
Rest here

Goals

Not programming

Architecture and Design

REST

REpresentational **S**tate **T**ransfer

Introduction to REST

Key drivers

Architectural properties

What is REST ?

Richardson Maturity Model

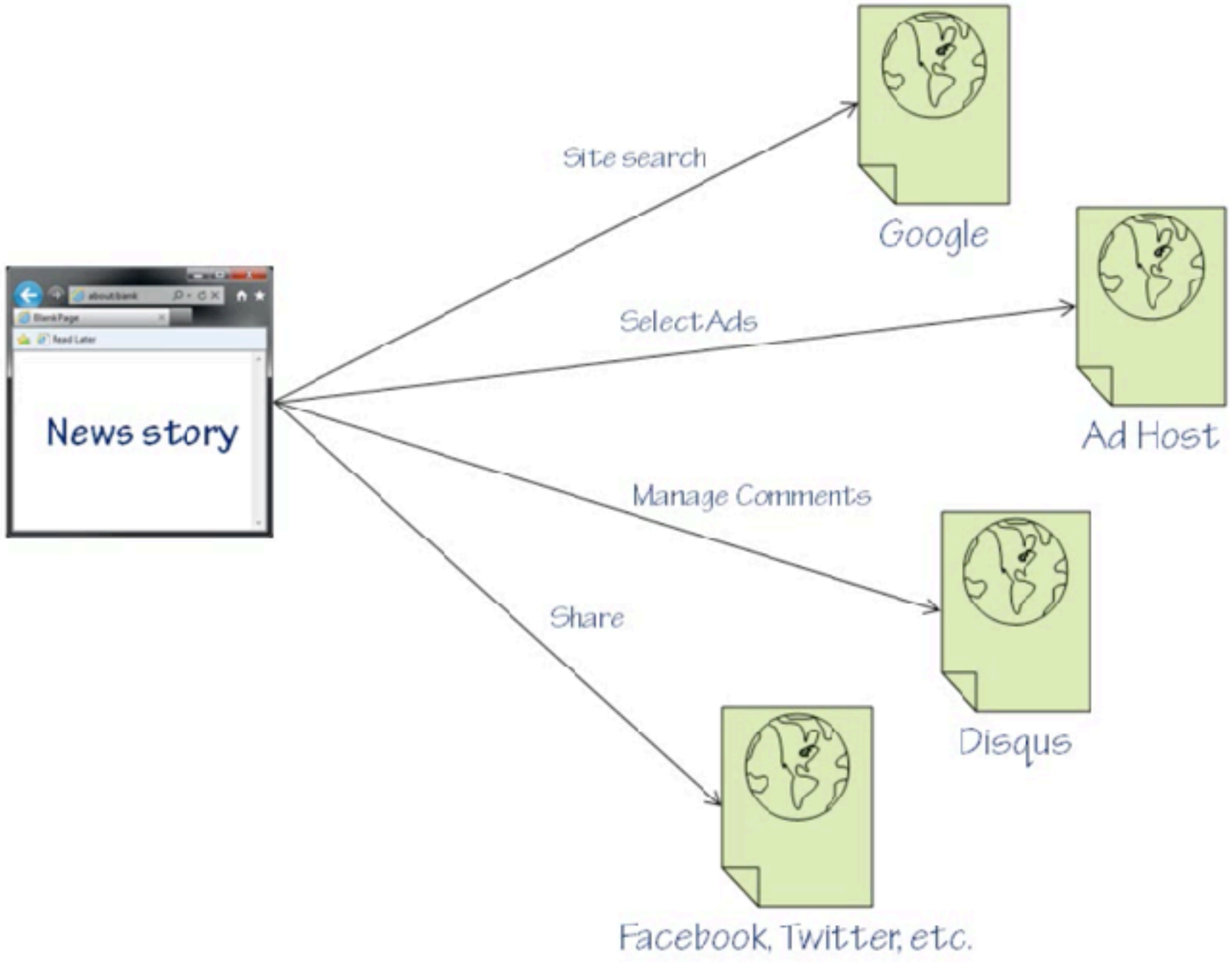
Key drivers of REST

Heterogeneous Interoperability

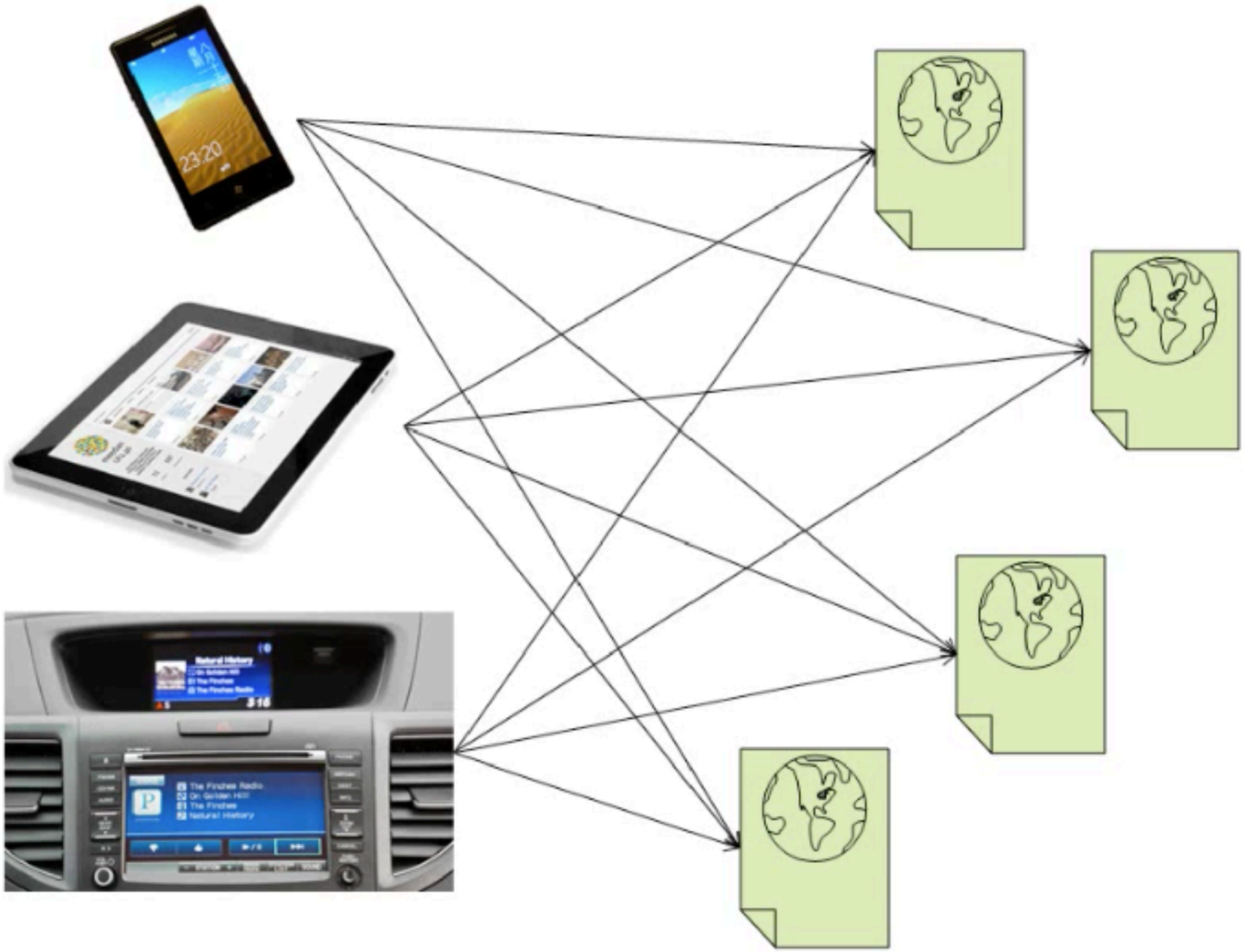
Devices

Cloud

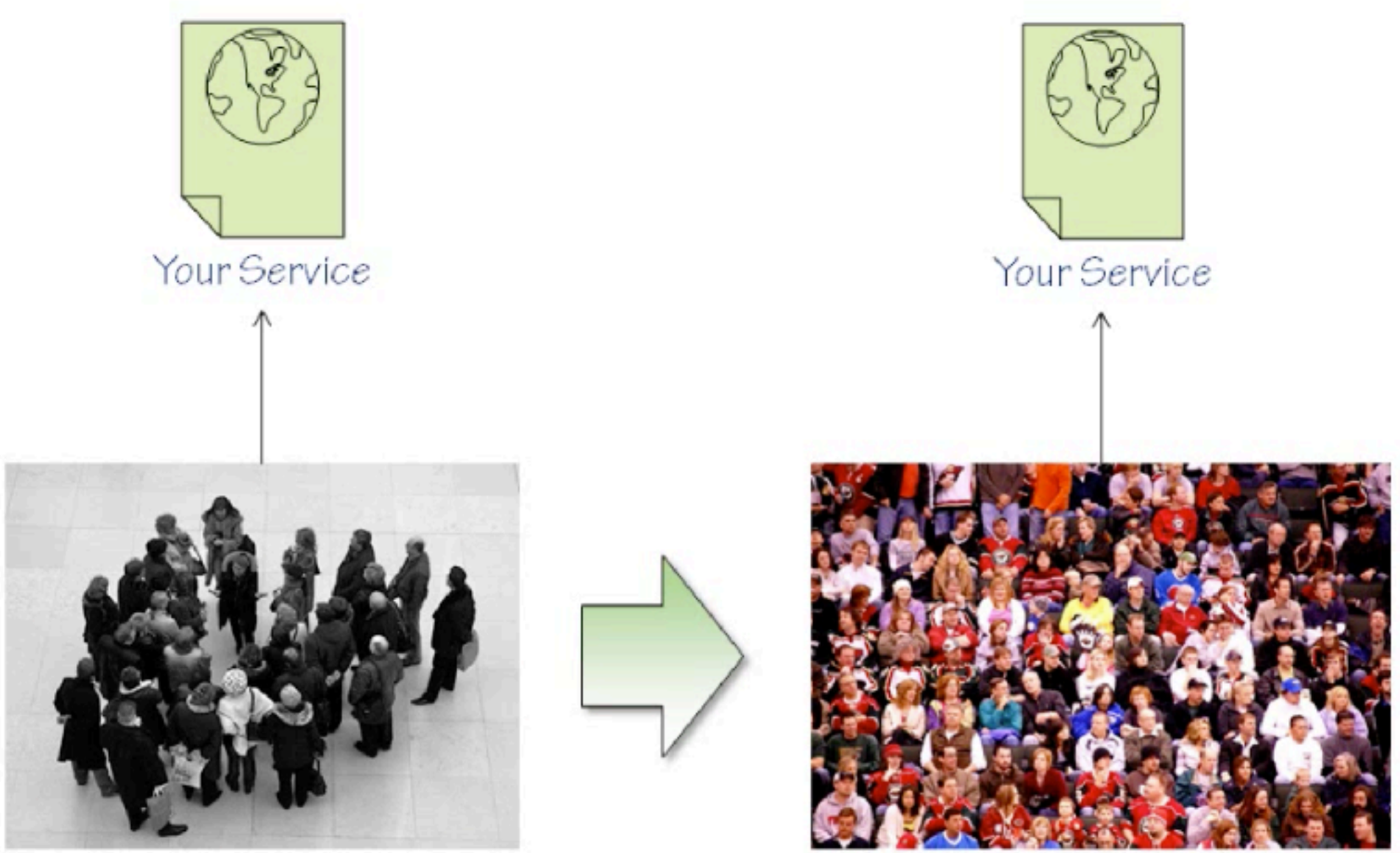
Heterogeneous Interoperability



Devices

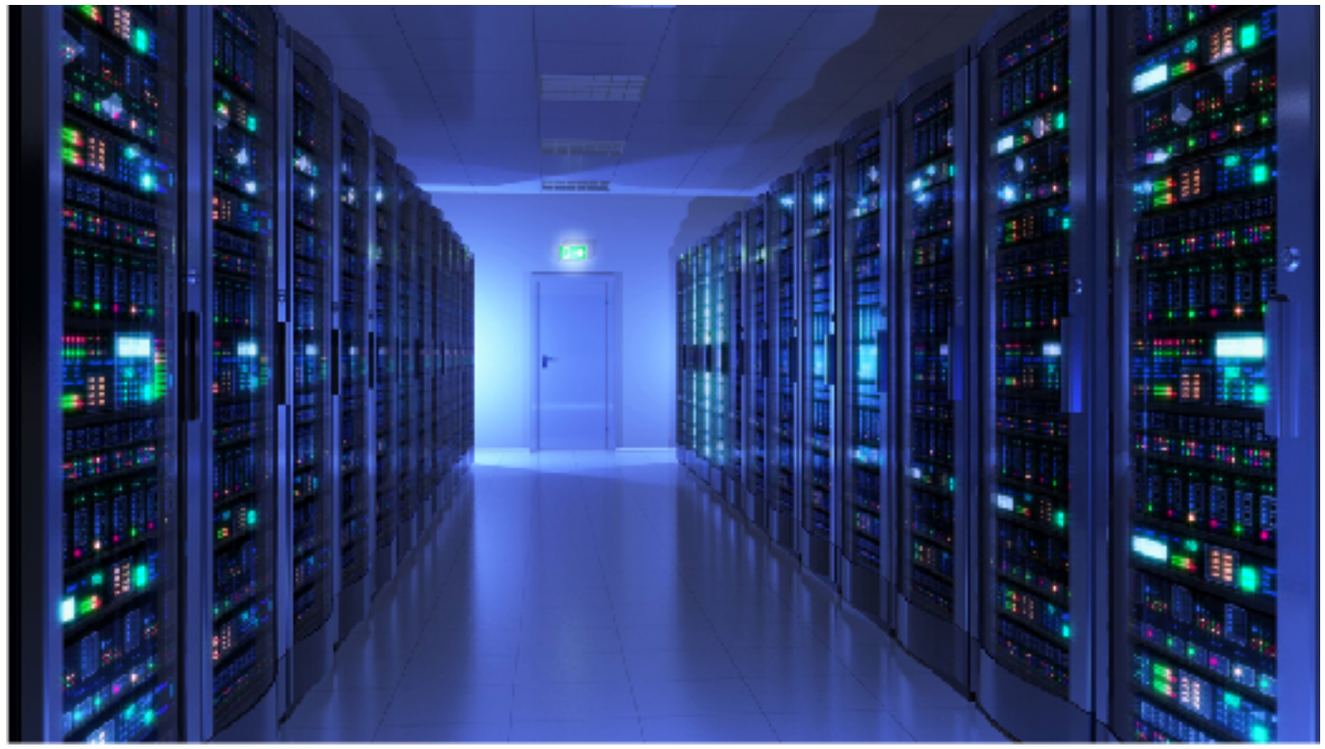


Cloud



“It is critical to build a scalable architecture in order to take advantage of a scalable infrastructure”

Move to Cloud



Properties of REST

Heterogeny

Scalability

Evolvability

Visibility

Reliability

Efficiency

Performance

Manageability

Quiz

Heterogeny

Scalability

Evolvability

Visibility

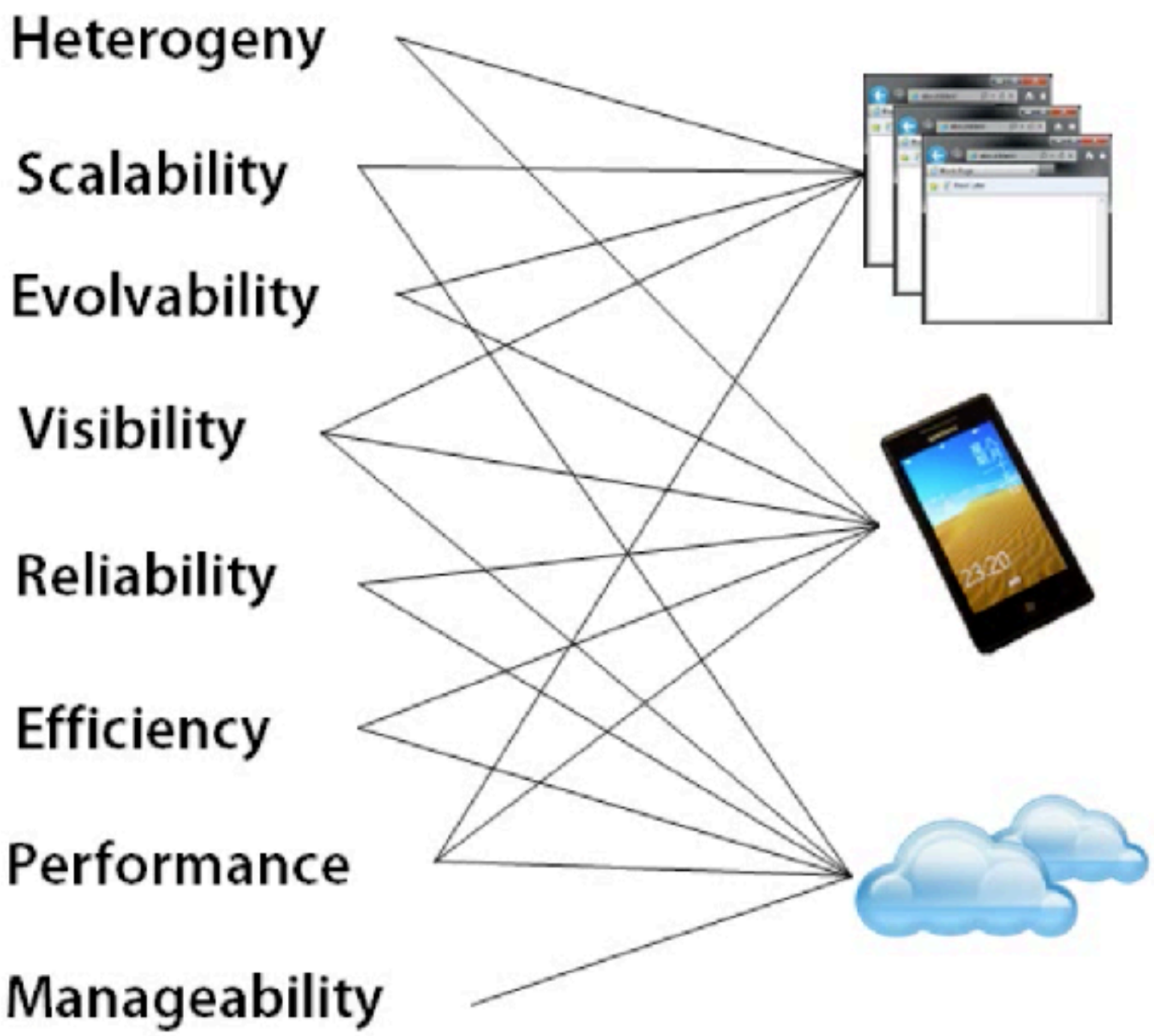
Reliability

Efficiency

Performance

Manageability

Properties of REST



What is REST ?

Architectural style

First introduced in 2000

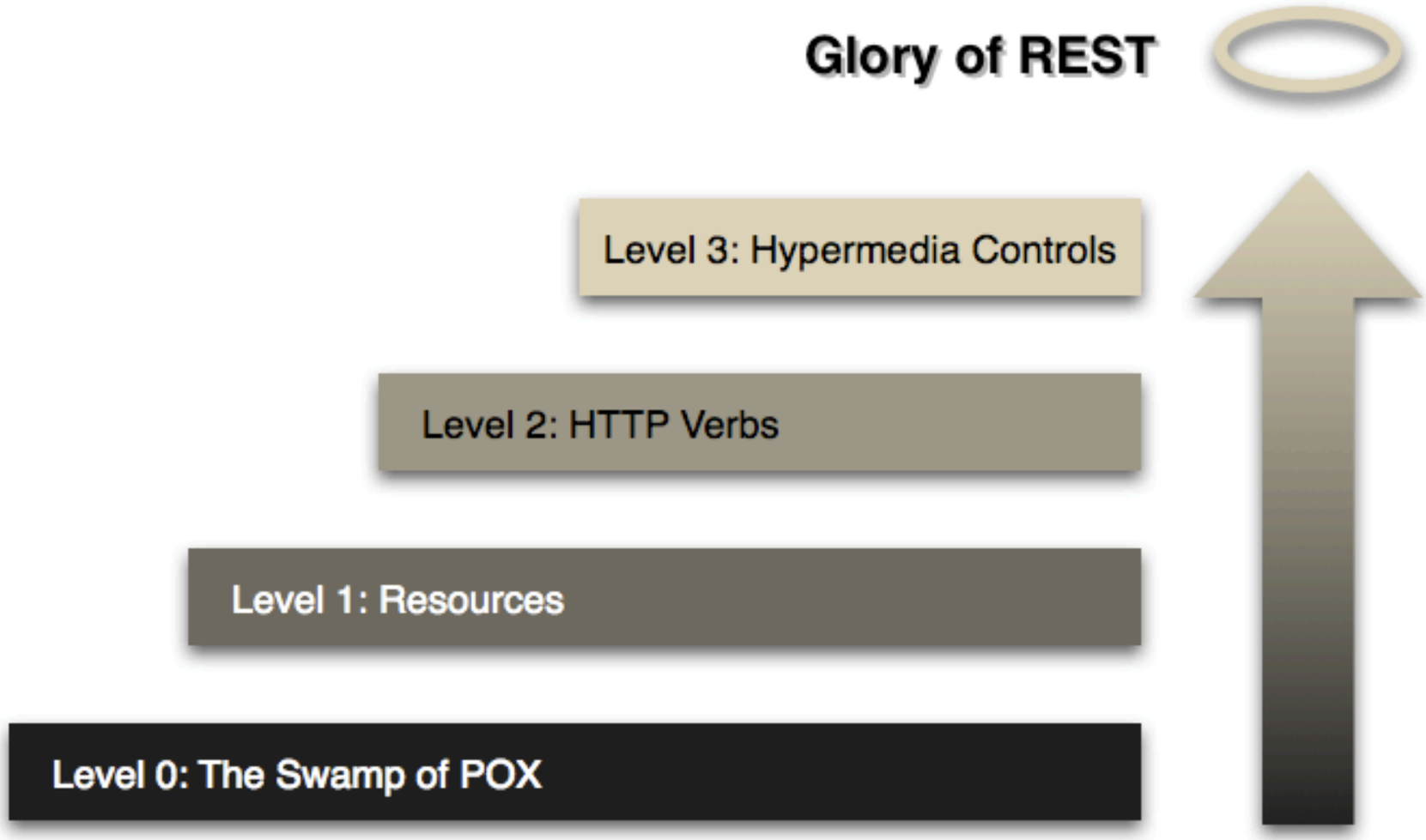
What is not REST ?

Protocol

RPC (Remote Procedure Call)

HTTP

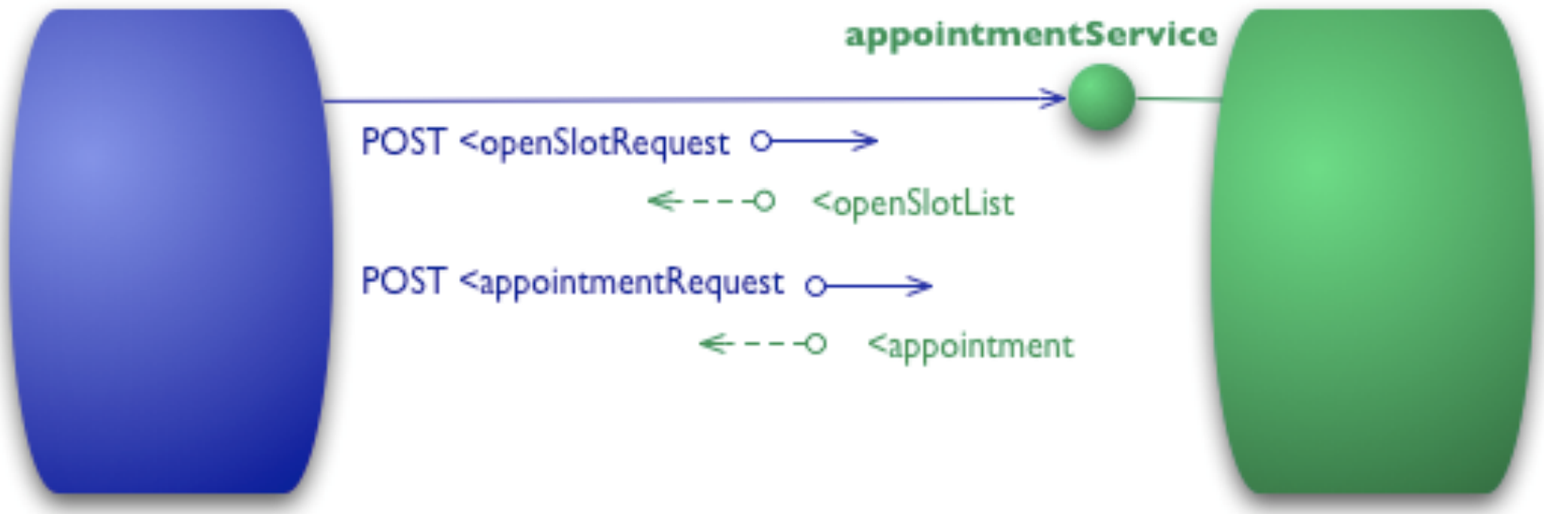
Richardson Maturity Model



https://martinfowler.com/articles/richardsonMaturityModel.html

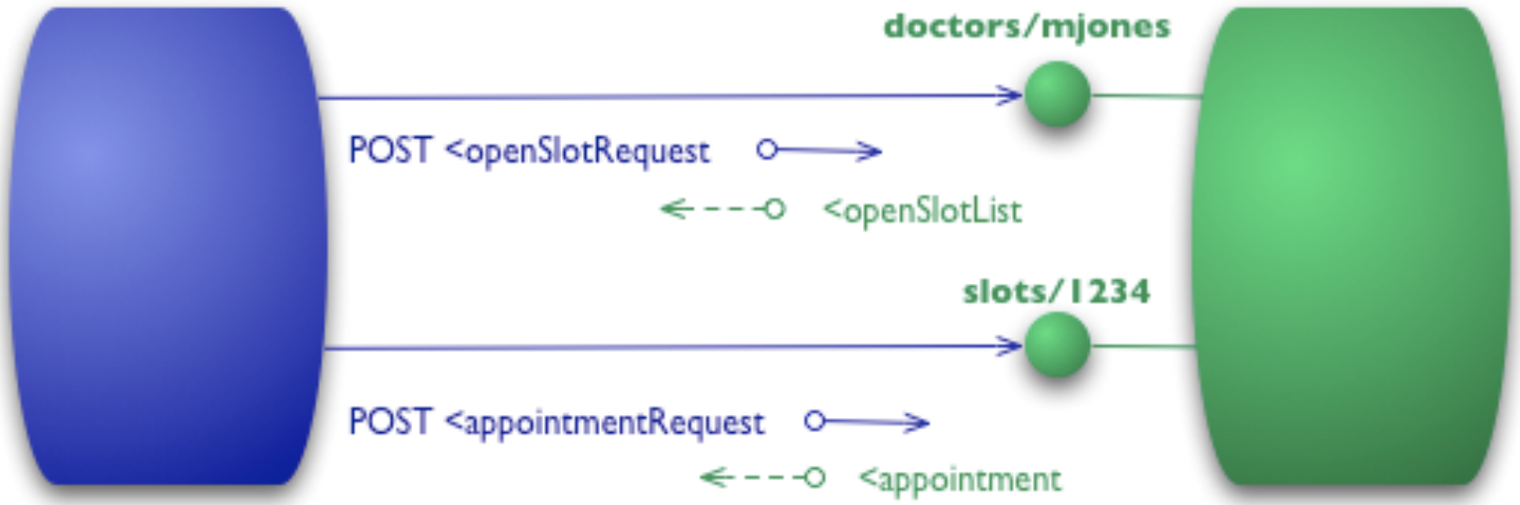
Level 0

Remote Interaction mechanism



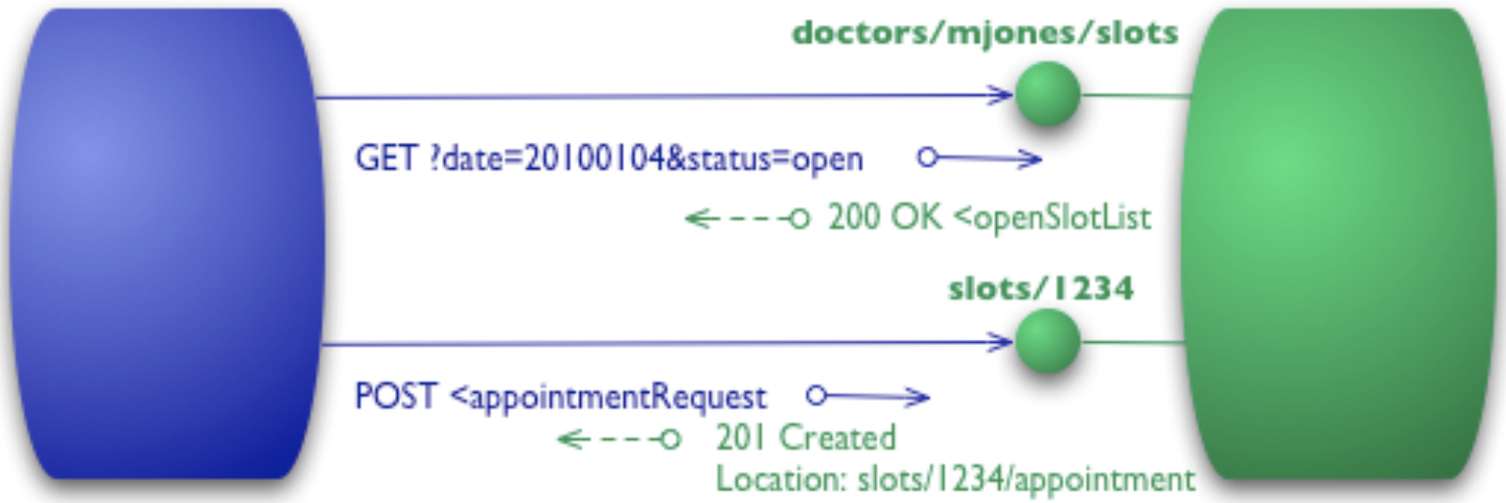
Level 1 :: Resources

Individual resources



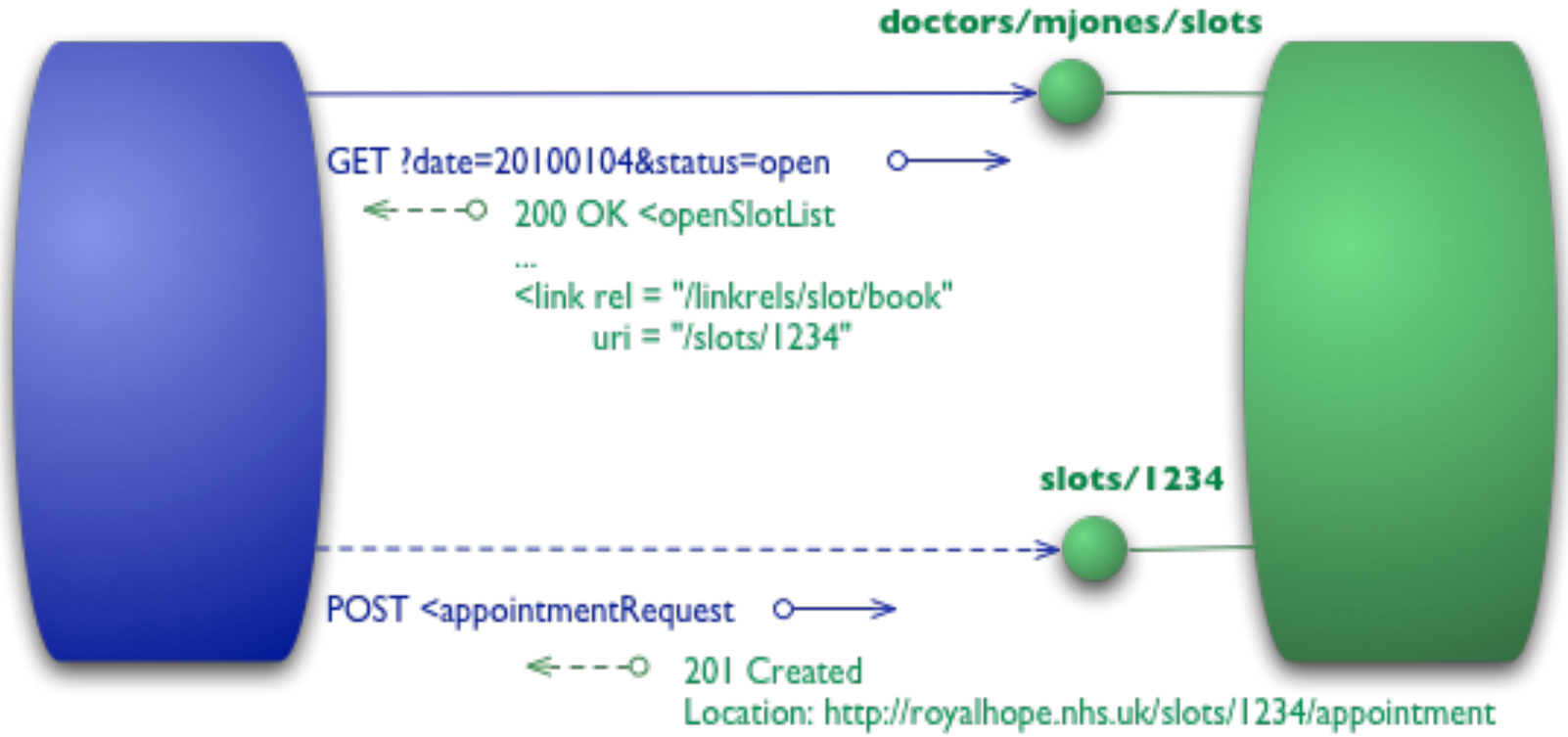
Level 2 :: HTTP verbs

Interaction through HTTP



Level 3 :: Hypermedia controls

Self-Document



Summary

Level 1

breaking a large service

into multiple resources

Summary

Level 2

Standard set of verbs

Summary

Level 3

Discoverability, provide a way of making a protocol more self-docsmeting

REST constraints

REST constraints

Client-server

Stateless

Cache

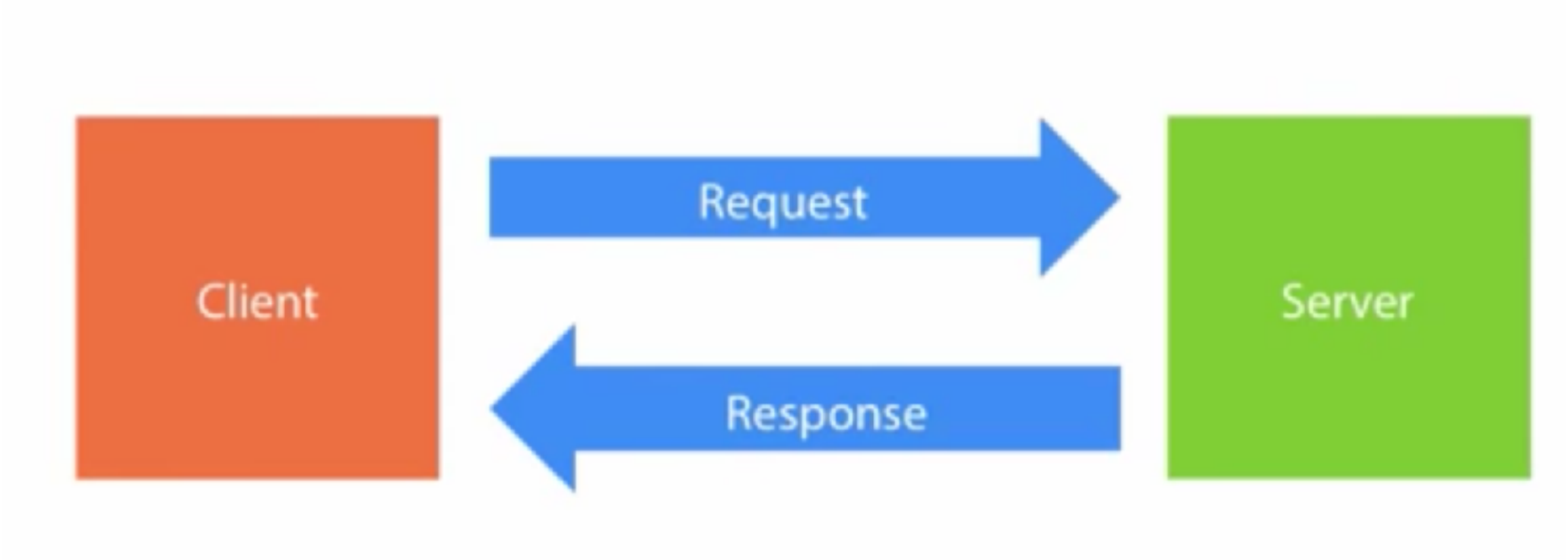
The Uniform Interface

Layered system

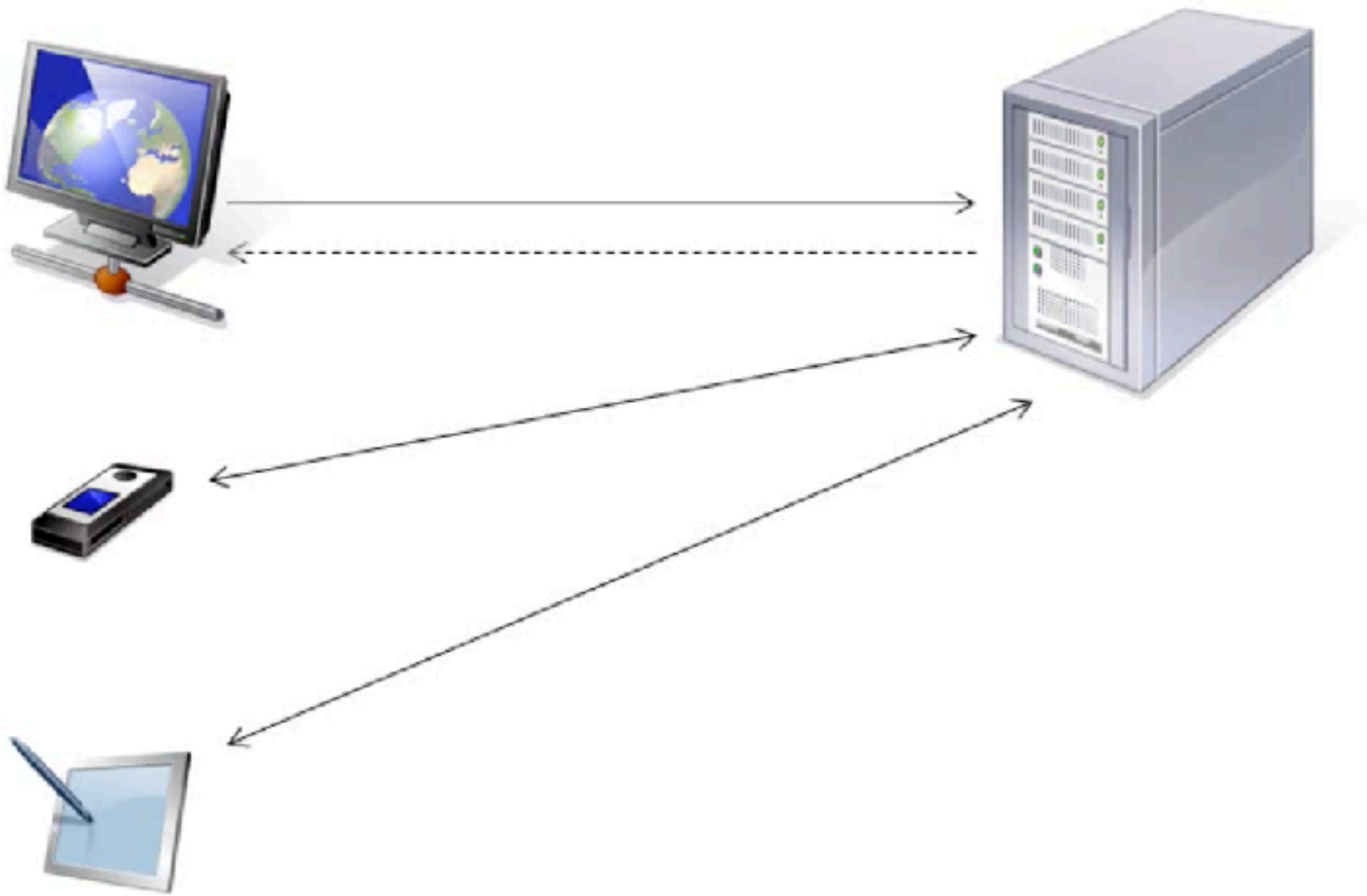
Code-on-Demand

Client-server

Client-server



Client-server



Concerns

Security

Administration

Heterogeneous network

Complexity

Benefits

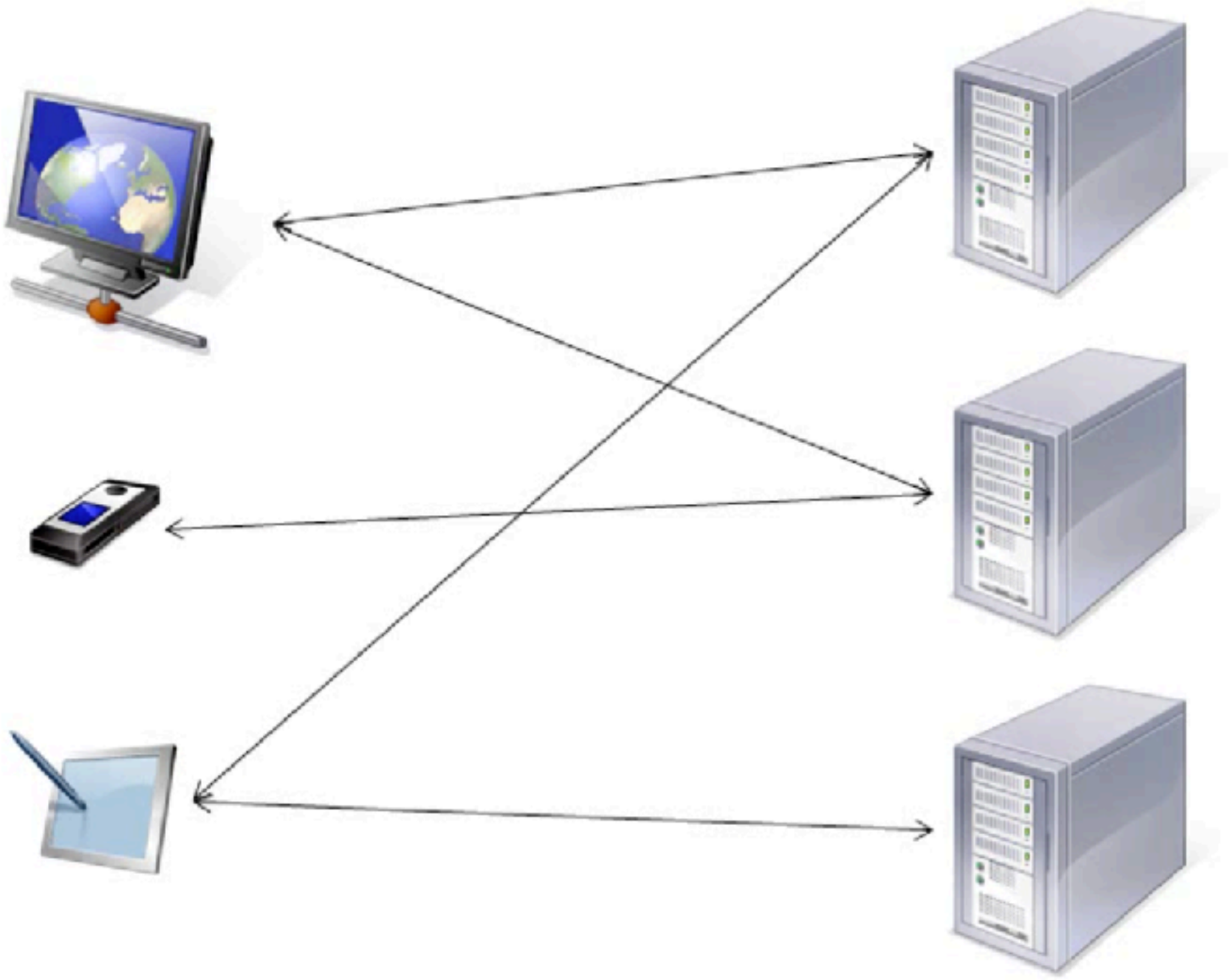
Portability of clients

Scalability

Evolvability

Stateless

Stateless



Concerns

Network reliability

Network topology

Complexity

Administration

Benefits

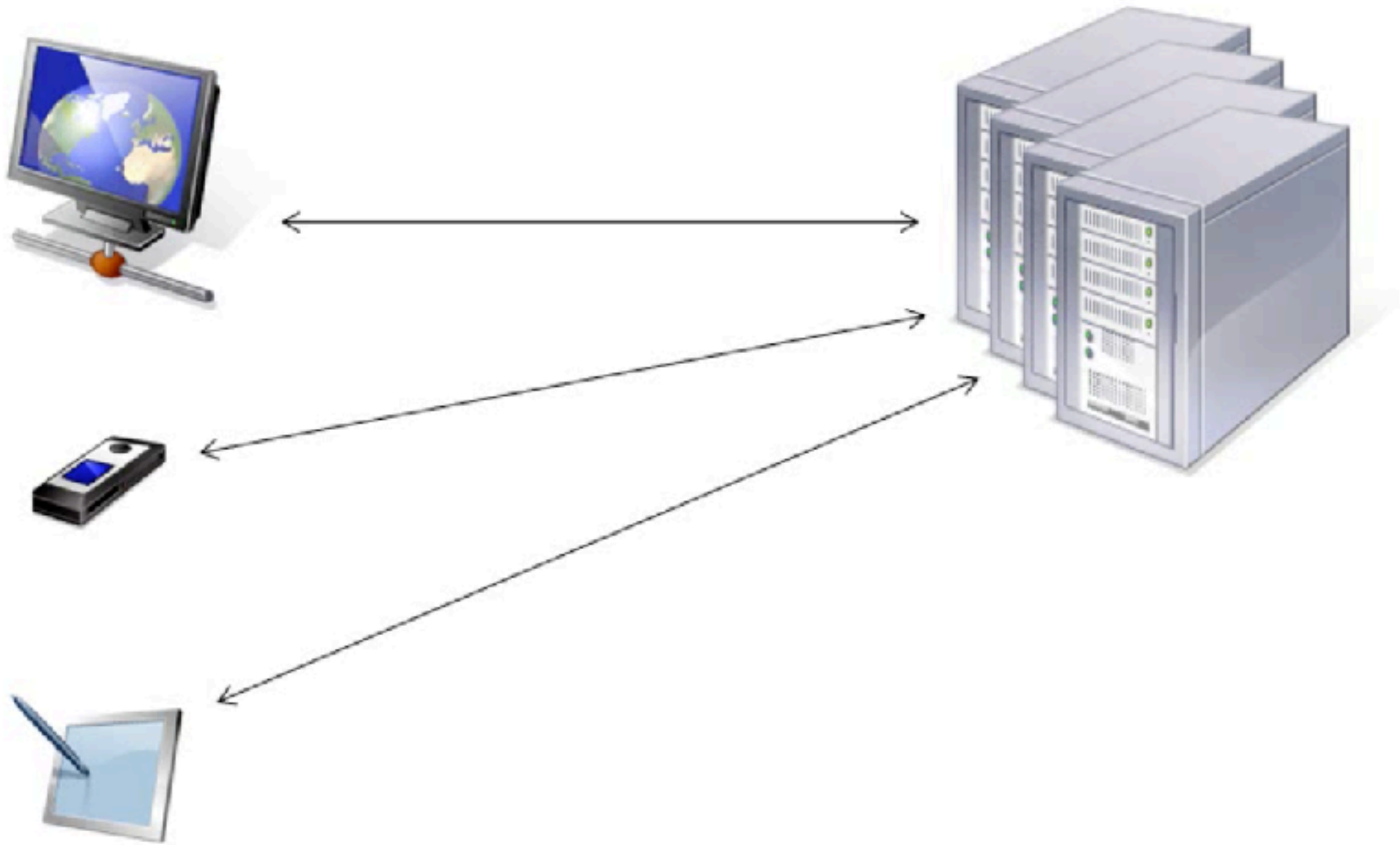
Visibility

Reliability

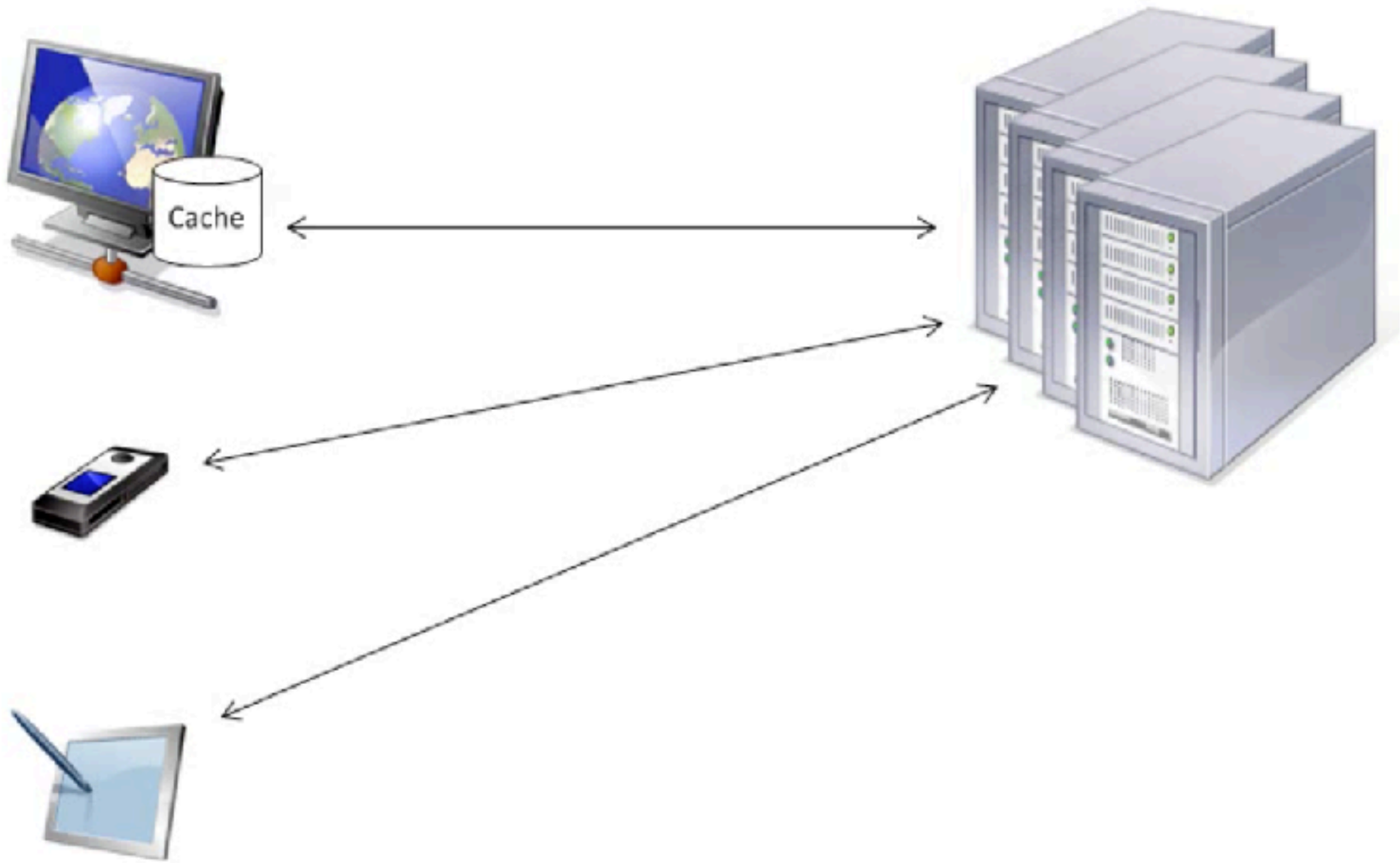
Scalability

Cache

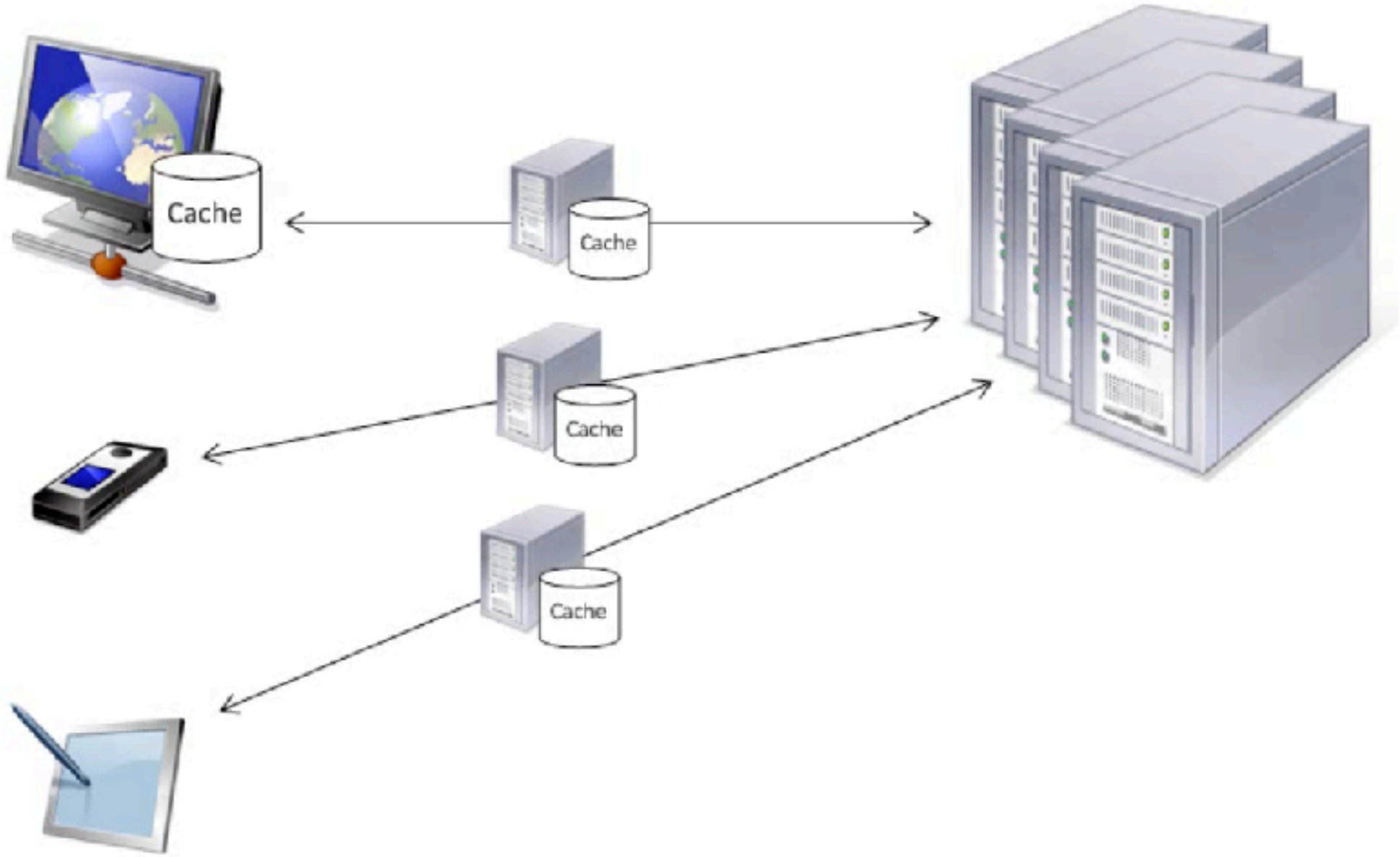
Cache



Cache



Cache



Concerns

Latency

Bandwidth

Transport cost

Benefits

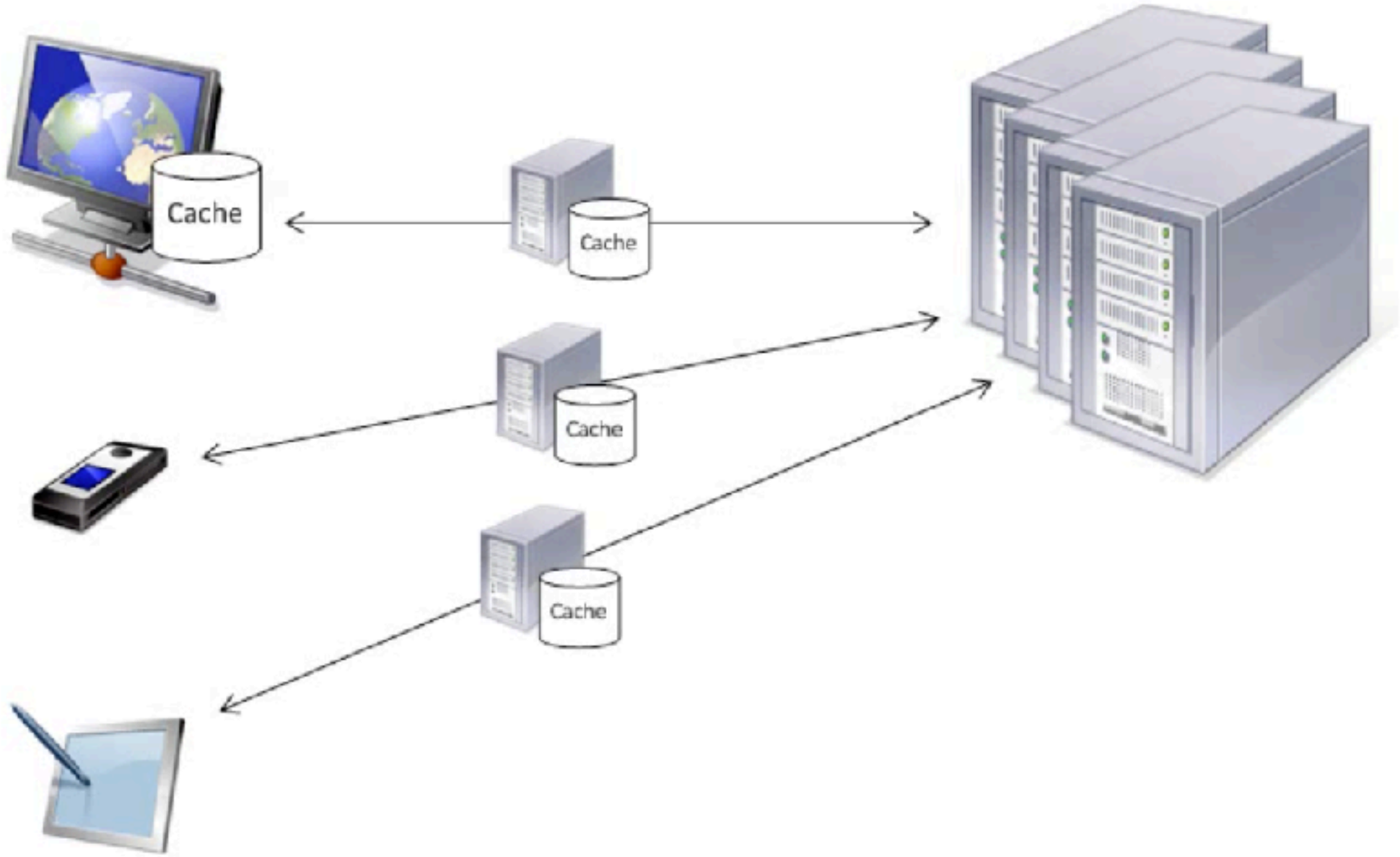
Efficiency

Scalability

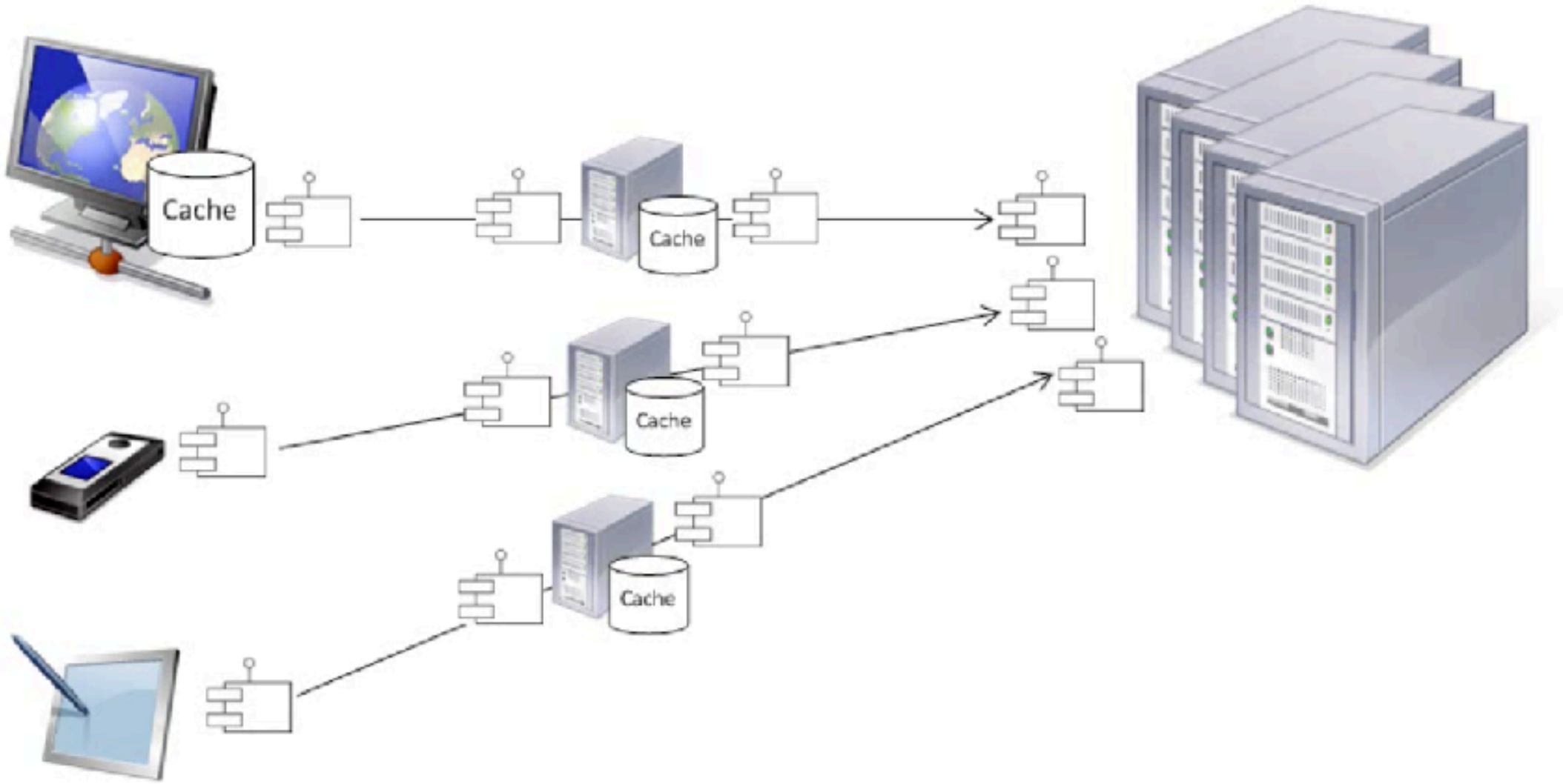
Performance

The Uniform Interface

The Uniform Interface



The Uniform Interface



Elements of the Uniform interface

Identification of **resources**

Manipulation through **representations**

Self-descriptive messages

Hypermedia as the engine of app state

Concerns

Network reliability

Network topology

Administration

Complexity

Heterogeneous network

Benefits

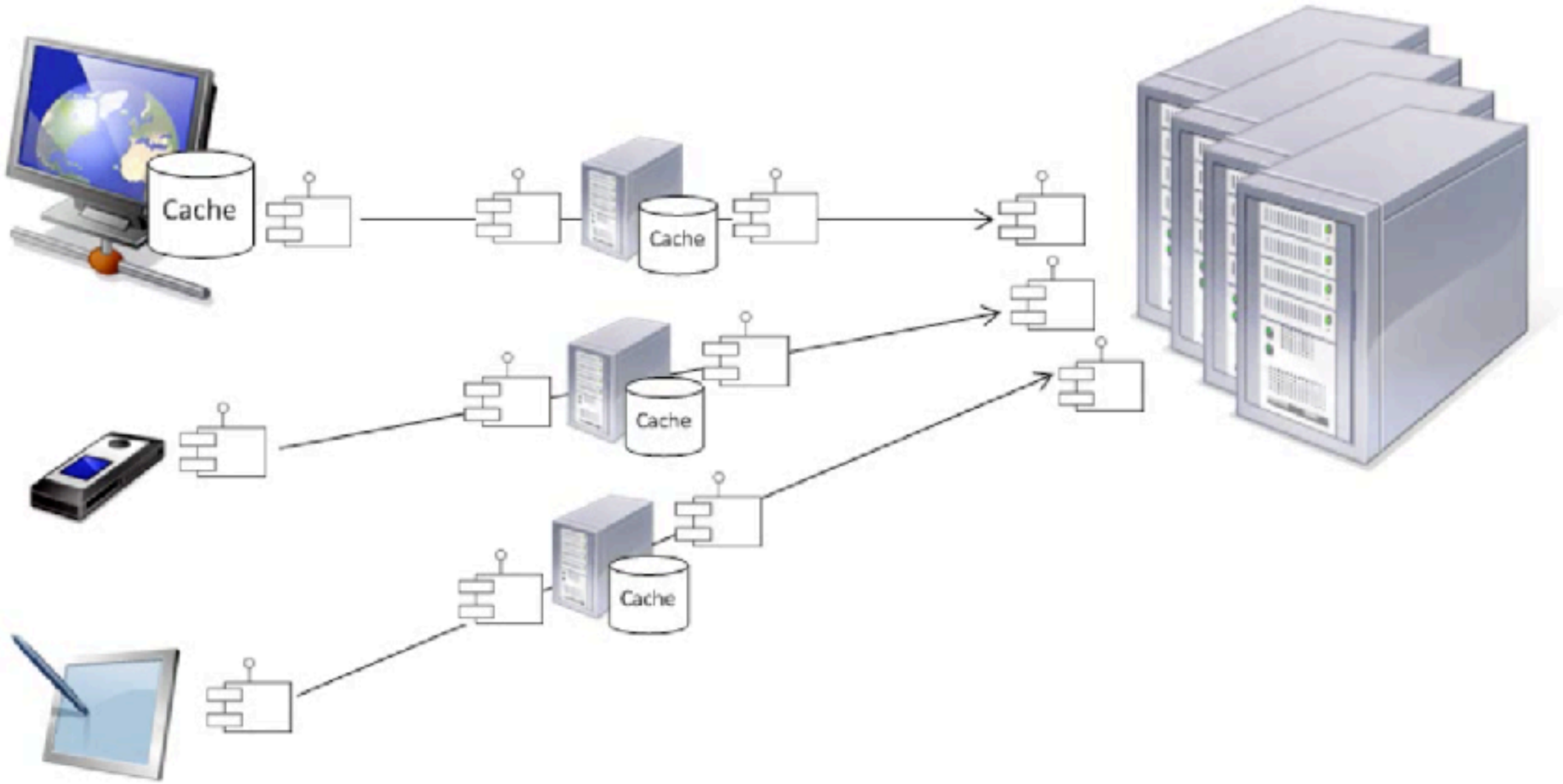
Visibility

Evolvability

Performance

Layered system

Layered system



Concerns

Network topology

Complexity

Security

Benefits

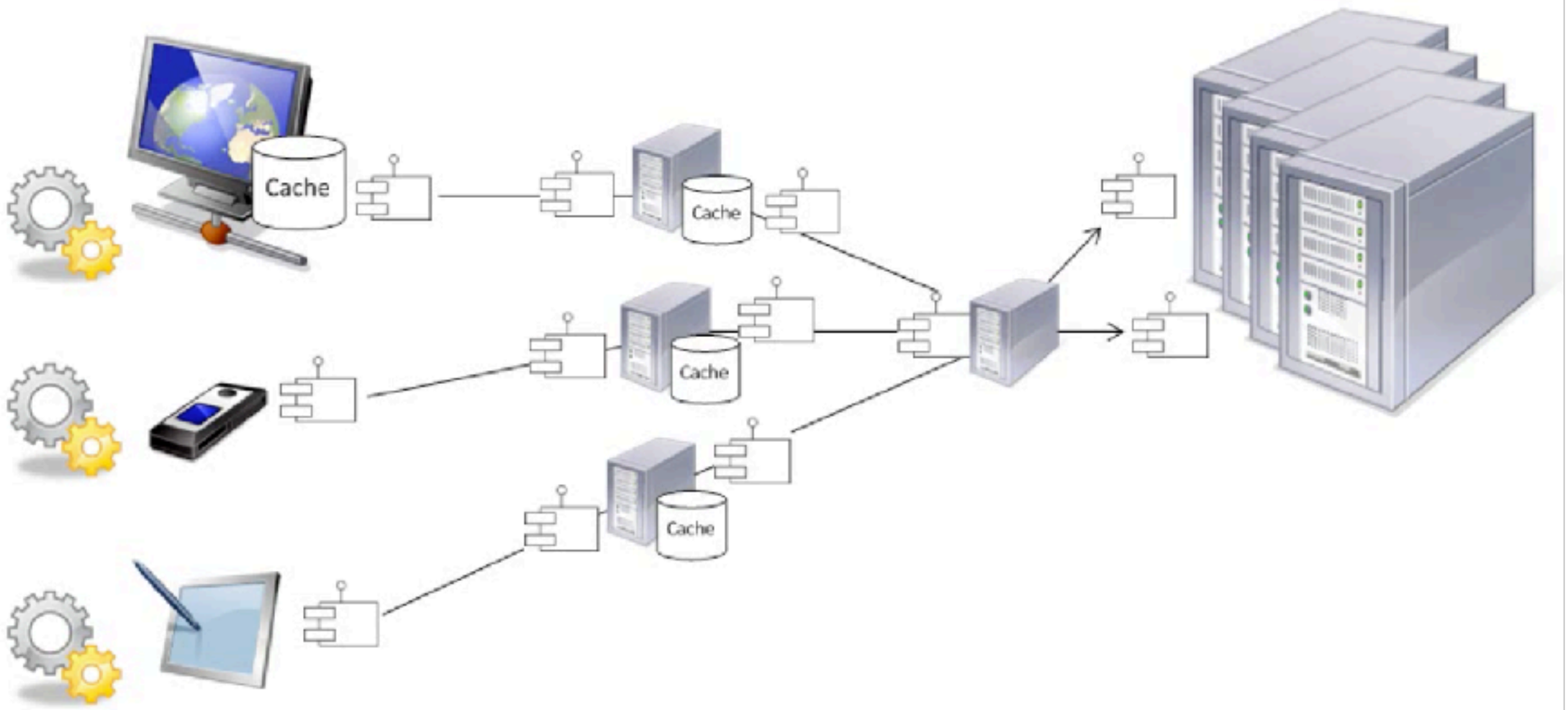
Scalability

Manageability

Performance

Code-on-demand (optional)

Code-on-demand



Code-on-demand

Help to manage complexity

The trade-off is visibility