

introduction to networking and security

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outline

- **networking**
- **security**
- **theory vs practice**
- **trends**
- **recap**

networking

- **hardware + software stack**
- **udp / tcp handshakes**
- **levels 1-7**
- **vlan / vpn / vpc**

dns

- **registars**
- **cloudflare**
- **load balancers**
- **https**
- **spf / dkim**

trends

- **1, 10 Gigabit, Wifi 6 == 200MB/sec**
- **40 --> 100 GbE transition**
- **hpc RDMA interconnects**
- **pci5/cxl + flash**
- **dpu/edge computing**

cloud

- **unix all the things**
- **Its vs mainline**
- **consistent approach**
- **logic (ideally) near user**

docker / k8s

- **need: docker scripts**
- **want: scaling**
- **how you manage them is up to you**
- **google kubernetes engine**

redeploy

- **secret management (+rotation)**
- **cloud agnostic vs lockin**
- **terraform / nomad**
- **cattle, not pets**

security

- **minimize surface area**
- **web server versus static server**
- **build and deploy from day 1**
- **updates / iteration speed >> correct**

process

- **unified containers and deploy scripts**
- **code checkin**
- **docs: simple vs verbose**
- **backups**

people management

- **accessibility vs. security (yegge)**
- **don't be the 'no' person**
- **real world compromises**

self study

- **buy a domain**
- **cloud servers**
- **old enterprise routers**
- **linux distro**
- **microk8s cluster + kubeflow**

recap

- **security is a mindset, not a thing**
- **understanding the full network hardware/software layer allows you to reason about scale**
- **practice makes perfect**