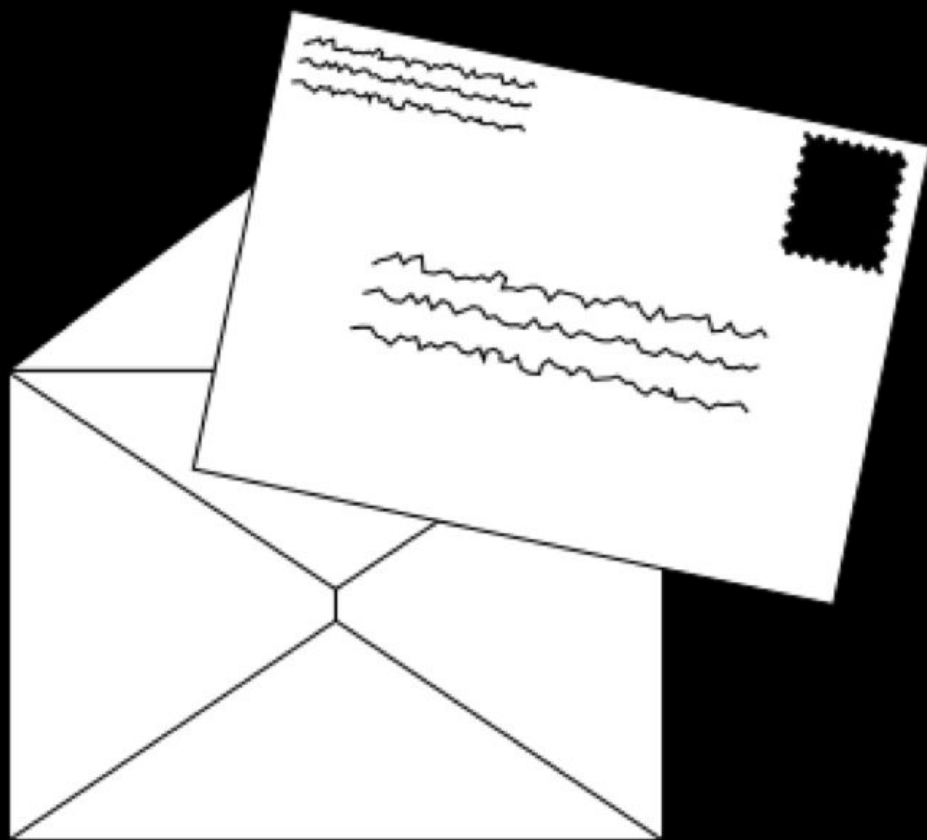


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cs50.ly/feedback

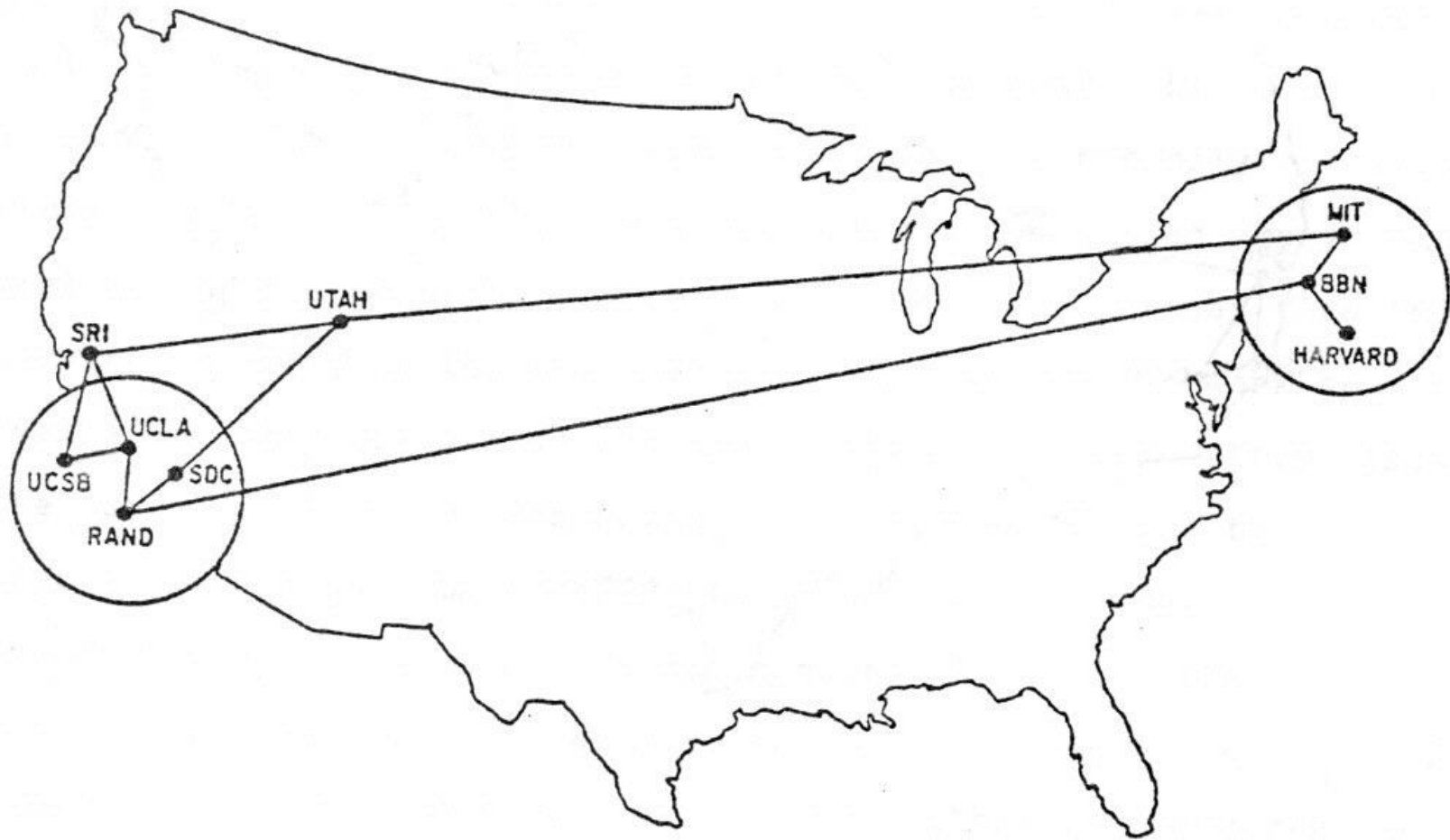
Internet Technologies, Cloud Computing



internet



The ARPANET in December 1969



routers

A grid of 20 video call windows, each showing a different participant. The participants are arranged in 4 rows and 5 columns. Each window has a name label at the bottom. The backgrounds vary, including bookshelves, plain walls, and indoor settings.

Brian Yu

Guy E White

Dr Flanko Setufo N...

Alison Xin

Shreyas Iyer

Moshe Polak

Yoel Hava

Taylor Kruse

Helen Cho

Jonny Zhang

Josh Archibald

Ashley Zhuang

Caroline Abel

Sophie Edouard

Moni Radev

Jonathan Yuan

Albert Zhu

Helen Mehrensab

Joshua Ng

Montague Mawere

Matt Thomas Pauly

Seam Noor

María Guramam

Patrick Song

Phyllis Zhang





BUSINESS
INSIDER

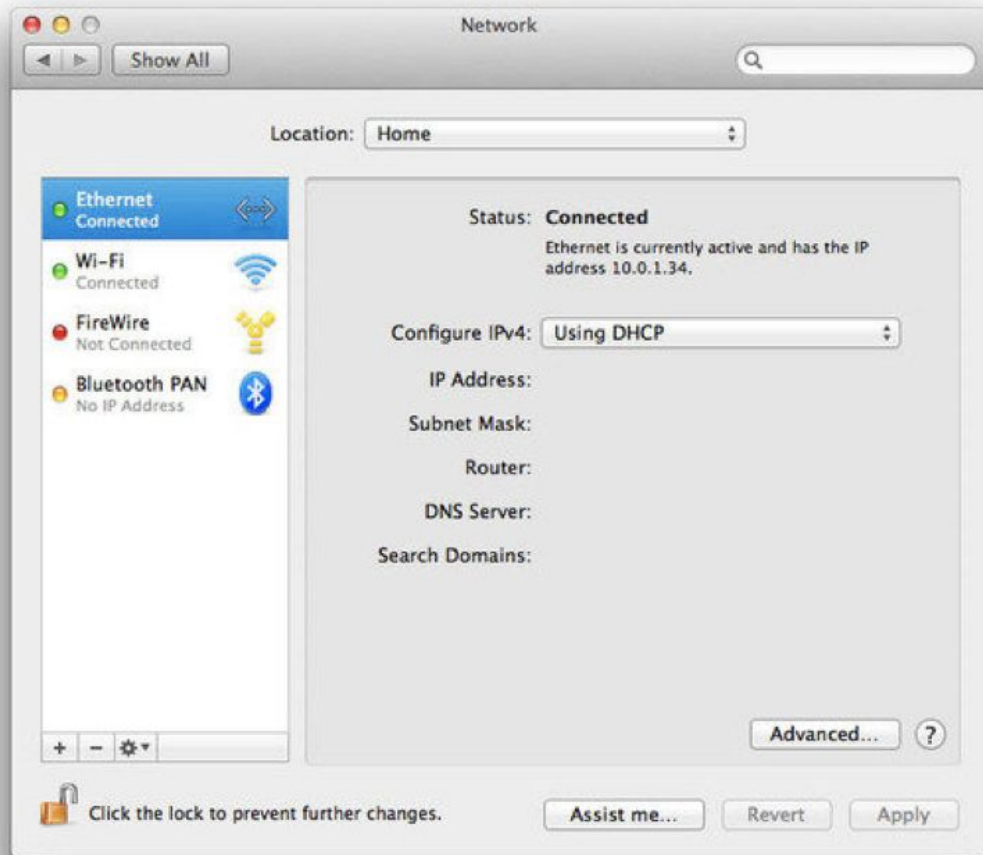
TCP/IP

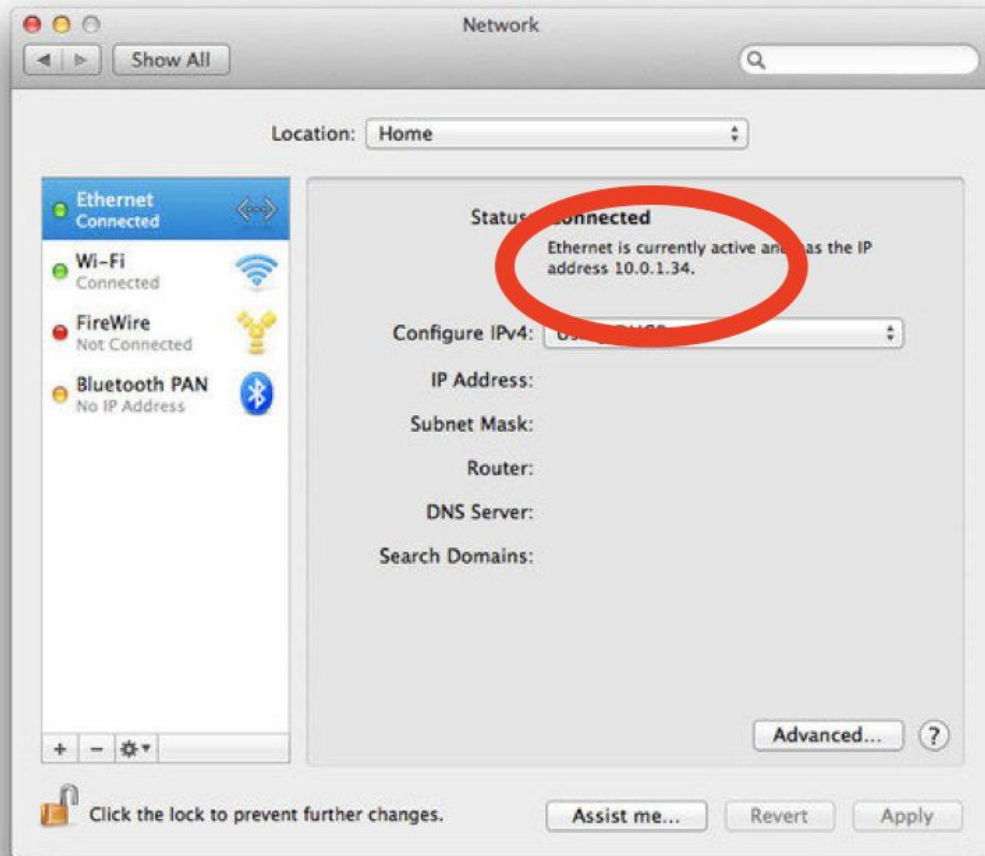
IP

###.#

- 10.###
- 172.16.## – 172.31.##
- 192.168.##
- ...

DHCP







Settings



ETHERNET

Allow your PC to be discoverable by other PCs and devices on this network. We recommend turning this on for private networks at home or work, but turning it off for public networks to help keep your stuff safe.



On

Properties

IPv4 address: 192.168.1.116

IPv4 DNS Servers: 209.81.96.30

209.81.96.49

192.168.1.1

Manufacturer: Realtek



Settings



ETHERNET

Allow your PC to be discoverable by other PCs and devices on this network. We recommend turning this on for private networks at home or work, but turning it off for public networks to help keep your stuff safe.



On

Properties

IPv4 address: 192.168.1.116

IPv4 default gateway: 209.81.96.49

209.81.96.49

192.168.1.1

Manufacturer: Realtek

Ethernet

TCP/IP DNS WINS 802.1X Proxies Hardware

Configure IPv4: Using DHCP

IPv4 Address: 10.0.1.34

Renew DHCP Lease

Subnet Mask: 255.255.255.0

DHCP Client ID:

(if required)

Router: 10.0.1.1

Configure IPv6: Automatically

Router:

IPv6 Address:

Prefix Length:



Cancel

OK

Ethernet

TCP/IP DNS WINS 802.1X Proxies Hardware

Configure IPv4: Using DHCP

IPv4 Address: 10.0.1.34

Renew DHCP Lease

Subnet Mask: 255.255.255.0

DHCP Client ID:

(If required)

Router: 10.0.1.1

Configure IPv6: Automatically

Router:

IPv6 Address:

Prefix Length:






Cancel

OK

Global
HD



t View Go Window Help

   <http://275.3.6.28>

```
> switchView = [[UISwitch alloc] initWithFrameRect:rect];
> [switchView setTag:997];
> [cell addSubview:switchView];
> [switchView release];
> }
>
> // recover switchview from the cell
> switchView = [cell viewWithTag:997];
> [switchView addTarget:self action:@selector(toggleSwitch)];
>
> // Set up the cell
> NSArray *crayon = [[section objectAtIndex:indexPath.section]
> [cell setText:[objectAtIndex:indexPath.row]];
>
> // extract the component
> float xx = - [acceleration x];
> float yy = [acceleration y];
```



```
> switchview = [[UISwitch alloc] initWith]
> [switchview setTag:997];
> [cell addSubview:switchview];
> [switchview release];
> }
>
> // recover switchview from the cell
> switchview = [cell viewWithTag:997];
> [switchview addTarget:self action:@sele]
>
> // Set up the cell
> NSArray *crayon + [[[section obejectAtIn]
> [cell setText:[objecgtAtIndex:0]];
>
> // extract the component
> float xx = - [acceleration x]
> float
```

TCP

80 HTTP

443 HTTPS

...

NAT

DNS

Domain Name

IP Address

Fully Qualified Domain Name

IP Address

Settings

ETHERNET

Allow your PC to be discoverable by other PCs and devices on this network. We recommend turning this on for private networks at home or work, but turning it off for public networks to help keep your stuff safe.

On

Properties

| | |
|-------------------|---------------|
| IPv4 address: | 192.168.1.116 |
| IPv4 DNS Servers: | 209.81.96.30 |
| | 209.81.96.49 |
| | 192.168.1.1 |
| Manufacturer: | Realtek |

HTTP

HTTPS

<https://www.example.com>

<https://www.example.com/>

<https://www.example.com/path>

<https://www.example.com/file.html>

<https://www.example.com/folder/>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

GET

POST

...

GET / HTTP/1.1

Host: www.example.com

...

HTTP/1.1 200 OK

Content-Type: text/html

...

GET /search?q=cats HTTP/1.1

Host: www.google.com

...

HTTP/1.1 200 OK

Content-Type: text/html

...

GET / HTTP/1.1

Host: www.harvard.edu

...

HTTP/1.1 301 Moved Permanently
Location: <https://www.harvard.edu/>
...

HTTP/1.1 404 Not Found
Content-Type: text/html

...

200 OK
301 Moved Permanently
302 Found
304 Not Modified
307 Temporary Redirect
401 Unauthorized
403 Forbidden
404 Not Found
418 I'm a Teapot
500 Internal Server Error
503 Service Unavailable
...

GET / HTTP/1.1

Host: safetyschool.org

...

ruse

Zoom

Helen Cho

Jonny Zhang



Abel



Sophie Edouard



Moni Radev



ehreteab



Joshua Ng



Montague Mawere

Internet Technologies, Cloud Computing

on premise

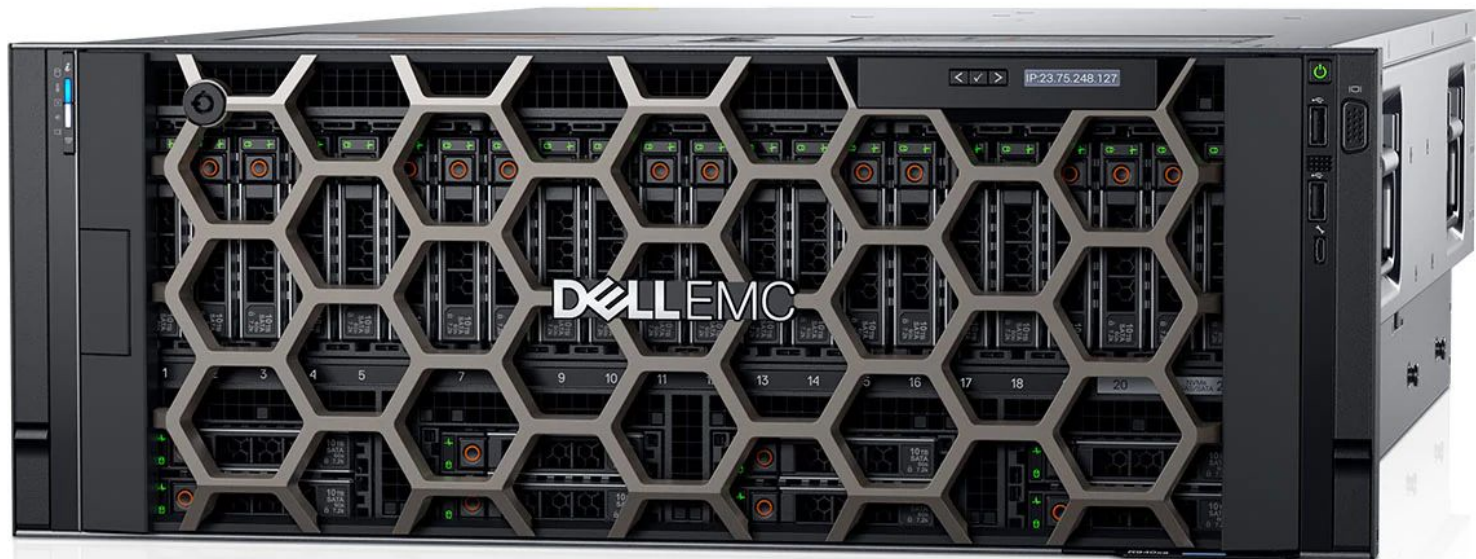
colocation

cloud

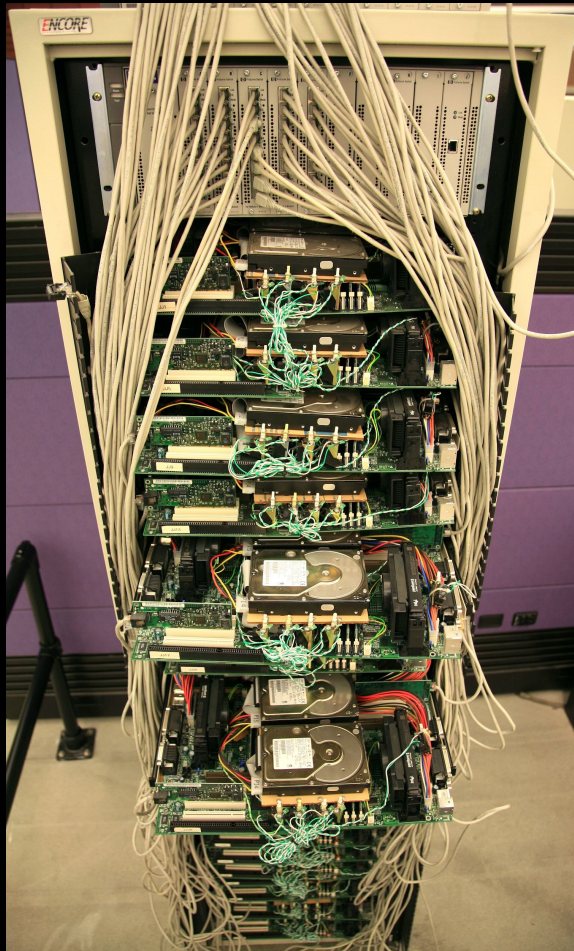
single point of failure

vertical scaling





horizontal scaling



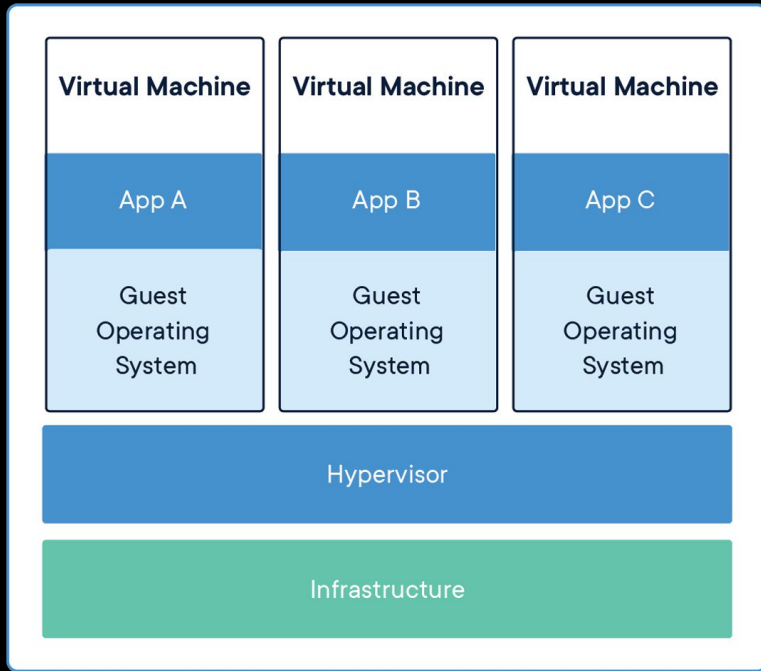
wikimedia.org

load balancing

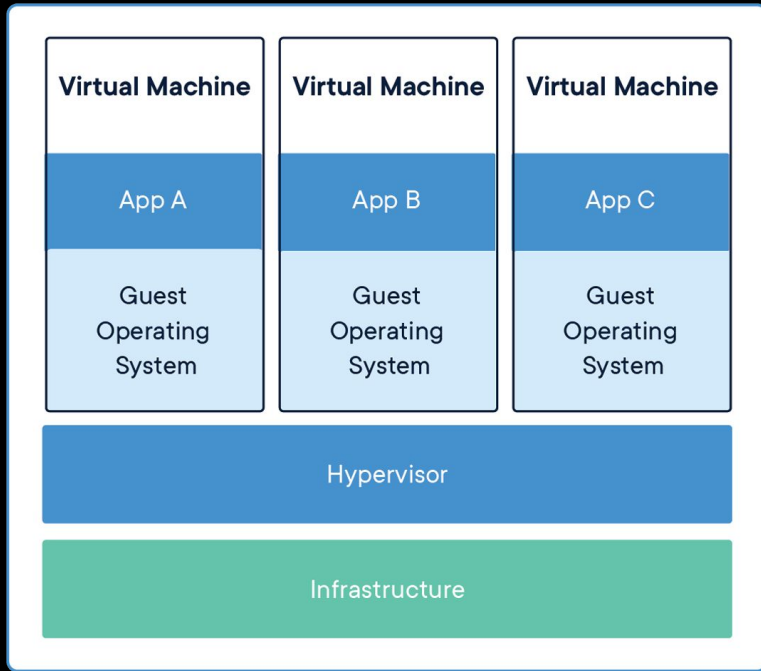
high availability

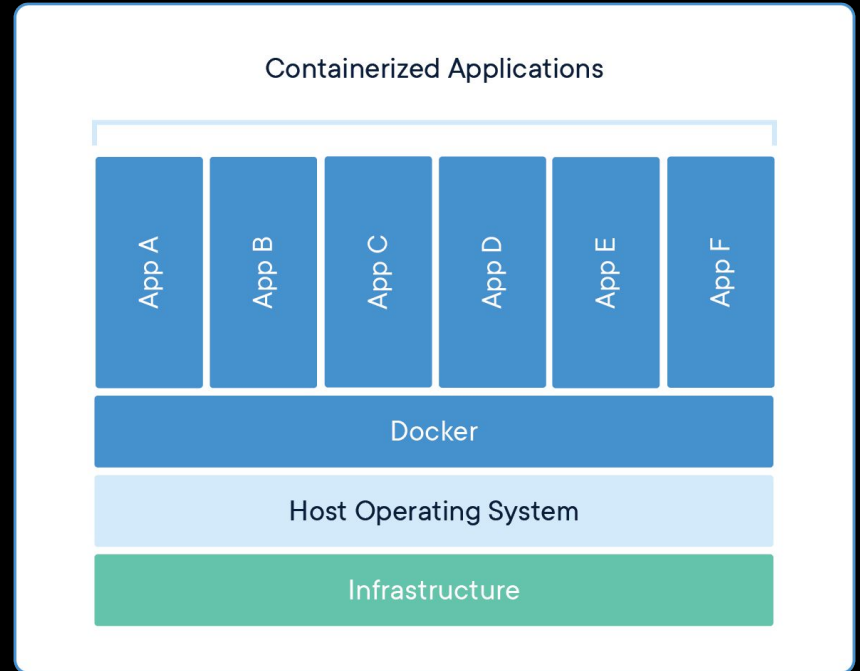
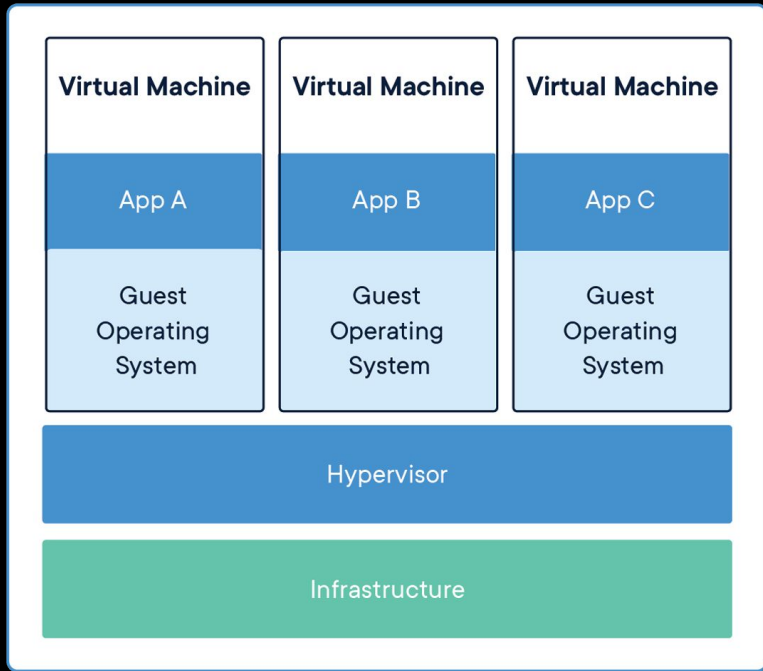
nines

virtualization



containerization





- IaaS
- PaaS
- SaaS

laaS

PaaS

SaaS

serverless

edge computing

Seminars

Will the FCC's Net Neutrality Pendulum Ever Stop?

Wed, Jan 11, 6:00 PM – 8:00 PM EST in WCC Room 1010,
with Sophia Cho

Assignment 4

Office Hours

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