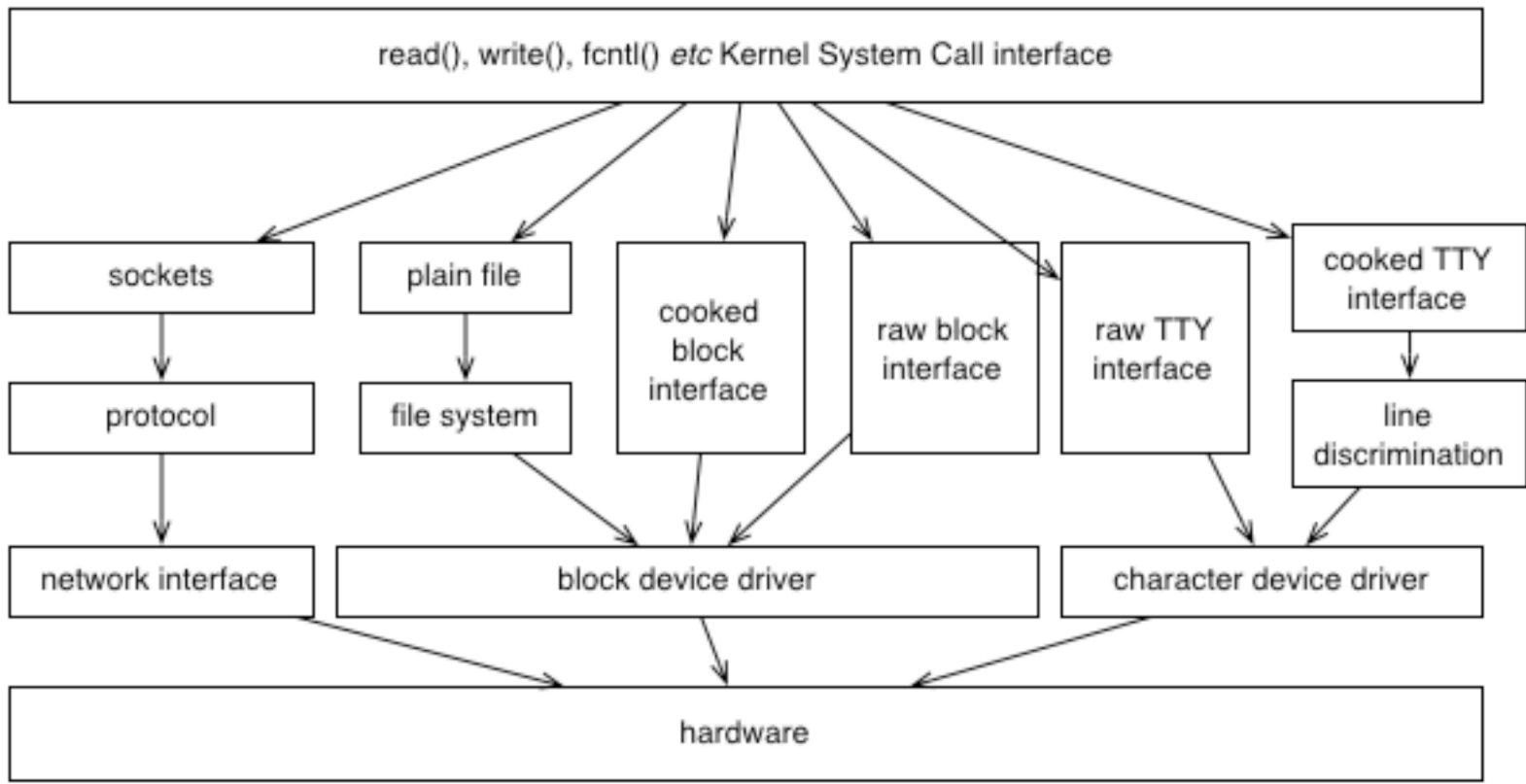


4

Software Architectures: Layered Systems

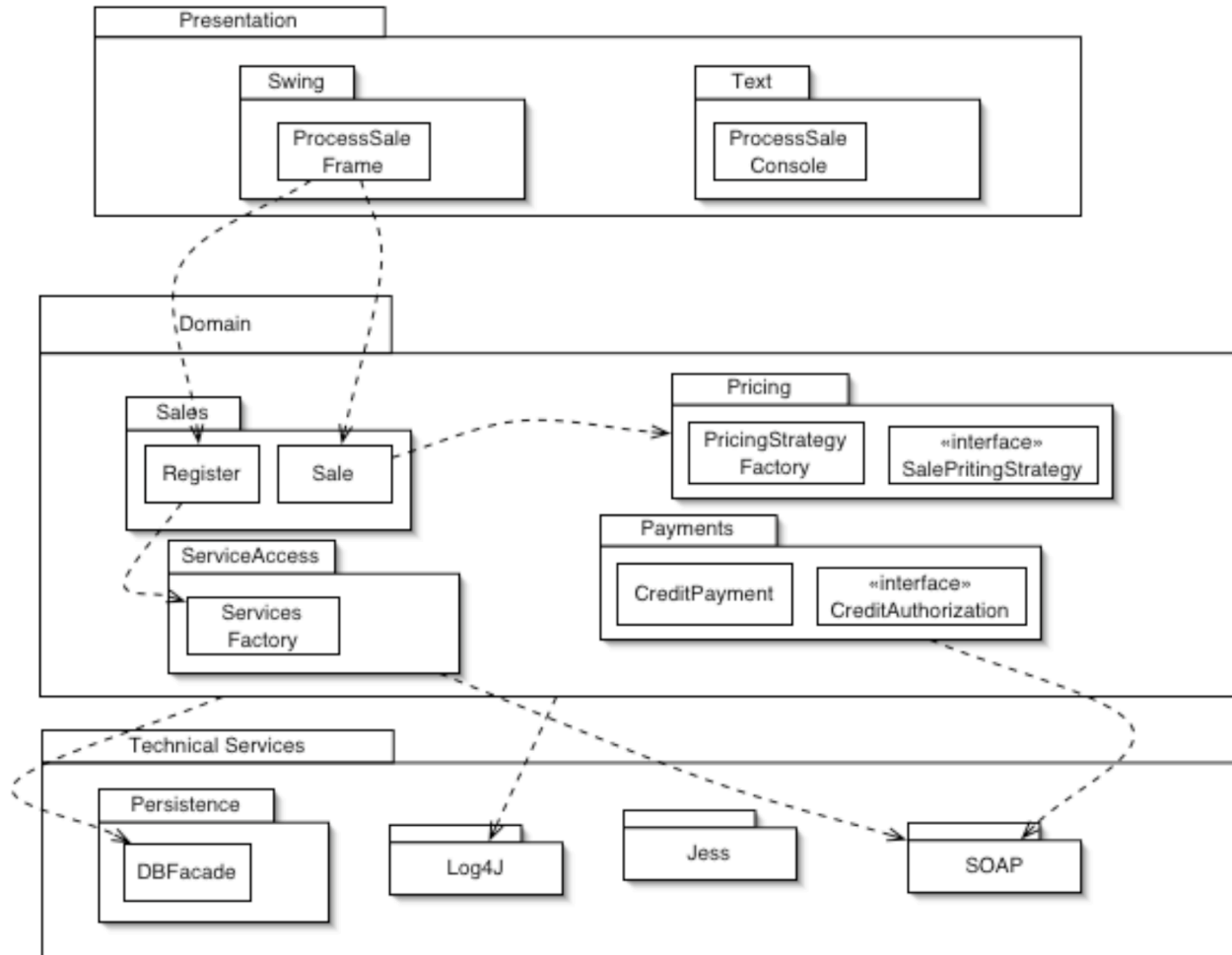
BSD Unix Layered Architecture

examples
patten
responsibilities
communication



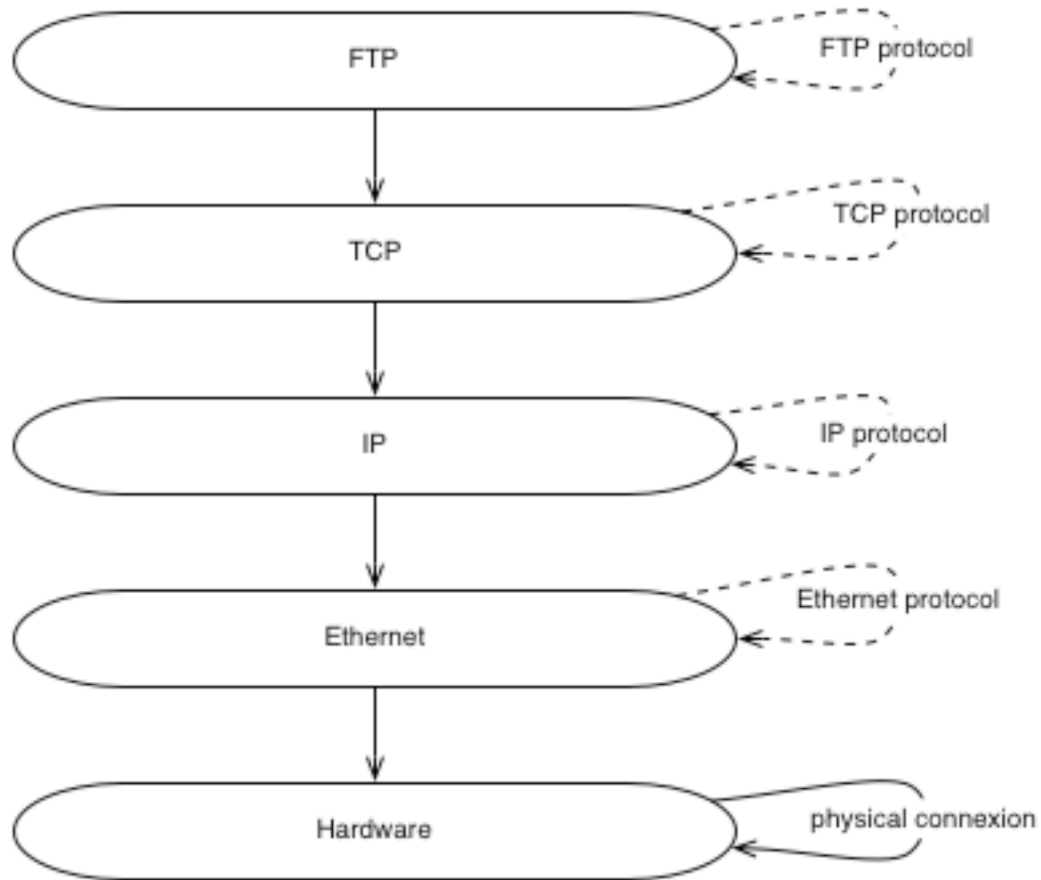
NextGen Point-Of-Sale System [Larman]

examples
patten
responsibilities
communication



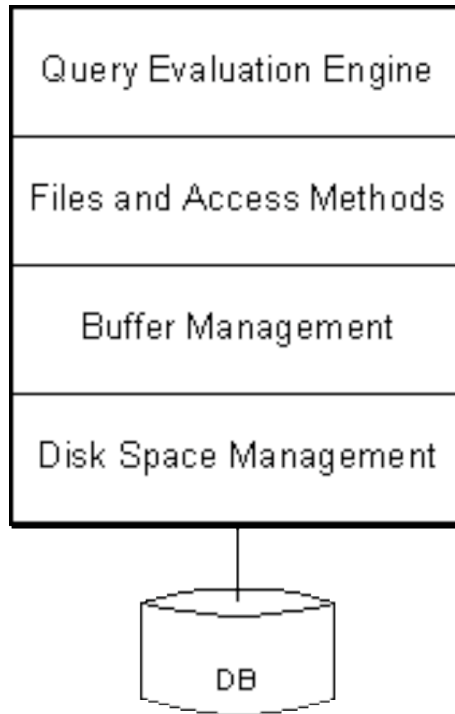
FTP / TCP / IP on Ethernet

examples
patten
responsibilities
communication



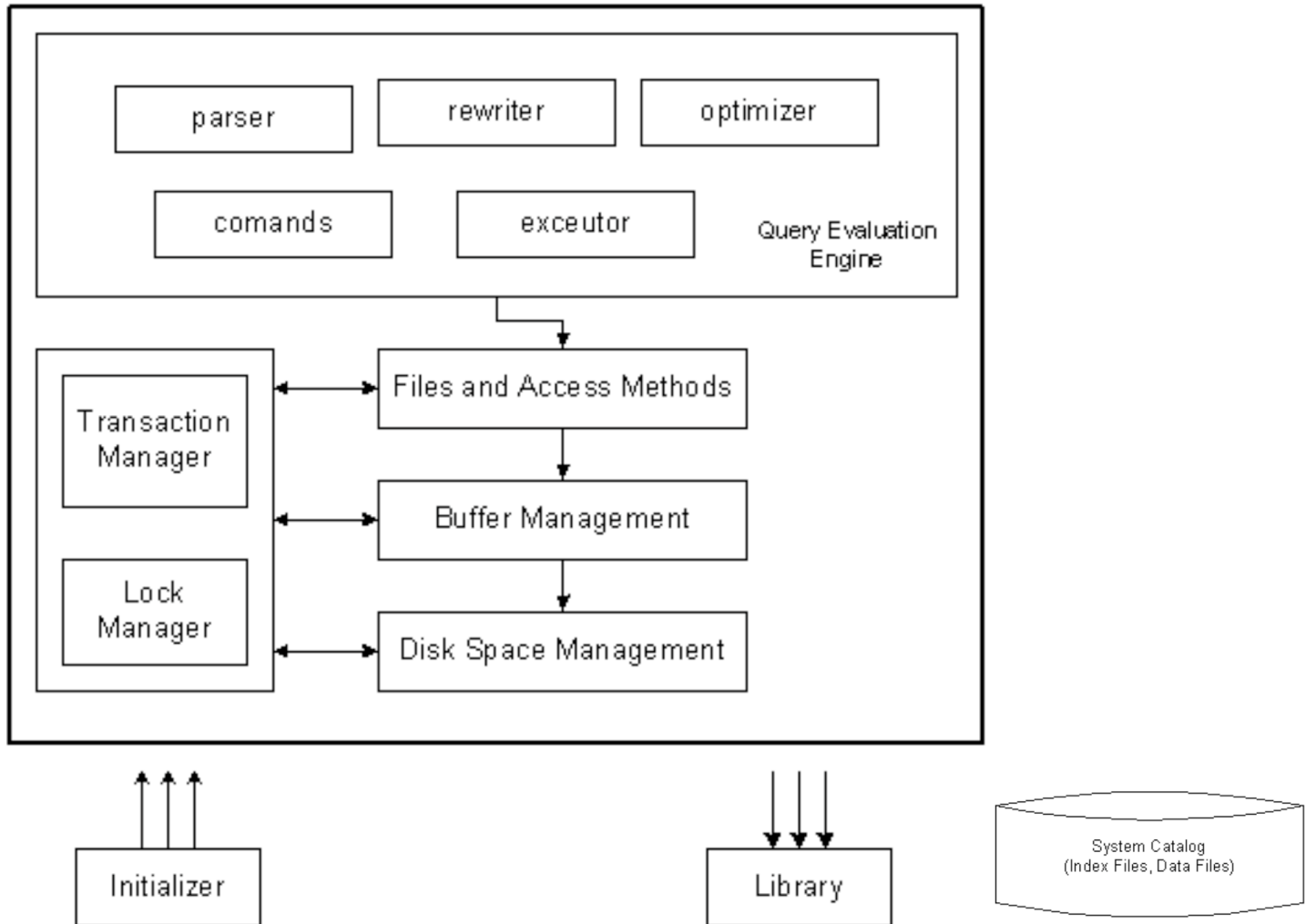
Relational Database Management System Reference Architecture

examples
patten
responsibilities
communication



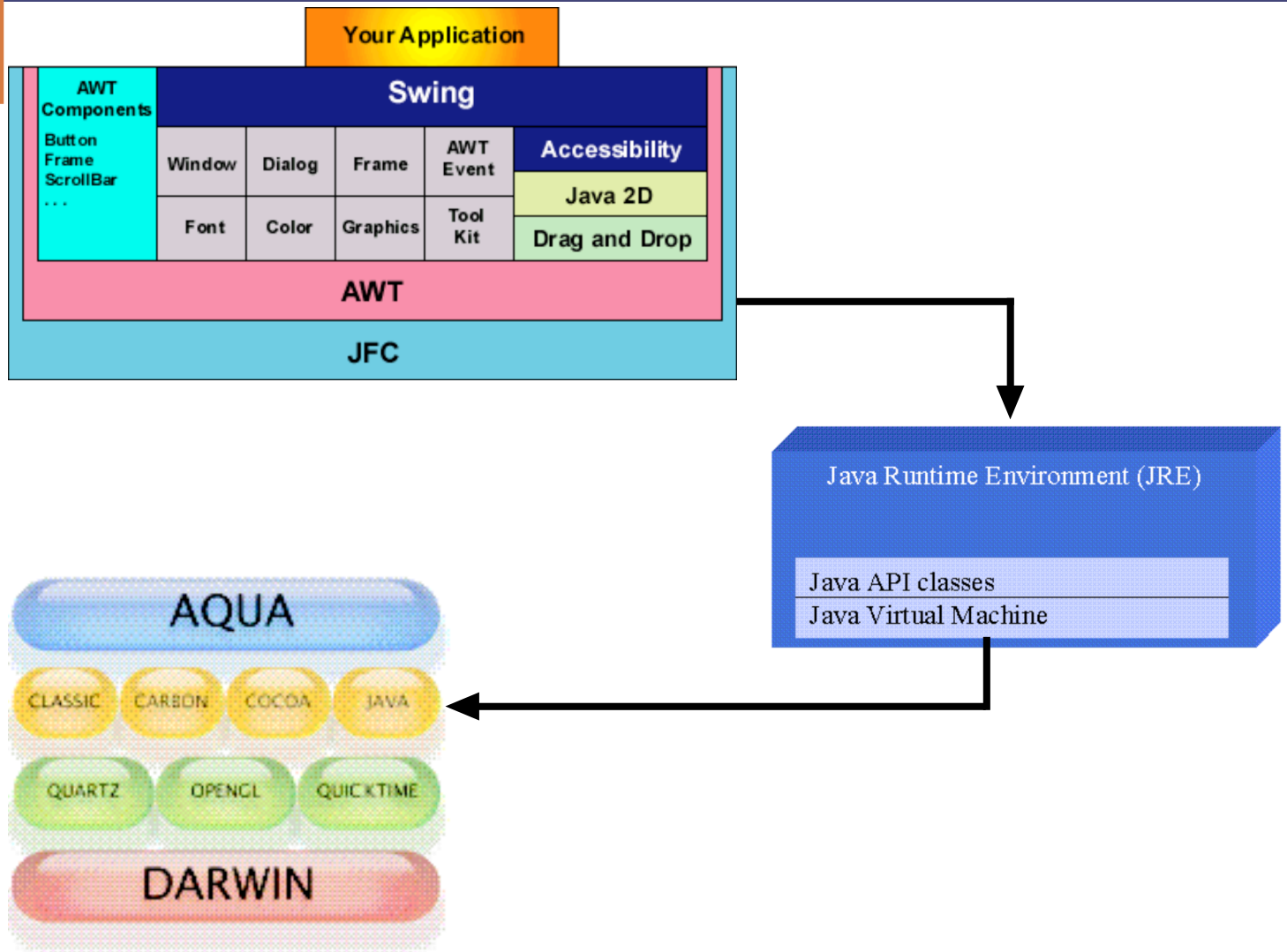
PostgreSQL Layered Architecture (Recovered)

examples
patten
responsibilities
communication



Application on JFC on Java Platform on Mac OS X

examples
patten
responsibilities
communication



Generic Layered Architecture

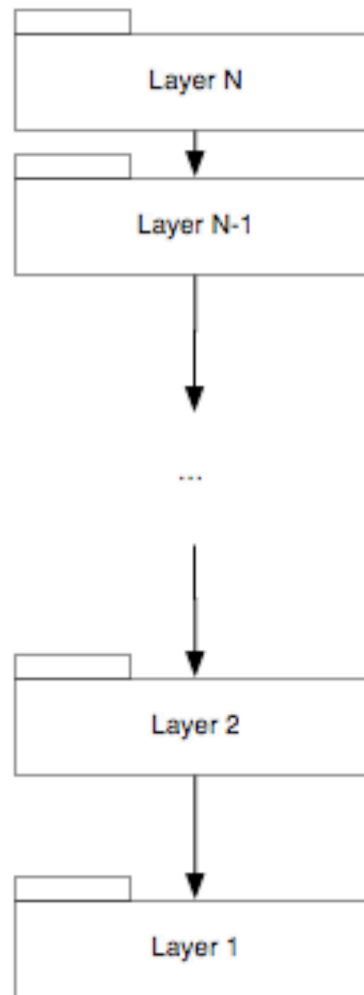
examples
pattern
responsibilities
communication

Provide services to client

Handle requests from Layer N, delegate subtasks to layer N-2

Handle requests from Layer 3, delegate subtasks to layer 1

Directly handle requests from Layer 2.



OSI 7-Layer Network Reference Architecture

examples
patten
responsibilities
communication

Miscellaneous protocols for common activities

Structure information and attach semantics

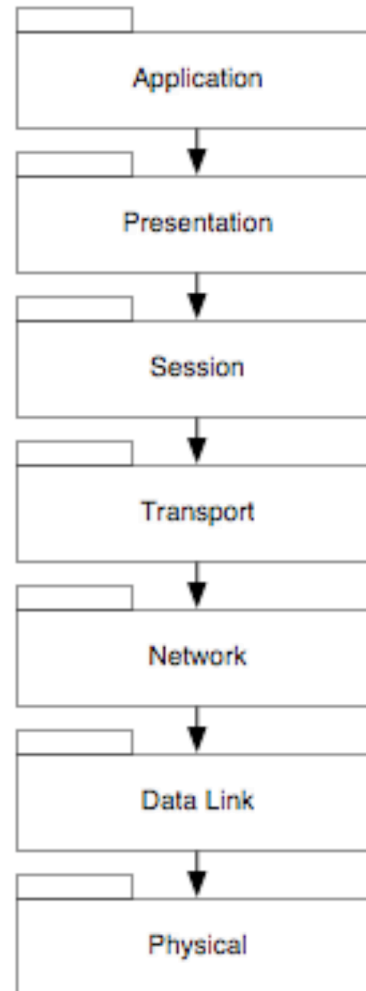
Provide dialogue control and synchronization facilities

Packetize messages and guarantee delivery

Select route from sender to receiver

Detect and correct bit sequence errors

Transmit bits (velocity, bit-code, connexion, etc.)



Information System Reference Architecture [Larman]

examples
patten
responsibilities
communication

GUI windows, reports, speech interface, HTML, XML, php, JSP, Javascript, etc.

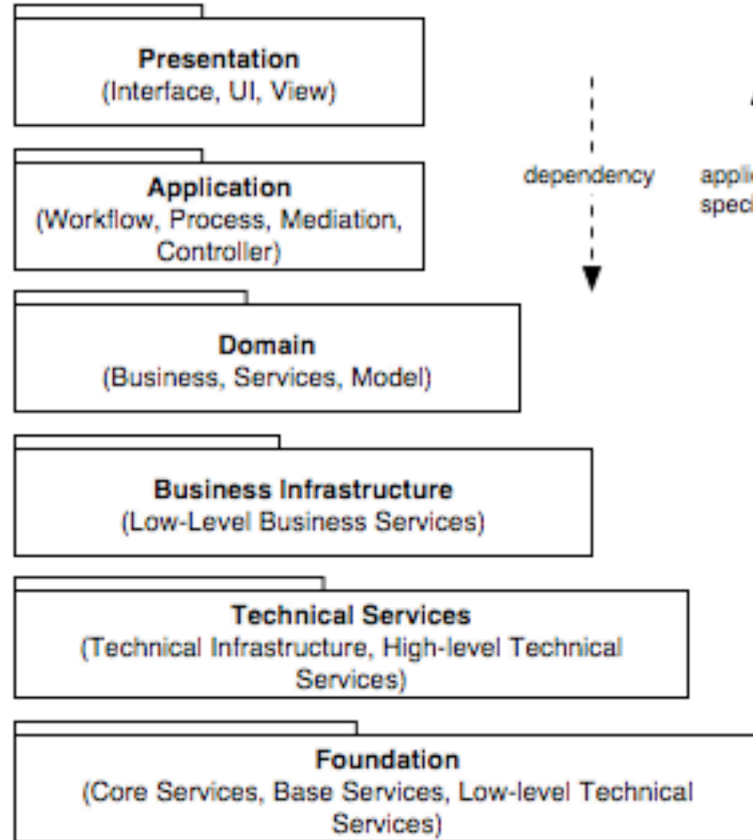
handle presentation requests, workflow, session state, window and page transition, data consolidation for display

handle application layer requests, domain rules, domain services, possibly across several applications

business middleware, general low-level business services: currency conversion, rate calculation,

technical frameworks: testing, object persistence, security, high-level text services, object middleware

technical libraries, utilities, data structures, containers, threads, math, file, database, network I/O.



— range of applicability →