

PETR KOTAS

---

**CLOUD NATIVE**



## MEETUP GOALS

- ▶ Build a community around cloud
- ▶ Evangelize the cloud way
- ▶ Teach by example



**IT IS ALREADY  
HERE**







MY JOURNEY TO THE CLOUD

---

# ARCHITECTURE EVOLUTION

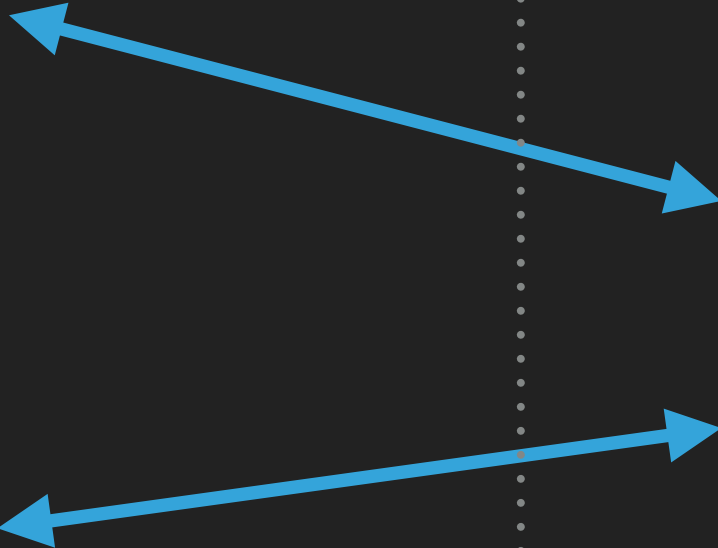
2005 – IS



INTRANET



THICK CLIENTS



DATABASE SERVER

# PROS

Great debugging

Battle tested dev tools

# CONS

Complex updates

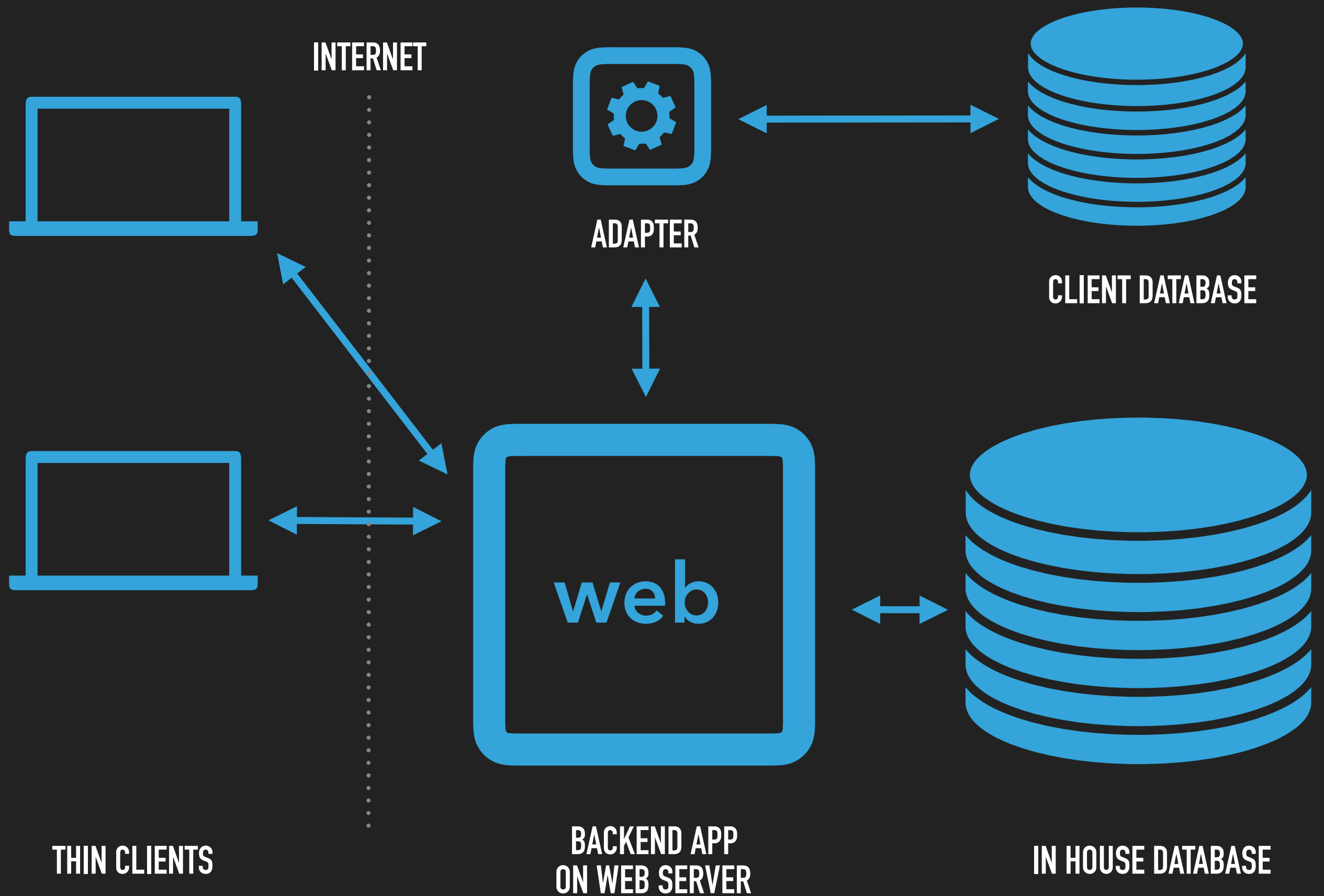
Scale by metal upgrade

Usually locked on platform

HW requirements on client

**2007 – ADAPTER**





# PROS

Thin client

Client updates

# CONS

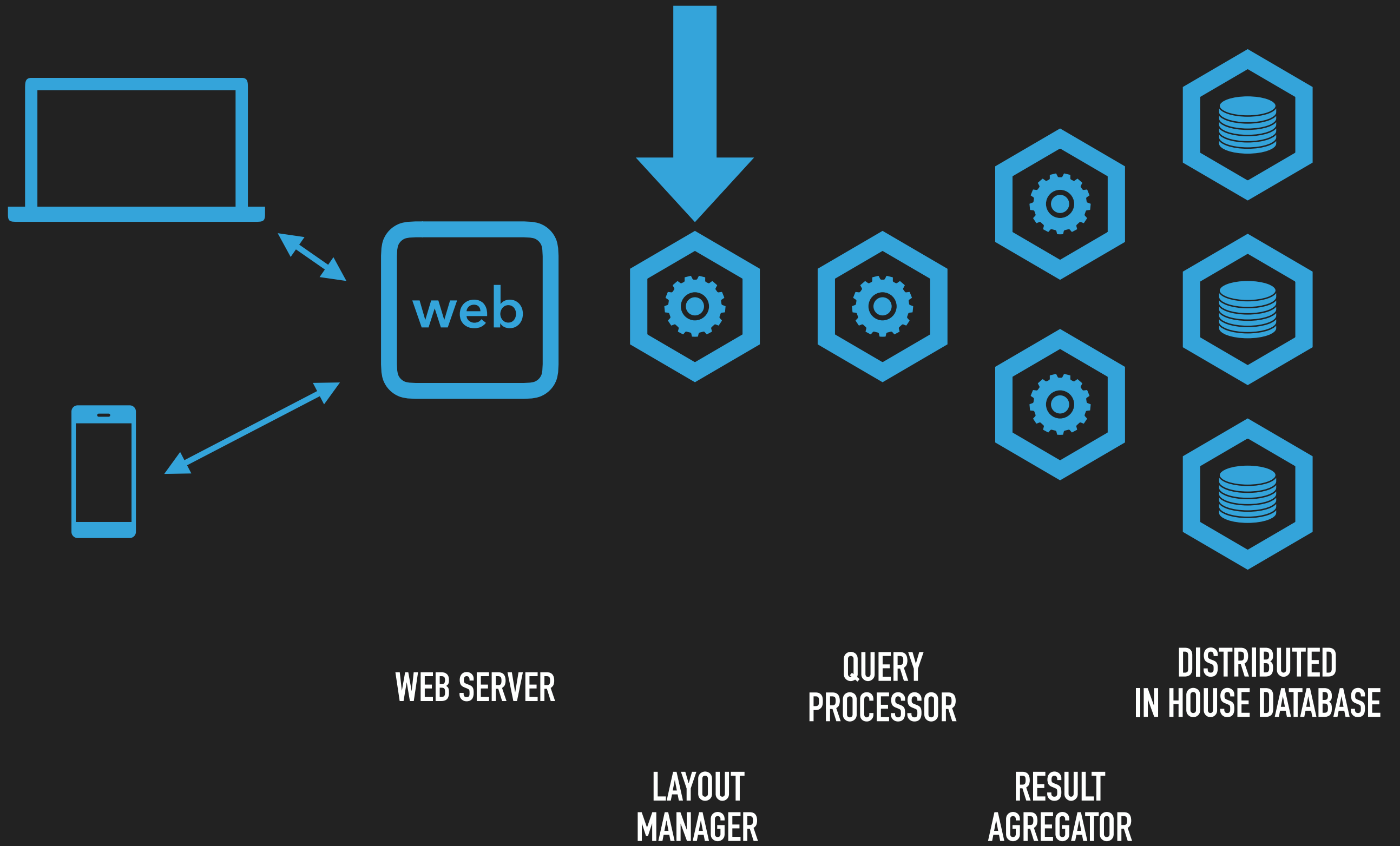
Scale with backend

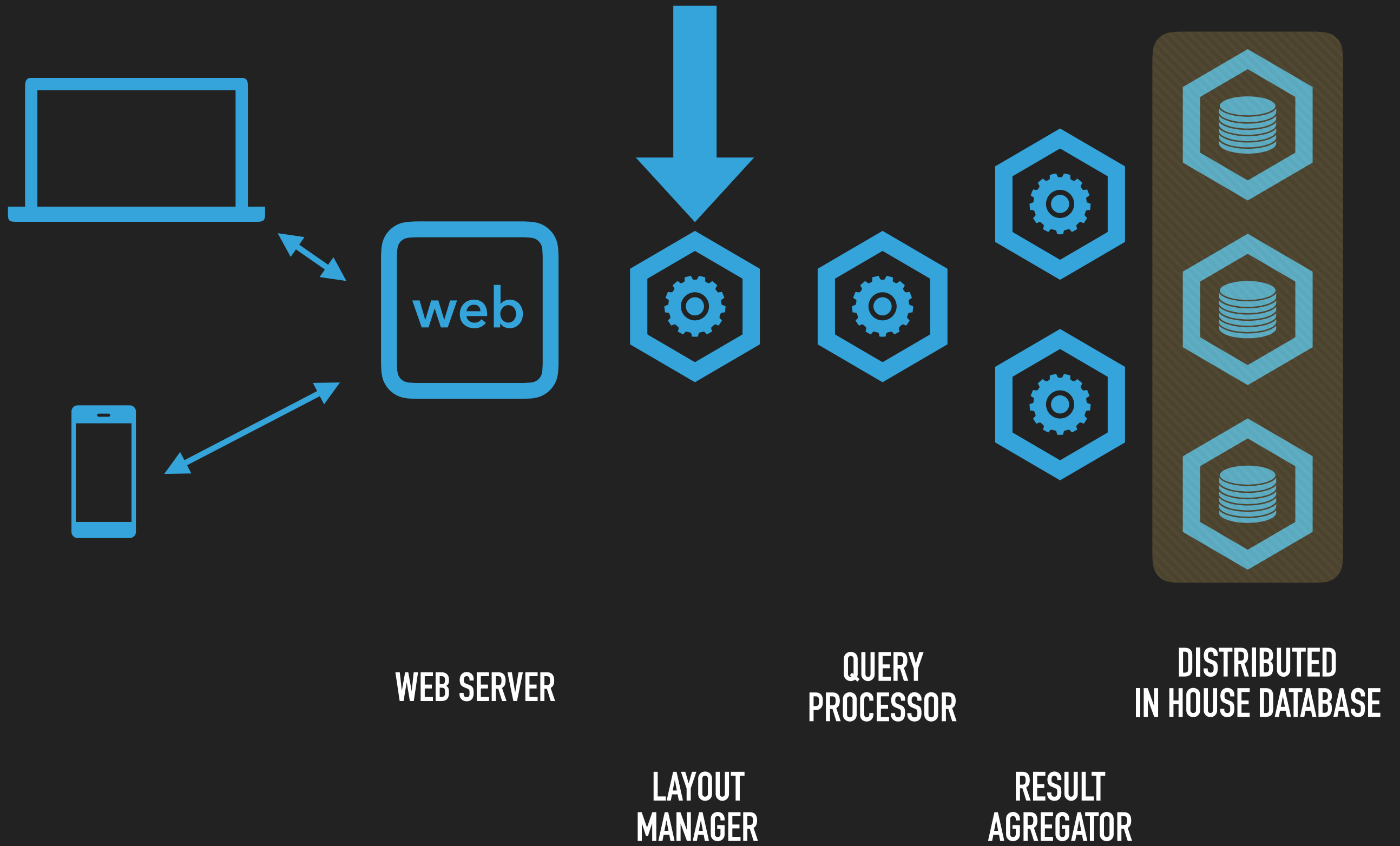
Portability

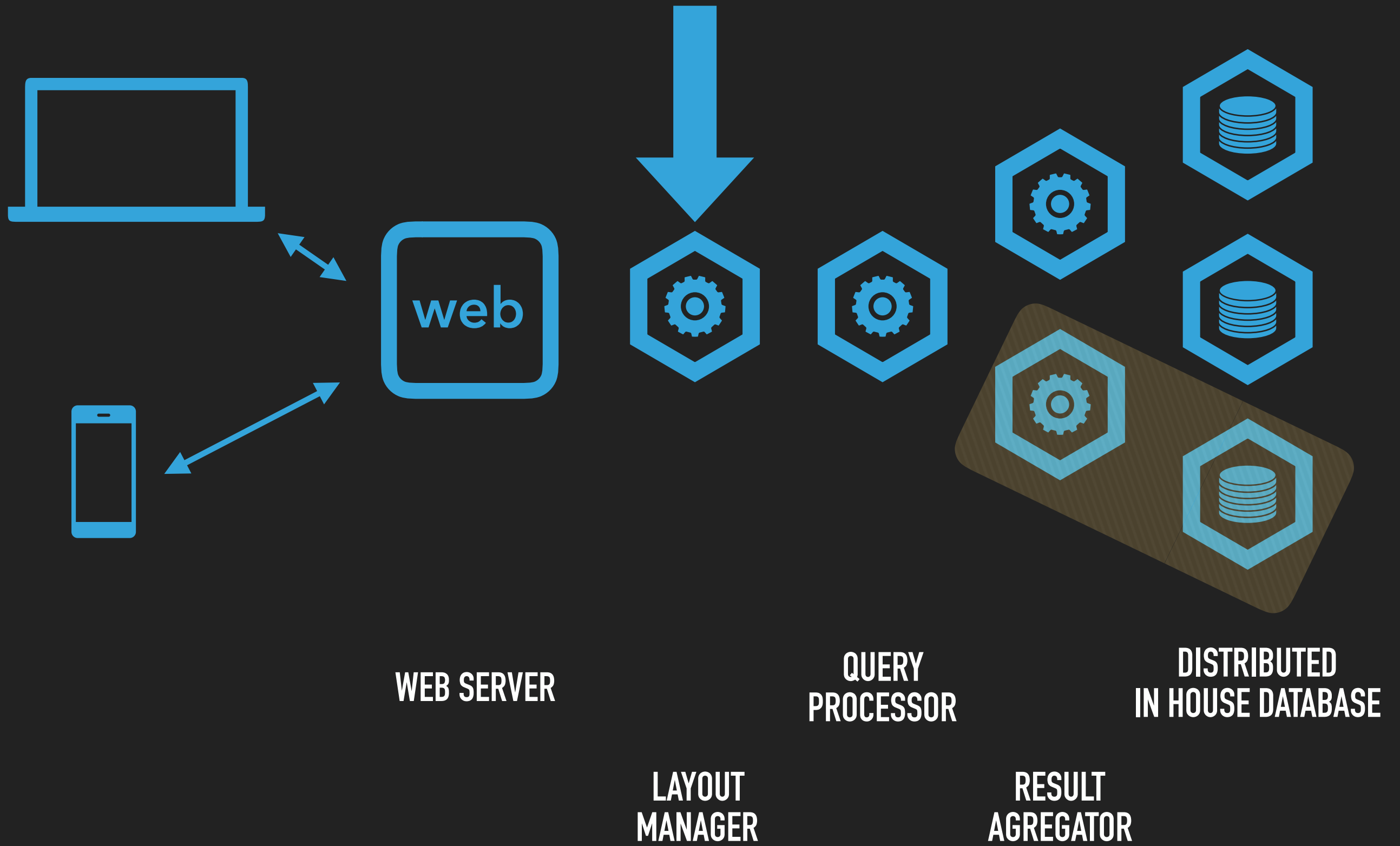
Backend updates

**2014 – FULLTEXT**

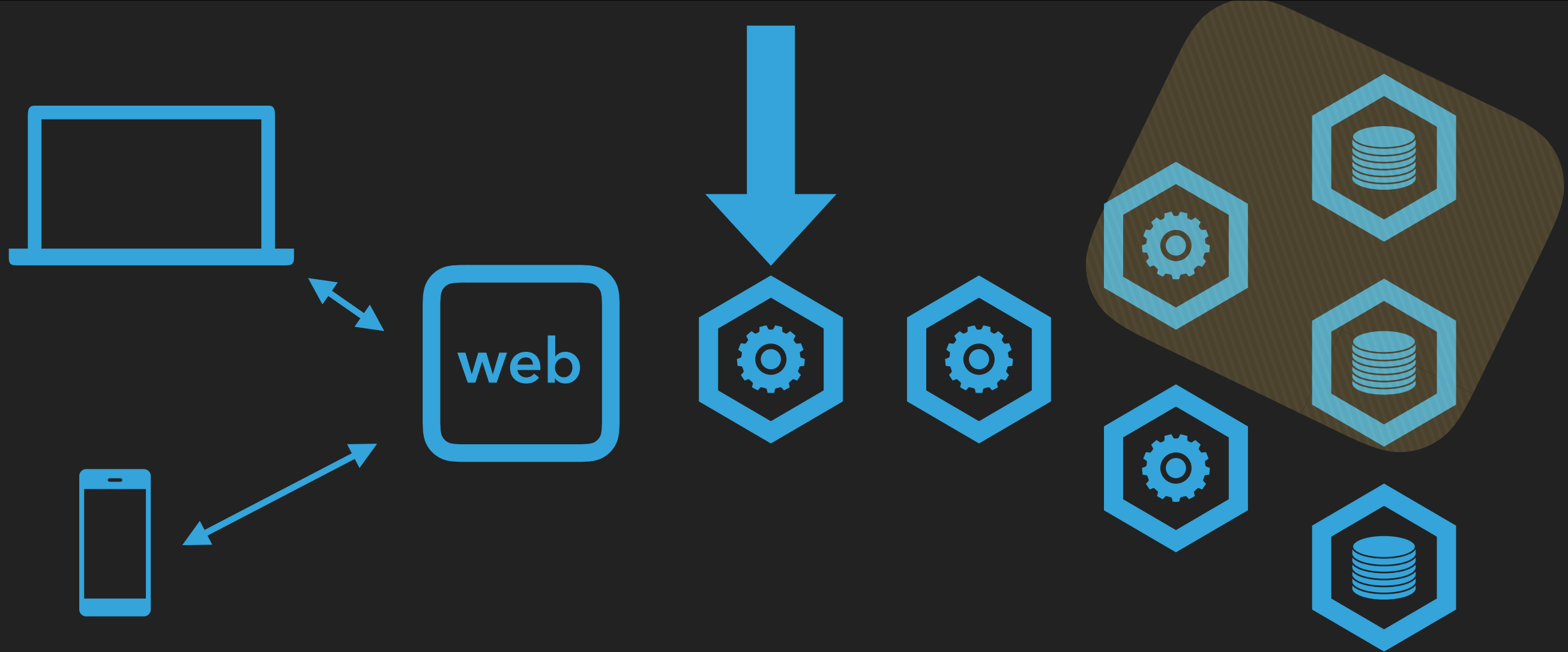












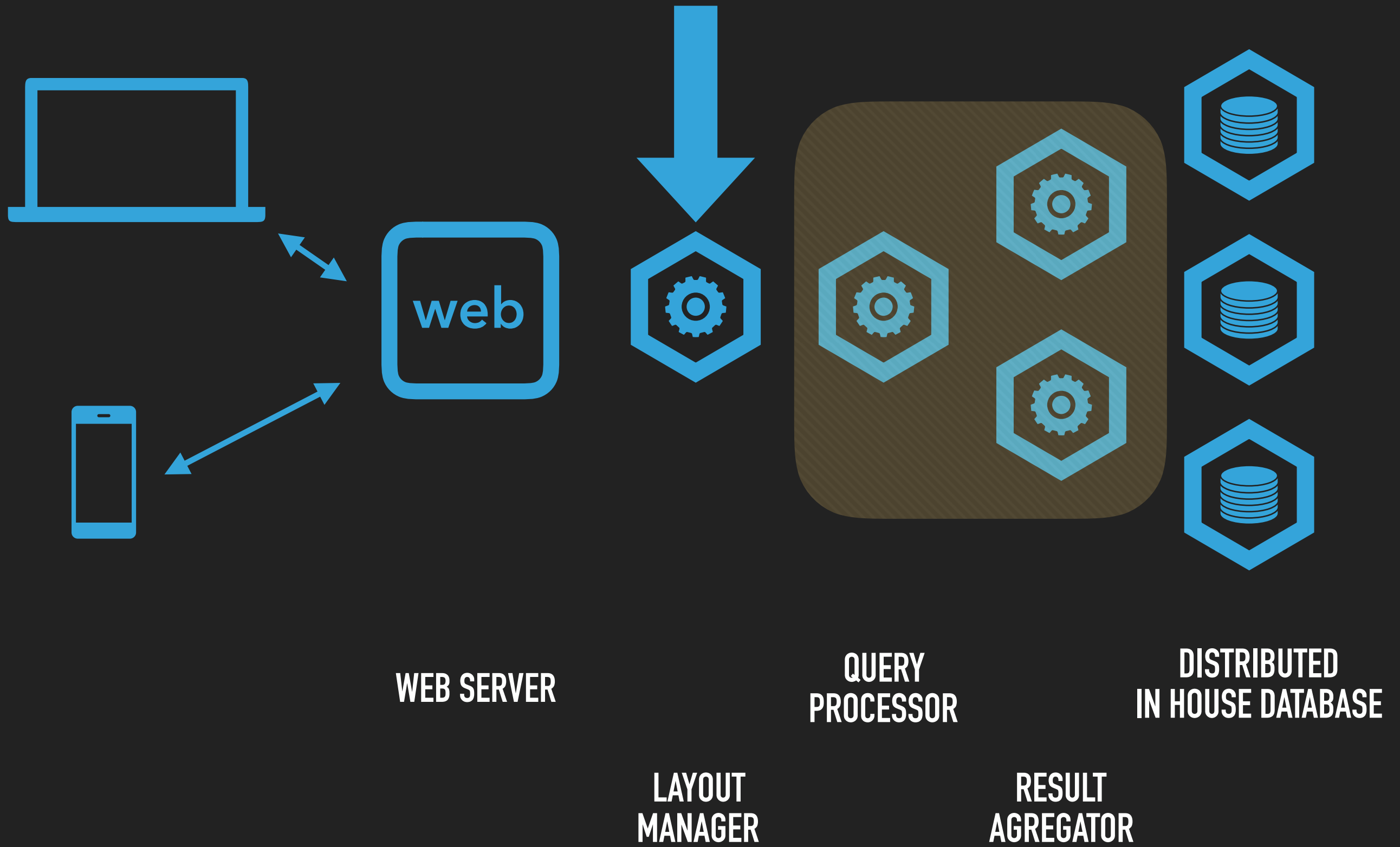
**WEB SERVER**

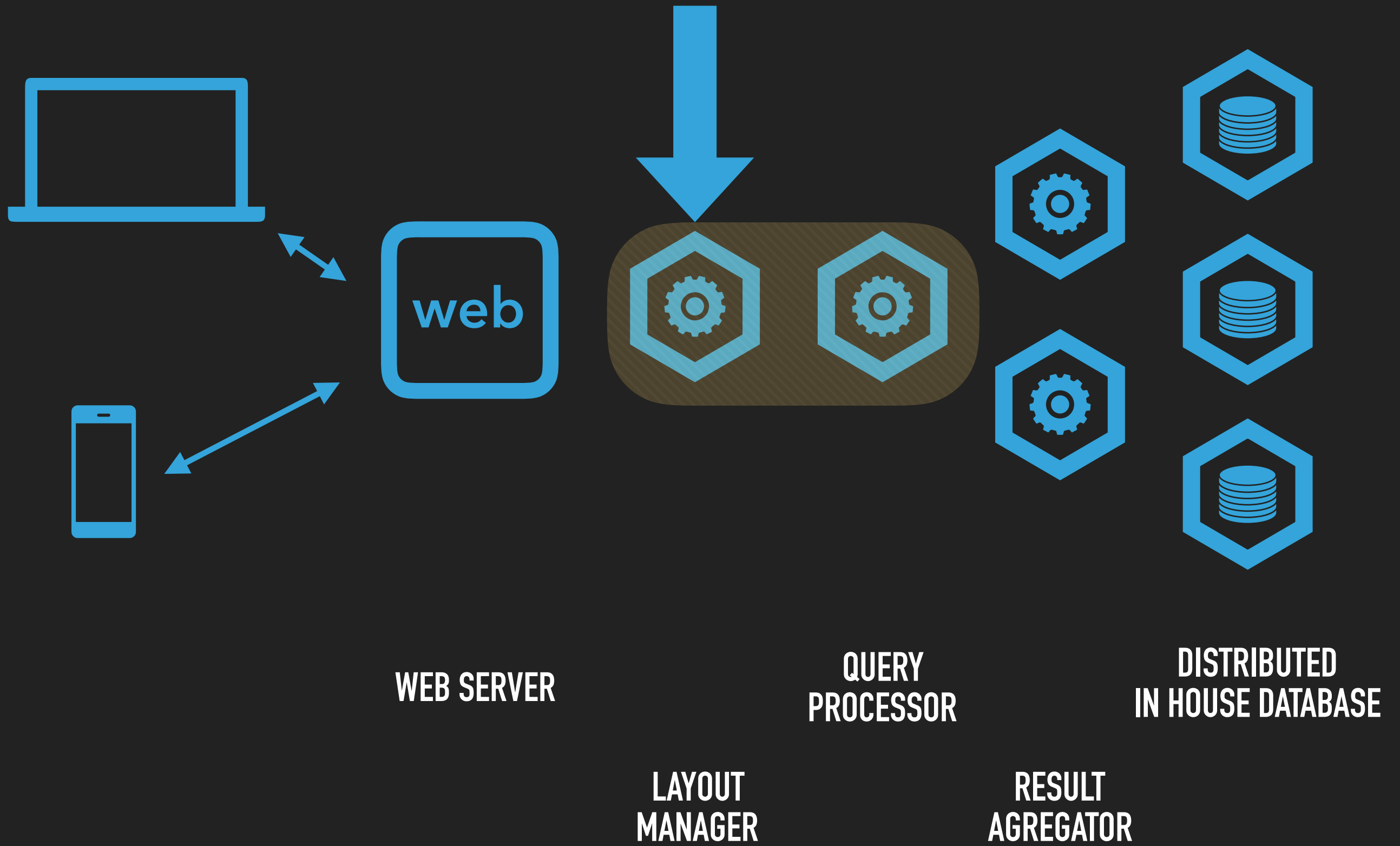
**QUERY  
PROCESSOR**

**DISTRIBUTED  
IN HOUSE DATABASE**

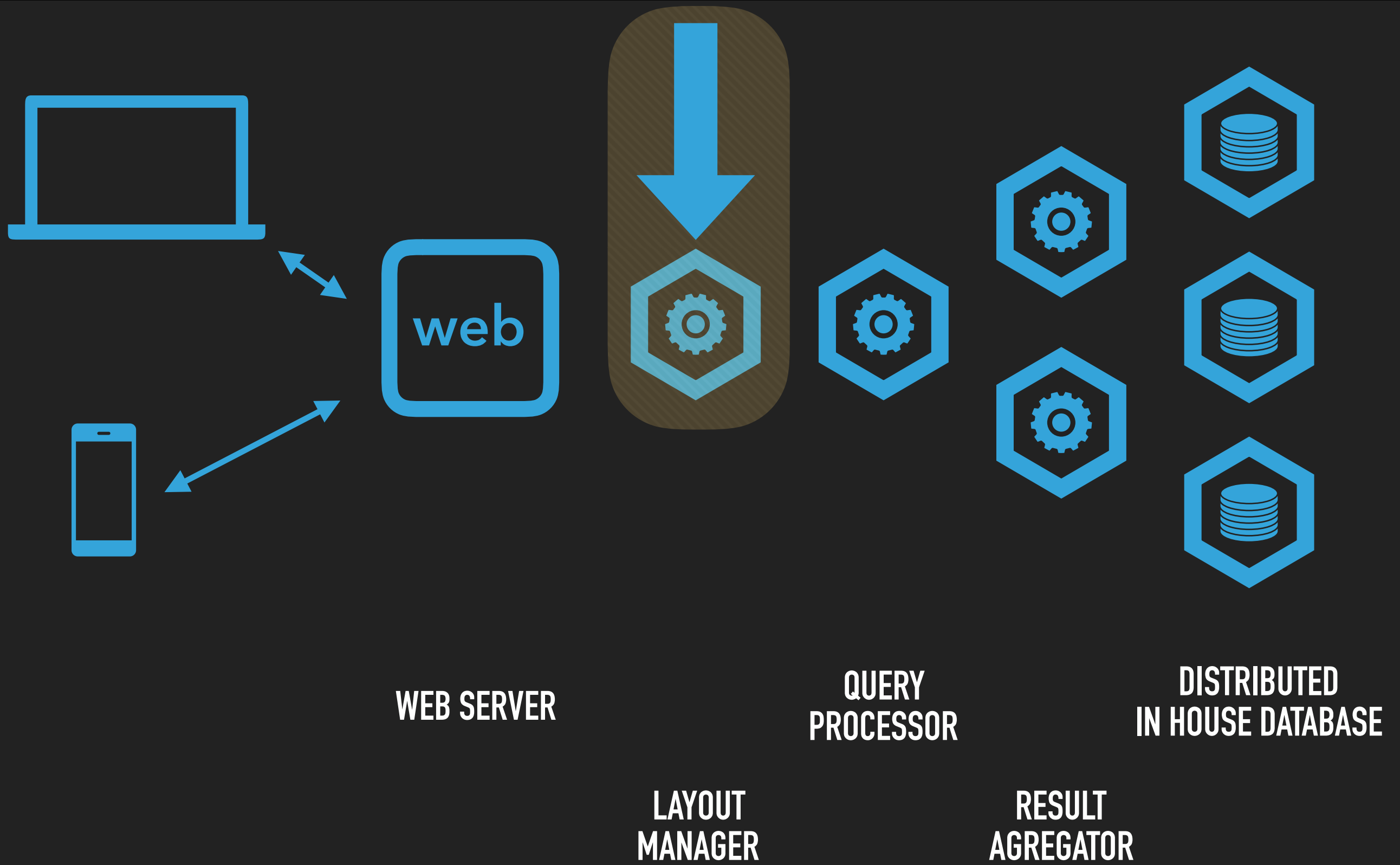
**LAYOUT  
MANAGER**

**RESULT  
AGREGATOR**



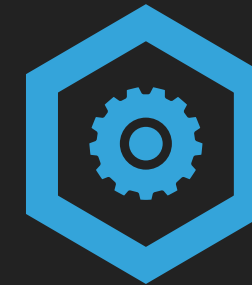
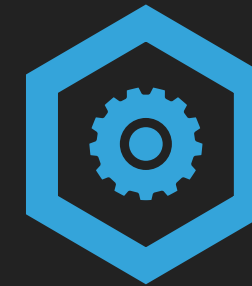








**WEB SERVER**



**QUERY  
PROCESSOR**

**DISTRIBUTED  
IN HOUSE DATABASE**

**LAYOUT  
MANAGER**

**RESULT  
AGREGATOR**

# PROS

Handle high load

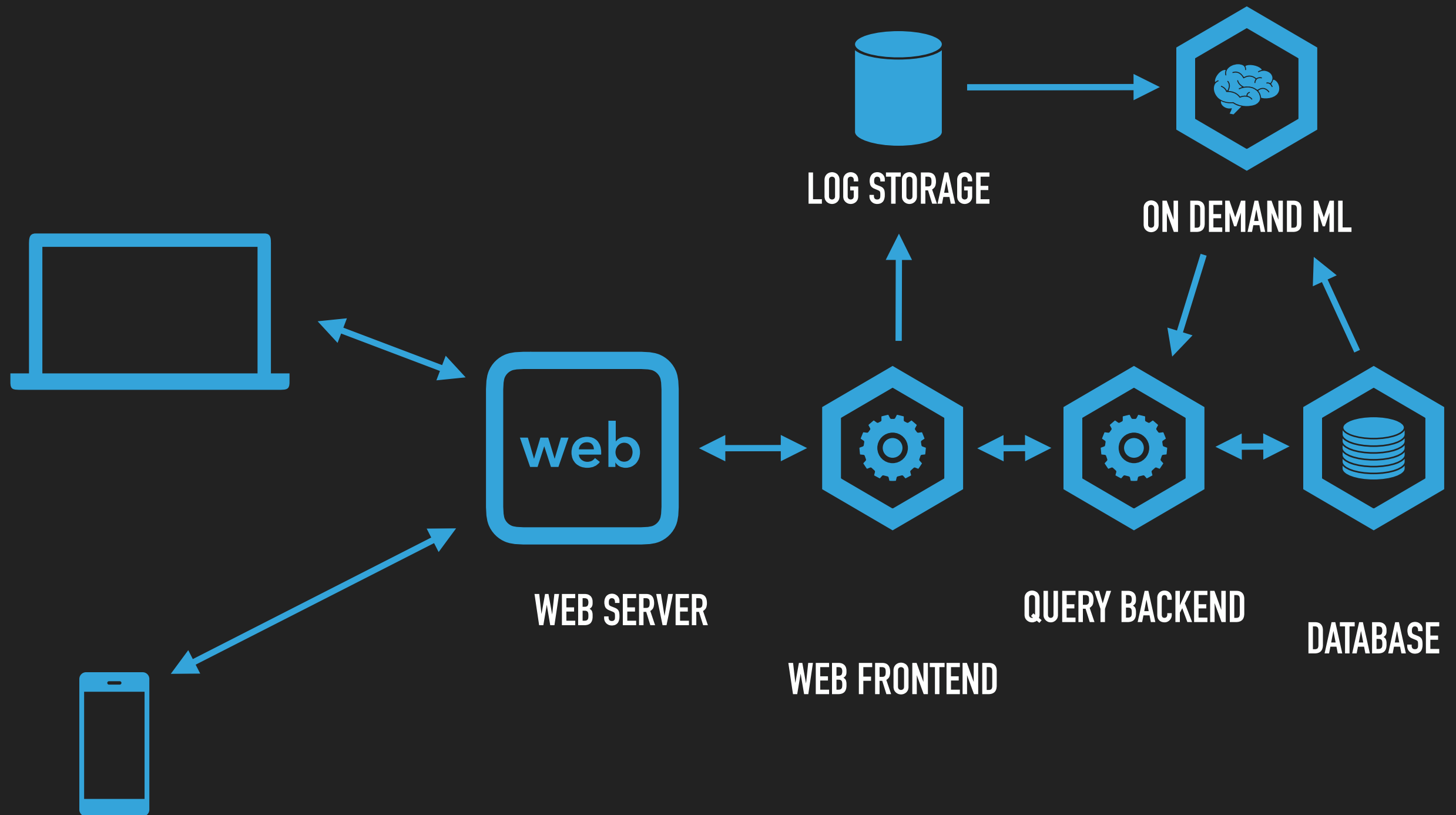
Thin client

# CONS

Backend HW upgrades

Error prone

**2017 –  
RECOMMENDER**



# PROS

Scale by need

Simpler deployment

Pay for what you use

More fault tolerant

# CONS

Complex setup

Devel is hell



**WHAT IS CLOUD?**

---

**DELIVERY OF ON-DEMAND  
COMPUTING RESOURCES**

# WHAT IS CLOUD NATIVE?

---

**CLOUD-NATIVE IS AN ARCHITECTURE OR A SYSTEM THAT HAS BEEN BUILT SPECIFICALLY TO RUN IN THE CLOUD**

WELCOME

---

**CLOUD NATIVE COMPUTING  
FOUNDATION**

# Cloud Native Landscape

v2.1

See the interactive landscape at [landscape.cncf.io](https://landscape.cncf.io)

Greyed logos are not open source

## Database & Data Warehouse

## Streaming

## Source Code Management

## Application Definition

## Continuous Integration / Continuous Delivery (CI/CD)

## App Definition & Development

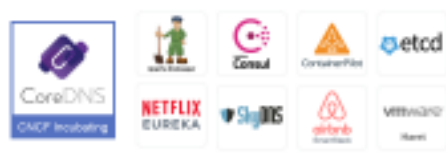


## Scheduling & Orchestration

## Coordination & Service Discovery

## Service Management

## Orchestration & Management

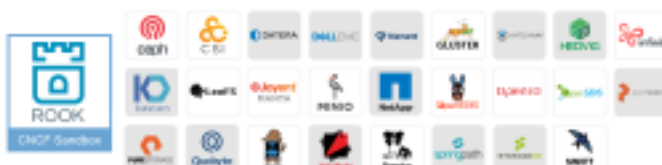


## Cloud-Native Storage

## Container Runtime

## Cloud-Native Network

## Runtime



## Host Management / Tooling

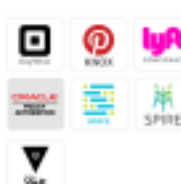
## Infrastructure Automation

## Container Registries

## Secure Images

## Key Management

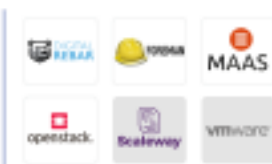
## Provisioning



## Public

## Private

## Cloud



[github.com/cncf/landscape](https://github.com/cncf/landscape)

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.



## Platforms

## Observability & Analysis

### Certified Kubernetes - Distribution



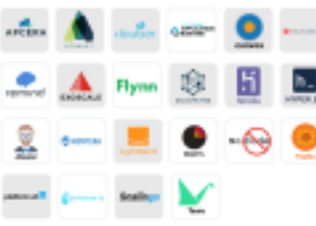
### Certified Kubernetes - Platform



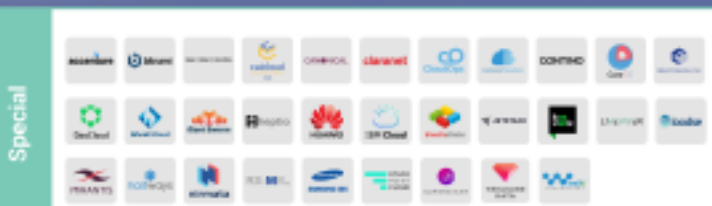
### Non-Certified Kubernetes



### PaaS/Container Service



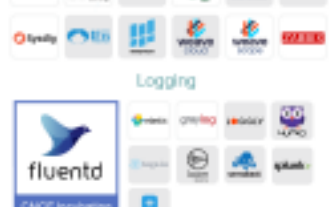
### Kubernetes Certified Service Provider



### Monitoring



### Logging



### Tracing



### Serverless



See the separate serverless landscape

## Special

# Cloud Native Landscape

v2.1

See the interactive landscape at [landscape.cncf.io](https://landscape.cncf.io)

Greyed logos are not open source

App Definition & Development

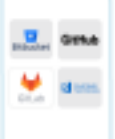
## Database & Data Warehouse



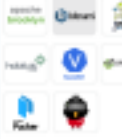
## Streaming



## Source Code Management



## Application Definition



## Continuous Integration / Continuous Delivery (CI/CD)

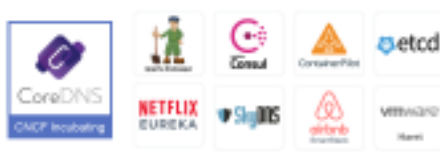


Orchestration & Management

## Scheduling & Orchestration



## Coordination & Service Discovery



## Service Management



Runtime

## Cloud-Native Storage



## Container Runtime



## Cloud-Native Network

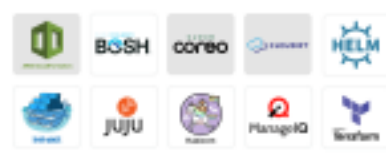


Provisioning

## Host Management / Tooling



## Infrastructure Automation



## Container Registries



## Secure Images



## Key Management



## Public



## Private



[github.com/cncf/landscape](https://github.com/cncf/landscape)

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.

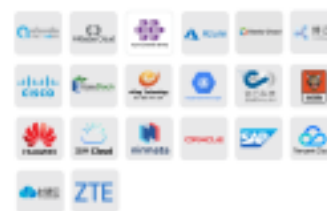


## Platforms

### Certified Kubernetes - Distribution



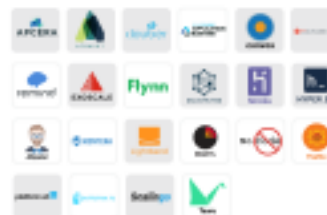
### Certified Kubernetes - Platform



### Non-Certified Kubernetes



### PaaS/Container Service



## Observability & Analysis

### Monitoring



### Logging



### Tracing



### Serverless



See the separate serverless landscape

## Kubernetes Certified Service Provider



Special



# Cloud Native Landscape

v2.1

See the interactive landscape at [landscape.cncf.io](https://landscape.cncf.io)

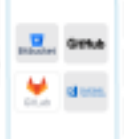
## Database & Data Warehouse



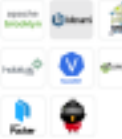
## Streaming



## Source Code Management



## Application Definition



## Continuous Integration / Continuous Delivery (CI/CD)



App Definition & Development

## Scheduling & Orchestration



## Coordination & Service Discovery

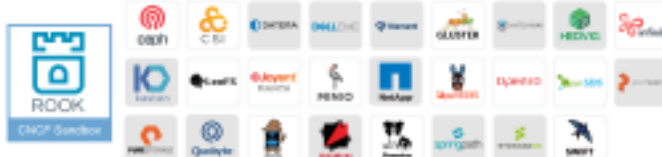


## Service Management



Orchestration & Management

## Cloud-Native Storage



## Container Runtime



## Cloud-Native Network



Runtime

## Host Management / Tooling



## Infrastructure Automation



## Container Registries



## Secure Images



## Key Management

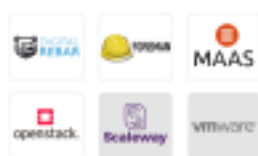


Provisioning

## Public



## Private



Cloud



[github.com/cncf/landscape](https://github.com/cncf/landscape)

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.

**CLOUD NATIVE Landscape**  
**CLOUD NATIVE COMPUTING FOUNDATION**  
Redpoint Amplify

## Platforms

### Certified Kubernetes - Distribution



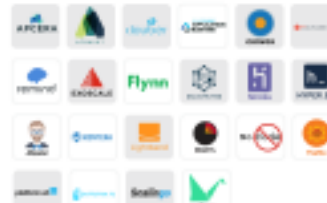
### Certified Kubernetes - Platform



### Non-Certified Kubernetes



### PaaS/Container Service



Special

## Kubernetes Certified Service Provider



## Observability & Analysis

### Monitoring



### Logging



### Tracing



### Serverless



See the separate serverless landscape



# Cloud Native Landscape

See the interactive landscape at [landscape.cncf.io](https://landscape.cncf.io)

Greyed logos are not open source



[github.com/cncf/landscape](https://github.com/cncf/landscape)

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.

**CLOUD NATIVE Landscape**  
**CLOUD NATIVE COMPUTING FOUNDATION**  
Redpoint Amplify

# Cloud Native Landscape

v2.1

See the interactive landscape at [landscape.cncf.io](https://landscape.cncf.io)

Greyed logos are not open source

## Database & Data Warehouse

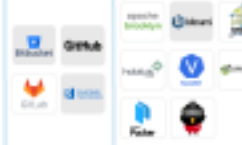
## Streaming

## Source Code Management

## Application Definition

## Continuous Integration / Continuous Delivery (CI/CD)

## App Definition & Development

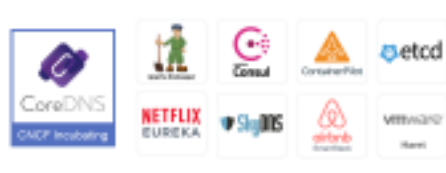


## Orchestration & Management

### Scheduling & Orchestration



### Coordination & Service Discovery



### Service Management

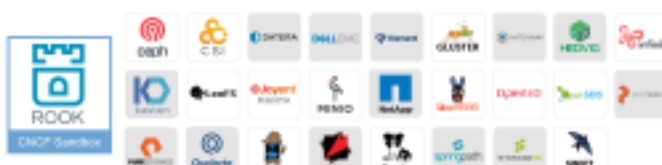


## Cloud-Native Storage

## Container Runtime

## Cloud-Native Network

## Runtime



## Host Management / Tooling

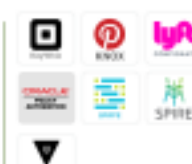
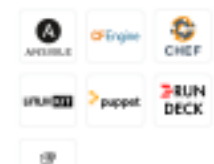
## Infrastructure Automation

## Container Registries

## Secure Images

## Key Management

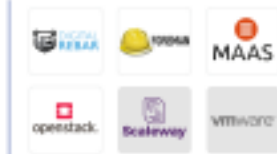
## Provisioning



## Public

## Private

## Cloud



[github.com/cncf/landscape](https://github.com/cncf/landscape)

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.

**CLOUD NATIVE Landscape**  
**CLOUD NATIVE COMPUTING FOUNDATION**  
Redpoint Amplify

## Platforms

### Certified Kubernetes - Distribution



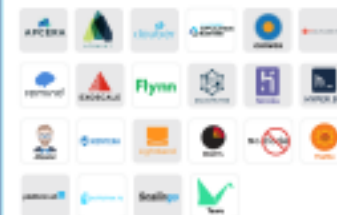
### Certified Kubernetes - Platform



### Non-Certified Kubernetes



### PaaS/Container Service



## Kubernetes Certified Service Provider



## Observability & Analysis

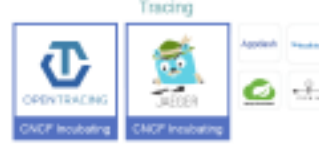
### Monitoring



### Logging



### Tracing



### Serverless



See the separate serverless landscape

## Special



# Cloud Native Landscape

v2.1

See the interactive landscape at [landscape.cncf.io](https://landscape.cncf.io)

Greyed logos are not open source

App Definition & Development

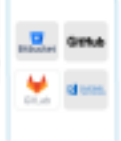
## Database & Data Warehouse



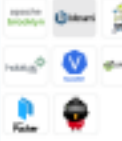
## Streaming



## Source Code Management



## Application Definition



## Continuous Integration / Continuous Delivery (CI/CD)

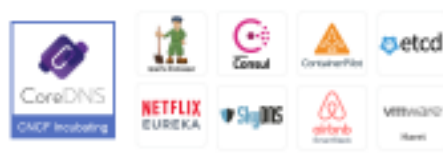


Orchestration & Management

## Scheduling & Orchestration



## Coordination & Service Discovery



## Service Management



Runtime

## Cloud-Native Storage



## Container Runtime



## Cloud-Native Network

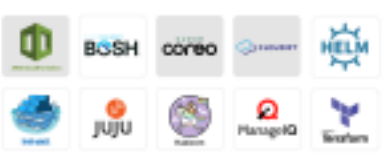


Provisioning

## Host Management / Tooling



## Infrastructure Automation



## Container Registries



## Secure Images



## Key Management

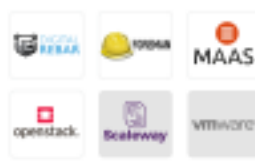


Cloud

## Public



## Private



[github.com/cncf/landscape](https://github.com/cncf/landscape)

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.

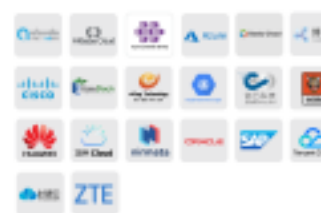


## Platforms

### Certified Kubernetes - Distribution



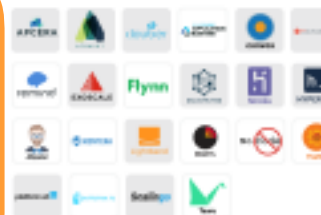
### Certified Kubernetes - Platform



### Non-Certified Kubernetes



### PaaS/Container Service



## Observability & Analysis

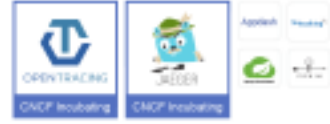
### Monitoring



### Logging



### Tracing



### Serverless



See the separate serverless landscape

## Kubernetes Certified Service Provider



## FUTURE PLAN

- ▶ Building blocks of the cloud and cloud applications
- ▶ Cover case studies and fuckups
- ▶ Build a understanding how it applies to industries
- ▶ Help us.

**CLOUDNATIVE.CZ**



