Architectural Tiers Evaluated

The tiers reflect logical, not physical partitioning

- The more open the architecture the greater
  the decoupling among components
  - Improves development through reuse
  - Enables composition of components
- Facilitates management of resources, including scaling up under appropriate implementations
- Sets boundaries for organizational control

- In a narrow sense, having more moving parts can complicate management
- But improved architecture facilitates management through divide and conquer
P→L
THINK ABOUT:

WHAT ELSE

THESE

PROTOCOLS ARE

L→D

STUBS (ROLE)

PROTOCOL

STUBS (ROLE)

COMMON SOLUTIONS

P2L:
- SHARED ("OBJECT") INFO REPRESENTATION (FOR REQUESTS AND RESPONSES)
  - DATA TYPES OF THE OBJECTS
  - COMMANDS, E.G., SET, GET (CONSTRAINTS IF ANY)

L→D:
- SHARED INFO REPRESENTATION
  - DATA TYPES
  - "COMMANDS" (CONSTRAINTS ON ABOVE)

TODAY'S SOLUTIONS: JDBC, ODBC

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"Control" Constraints

Finite State Machines

Possible Representation for JDBC

Sometimes, each transition maps to a pair of steps - request - response.
How may we specify a protocol?

- Roles
- Information
- Data types

Use standard representation, e.g., JSON, XML, Attribute

- Commands (or triggers)
- Who may do what
- Constraints on order, occurrence

(i) FSM

Normally lead to synchronous implementations

Demand (tend to demand) a tight level of coupling

Lockstep transitions

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