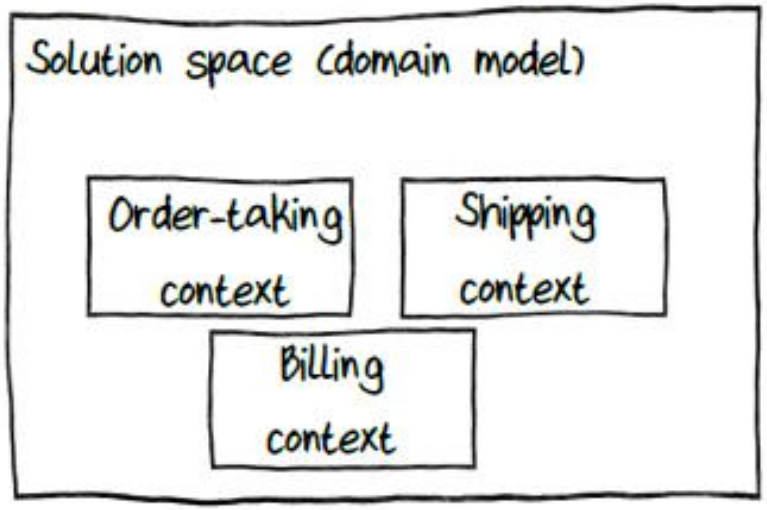
Functional Architecture

Bounded contexts are autonomous software components

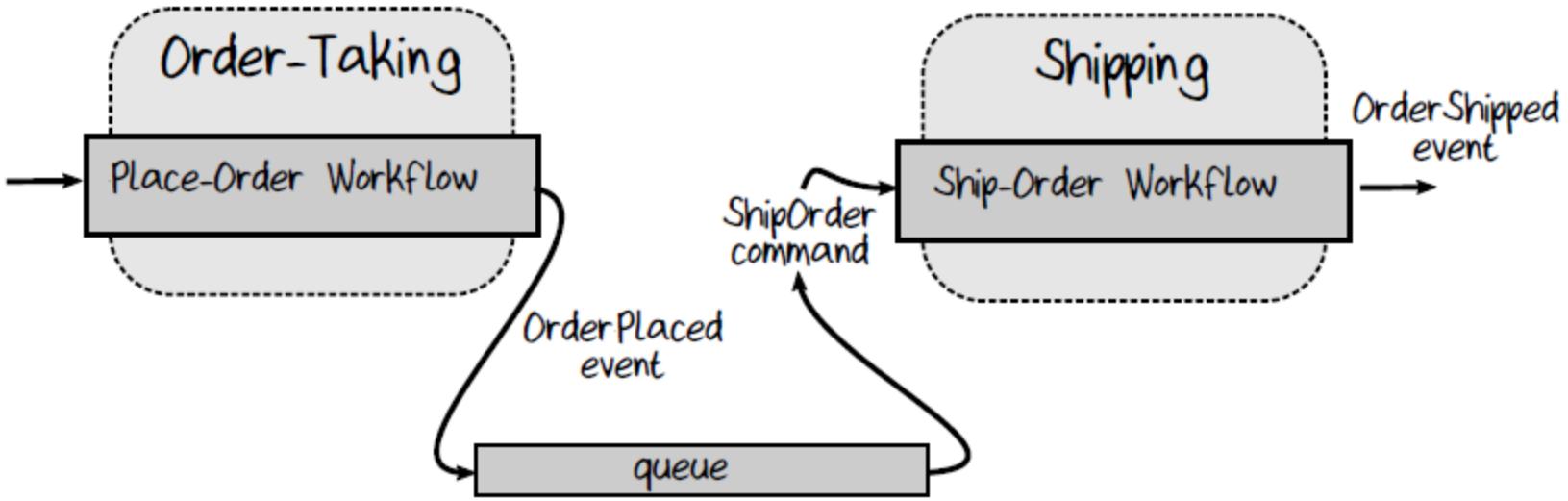


3 different architectures…

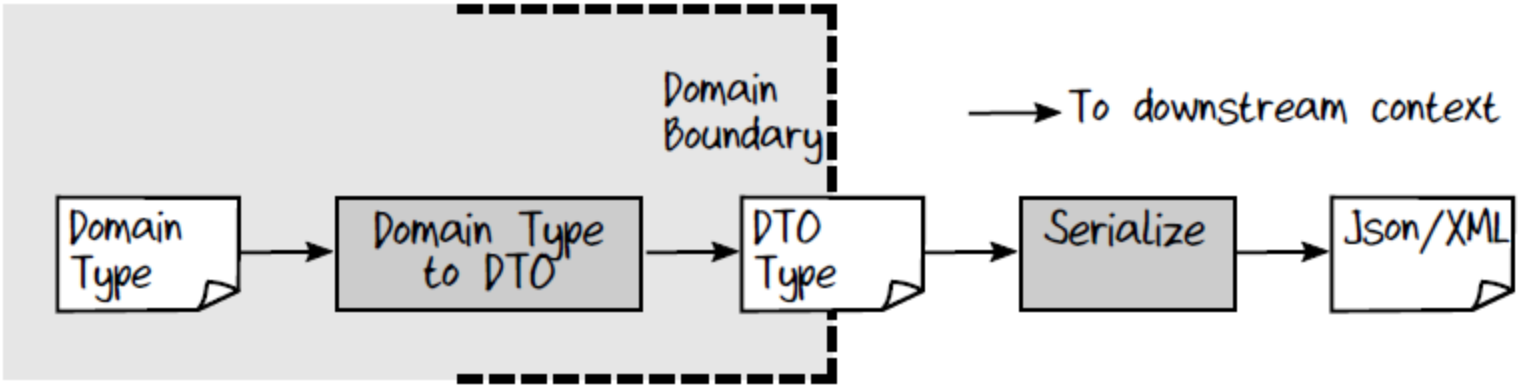
- For monoliths, each bounded context could be
  - a separate module with a well-defined interface, or
  - a .NET assembly. Alternatively, each
- For service-oriented architecture:
  - each bounded context is a separate container
- For microservices:
  - each individual workflow is deployed separately

How to communicate between bounded contexts?

Answer: queues



On the way out, domain objects become DTOs



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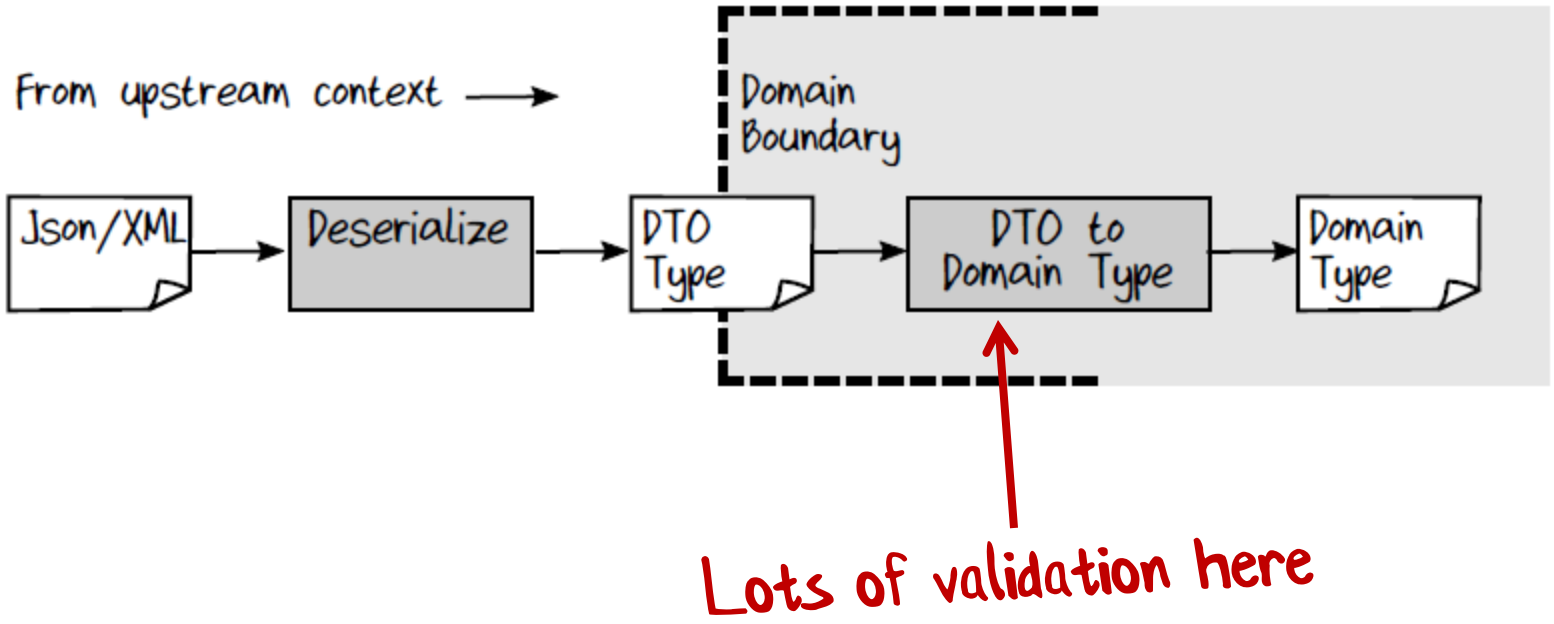
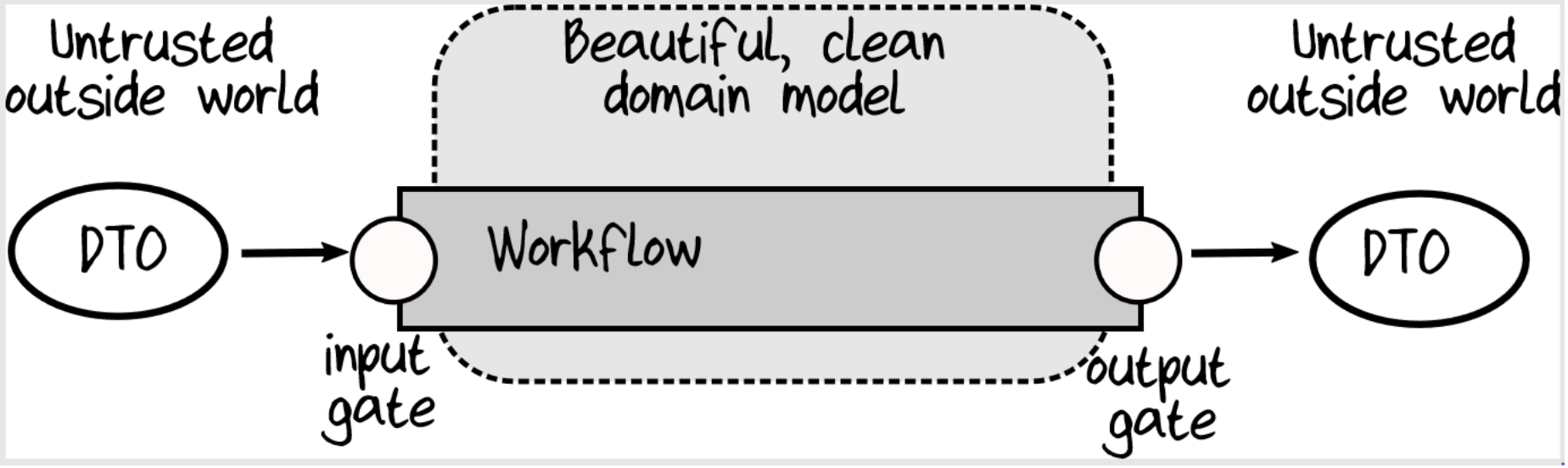
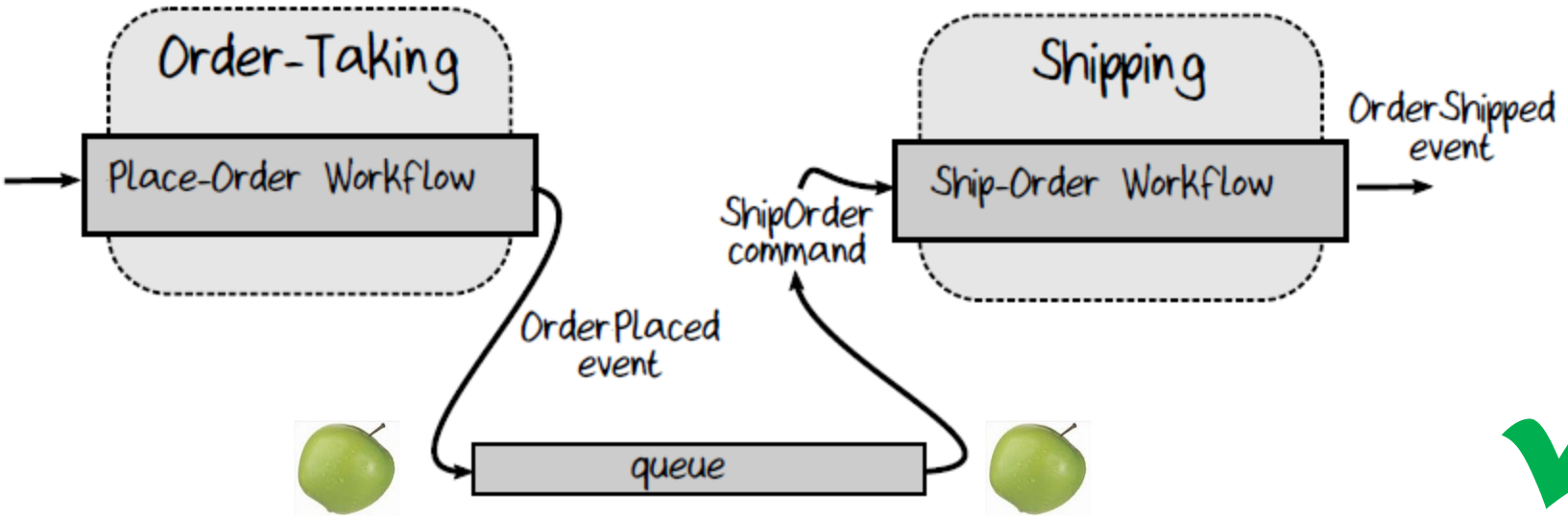


Do not trust the outside world

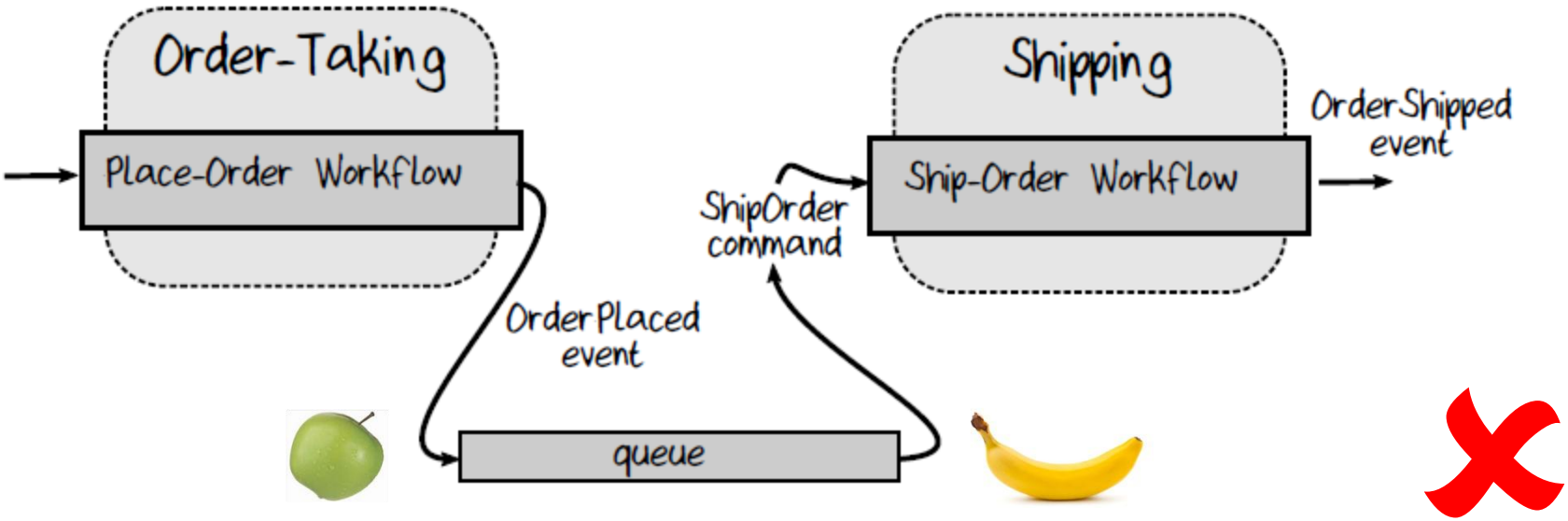


DTOs are contracts
between bounded contexts

DTOs are contracts



DTOs are contracts



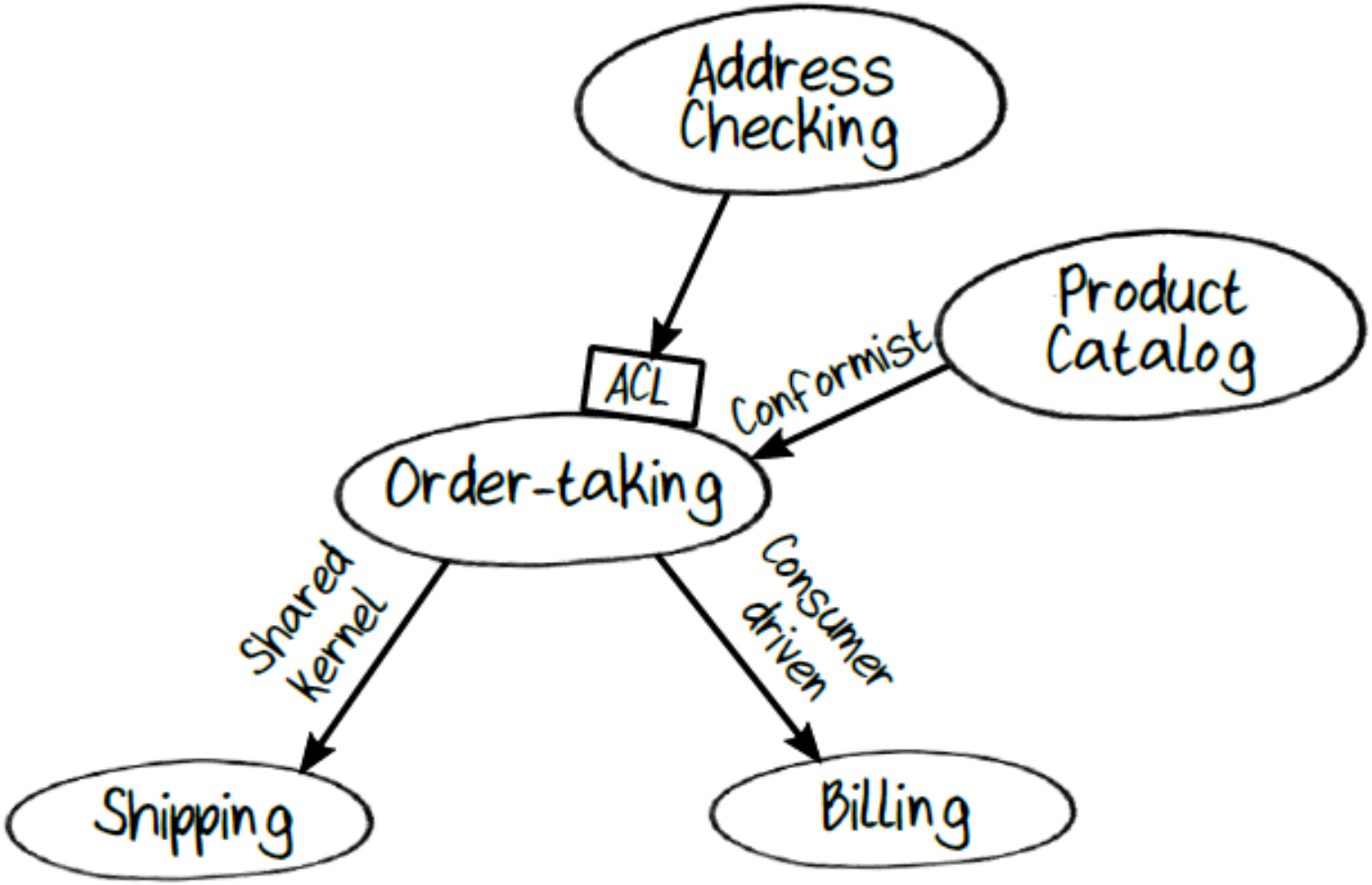
Relationships between contexts

- *Shared Kernel*
  - Two contexts share some common domain design, so the teams involved must collaborate.
- *Consumer Driven*
  - The downstream context defines the contract
- *Conformist*
  - The downstream context accepts the contract provided by the upstream context

Anti-Corruption Layer

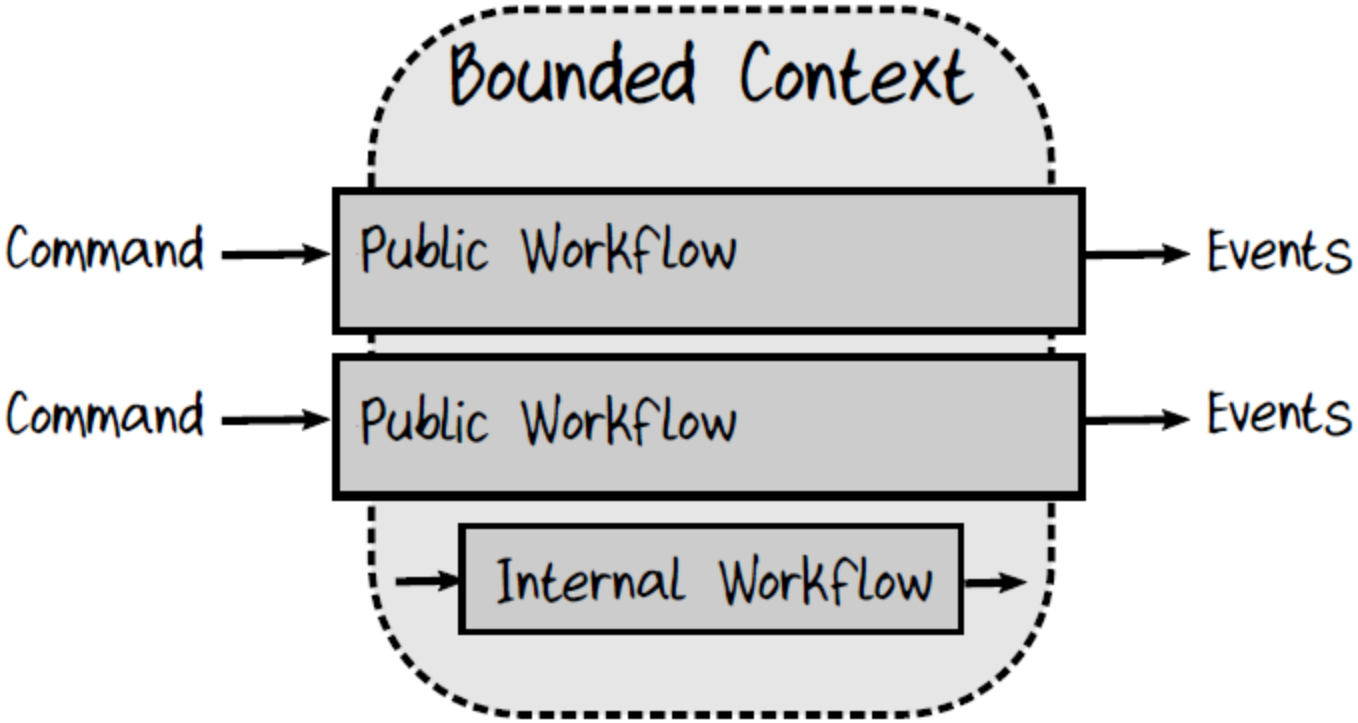
- Acts as a translator between two different languages
  - the language used in the upstream context
  - The language used in the downstream context

Example of different contracts

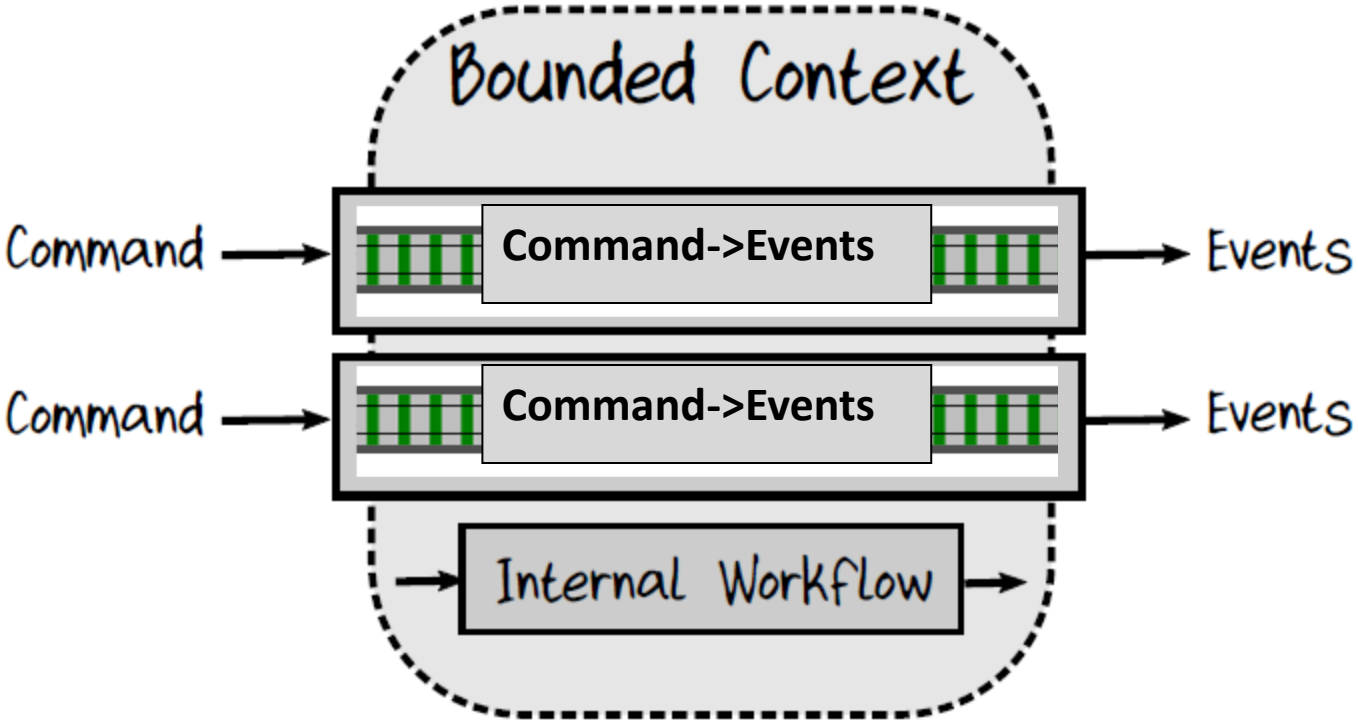


Workflows within bounded contexts

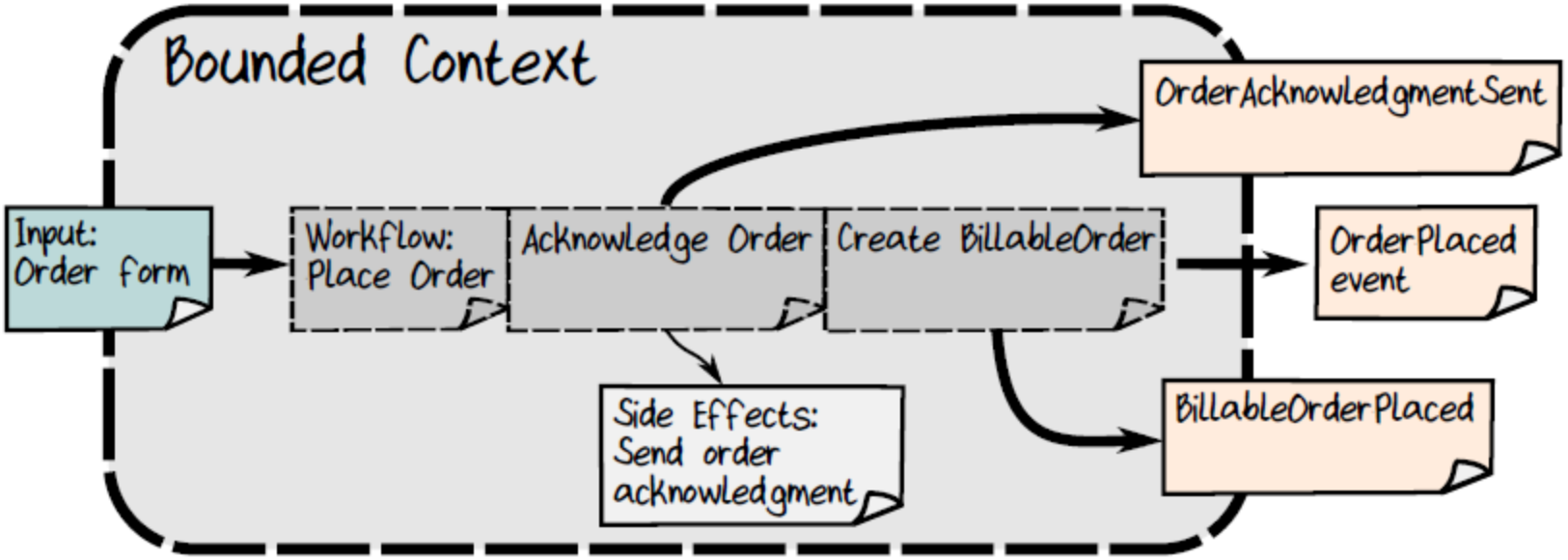
Workflow inputs and outputs



Workflows are functions!

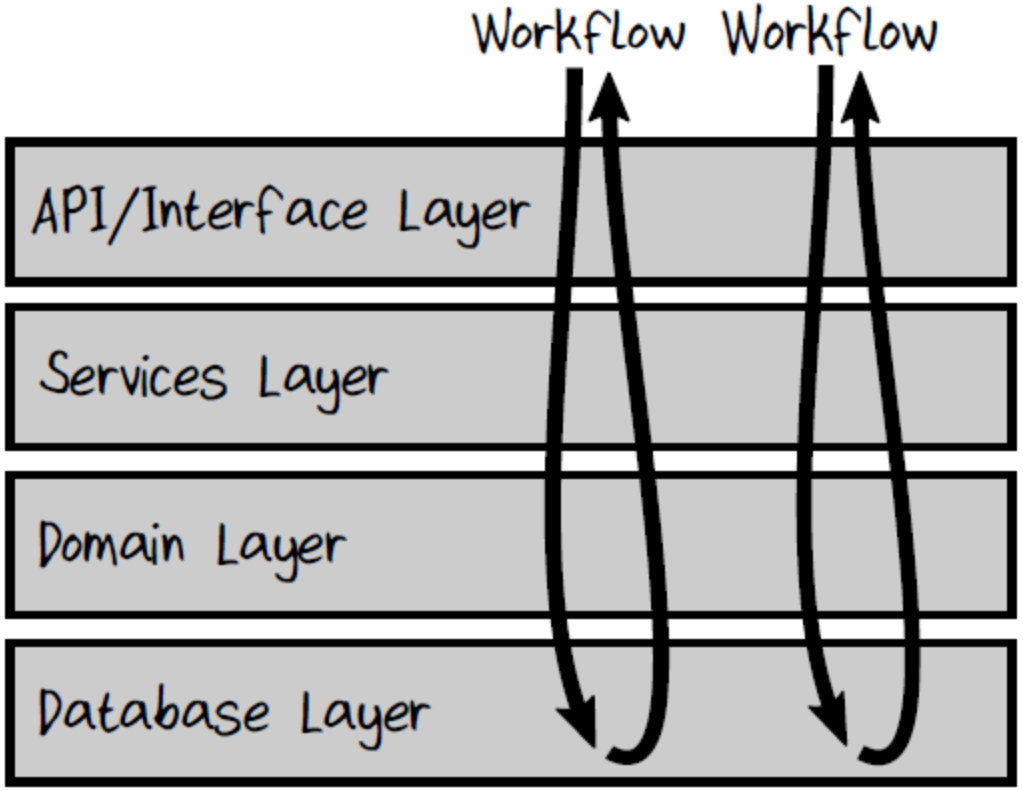


Workflow example



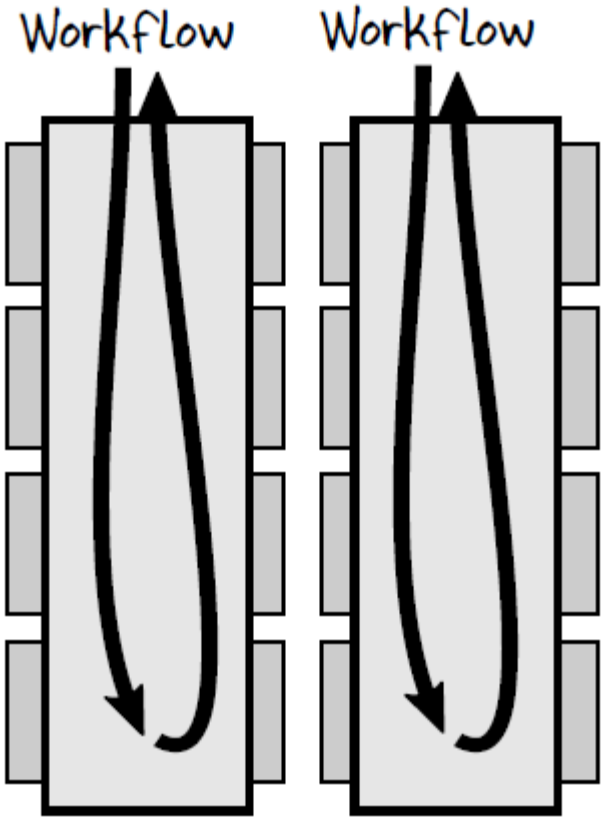
Implementing a workflow functionally

Traditional layered model



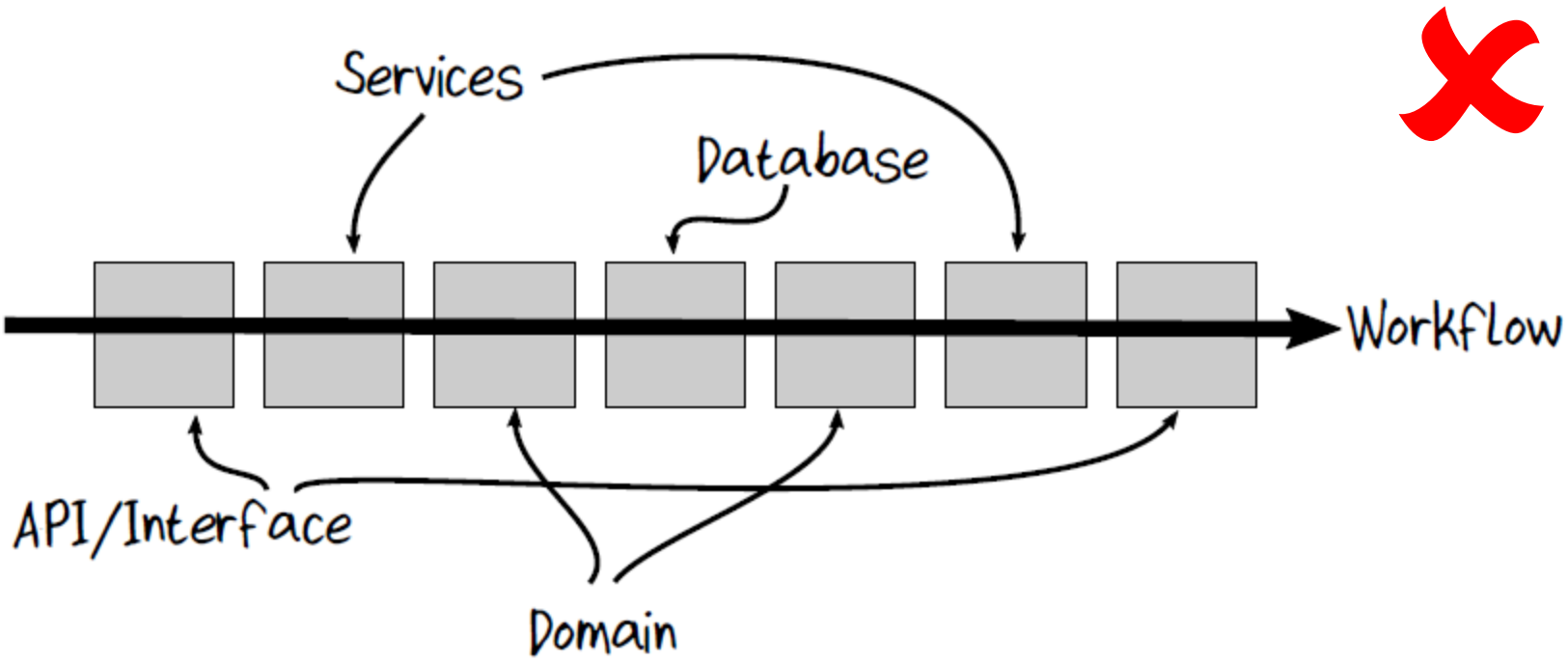
A change to the way that a workflow works means that you need to touch every layer.

Vertical slices



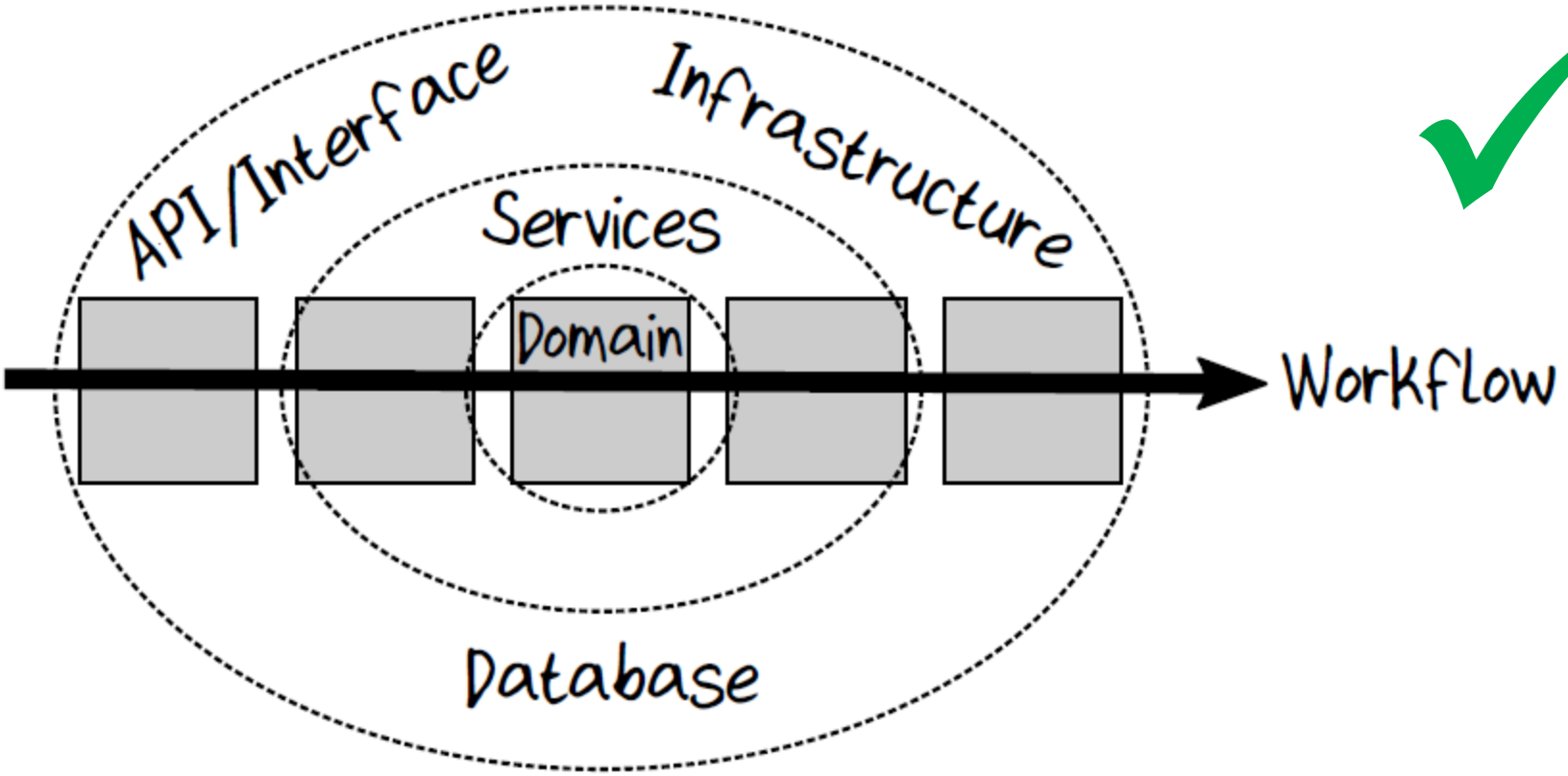
Each workflow contains all the code it needs to get its job done. When the requirements change for a workflow, only the code in that particular vertical slice needs to change.

Vertical slices stretched out



Confusing!

The "onion" architecture



Core domain is pure, and all I/O is at the edges

End