

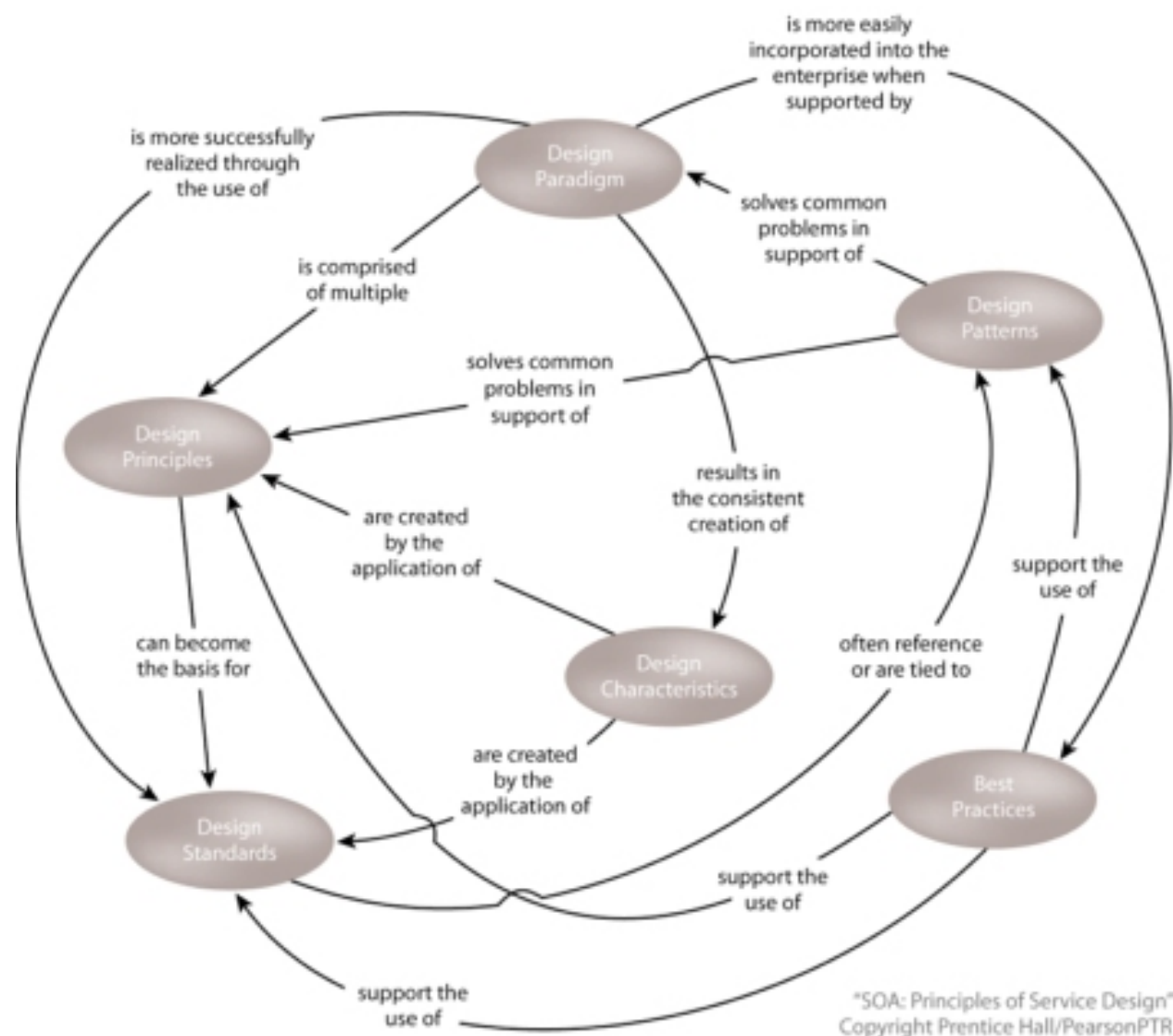
# 1.3 Introducción a servicios y microservicios.

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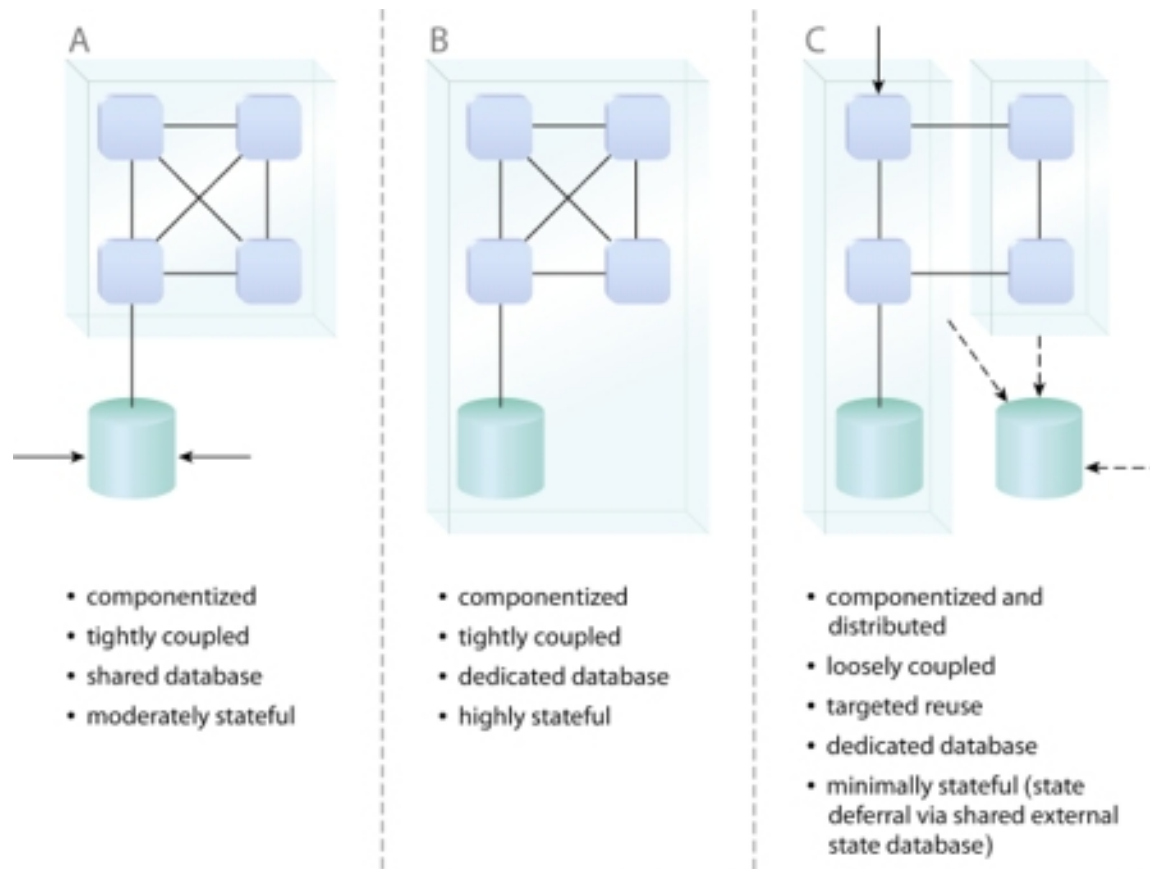
# Overview

- Before we can begin exploring the details of service-oriented computing, we first need to establish some basic design terminology. The books in this series use a common vocabulary comprised of the following design-related terms:
- [Design Characteristic](#)
- [Design Principle](#)
- [Design Paradigm](#)
- [Design Pattern](#)
- [Design Standard](#)
- [Best Practice](#)



# Design Characteristic

- A characteristic of something is simply an attribute or quality.
- An automated business solution will have numerous unique characteristics that were established during its initial design.
- Hence, the type of design characteristic we are interested in is a specific attribute or quality of a body of solution logic that we document in a design specification and plan to realize in development.

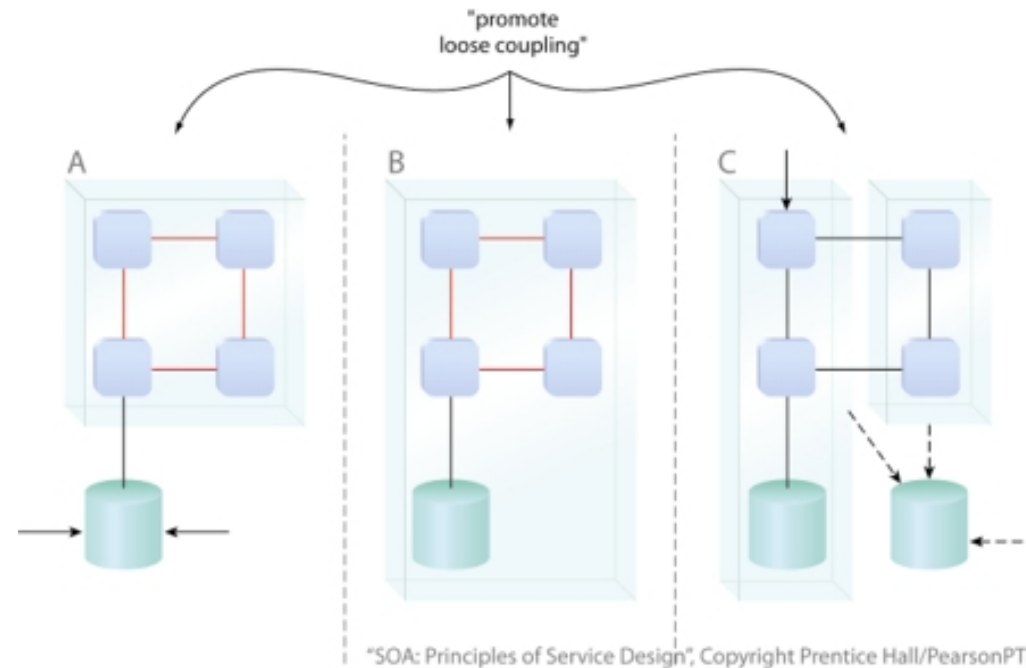


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*Three distinct application designs (A, B, C) are established, each with its own distinct list of design characteristics.*

# Design Principle

- A principle is a generalized, accepted industry practice.
- In other words, it's something others are doing or promoting in association with a common objective.
- You can compare a principle with a best practice, in that both propose a means of accomplishing something based on past experience or industry-wide acceptance.
- When it comes to building solutions, a design principle represents a highly recommended guideline for shaping solution logic in a certain way and with certain goals in mind.

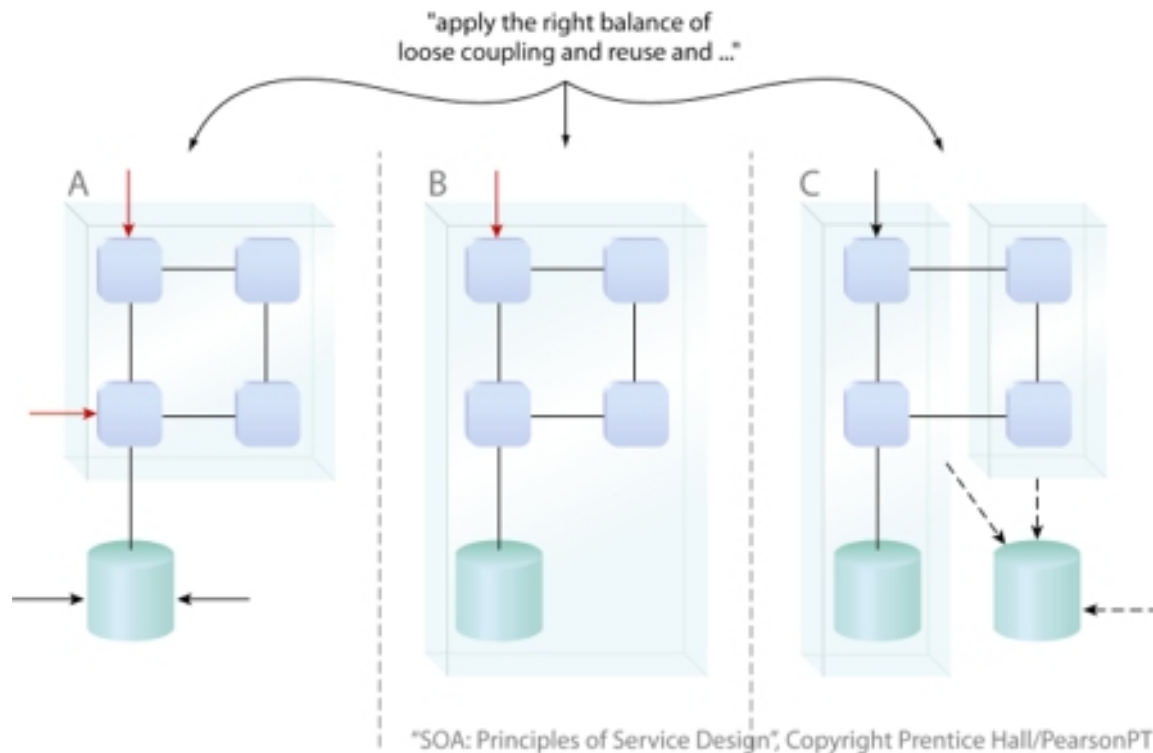


*The repeated application of design principles increases the amount of common design characteristics. In this case, the coupling between solution logic units A and B has been loosened (as indicated by a reduction of connection points).*

# Design Paradigm

- There are many meanings associated with the term “paradigm.”
- It can be an approach to something, a school of thought regarding something, or a combined set of rules that are applied within a predefined boundary.
- A design paradigm within the context of business automation is generally considered a governing approach to designing solution logic.
- It normally consists of a set of complementary rules or principles that collectively define the overarching approach represented by the paradigm.





*Because a design paradigm represents a collection of design principles, it further increases the degree of commonality across different bodies of solution logic. In the example, the amount of reuse in A and B has increased.*

# Design Pattern

Service designers will be regularly faced with obstacles and challenges when attempting to apply a design paradigm in the real world.

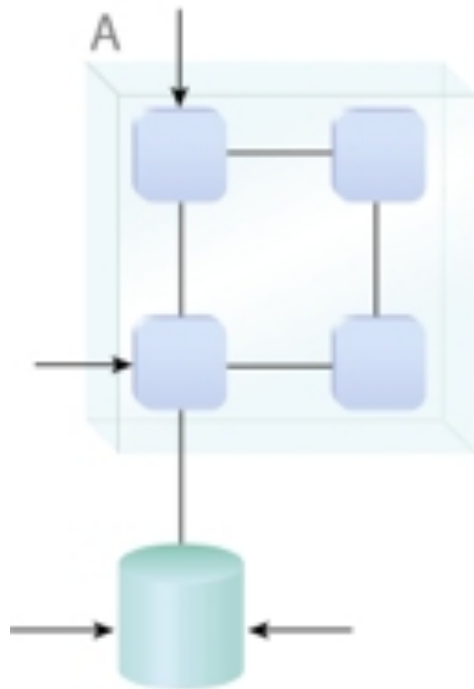
This is because the realization of desired design characteristics is frequently complicated by various factors, including:

- Constraints imposed by the technology being used to build and/or host the units of solution logic.
- Constraints imposed by technology or systems that reside alongside the deployed units of solution logic.
- Constraints imposed by the requirements and priorities of the project delivering the units of solution logic.

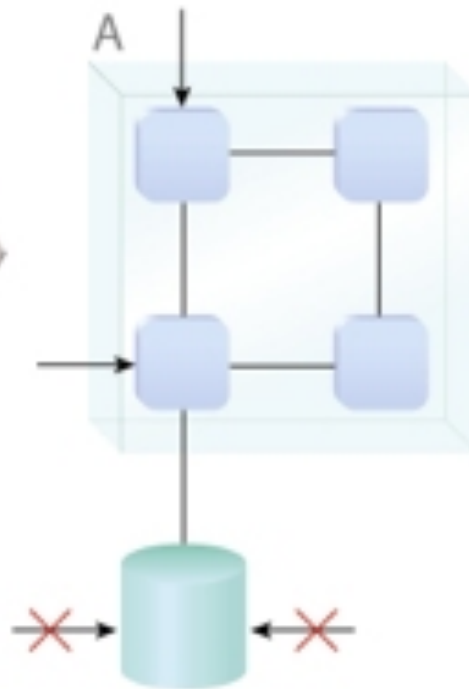
# Design Pattern

- A design pattern describes a common problem and provides a corresponding solution.
- It essentially documents the solution in a generic template format so that it can be repeatedly applied.
- Knowledge of design patterns not only arms you with an understanding of the potential problems designs may be subjected to, it provides answers as to how these problems are best dealt with.

"Problem:  
Reusable solution logic  
that relies on a shared  
database executes with  
inconsistent response times."



"Solution:  
If solution logic is being  
reused, it should have a  
dedicated database to  
maximize autonomy."



*Patterns provide  
recommended solutions  
for common design  
problems.*

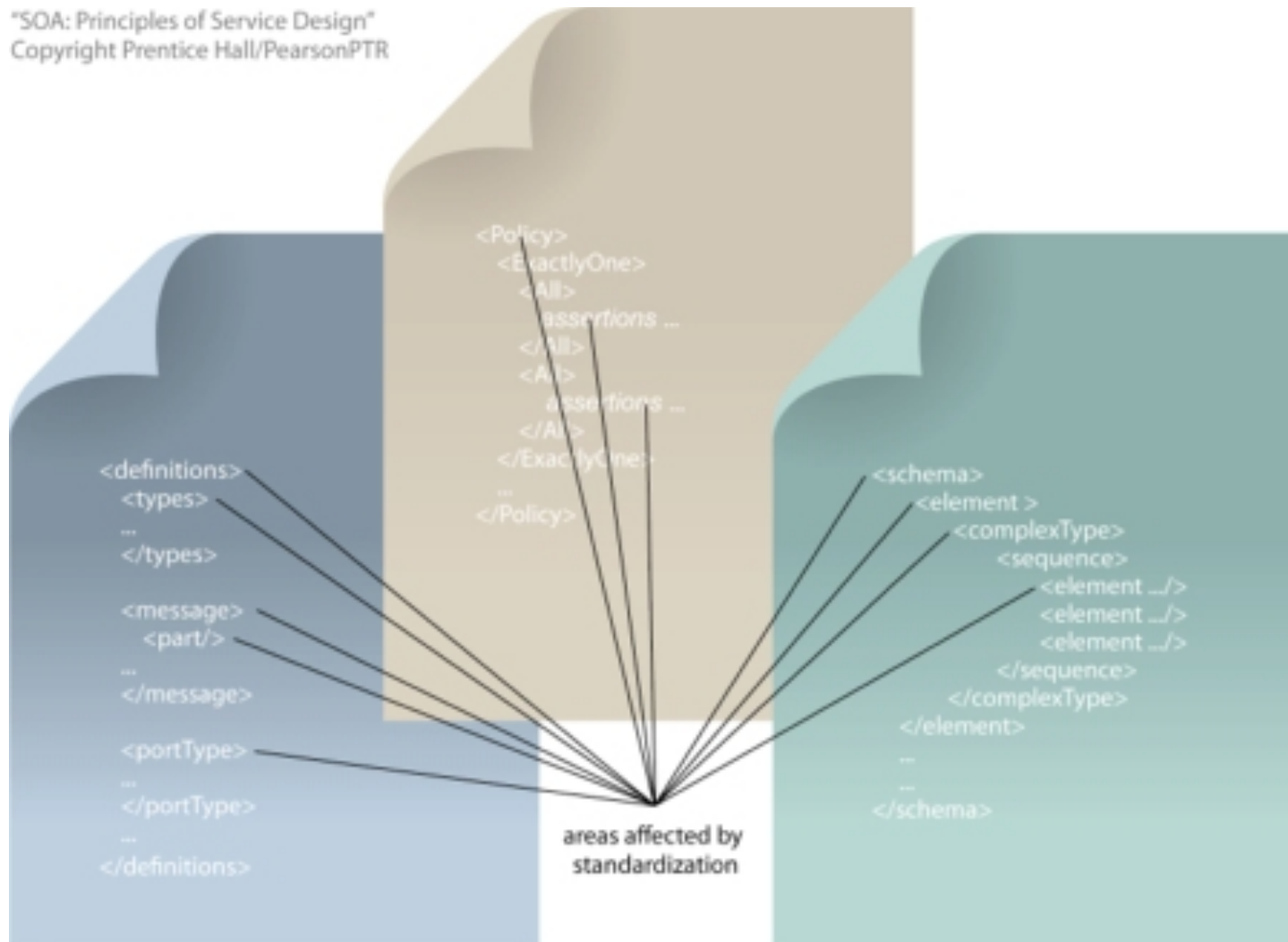
*In this simplified  
example, a pattern  
suggests we reduce  
external access to a  
database to increase  
application autonomy.*

# Design Standard

- Design standards are (usually mandatory) design conventions customized to consistently pre-determine solution design characteristics in support of organizational goals and optimized for specific enterprise environments.
- It is through the use of internal design standards that organizations can consistently deliver solutions tailored to their environments, resources, goals, and priorities.

## Design Standard (2)

- As with design principles, the application of design standards results in the creation of specific design characteristics.
- As with design patterns, design standards foster and refine these characteristics to avoid potential problems and strengthen the overall solution design.
- In fact, it is recommended for design standards to be based upon or even derived from industry design principles and pattern

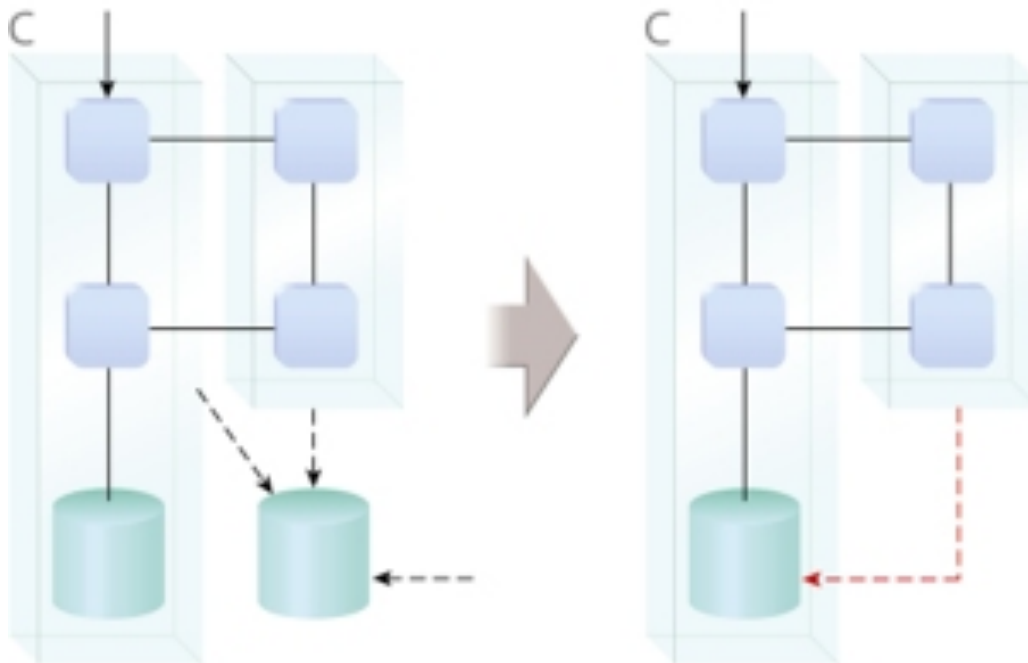


# Best Practice

- A best practice is generally considered a technique or approach to solving or preventing certain problems.
- It is usually a practice that has industry recognition and has emerged from past industry experience.
- How then is a best practice differentiated from a design principle? A design principle is limited to design only.
- A best practice can relate to anything from project delivery to organizational issues, governance, or process.



"Due to specific security and privacy requirements, state data cannot be shared in a separate database."



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- *Best practices provide guidance in the form of general "lessons learned."*
- *In the example, it is suggested that the ongoing maintenance of reusable solution logic units from all applications fall under a single custodian.*