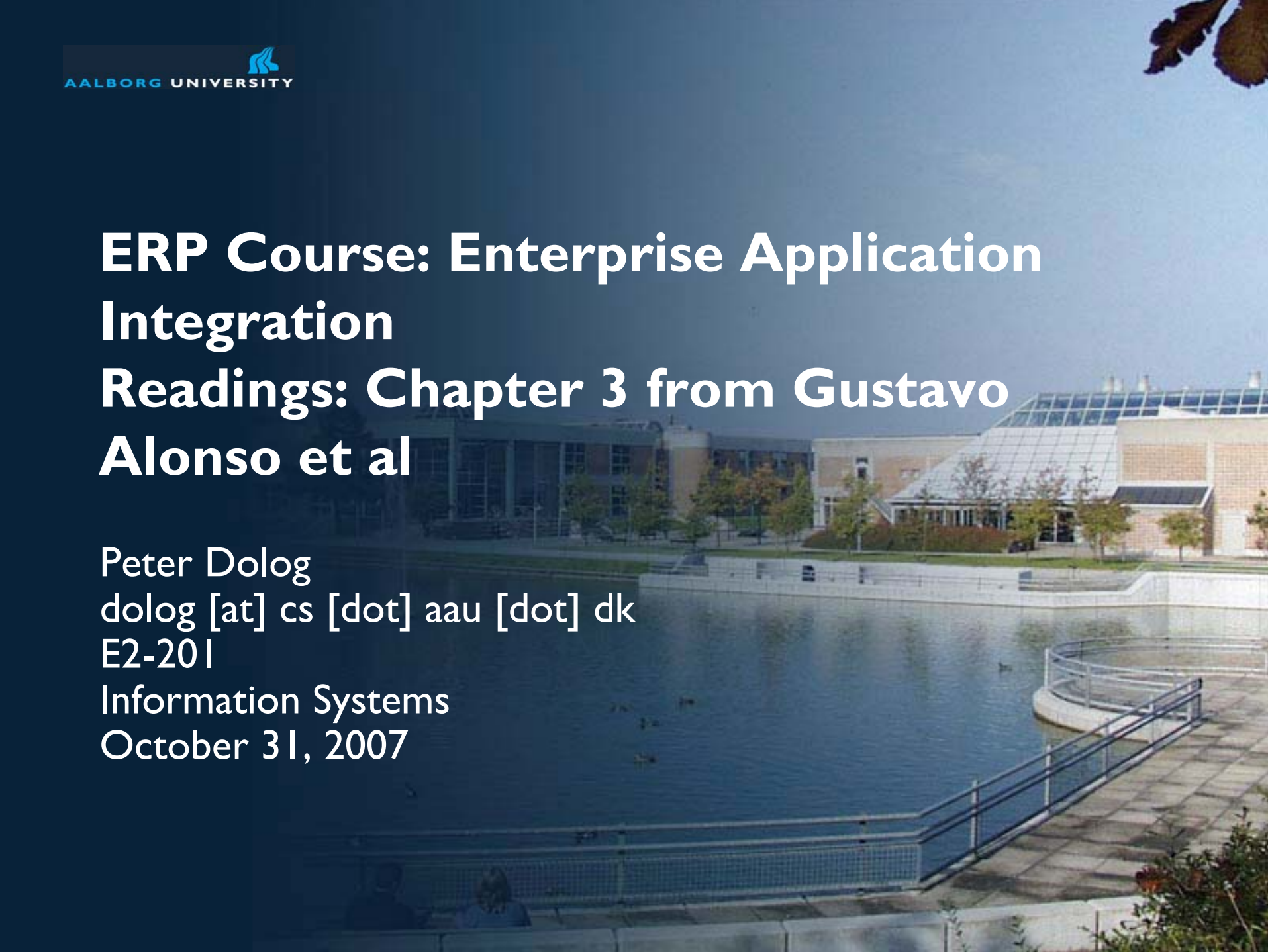
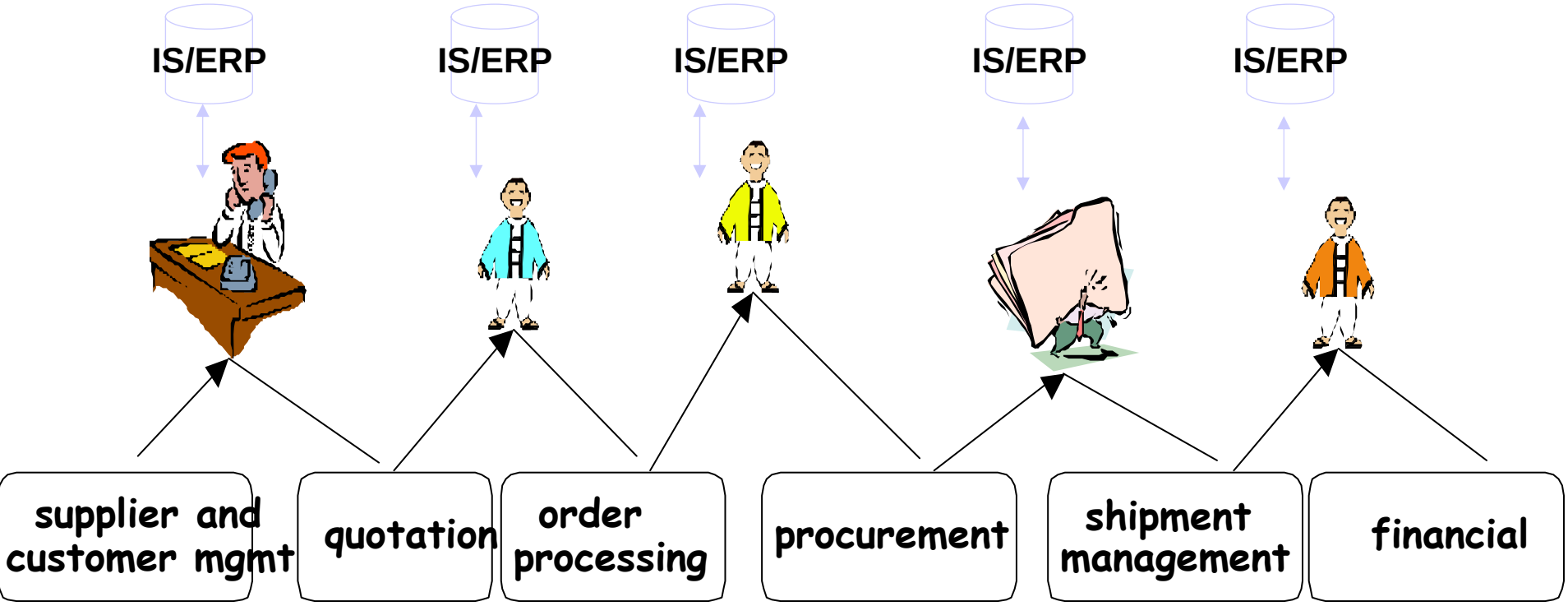


AALBORG UNIVERSITY

ERP Course: Enterprise Application Integration
Readings: Chapter 3 from Gustavo Alonso et al

Peter Dolog
dolog [at] cs [dot] aau [dot] dk
E2-201
Information Systems
October 31, 2007



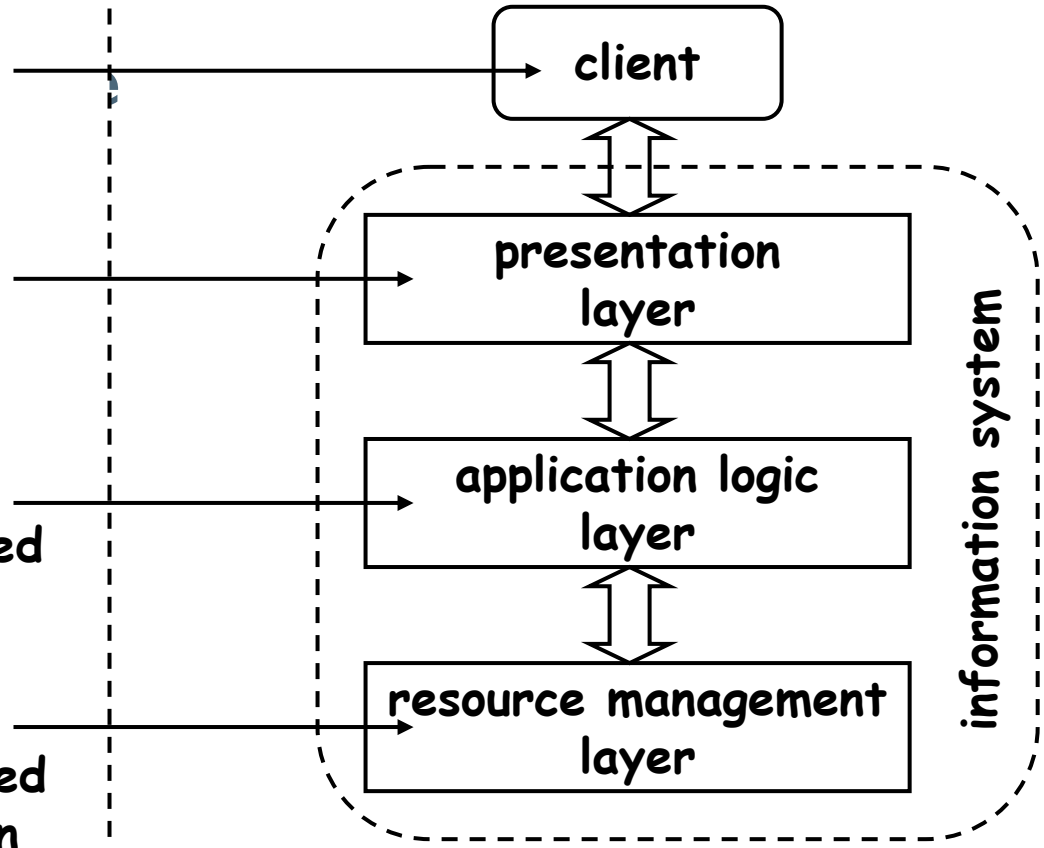
top-down design

1. define access channels and client platforms

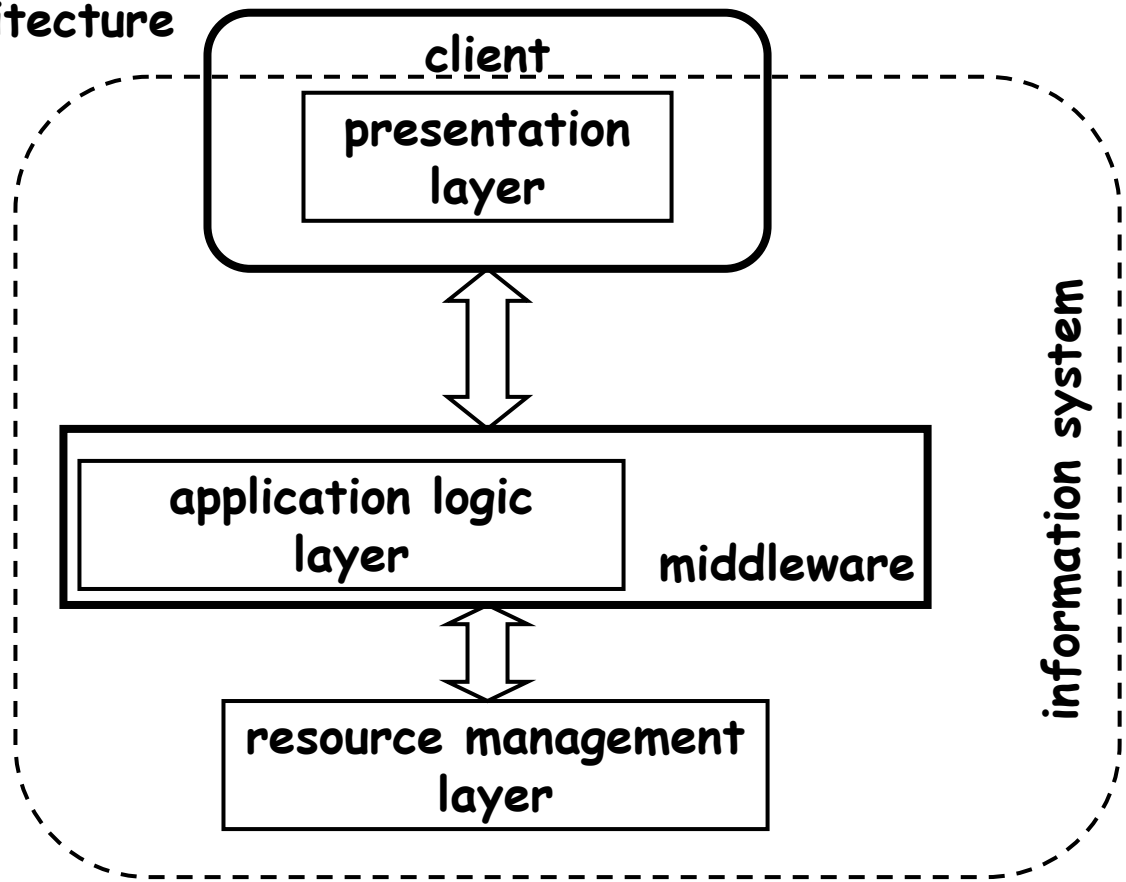
2. define presentation formats and protocols for the selected clients and protocols

3. define the functionality necessary to deliver the contents and formats needed at the presentation layer

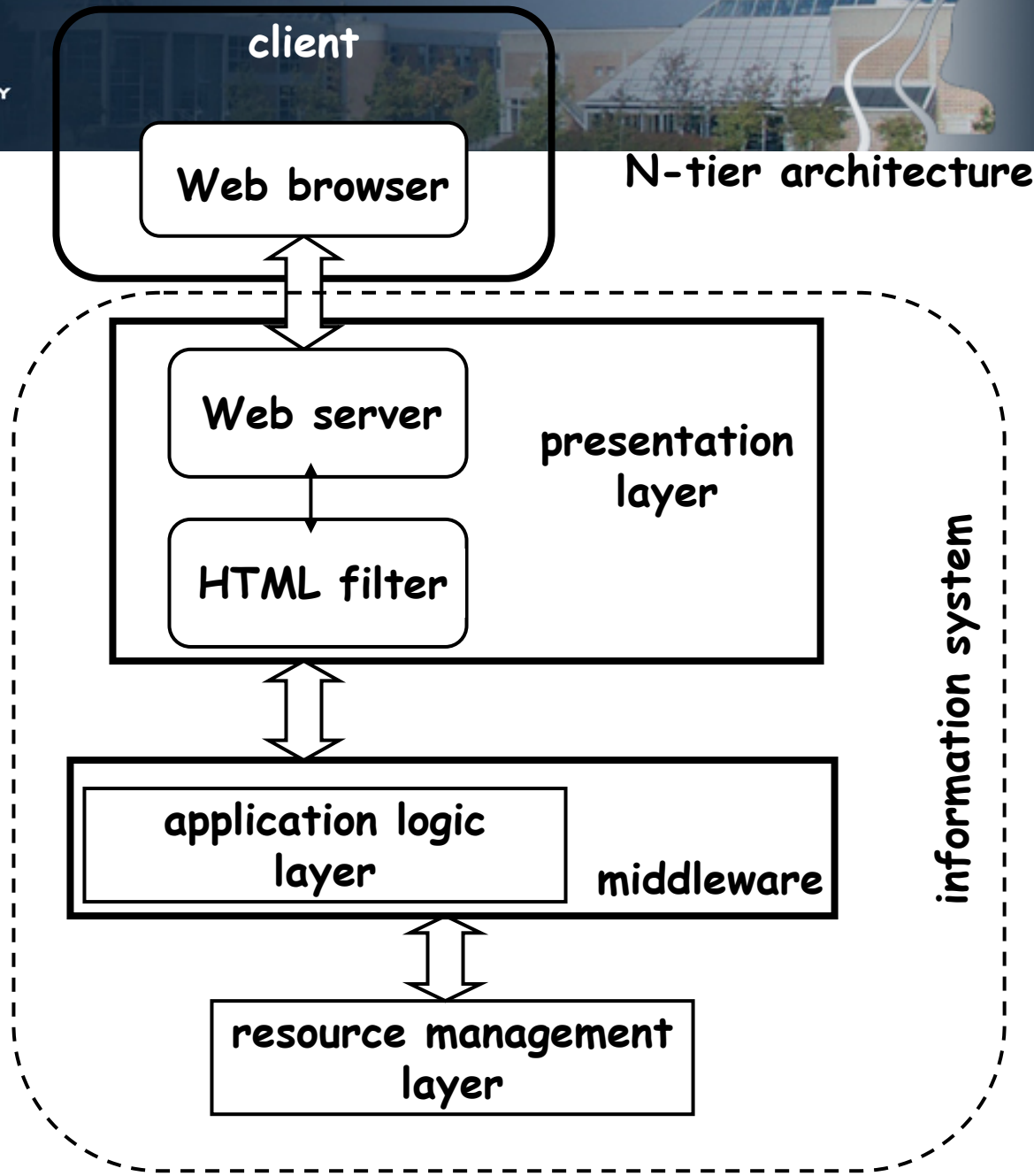
4. define the data sources and data organization needed to implement the application logic



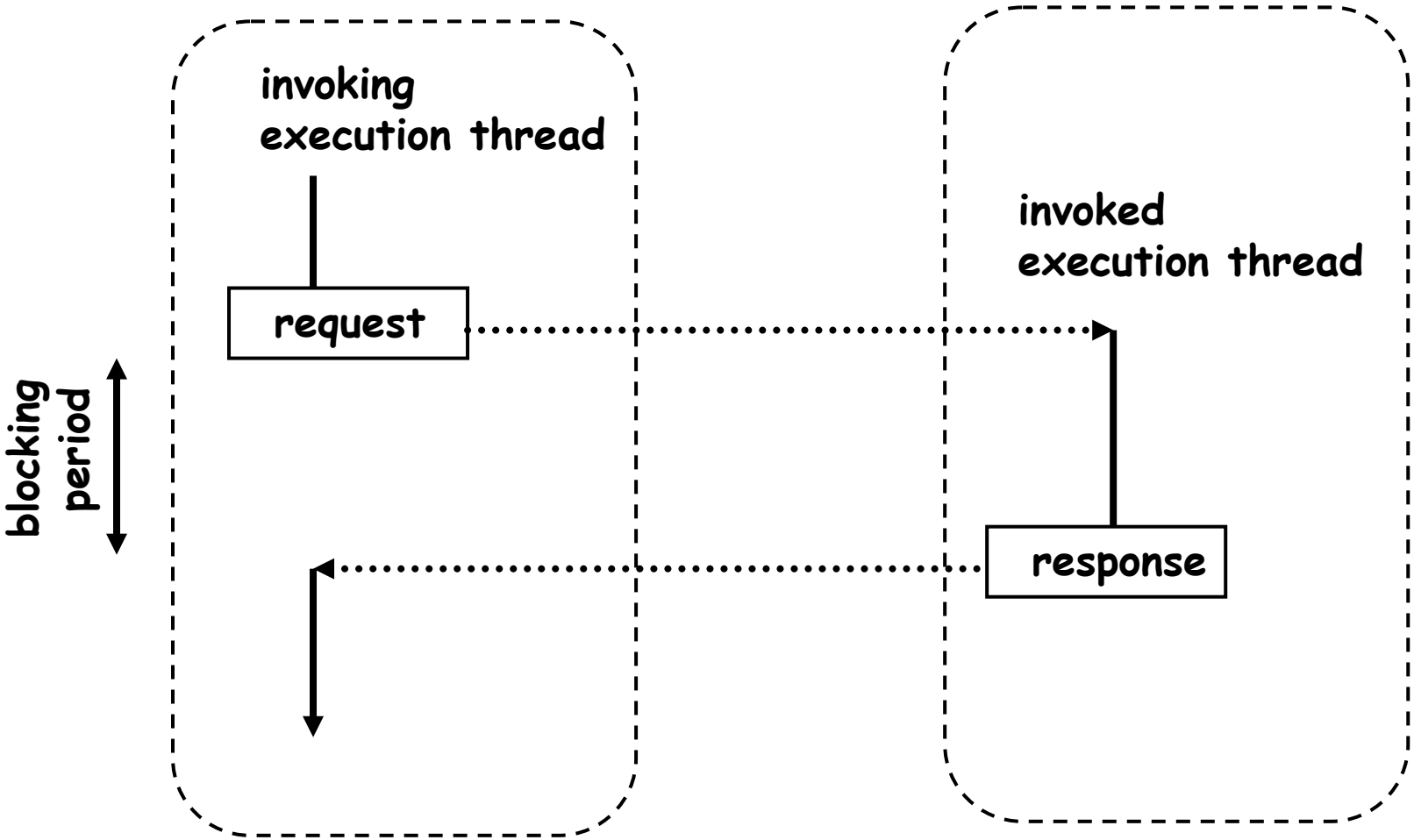
3-tier architecture



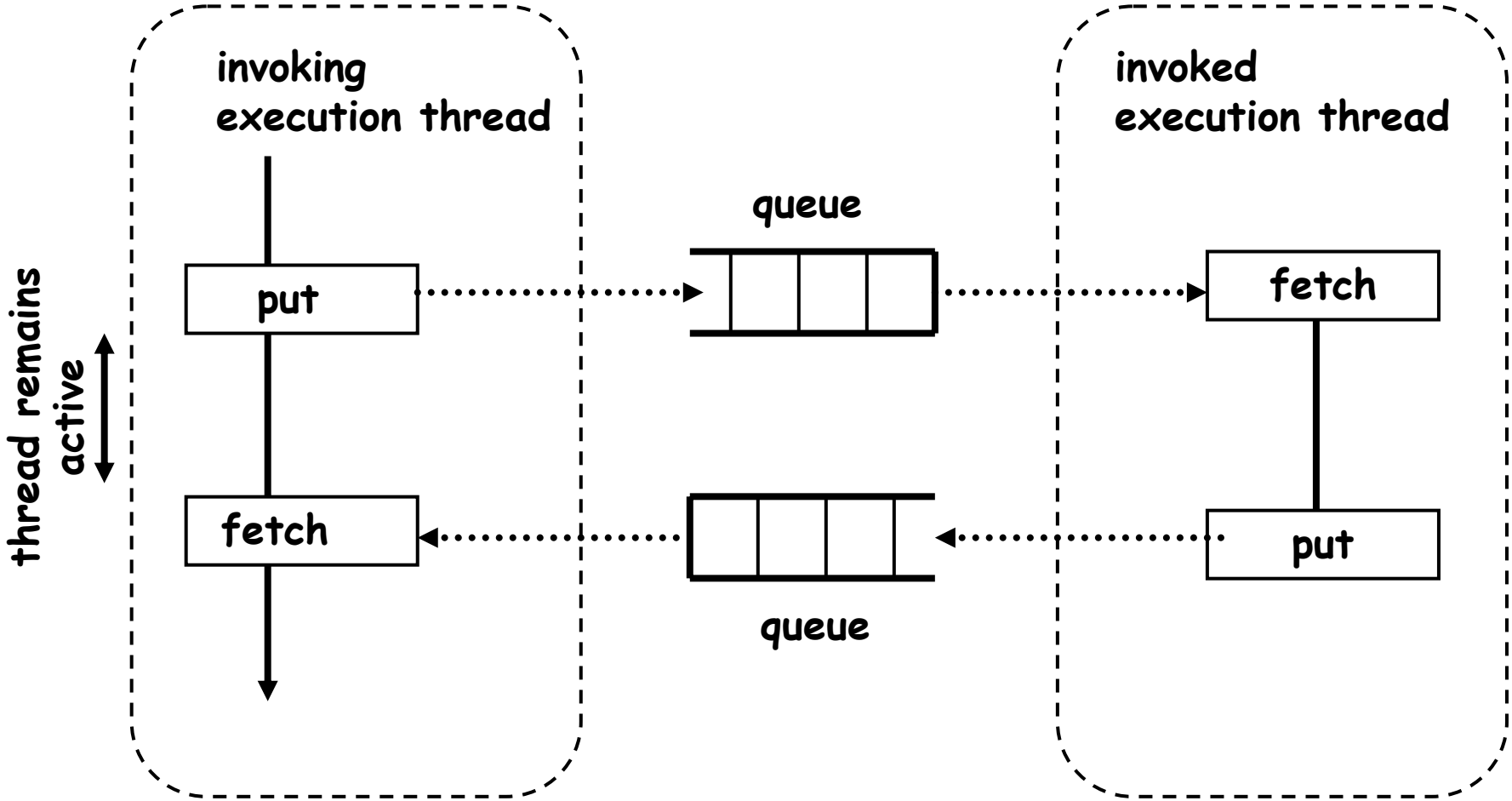
N-tier architecture



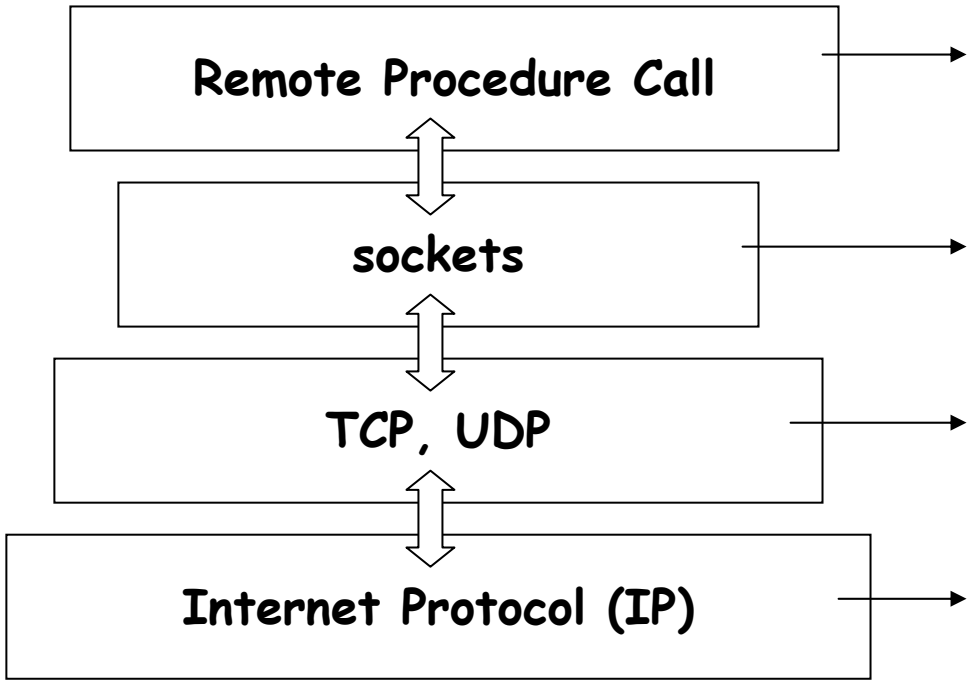
Blocking/Synchronous Communication



Nonblocking/Asynchronous Communication



RPC Abstraction



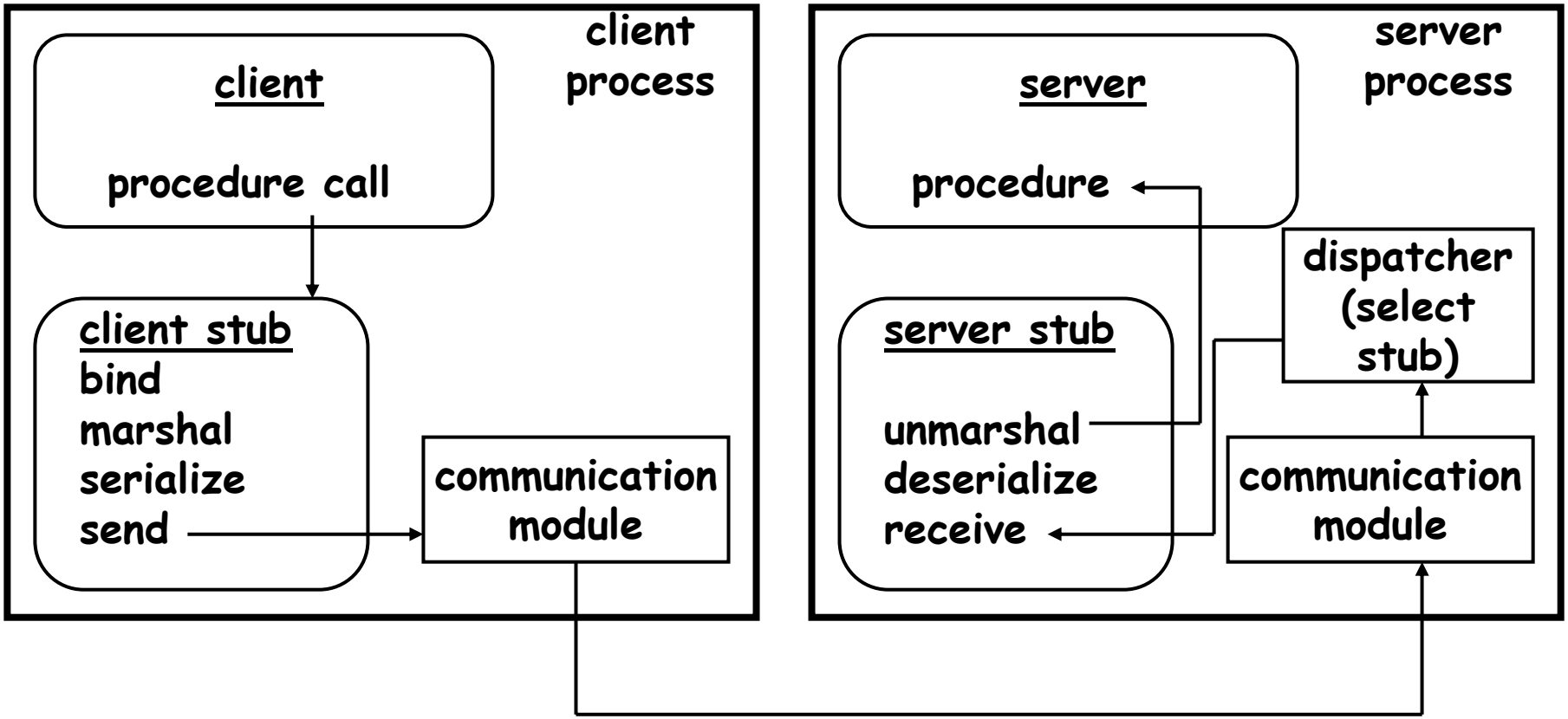
Remote Procedure Call:
hides communication details behind a procedure call and helps bridge heterogeneous platforms

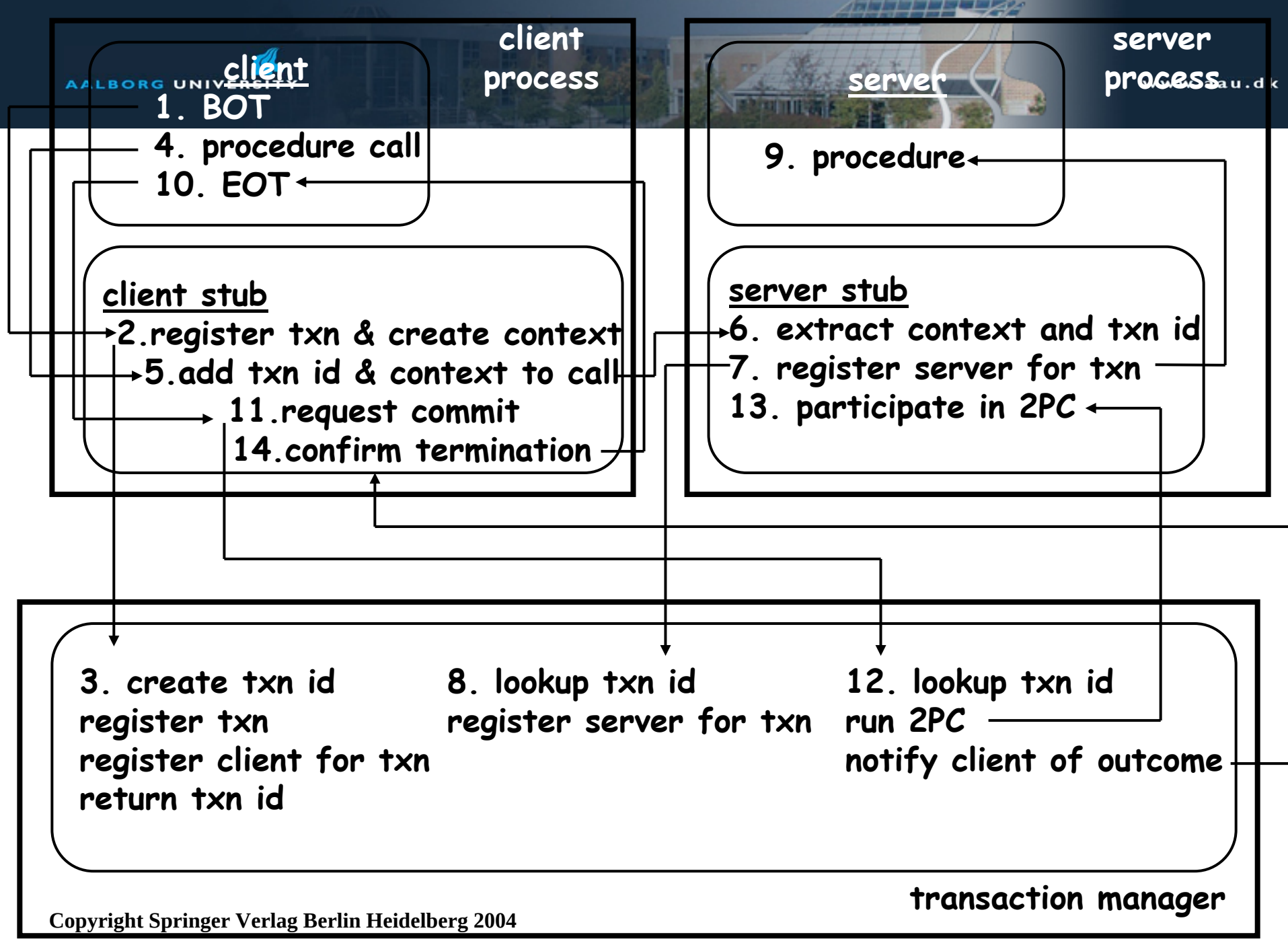
sockets:
operating system level interface to the underlying communication protocols

TCP, UDP:
User Datagram Protocol (UDP) transports data packets without guarantees
Transmission Control Protocol (TCP) verifies correct delivery of data streams

Internet Protocol (IP):
moves a packet of data from one node to another

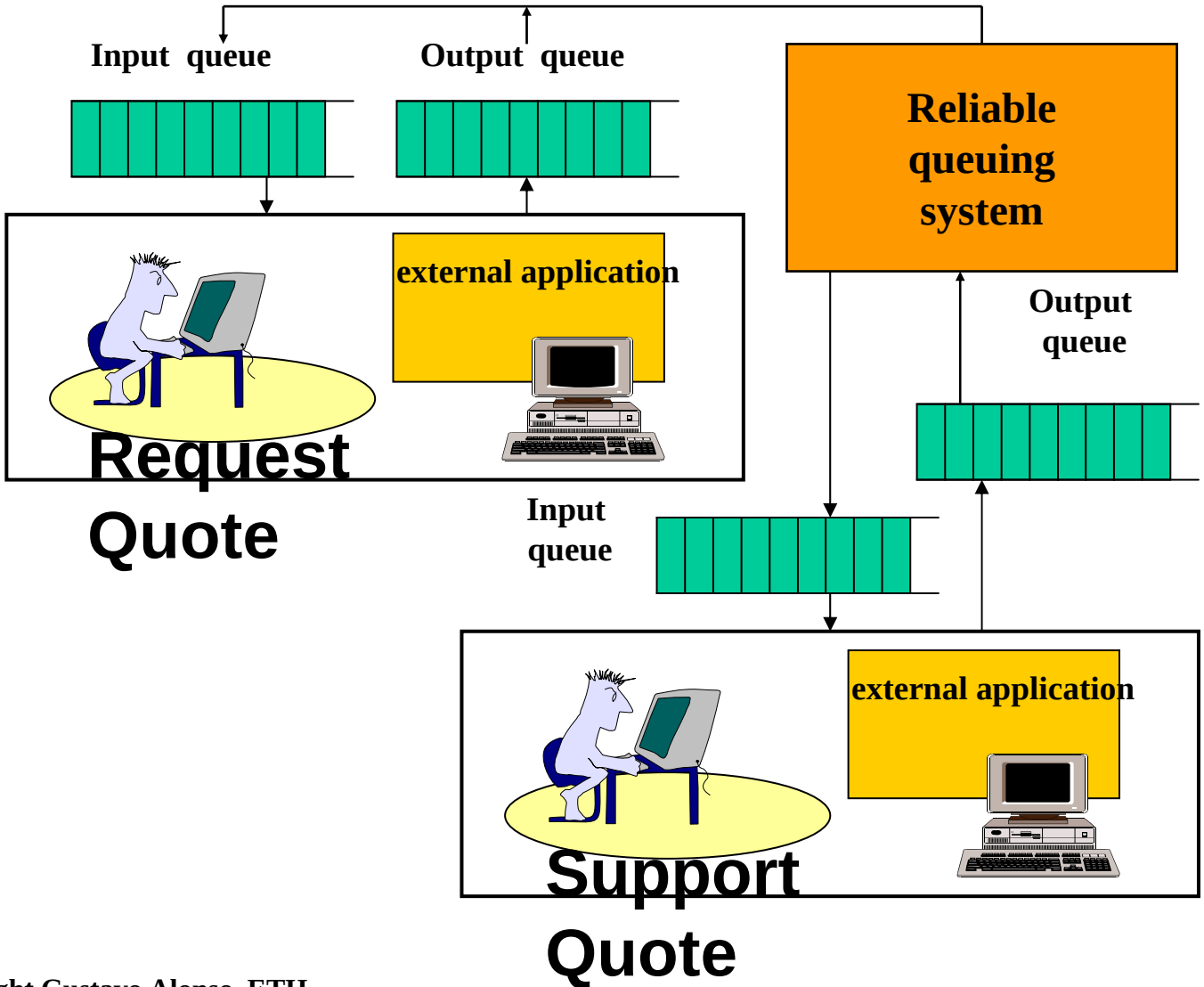
RPC

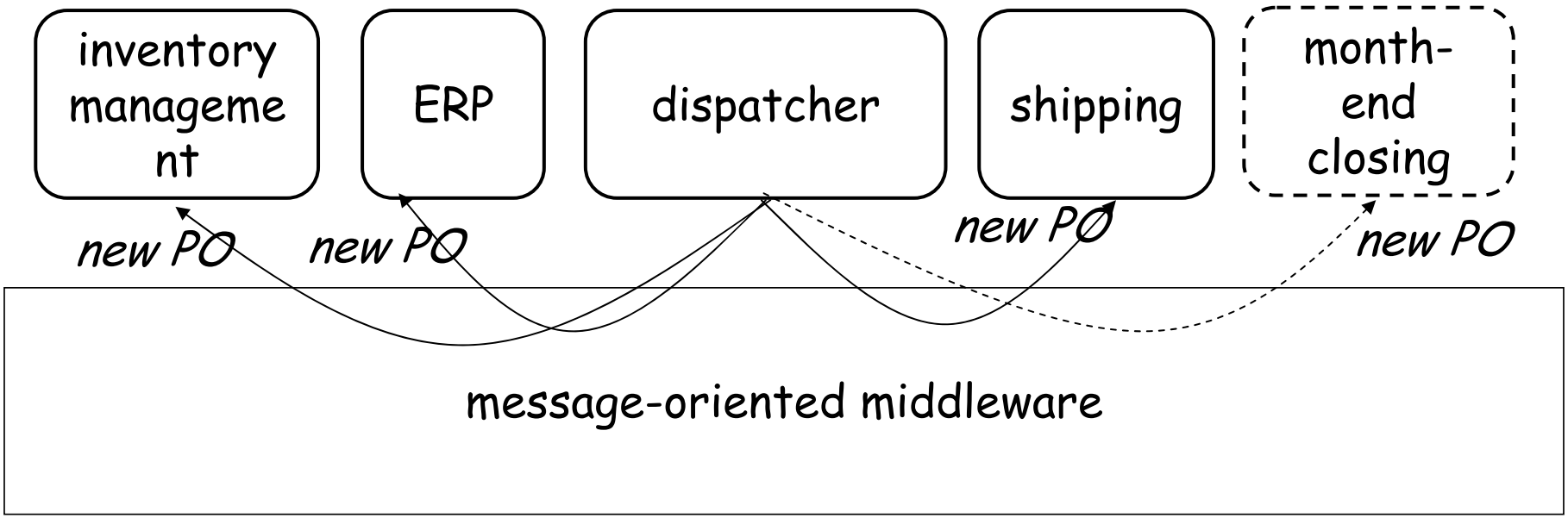




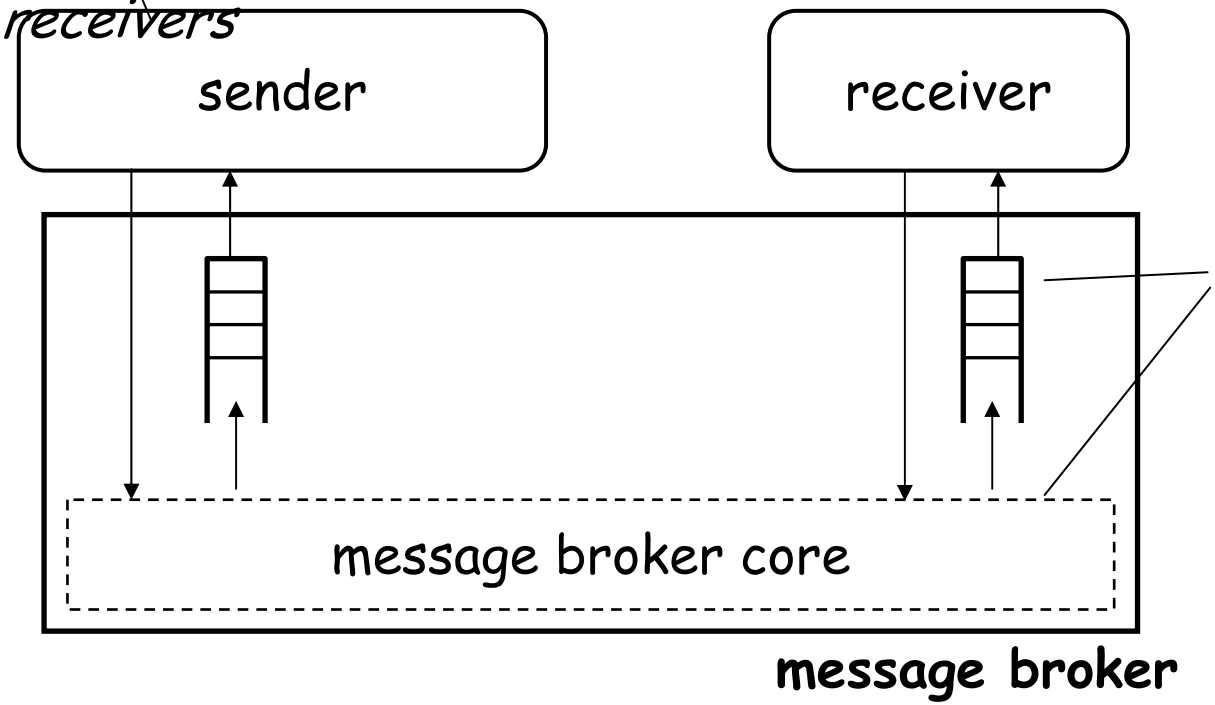
Other Middleware

Object brokers
Object monitors
Message-oriented middleware
Message brokers

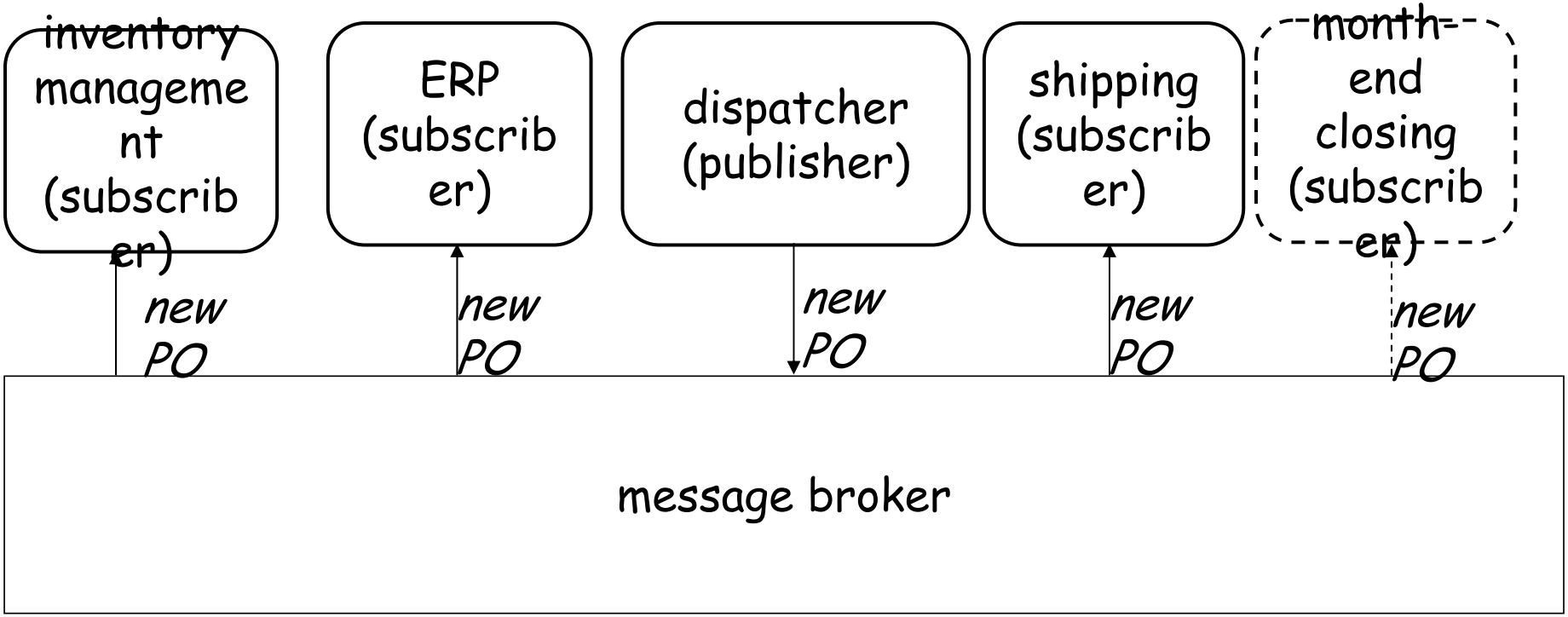


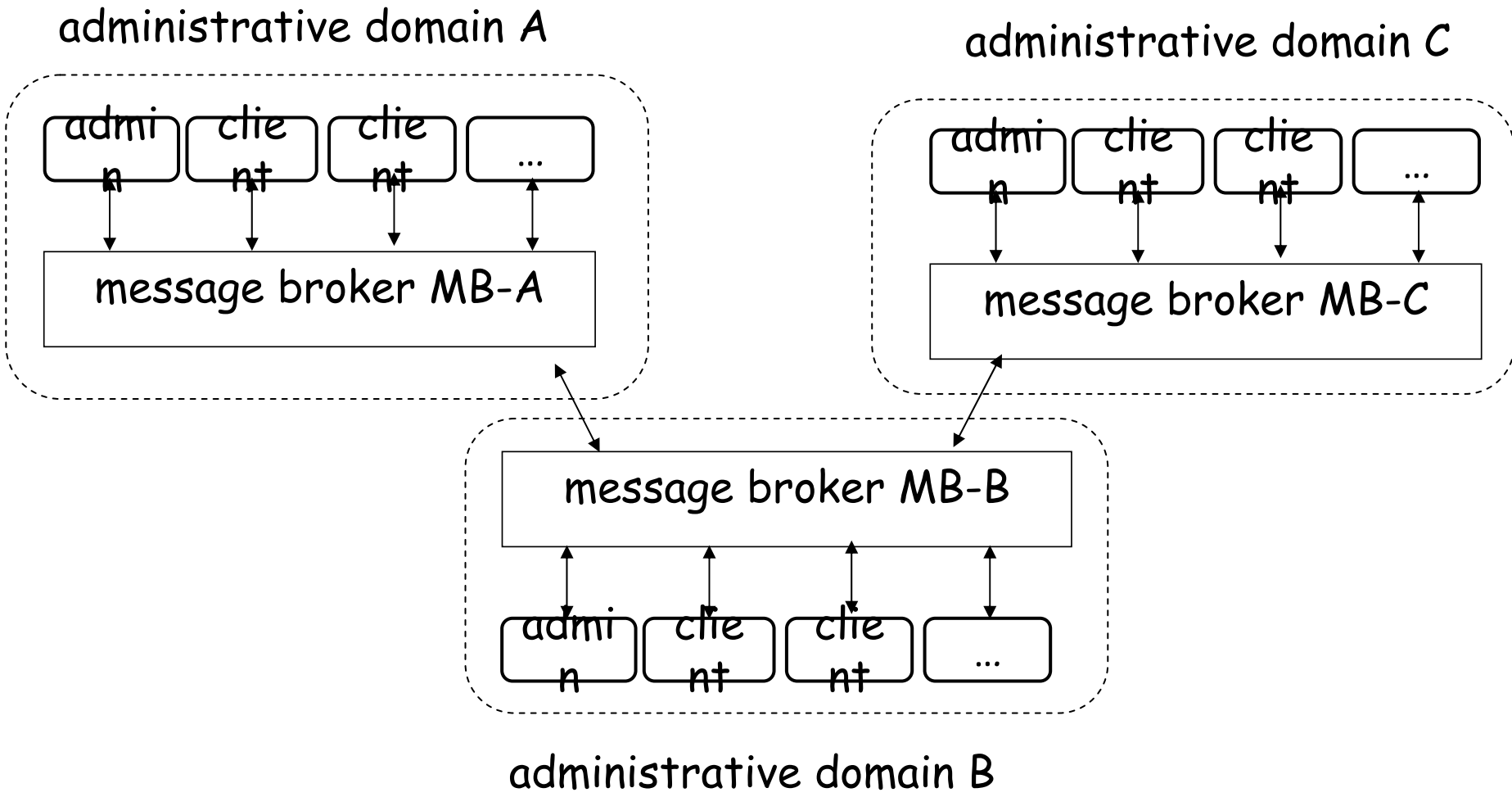


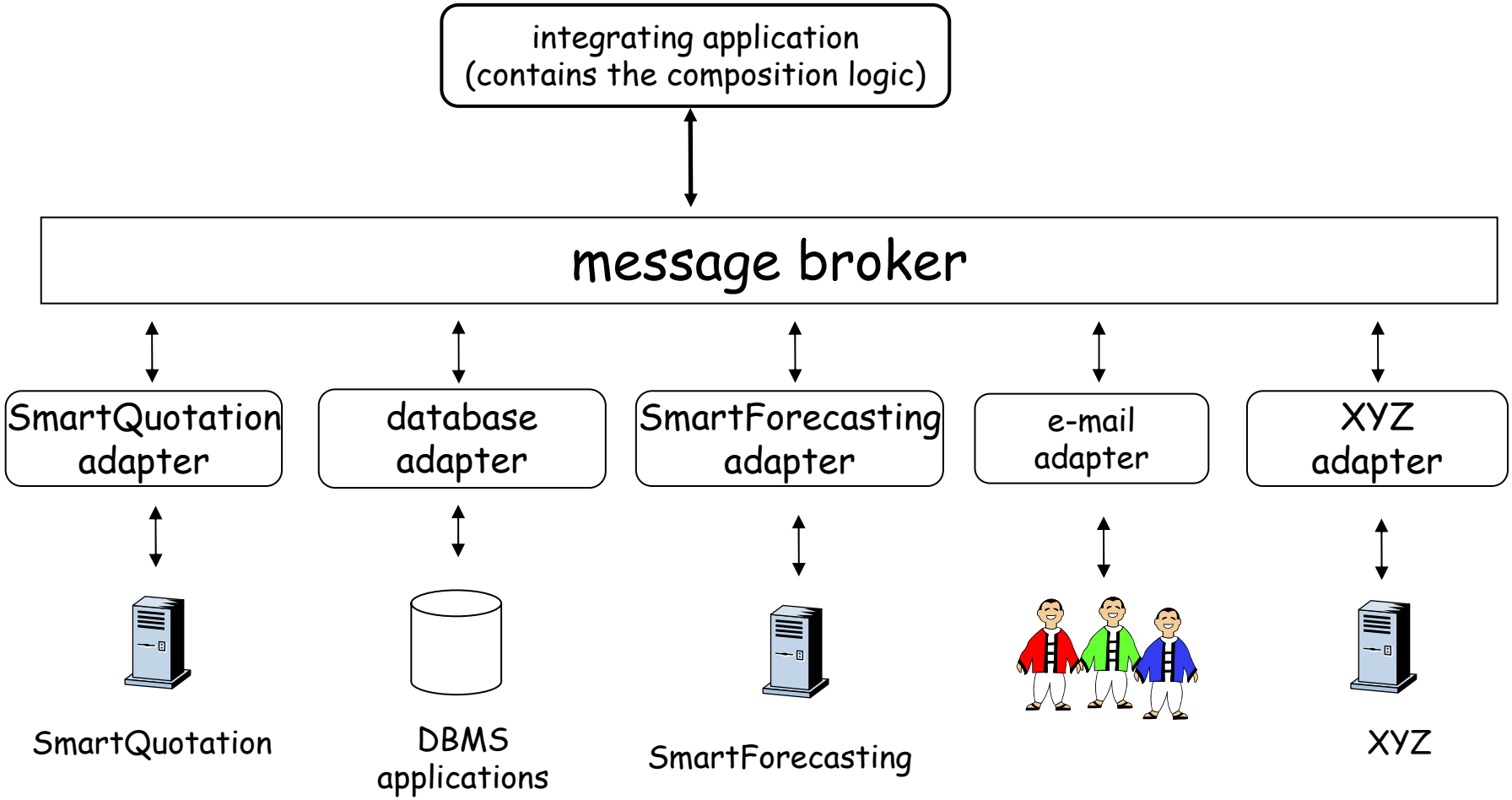
in basic MOM it is the sender who specifies the identity of the receivers

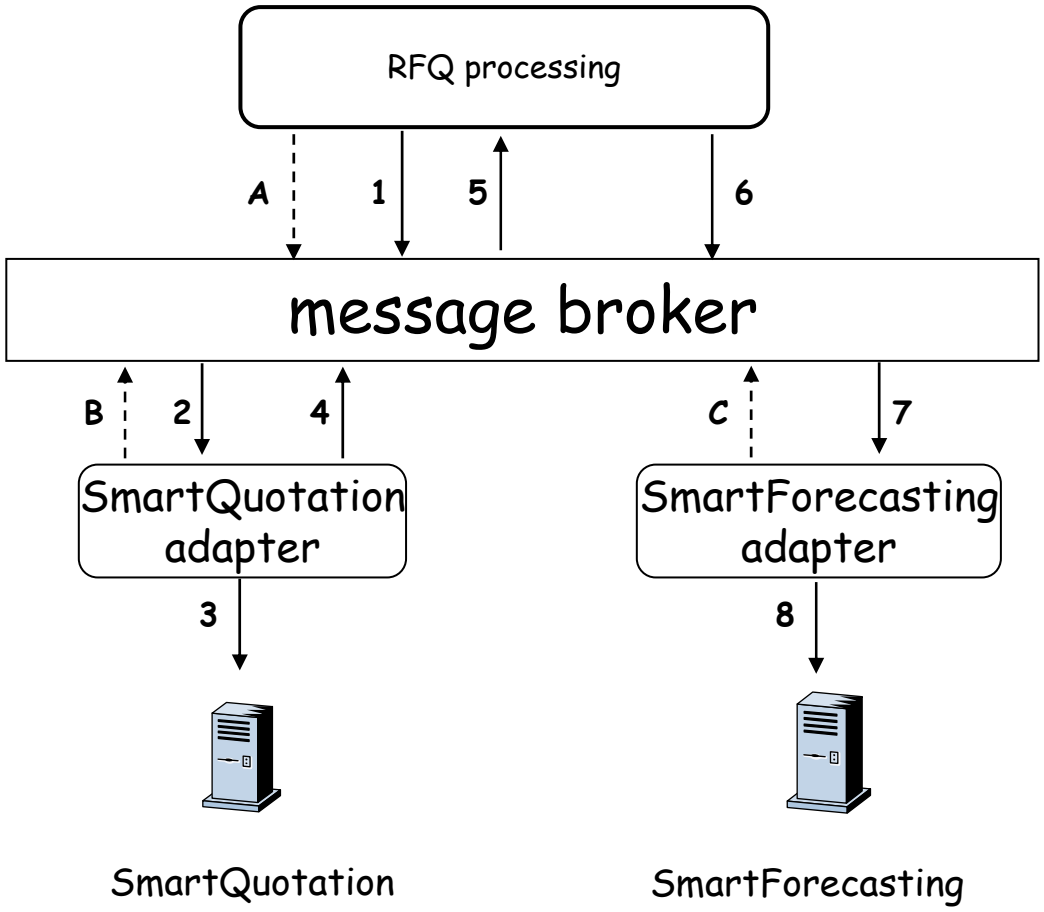


with message brokers, custom message routing logic can be defined at the message broker level or at the queue level









at systems startup time (can occur in any order, but all must occur before RFQs are executed)

A: subscription to message *quote*

B: subscription to message *quoteRequest*

C: subscription to message *newQuote*

at run time: processing of a request for quote.

1: publication of a *quoteRequest* message

2: delivery of message *quoteRequest*

3: synchronous invocation of the *getQuote* function

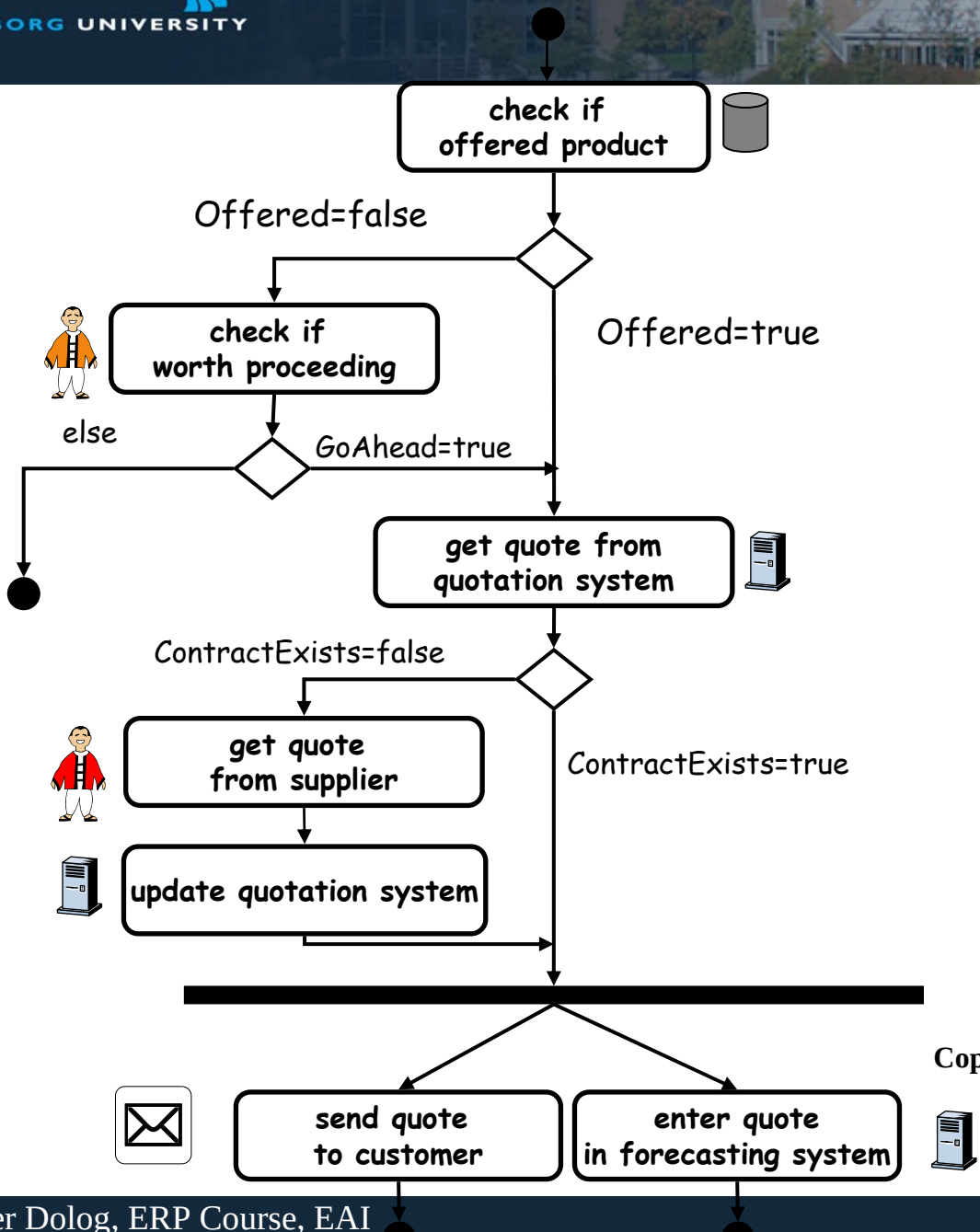
4: publication of a *quote* message

5: delivery of message *quote*

6: publication of a new*Quote* message

7: delivery of message *newQuote*

8: invocation of the *createForecastEntry* procedure



variables:
QuoteReferenceNumber: int
Customer: String
Item: String
Quantity: int
RequestedDeliveryDate: Date
DeliveryAddress: String
GoAhead: Bool
ContractExists: Bool
Offered: Bool