

CSCI 466: Networks

Lecture 4: Application Layer

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Fall 2022



Application Layer

Presentation Layer *

Session Layer *

Transport Layer

Network Layer

Data Link Layer

Physical Layer

OSI Model

Application Layer

Messages from Network Applications



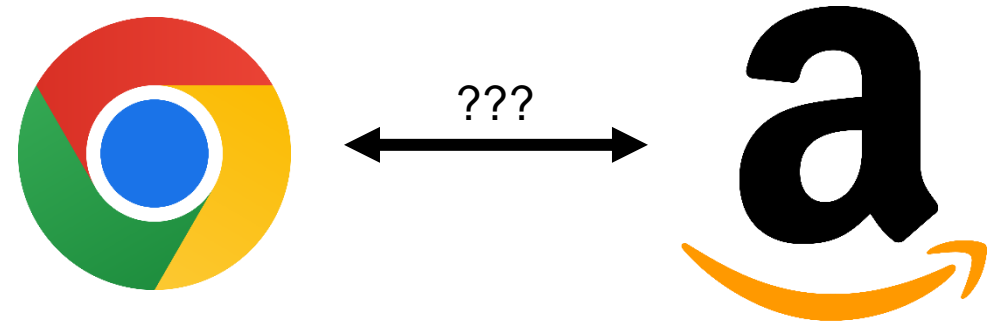
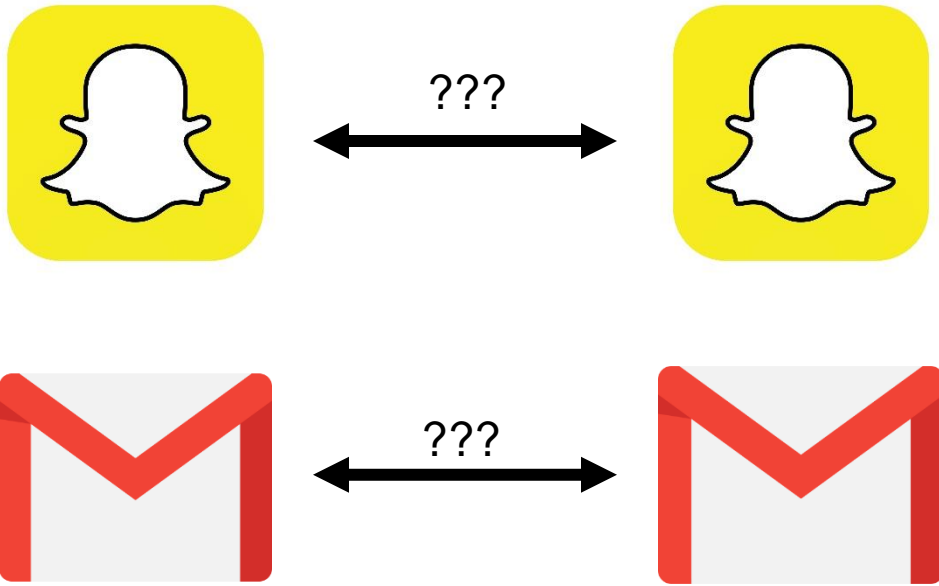
Physical Layer

Bits being transmitted over a copper wire

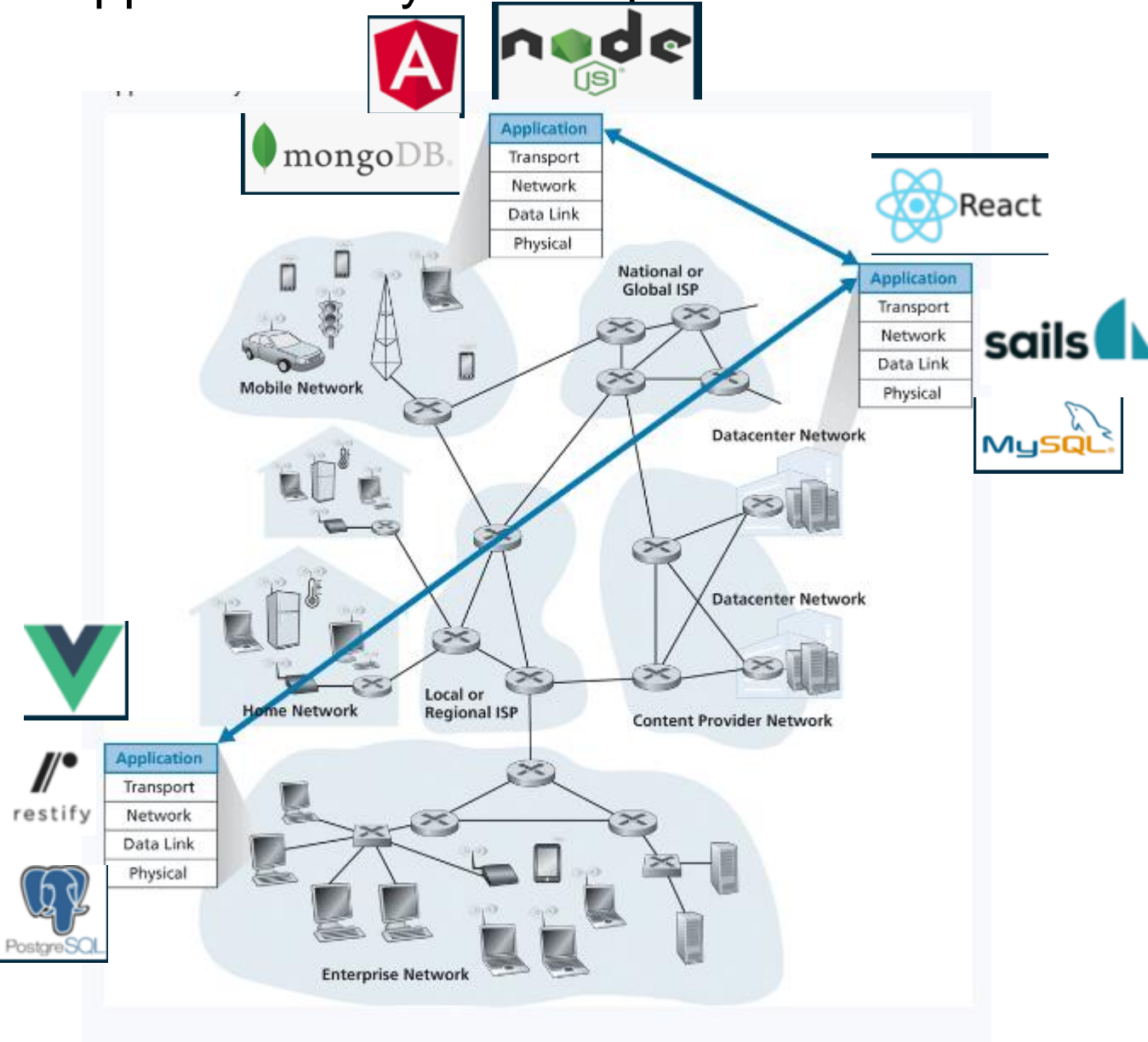
**In the textbook, they condense it to a 5-layer model, but 7 layers is what is most used*

Application Layer

OSI Model



Application Layer Principles

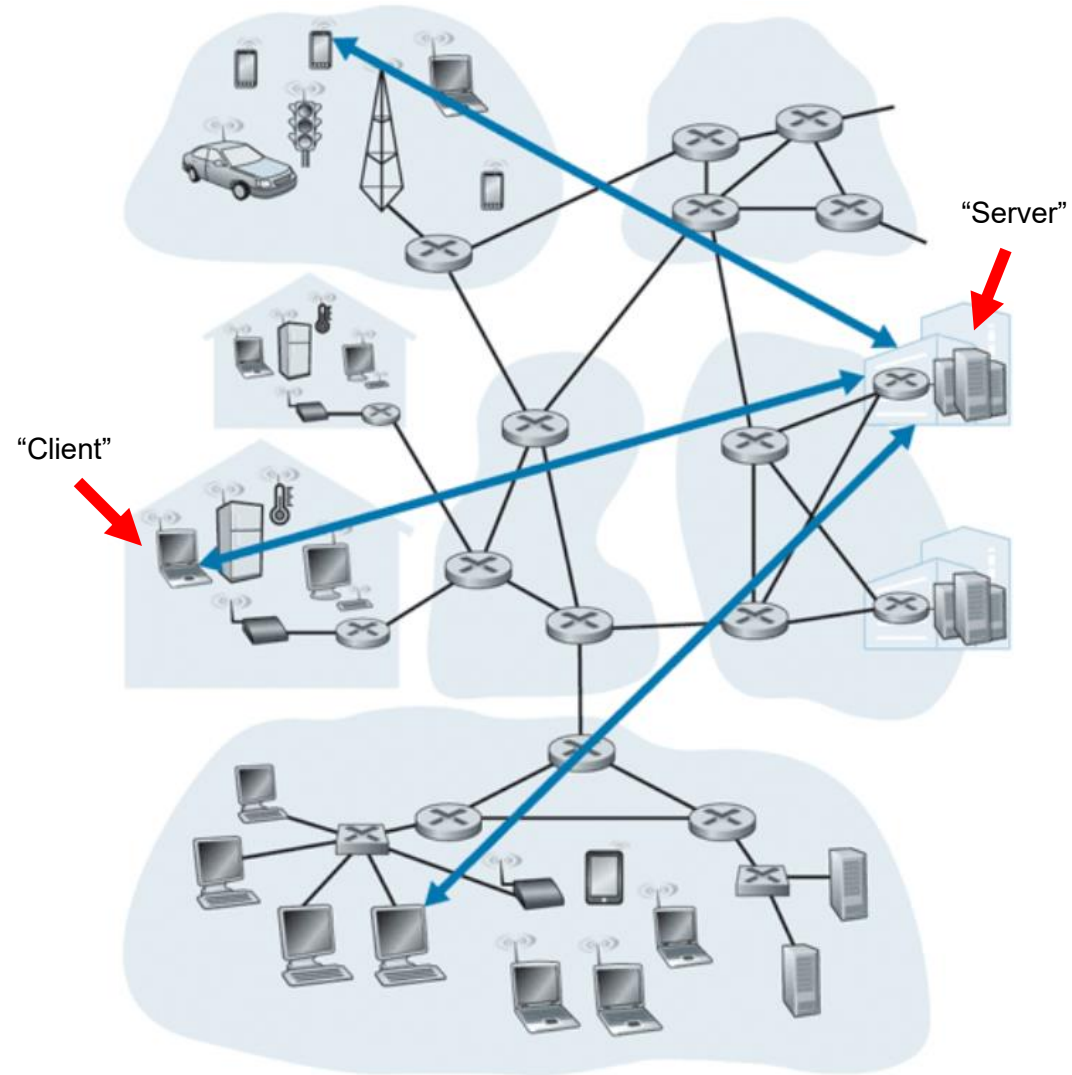


Web applications are built with different technologies

We need a universal method for communicating between applications connected to the internet

New web applications need to be “compatible” with other web applications they communicate with

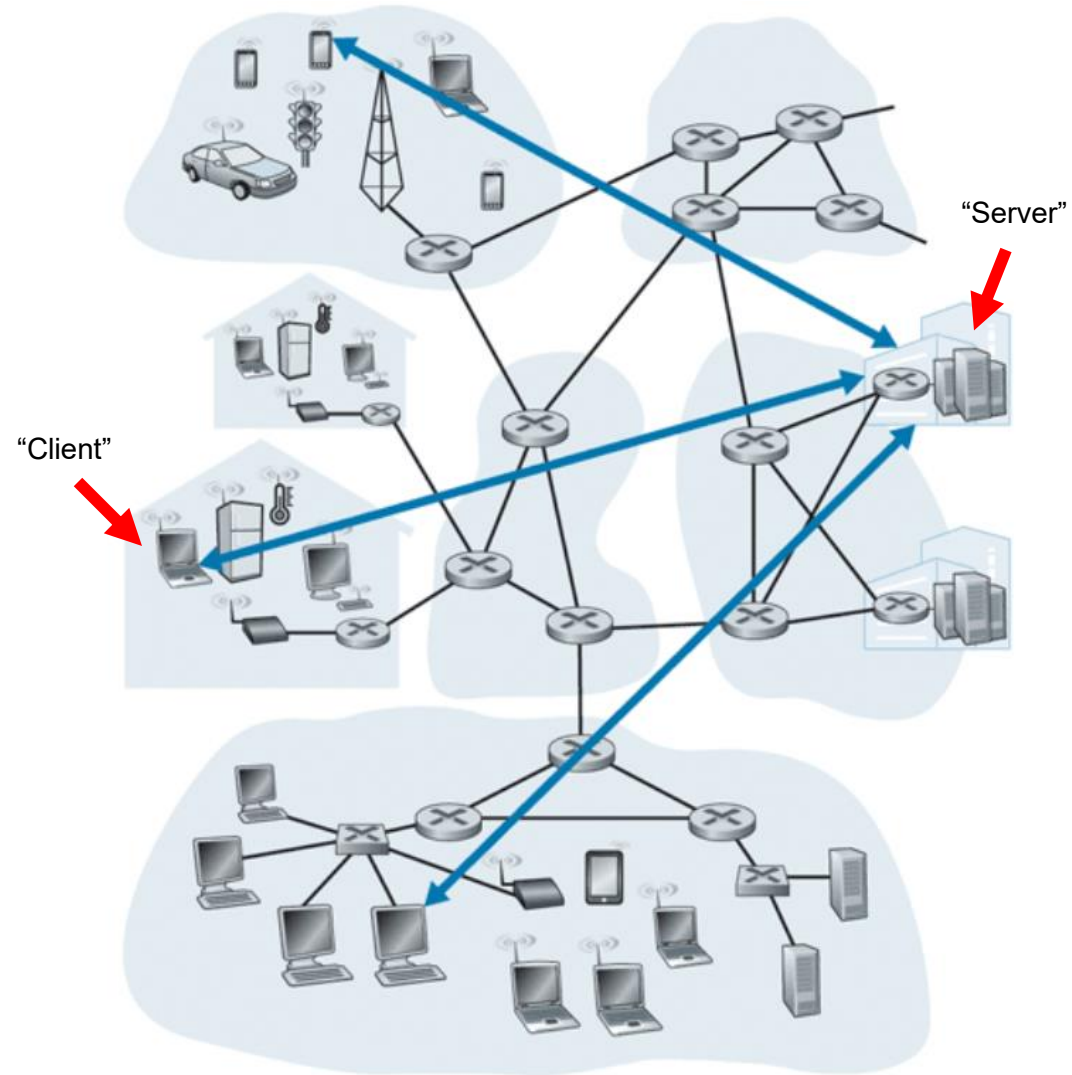
Web Application Architectures



Client-server architecture

Clients do not directly interact with each other

Web Application Architectures

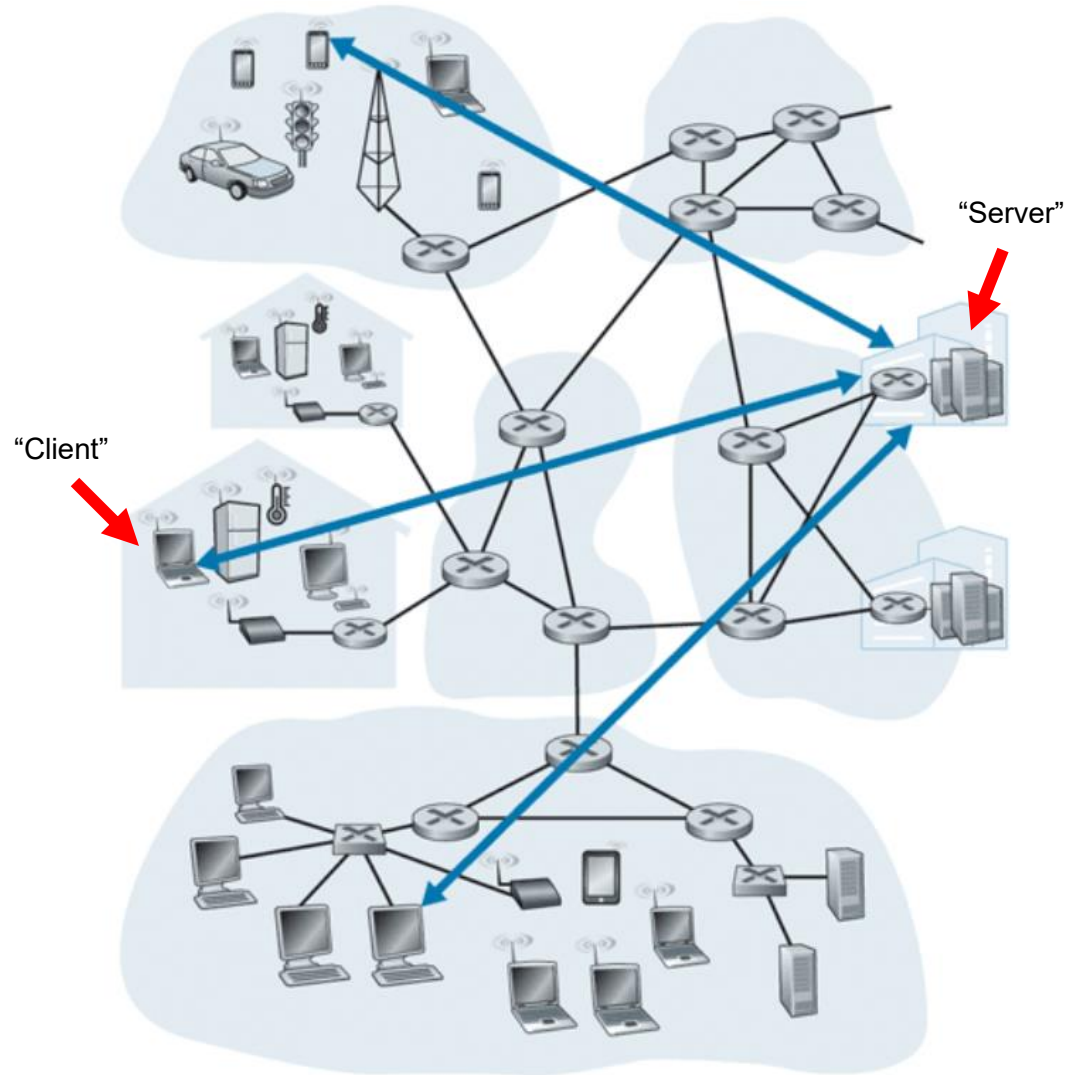


Client-server architecture

Clients do not directly interact with each other

ie. My web browser does not directly interact with your web browser

Web Application Architectures



Client-server architecture

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Communication is done through a **Server**

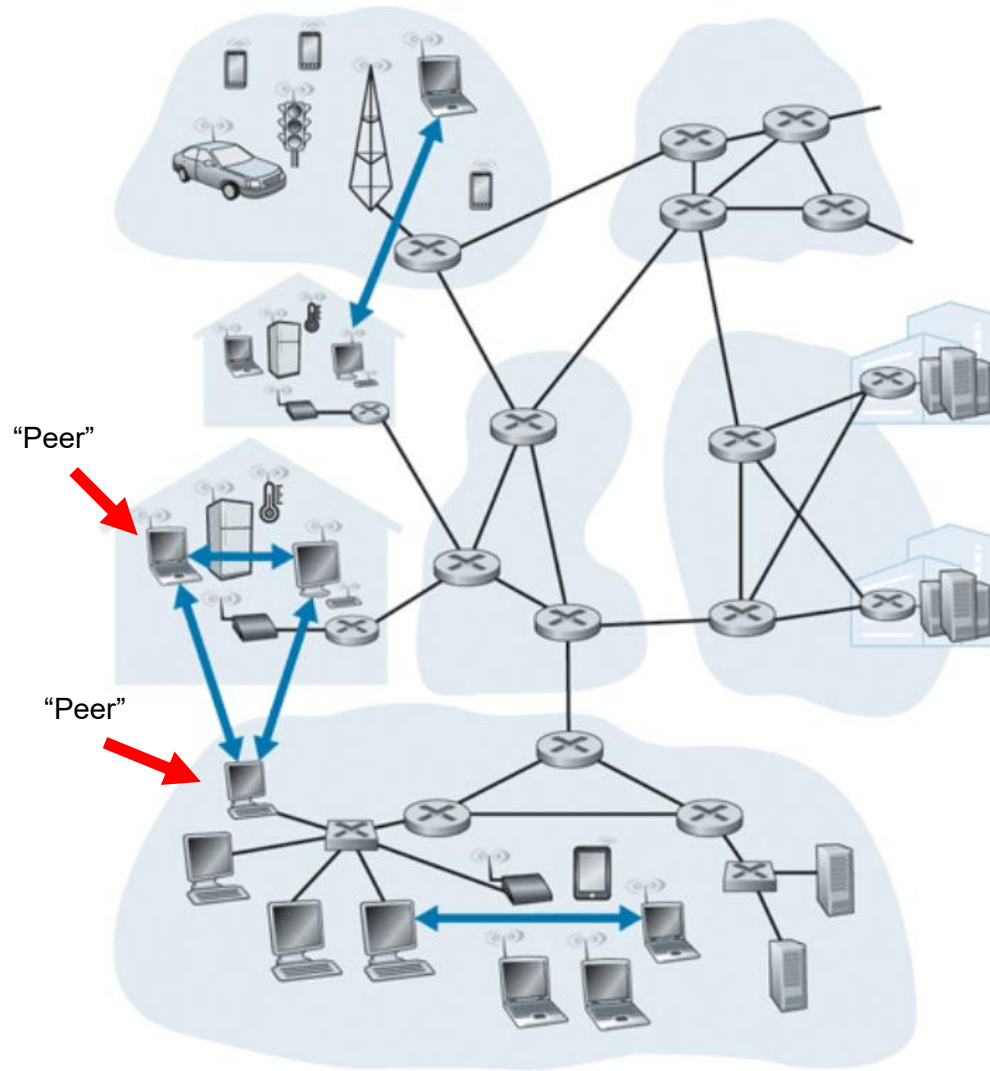
- Online 24/7*
- Hosted in a **data center**



Web Application Architectures



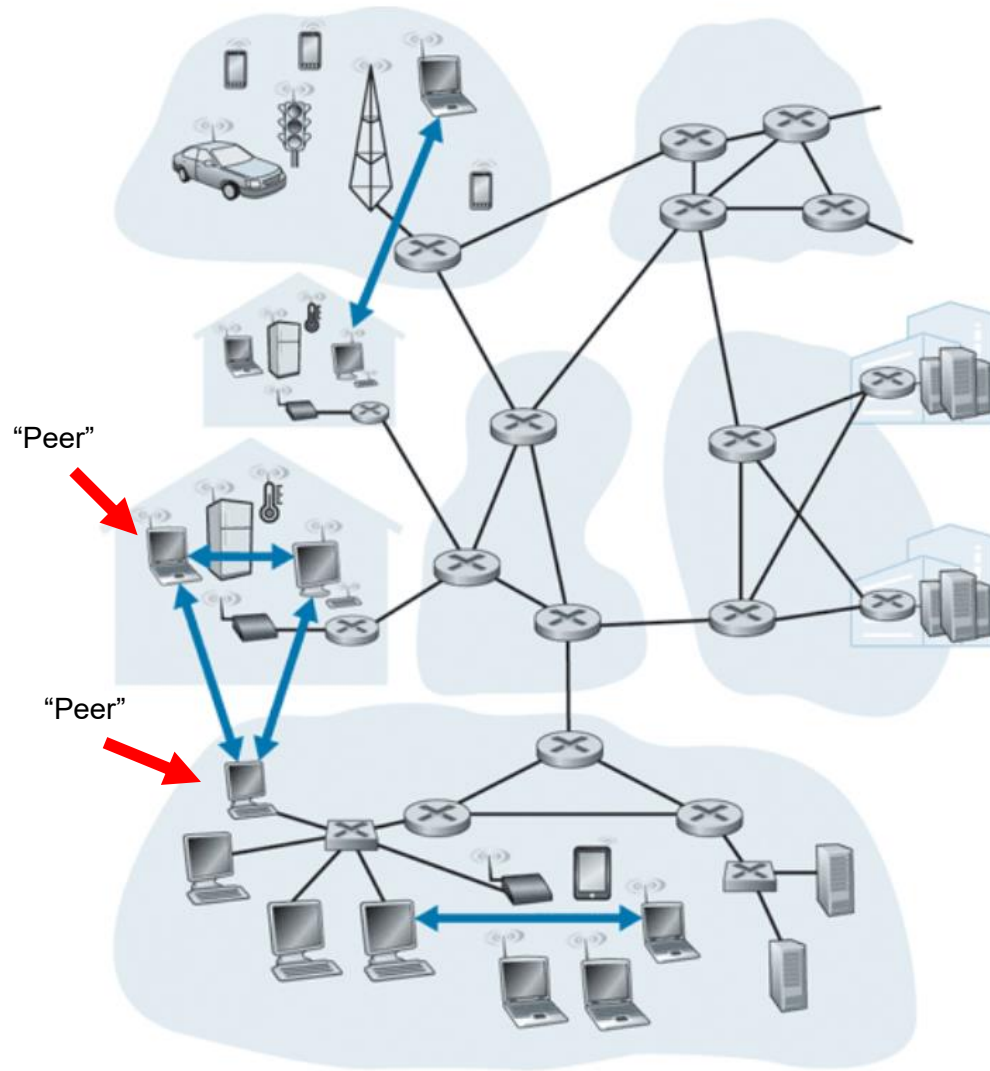
Web Application Architectures



P2P Architecture

No reliance on a dedicated server

Web Application Architectures



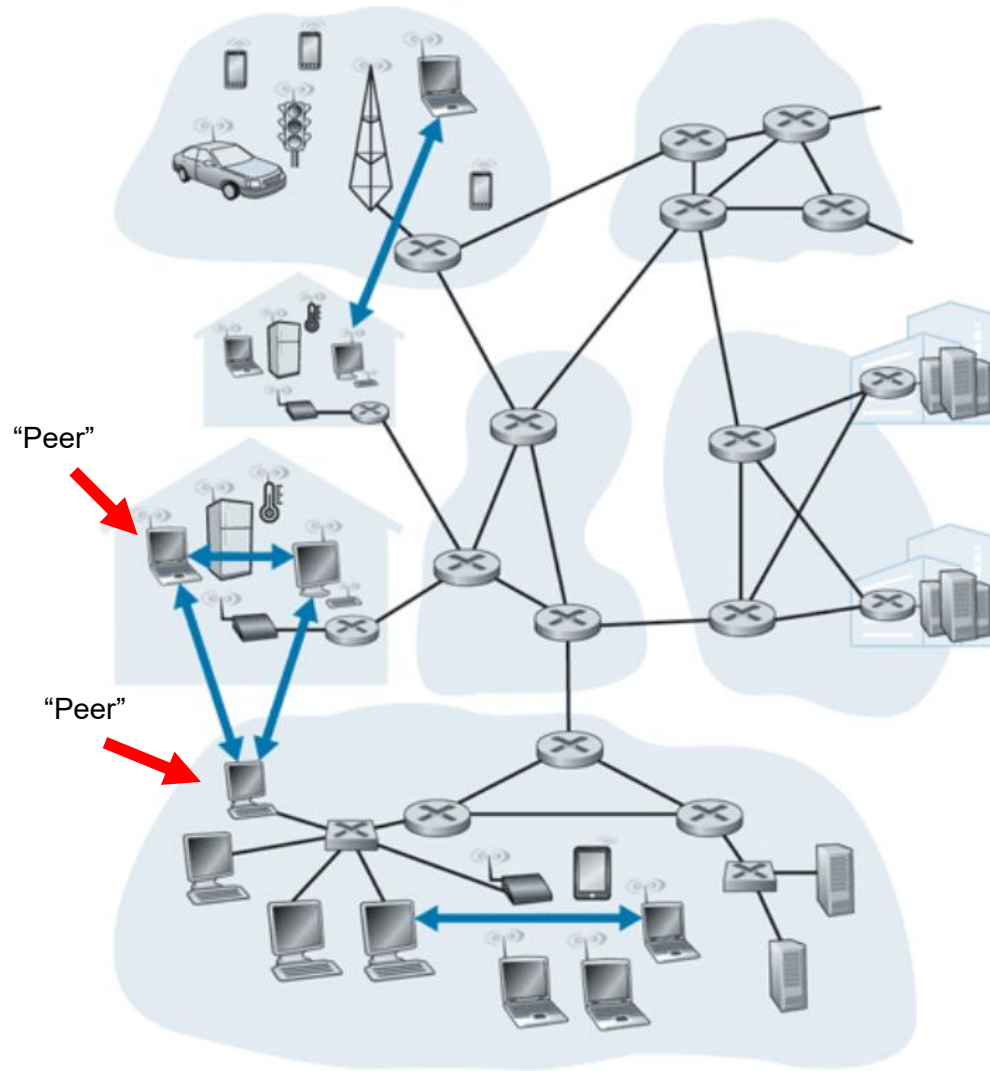
P2P Architecture

No reliance on a dedicated server

Each endpoint has same power and responsibilities.

Endpoints can be both a server and an endpoint

Web Application Architectures



P2P Architecture

No reliance on a dedicated server

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BitTorrent

