

Cloud Computing in the Real World



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Overview



Types of cloud computing services

- Infrastructure as a Service
- Platform as a Service
- Software as a Service

Cloud computing services scenarios

Cloud computing deployment models

Virtual Desktop Infrastructure



Types of Cloud Computing Services



Three Main Types of Cloud Computing Services

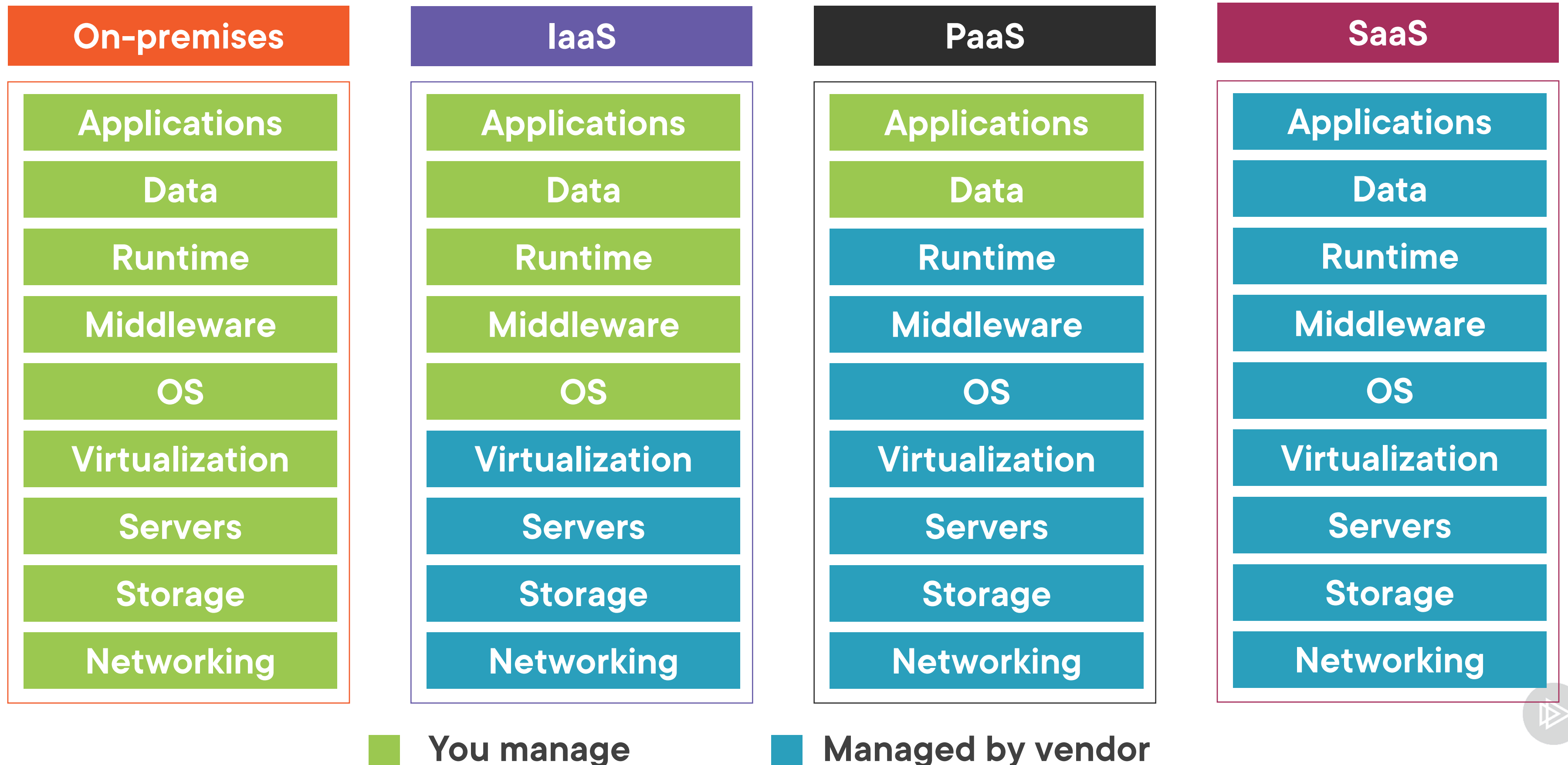
**Infrastructure
as a Service
(IaaS)**

**Platform
as a Service
(PaaS)**

**Software
as a Service
(SaaS)**



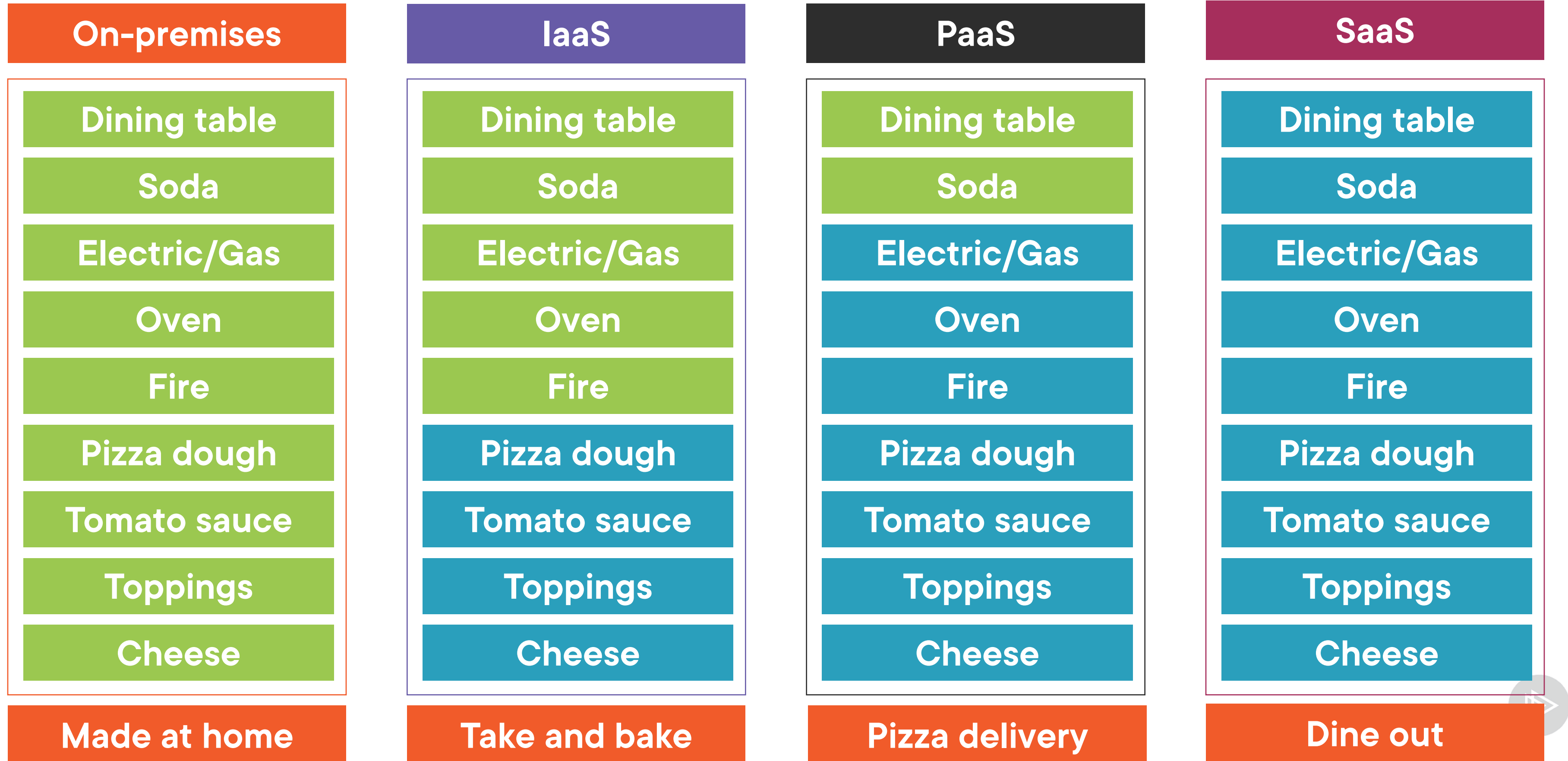
Types of Cloud Computing Services



Pizza as a Service

 You manage

 Managed by vendor



Some Popular Vendors

IaaS

Microsoft Azure

**Amazon Web
Services**

**Google Compute
Engine**

Rackspace

PaaS

Heroku

**Amazon Elastic
Beanstalk**

Azure Logic Apps

SaaS

Microsoft 365

Google G Suite

Salesforce

Dropbox



Cloud Computing Services Scenarios



Common IaaS Scenarios



Test and development

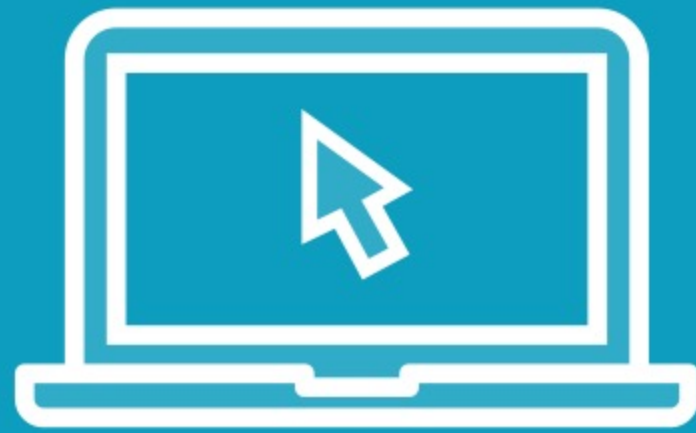
Storage and backups

High performance computing

Big data analysis



Demo



Creating a virtual machine in Azure IaaS



Common PaaS Scenarios

Analytics or business intelligence
Development framework



Demo



Create an Azure Web App



Common SaaS Scenarios

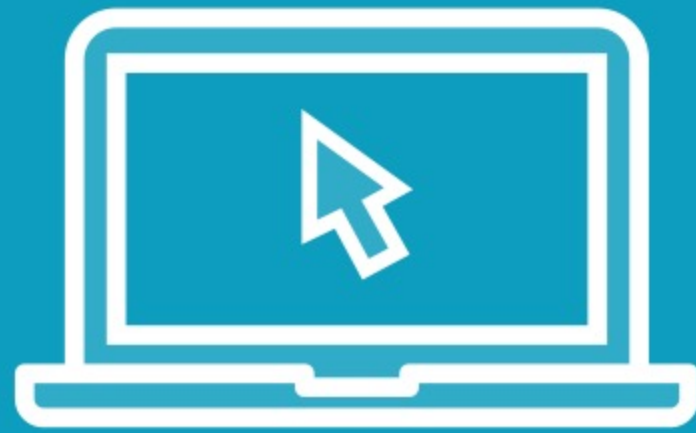


Gain access to sophisticated applications

Mobilize your workforce easily



Demo



Pricing for Microsoft 365 and Dropbox

Setting up a Dropbox account



Cloud Computing Deployment Models



Cloud Computing Deployment Models

Public Cloud

Cloud service provided by a third-party provider, hardware can be shared amongst multiple clients

Private Cloud

Hardware is only used by a single company, which often owns the hardware and datacenter

Hybrid Cloud

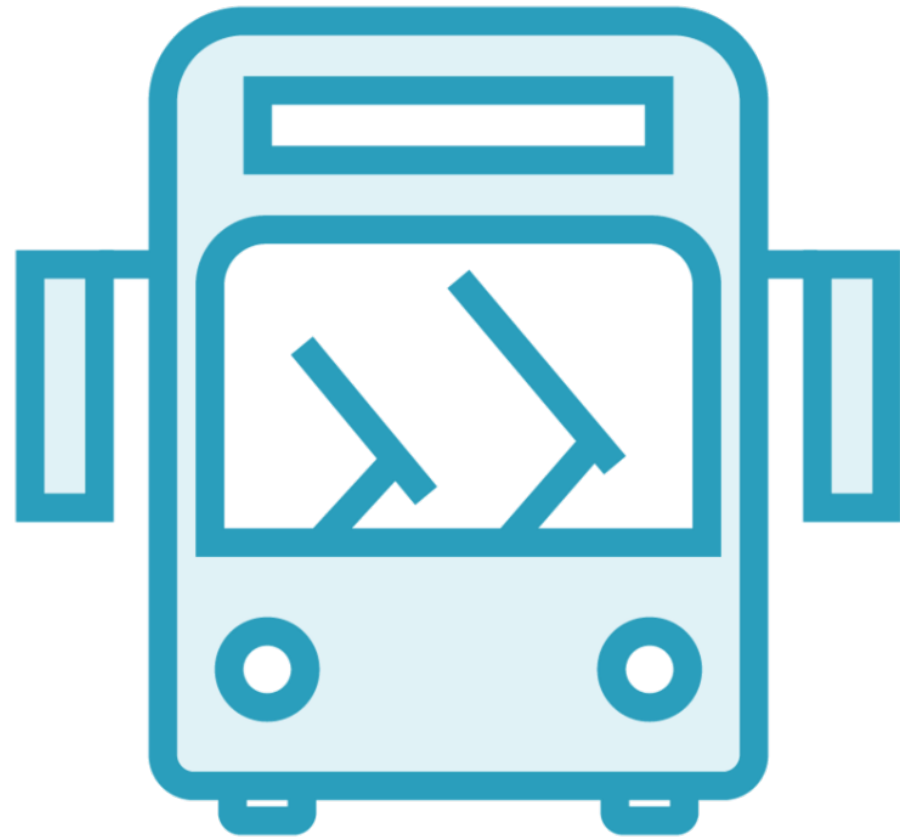
Combination of public and private cloud with automation and orchestration between the two

Community Cloud

Infrastructure is shared between several orgs from a specific community with common concerns (security, compliance, jurisdiction, etc.)



Public Cloud



Most cloud offerings are in the public cloud model



Private and Hybrid Cloud

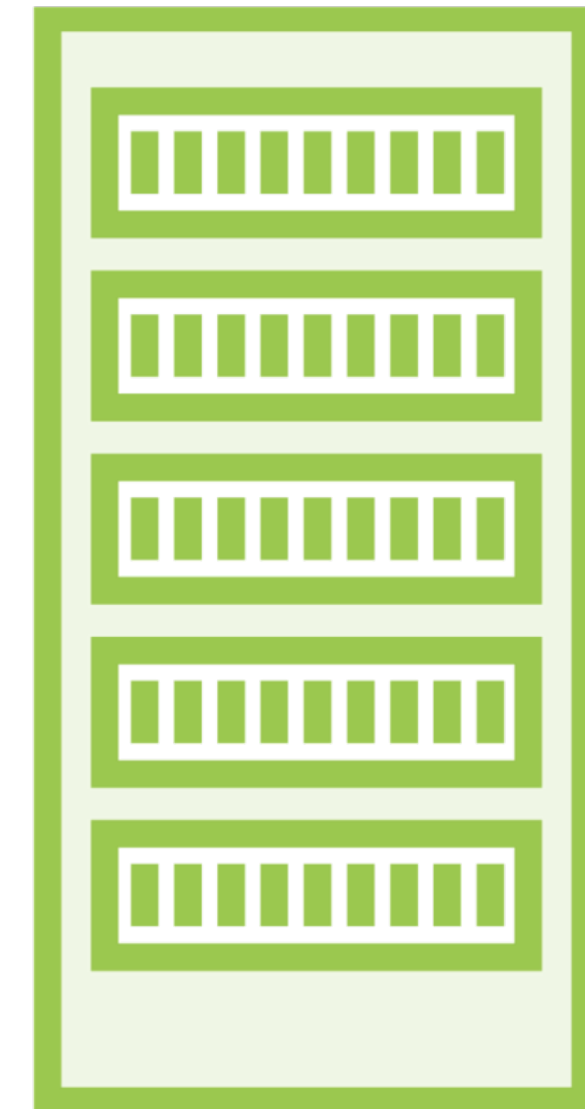
Consistent tools, experiences, and app models

Some examples

Azure Stack

AWS Outposts

Easier to transfer workloads to public cloud in the future



Community Cloud



Example scenario is a cloud offering specific to government entities

Can handle data that is subject to government regulations & requirements

- **FedRAMP / DOD / CJIS / etc**

Other example community clouds include services in specific countries

- **Azure China**
- **Azure Germany**
- **AWS China**



Virtual Desktop Infrastructure



Virtual Desktop Infrastructure (VDI)

Virtual Desktop Infrastructure, or VDI, refers to the process of running a user desktop inside a virtual machine that lives on a server in the datacenter. It's a powerful form of desktop virtualization because it enables fully personalized desktops for each user with all the security and simplicity of centralized management.

<https://www.citrix.com/glossary/vdi.html>



Goal of Virtual Desktop Infrastructure



Virtual desktop accessible from any computing device

You can decide how powerful the virtual desktop is

- The computing device used to connect to the virtual desktop doesn't need to be powerful!**

Enterprises can enforce security & compliance on the virtual desktops



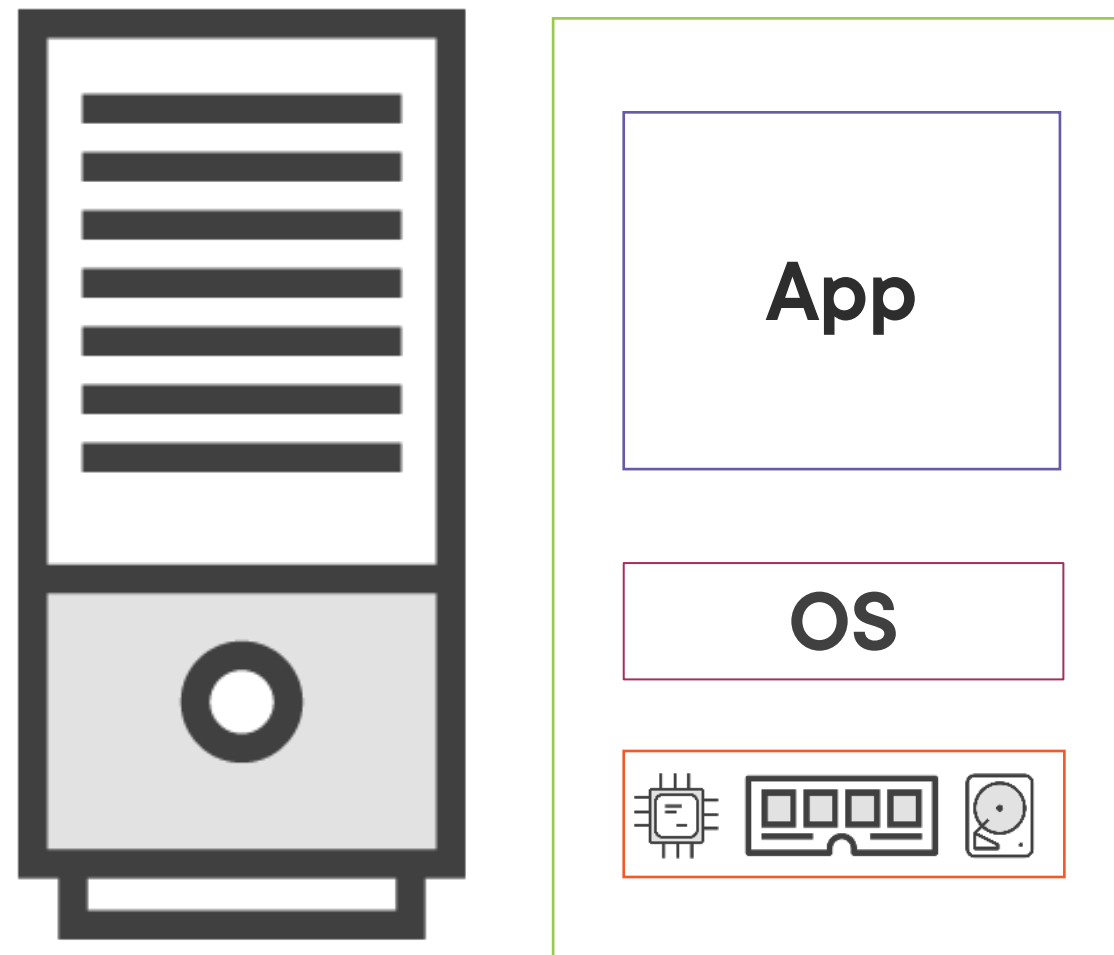
Virtual Desktop Infrastructure

On-Premises
Private Cloud

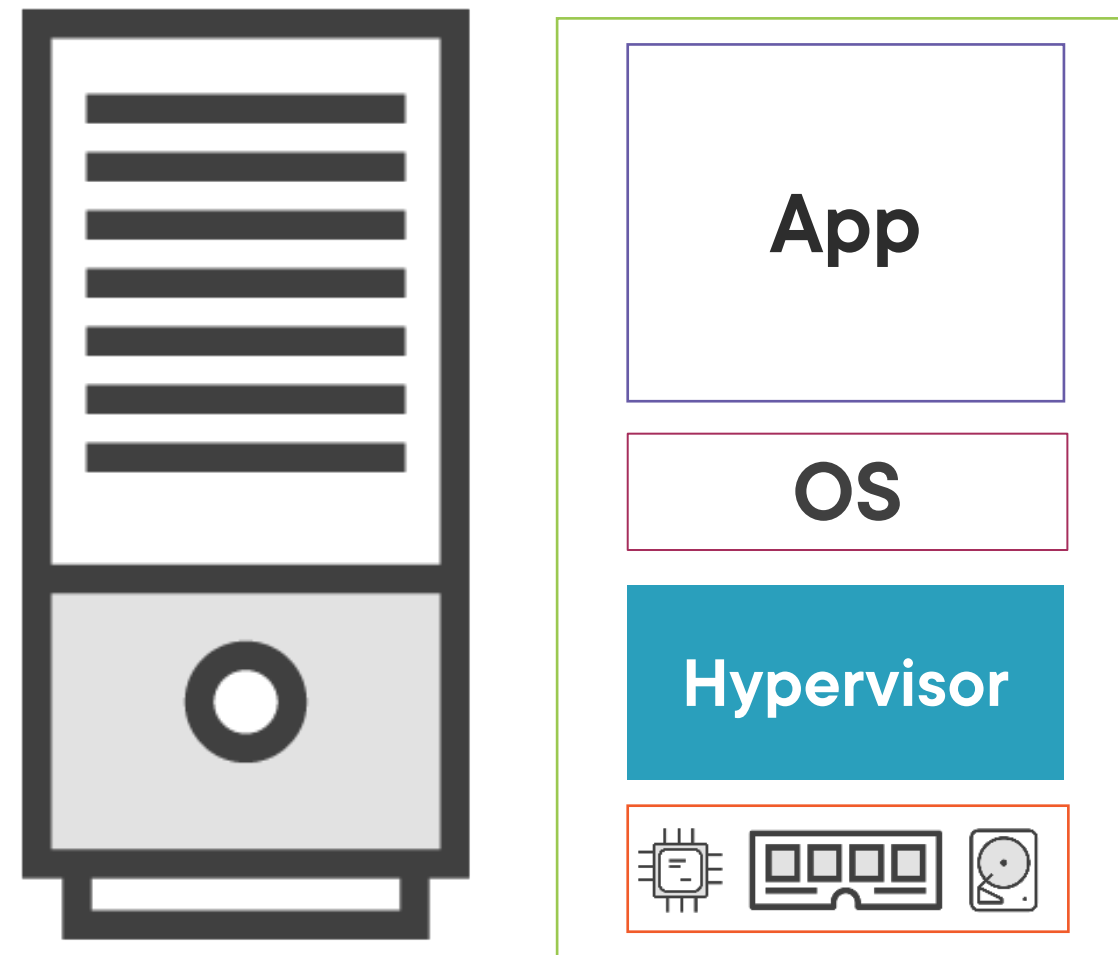
Public Cloud



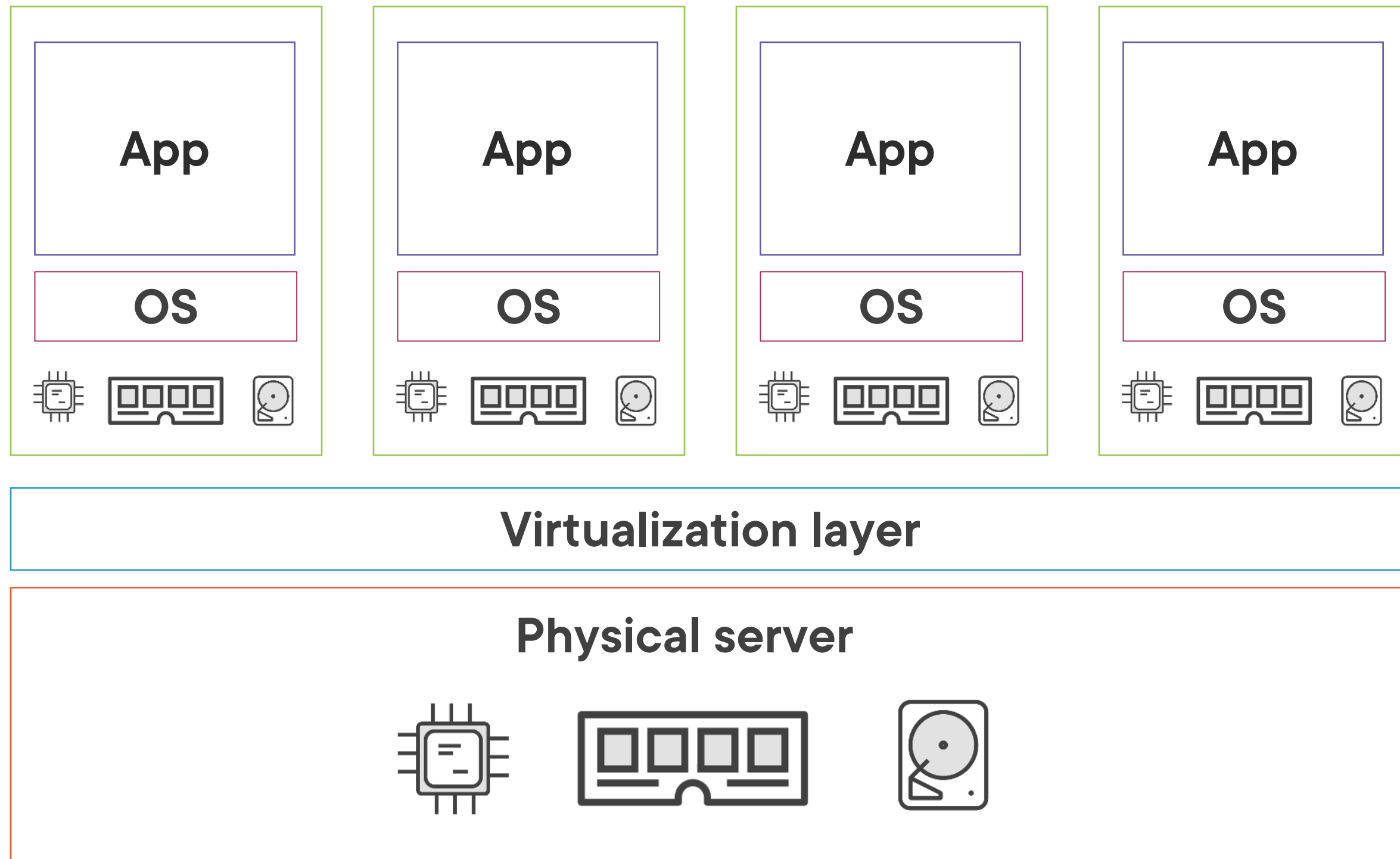
Desktop Virtualization



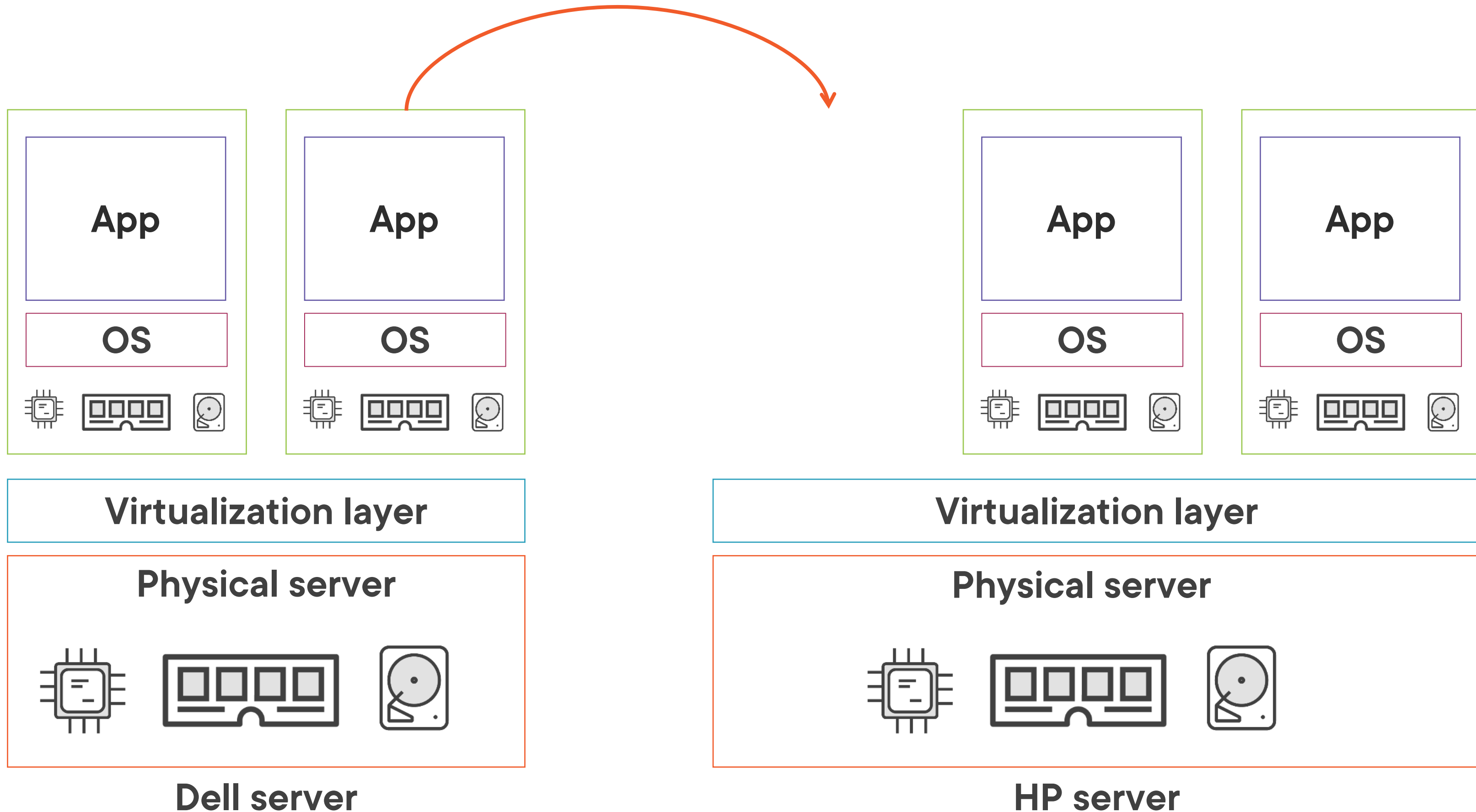
Desktop Virtualization



Desktop Virtualization



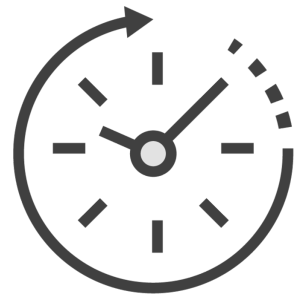
Virtual Desktops Are Portable



Virtual Desktop Infrastructure Benefits



Hardware Cost Savings



Load Balancing and Resilience



Faster PC deployment



Centrally managed and backed up



Demo



Windows 365 Cloud PC



Scenario: Carved Rock Fitness



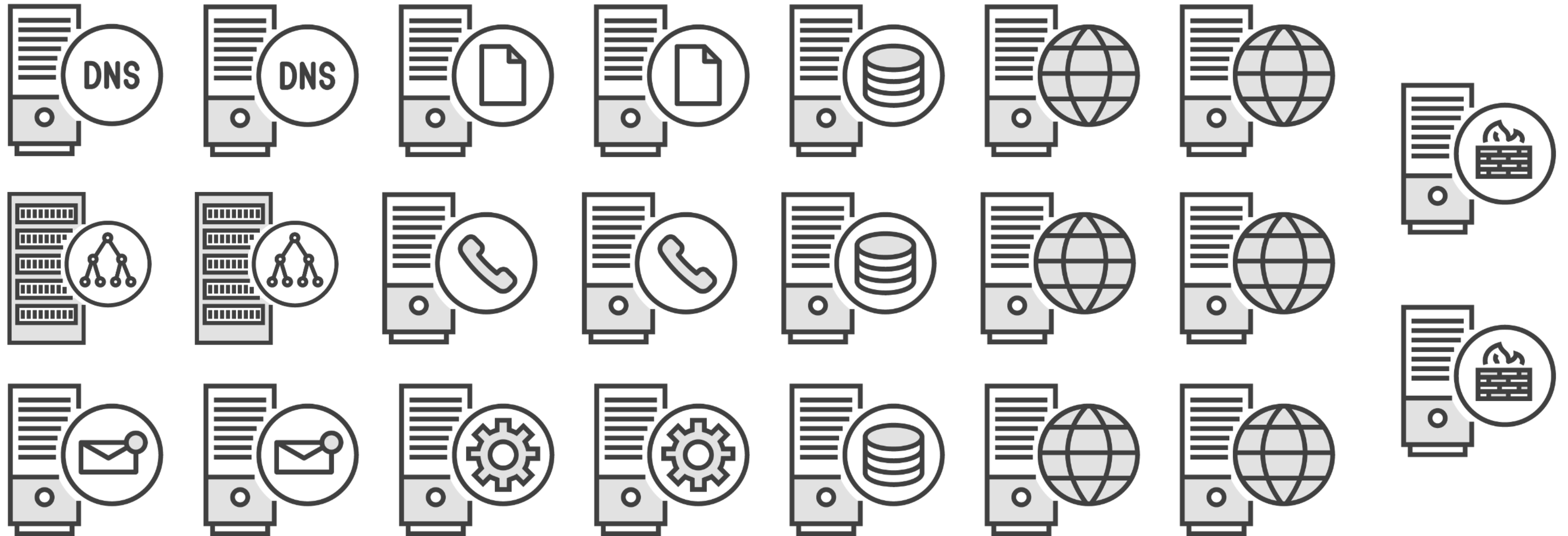
Your Case: Carved Rock Fitness



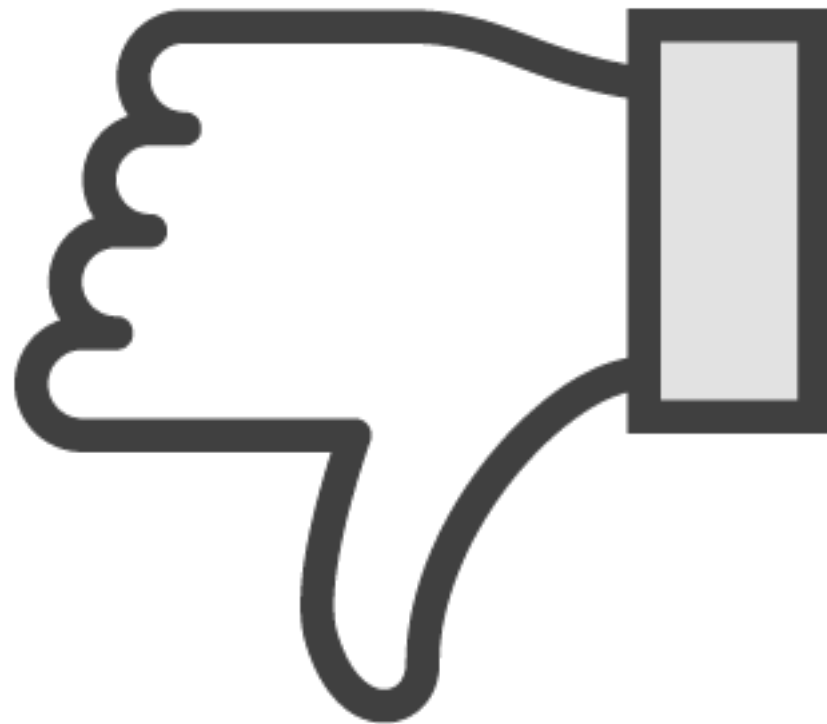
Carved Rock Fitness is a family-owned fitness company that is growing throughout North America. As they grow to multiple locations, they are looking at different ways to improve their IT Infrastructure reliability and save money.



Carved Rock Fitness: Current Infrastructure



Current Problems



With 23 servers, rent for the datacenter is expensive and getting new space is complicated

Web servers only reach 60% utilization during quarterly sales

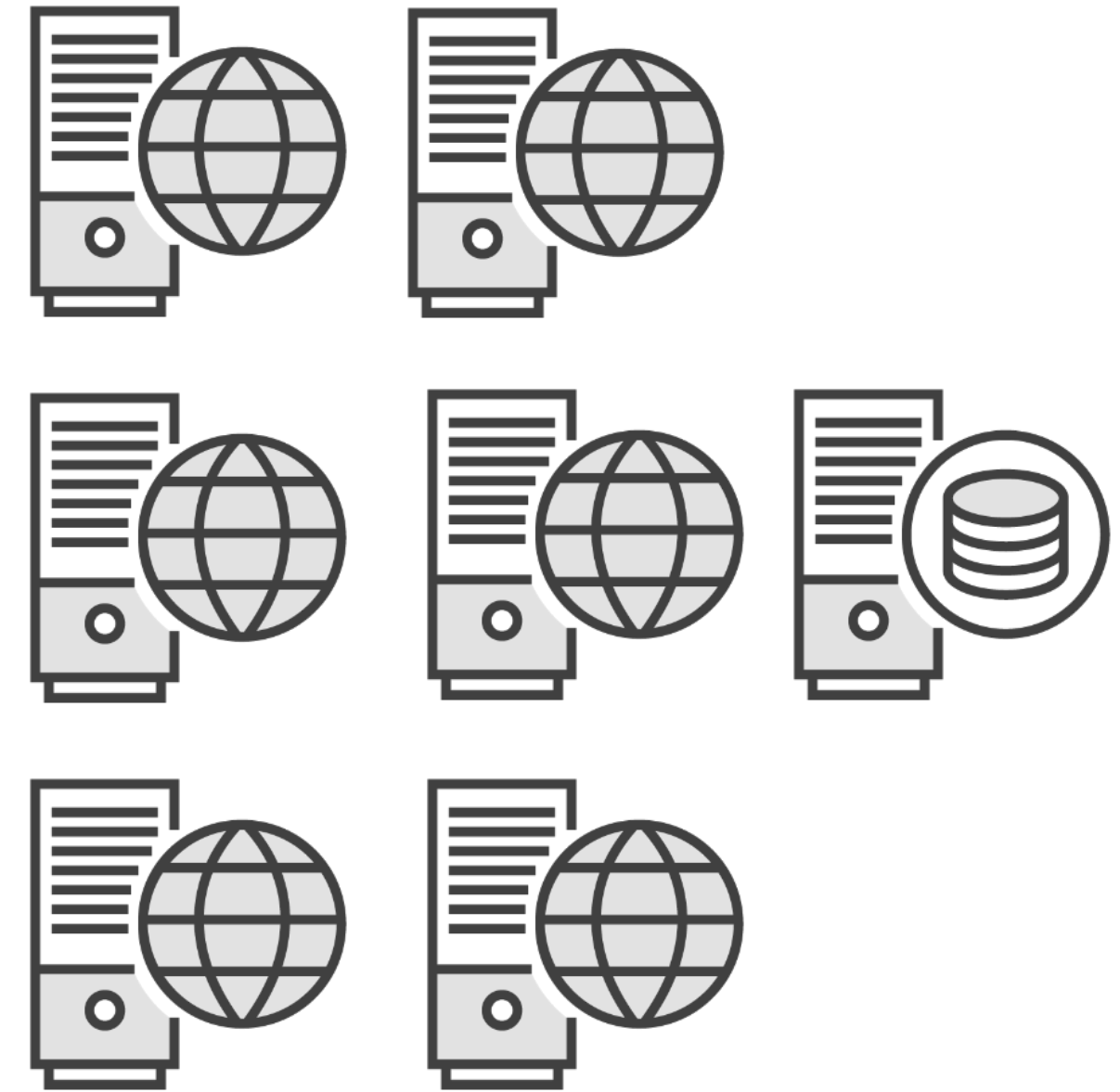
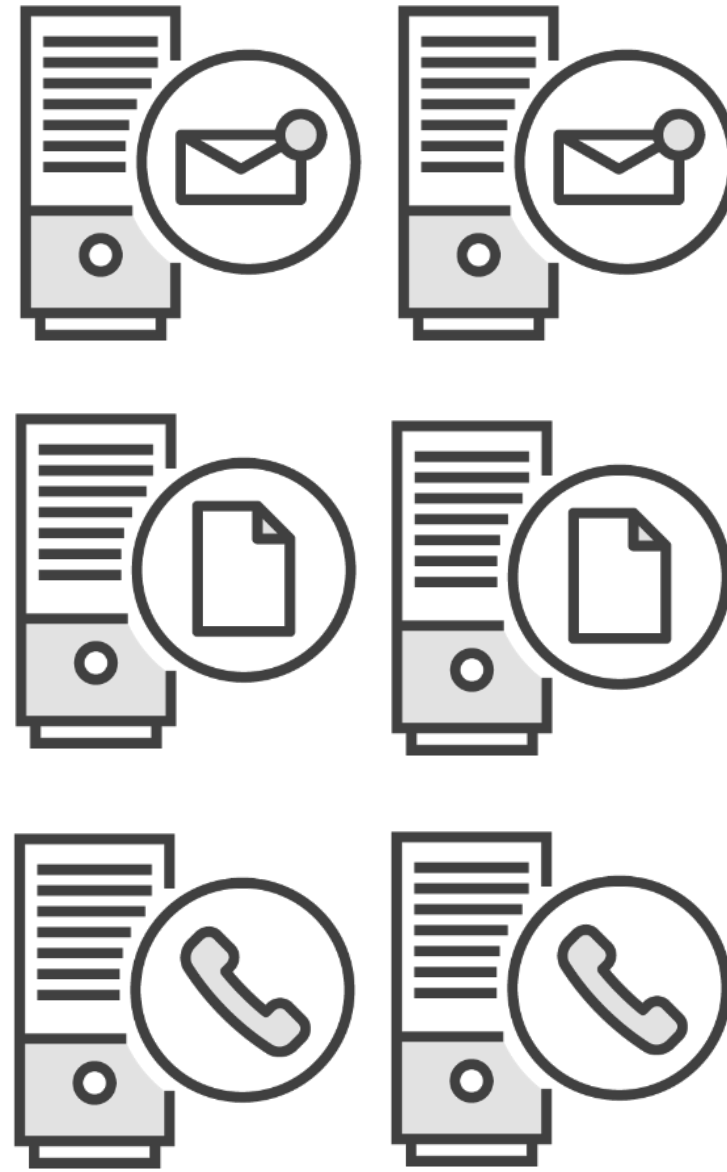
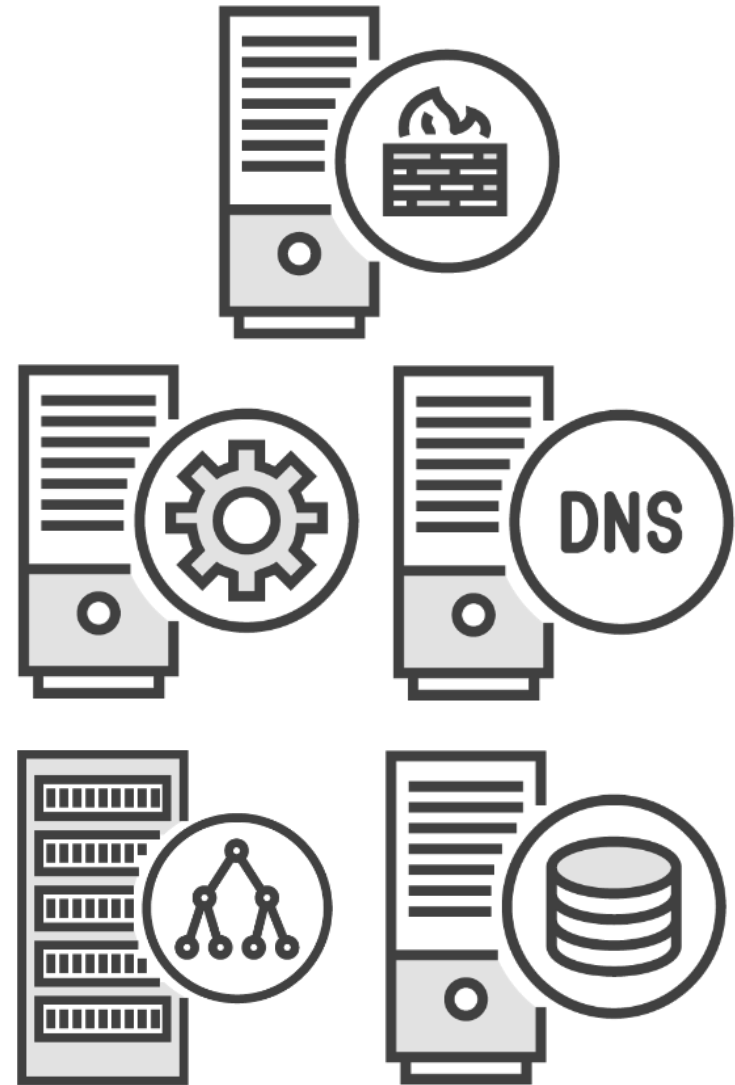
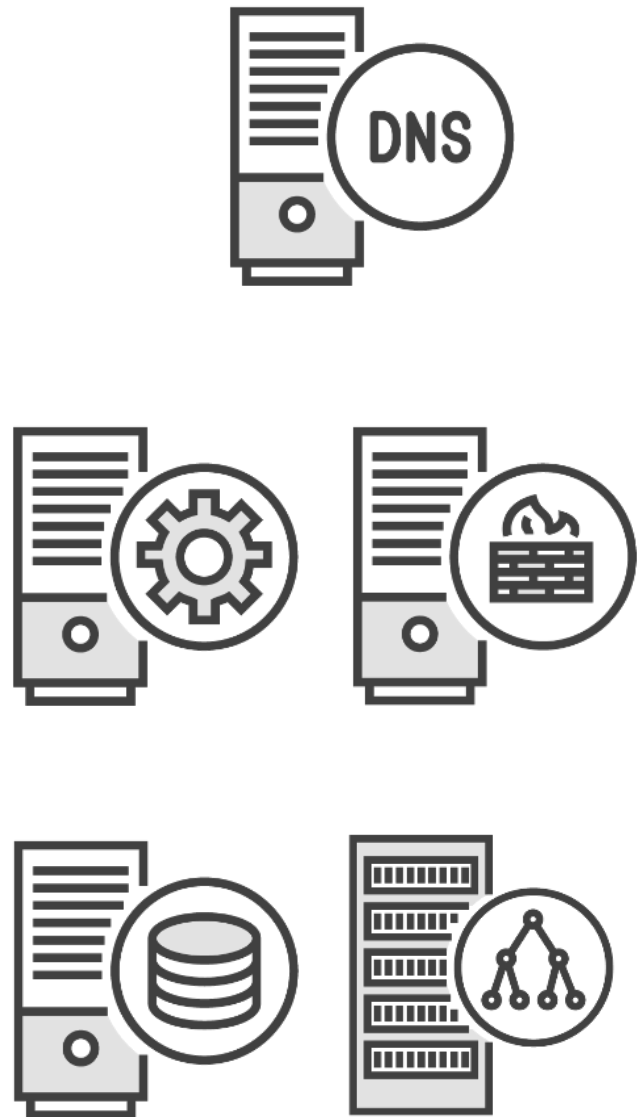
- Normal utilization is less than 5%**

The brand expansion adds new high availability and disaster recovery requirements

Maintaining the hardware and servers will require more full time IT personnel



How Can Virtualization and Cloud Help?



Microsoft
Azure (IaaS)

Microsoft 365
(SaaS)

Azure App Service (PaaS)



Conclusion



Types of cloud computing services

- Infrastructure as a Service
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Cloud computing deployment models

- Public cloud
- Private cloud
- Hybrid cloud
- Community cloud

Virtual desktop infrastructure



Up Next:
Course Conclusion

