COMPSCI 497S

Scalable Web Systems

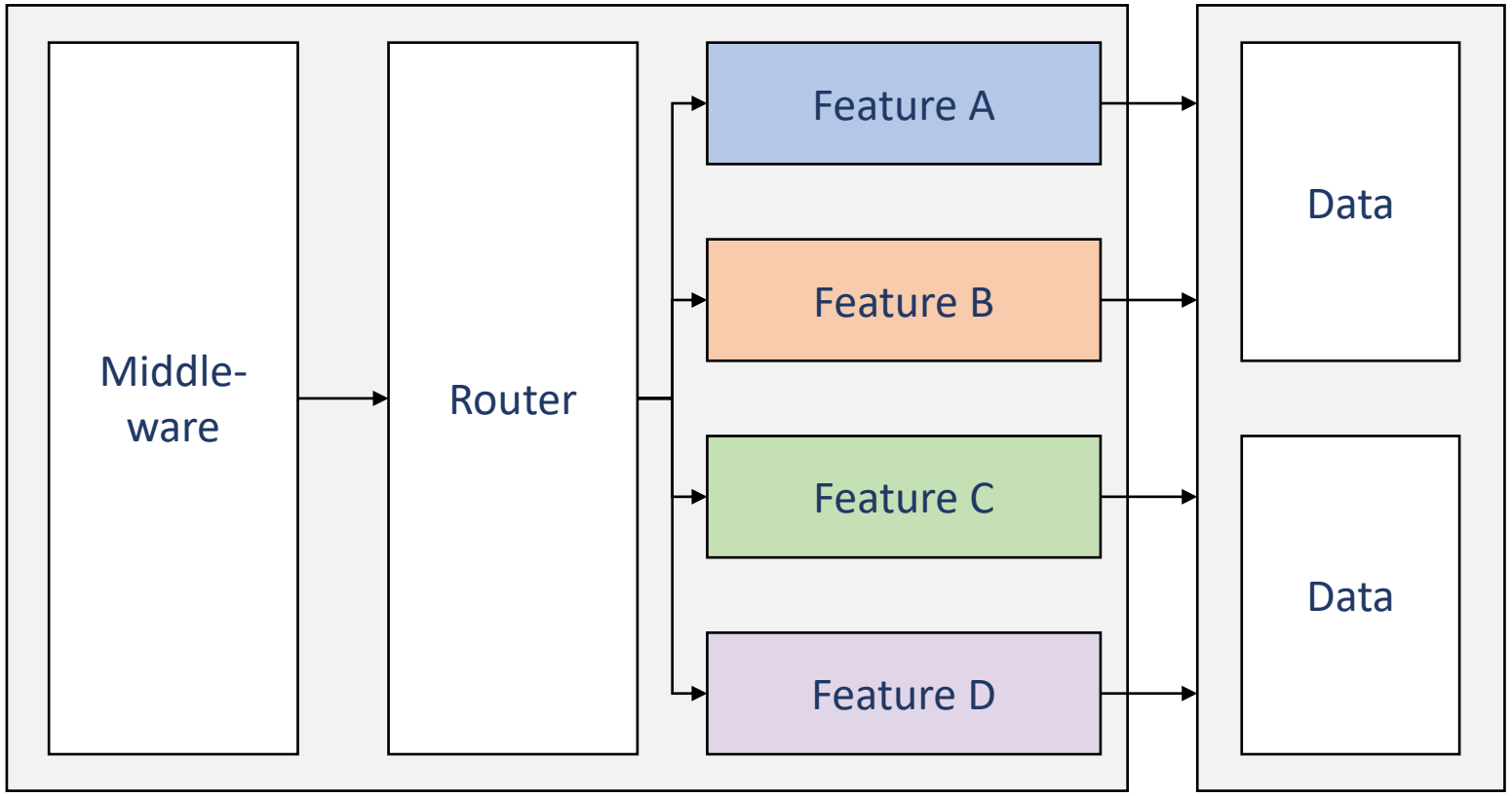
02 Monolithic Architectures

Today

- Monolithic Architectures

Monolithic Architecture

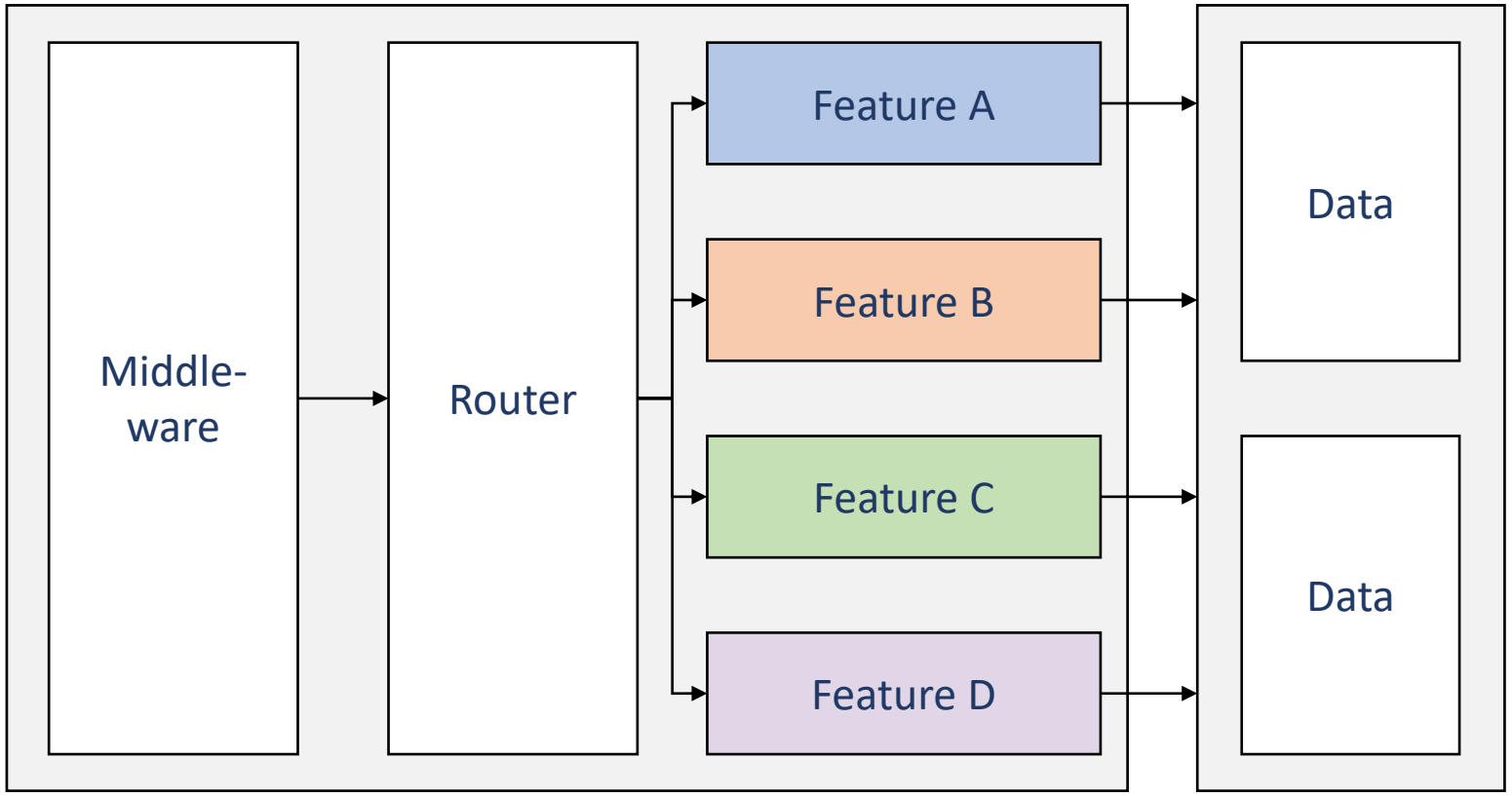
This is probably how you are building your systems right now.



Monolithic Architecture

A request arrives on some port given some route.

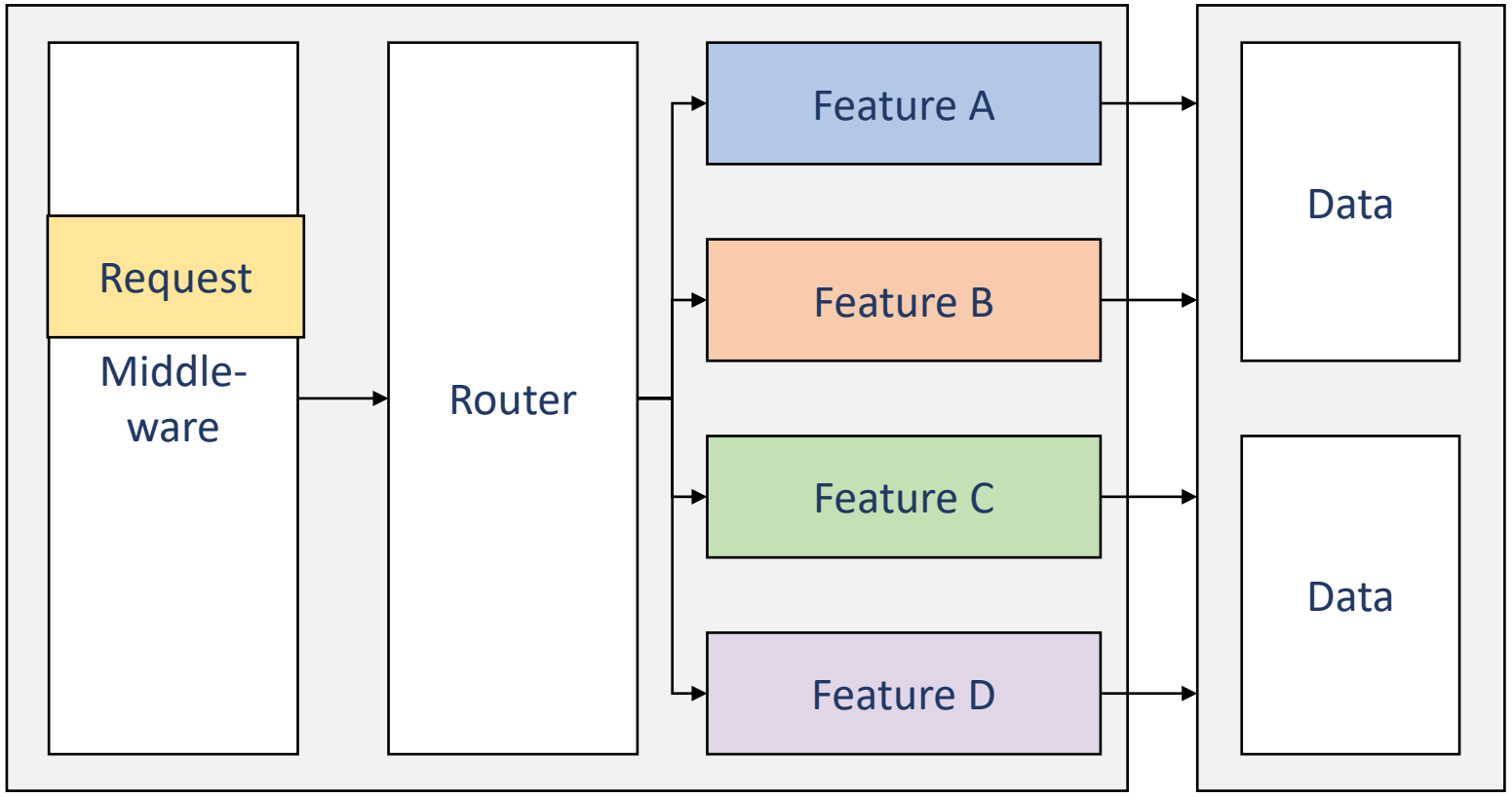
Request



Monolithic Architecture

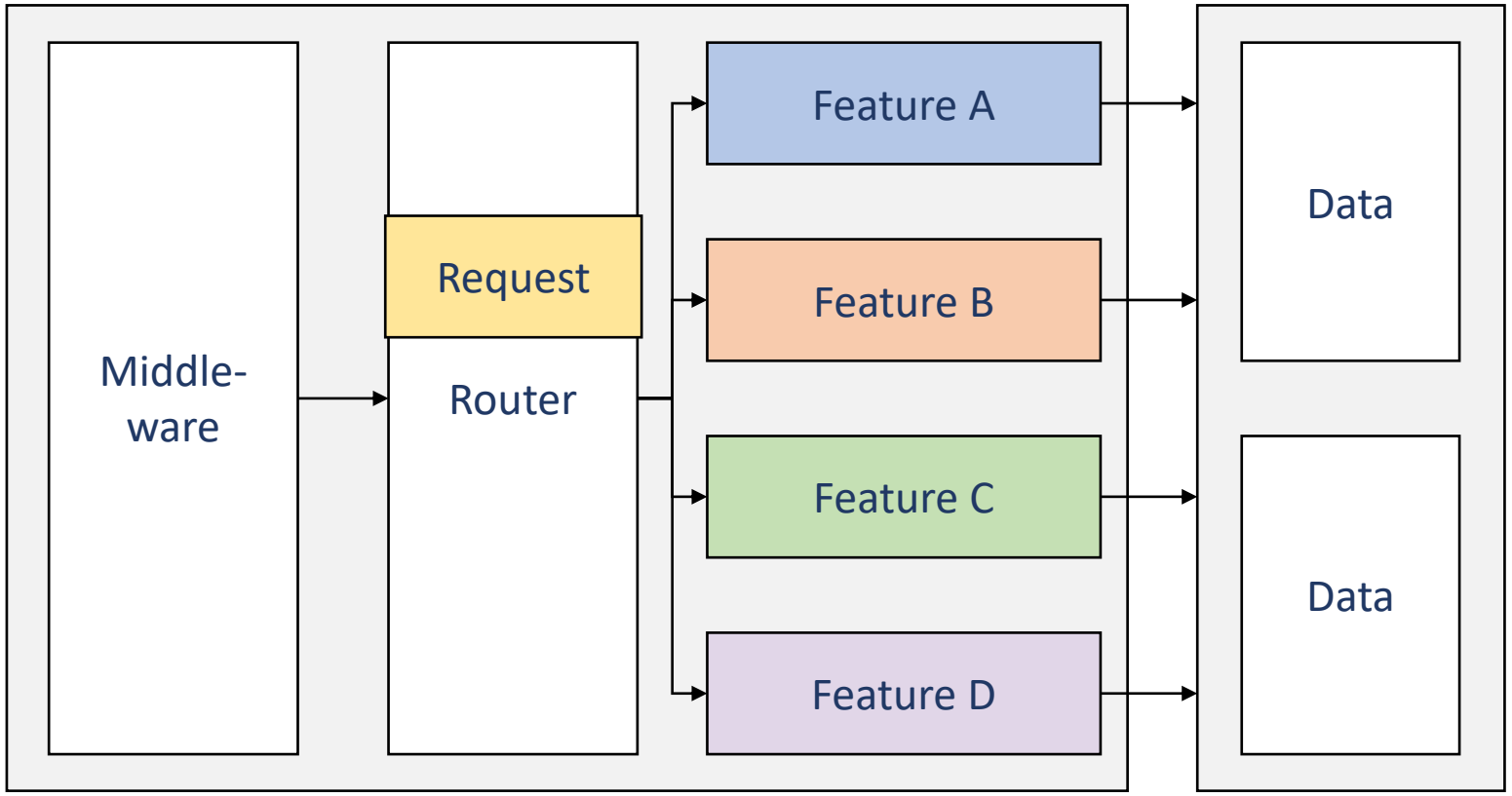
The various middleware processes the request.

Body parsing, sessions, authentication, etc.



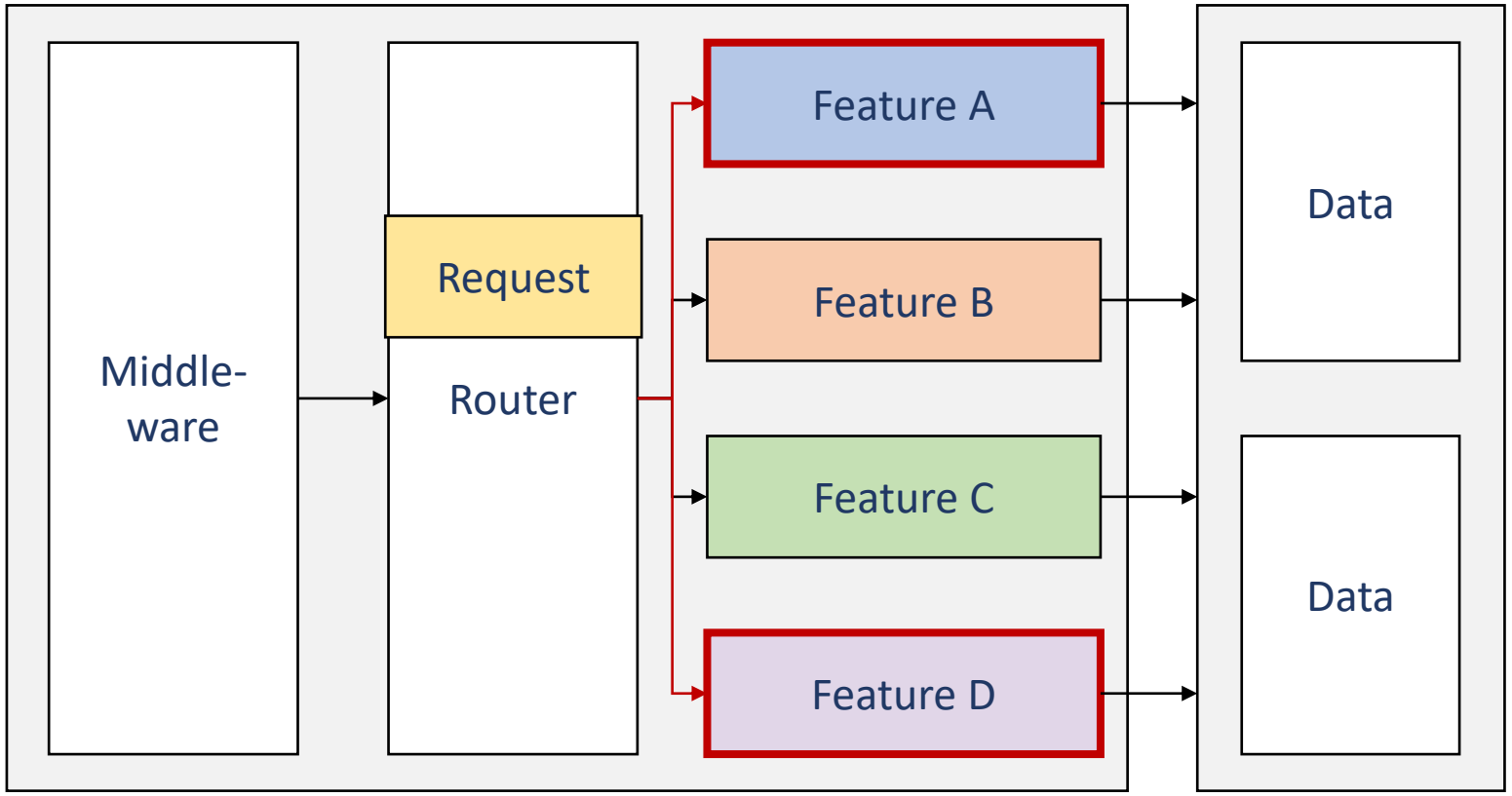
Monolithic Architecture

The router looks at the route to determine what the request and invokes the appropriate controller.



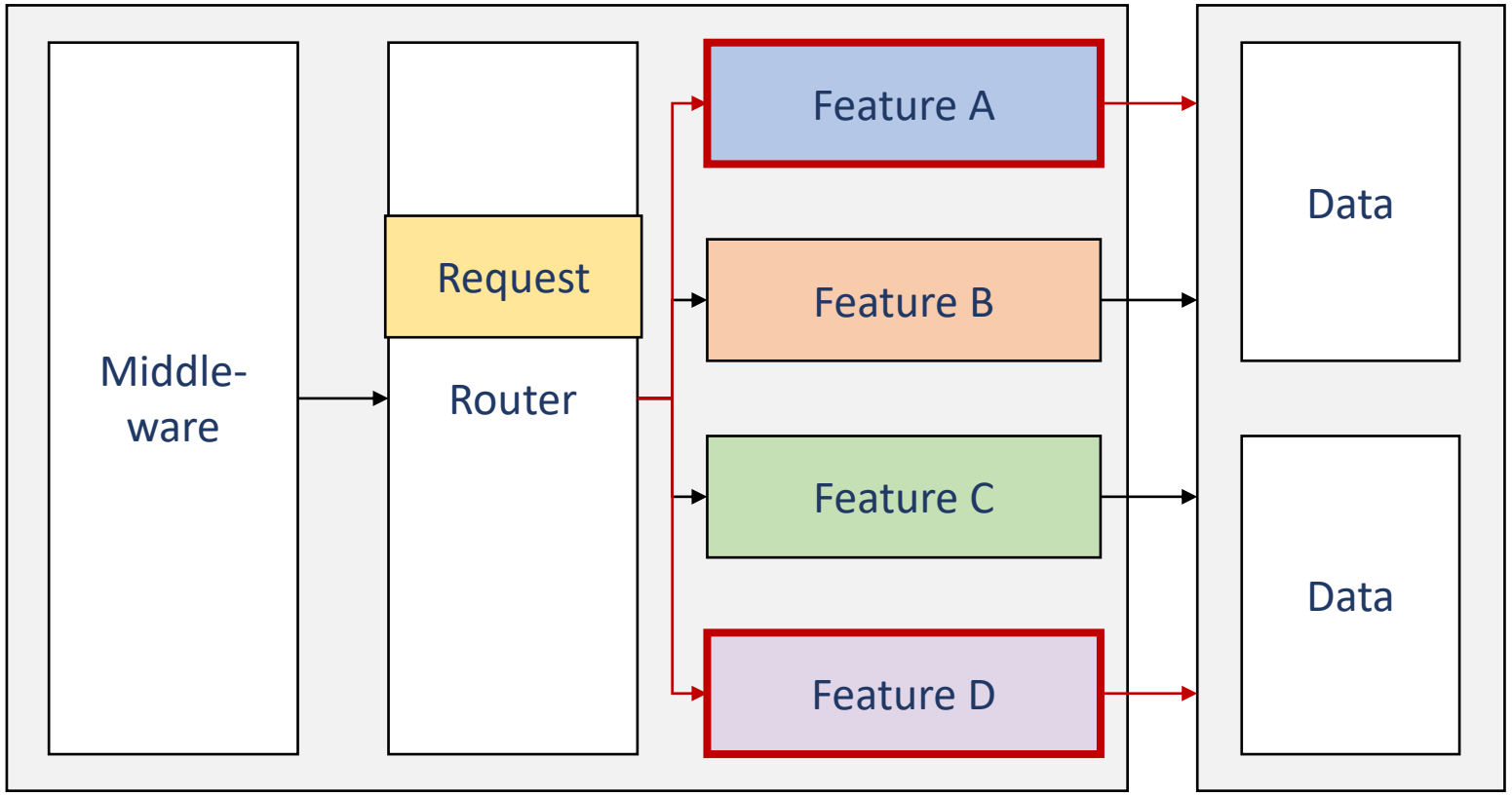
Monolithic Architecture

This, in turn, causes various features to be activated.



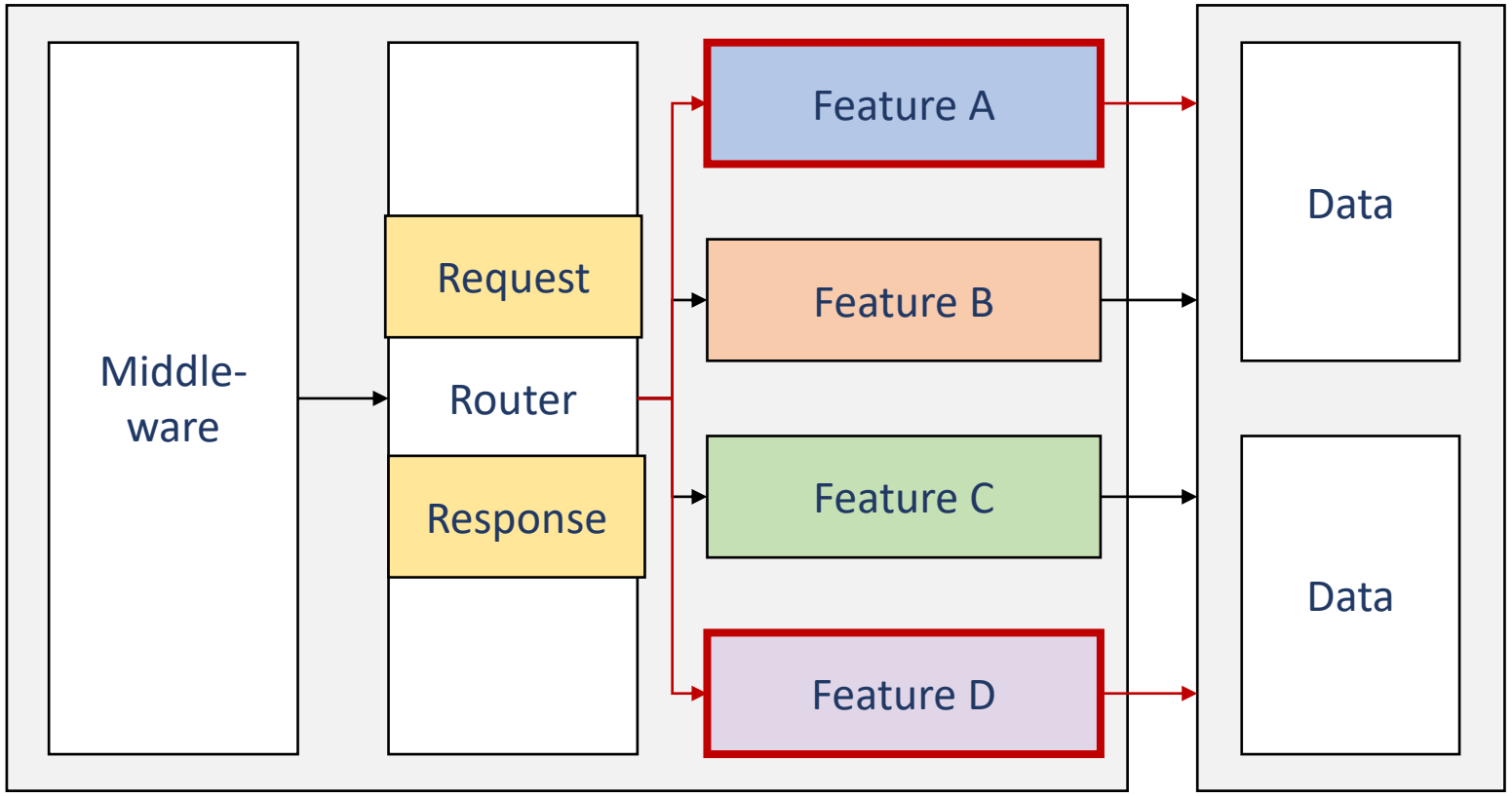
Monolithic Architecture

Data is fetched/stored through various CRUD operations.



Monolithic Architecture

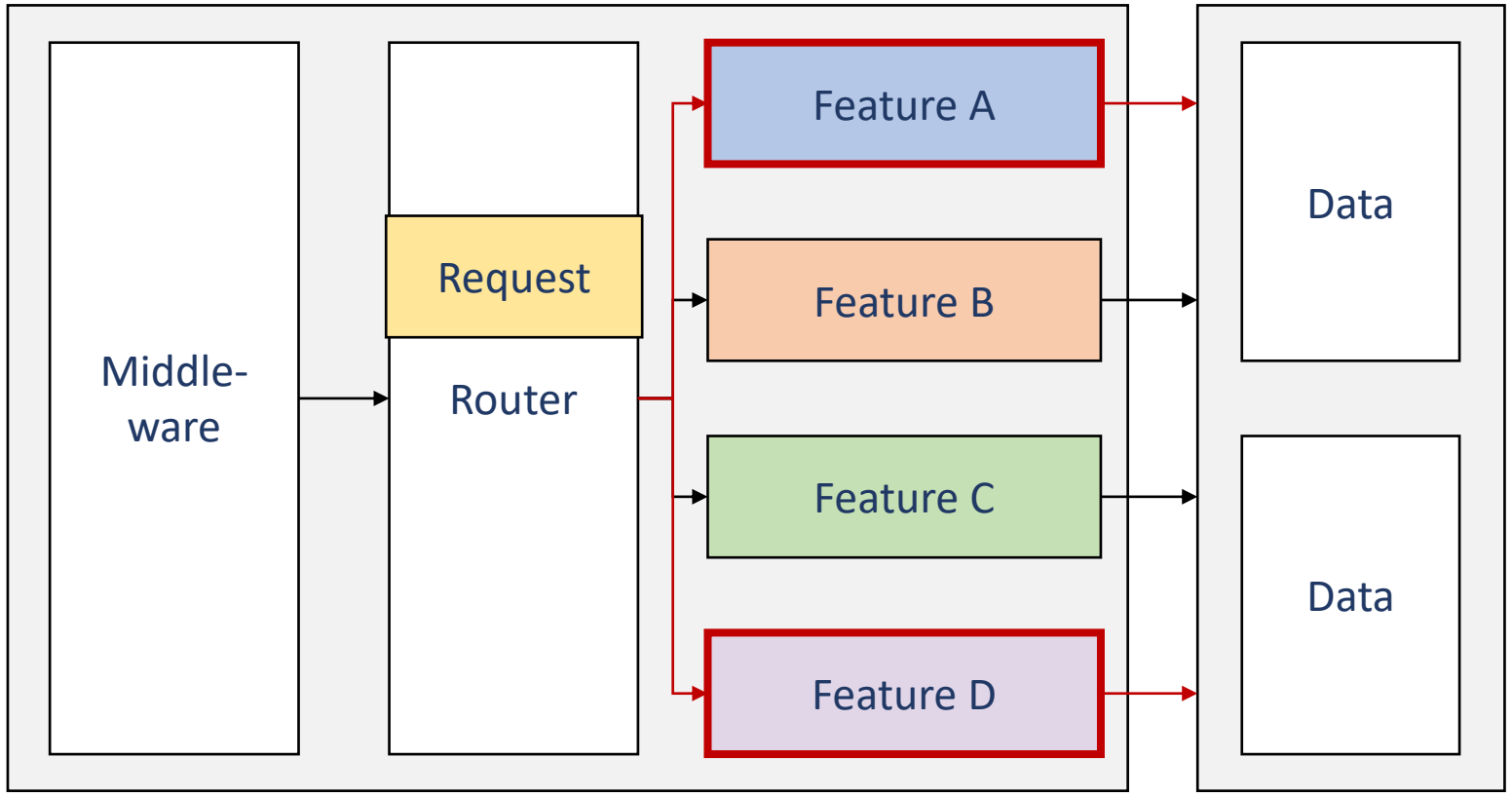
The activated features complete and a response is constructed.



Monolithic Architecture

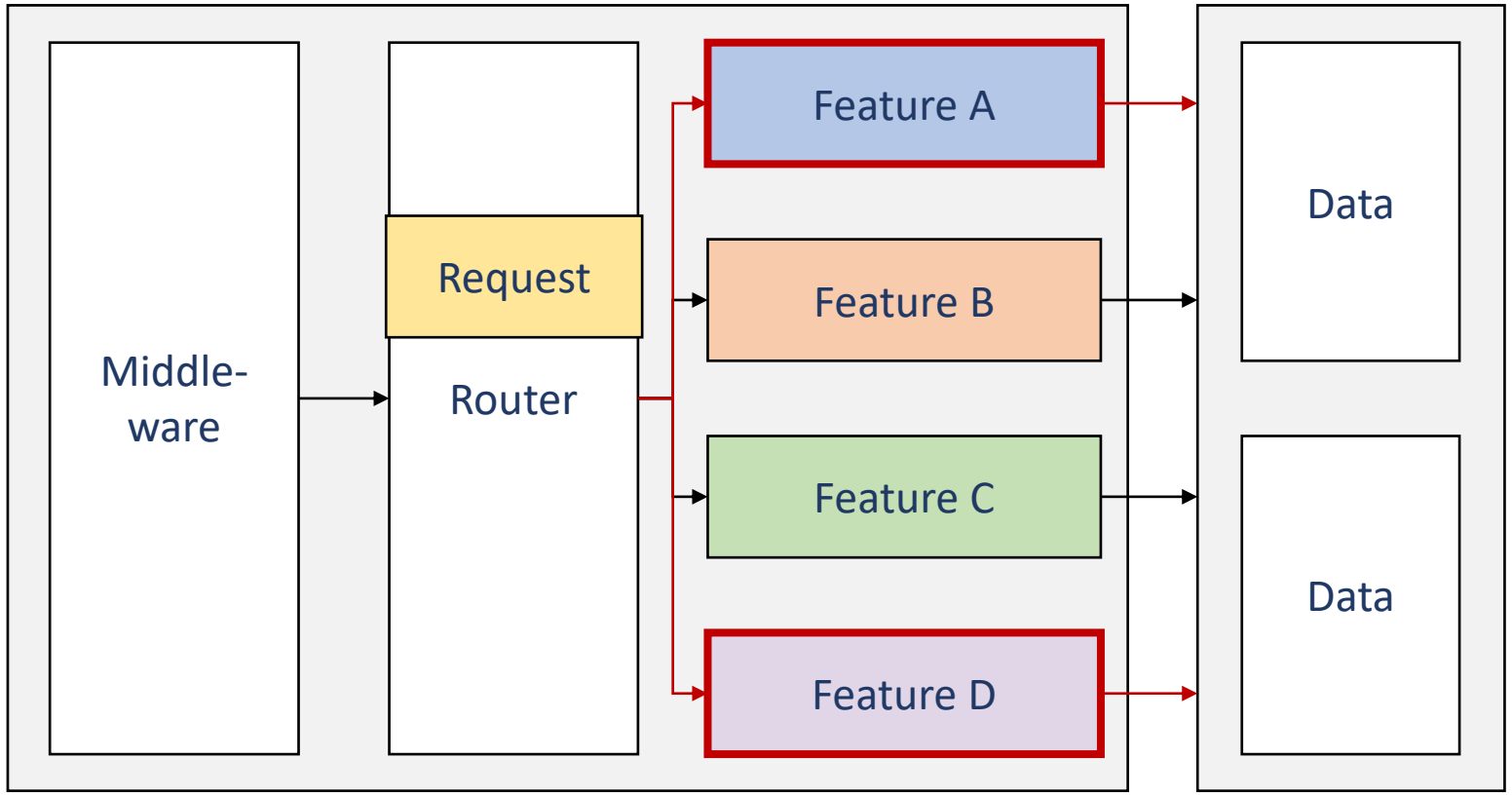
The response is then sent back to the requesting client.

Response



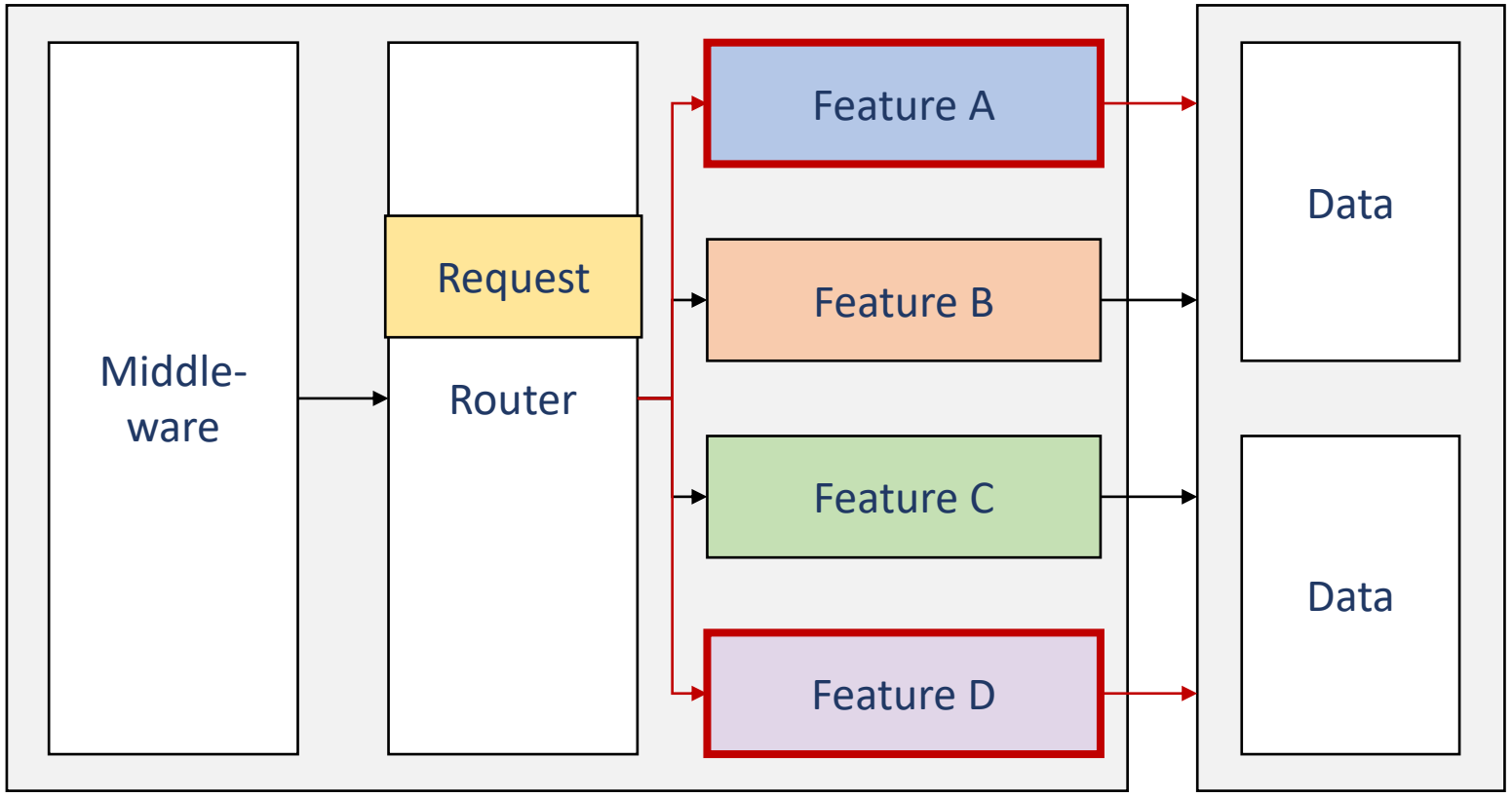
Monolithic Architecture

This is not an unreasonable approach to building a web system.



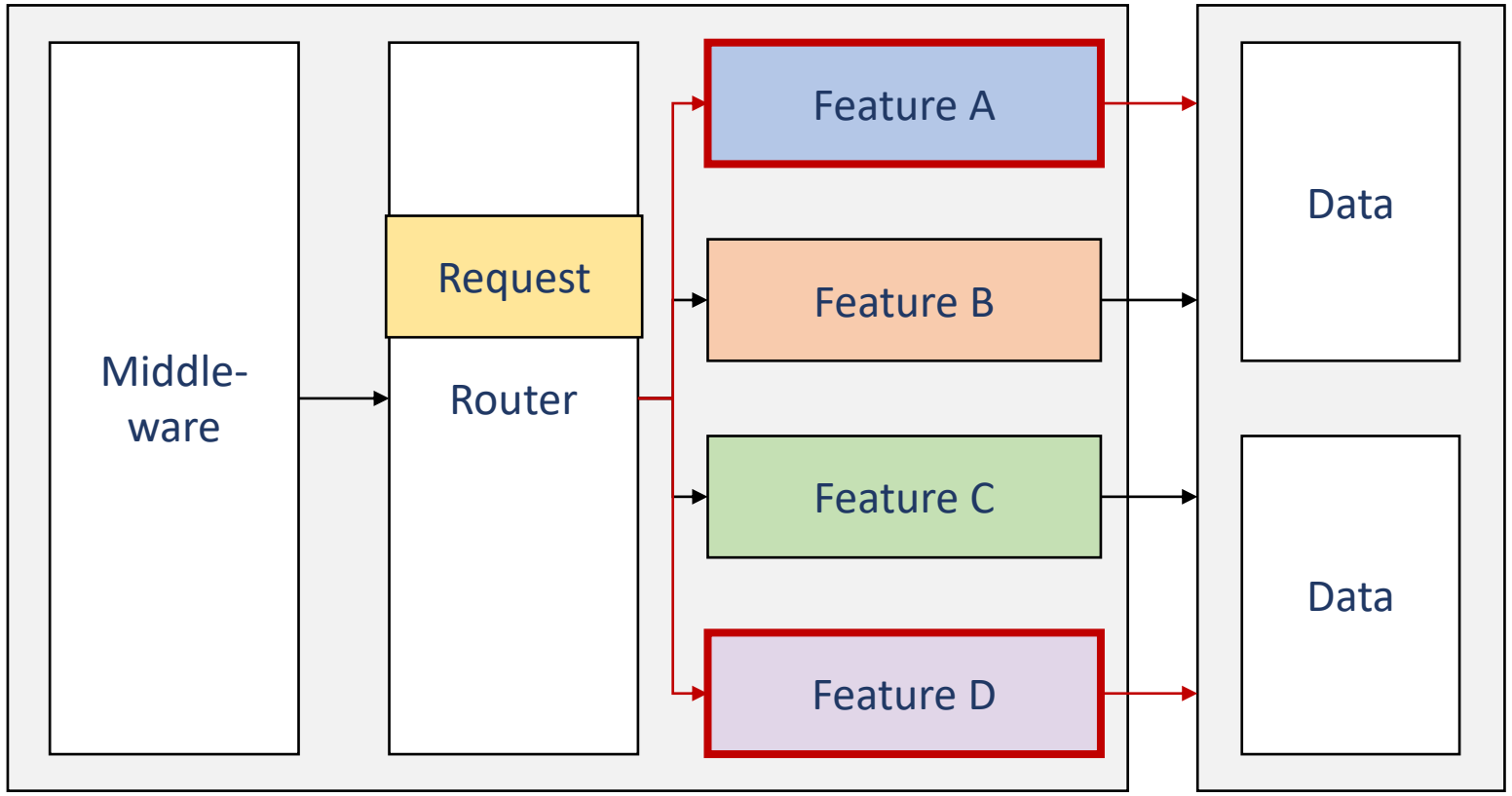
Monolithic Architecture

Do other architectures exist for doing this?



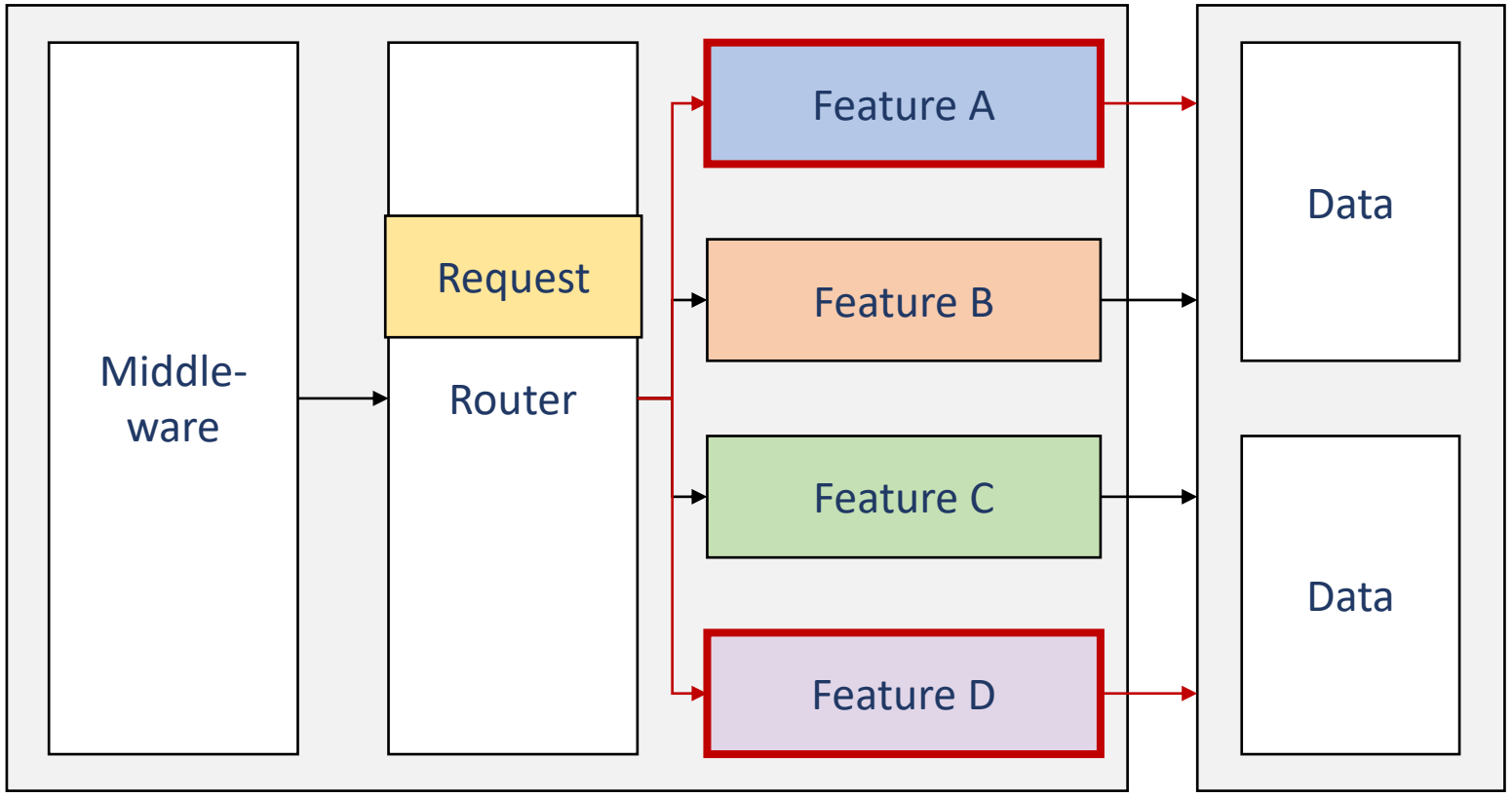
Monolithic Architecture

Are there ways to make this more efficient?



Monolithic Architecture

What if we scale this to a million requests per second?



Code Example: 01-monolith