

IoT: Cloud Services

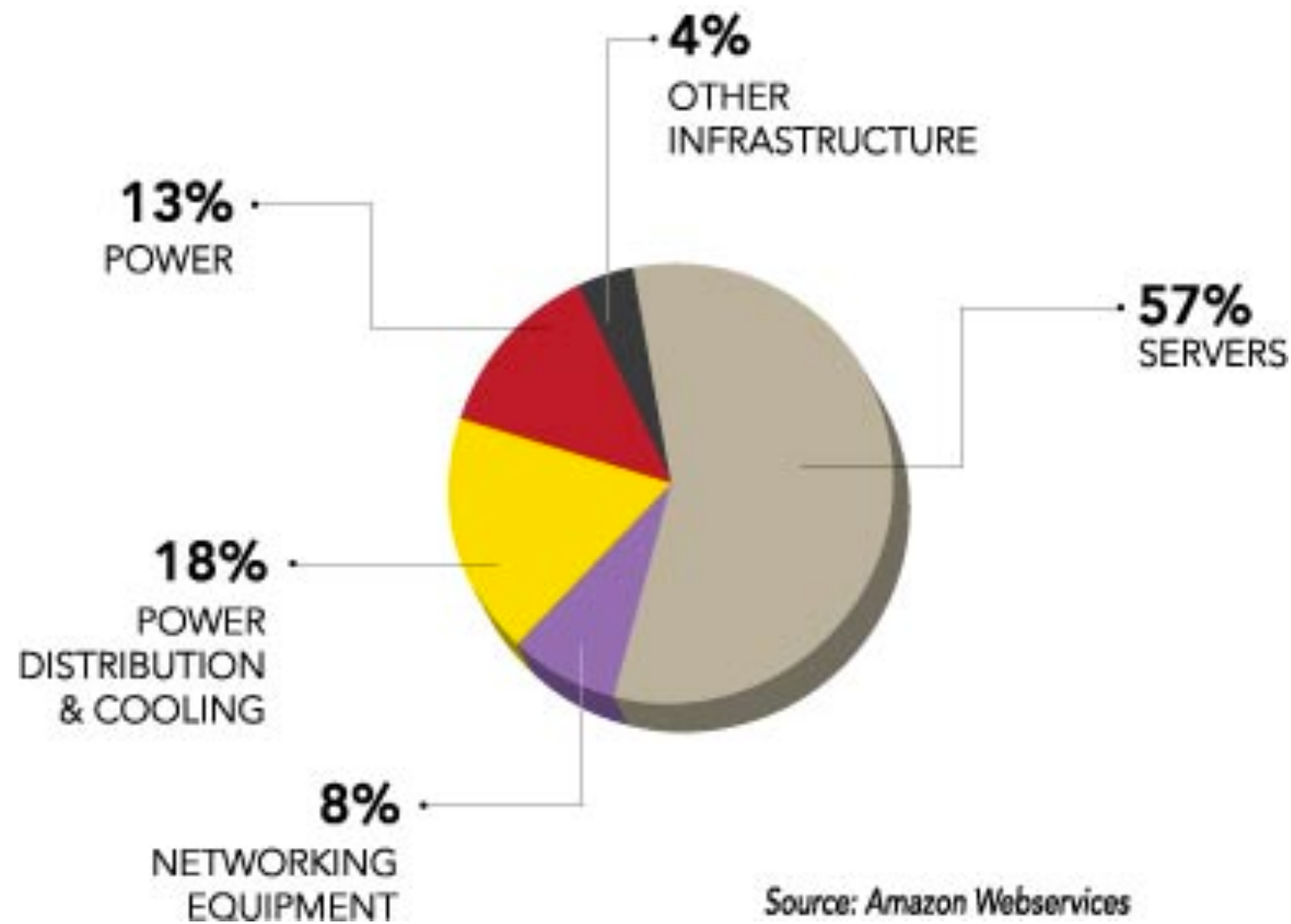
From datacenter to the Cloud



Servers are now hosted in data centers

Infrastructure = Mega datacenters





High cost of maintaining individual data centers

Data Centers

- Need lots of electric power (1.5% of all US electricity, EPA 2007)
- Long lead time to build
- Inflexible investment of capital
- Need specialized skills (security, failover, load balancing, etc.)
- Takes time away from core competencies
- Hard for all but largest companies to own/run

Solution: Outsource Data Centers

- Can reap economies of scale
- Because of scale, can afford specialized skills
- Web developers can concentrate on their core competencies that give them market advantage
- Shorter lead times
- Lower capital requirements
- Computing power becomes a commodity, as did electric power in early 20th century

Cloud Benefits

- Cloud offers low, pay-as-you-go pricing with no up-front expenses or long-term commitments.
- Cloud vendors build and manage a global infrastructure at scale.
 - They pass the cost saving benefits onto the clients in the form of lower prices.
- With the efficiencies of cloud scale and expertise, cloud vendors have been able to lower prices

Considerations of a Cloud Engineer

- Your instances will die
- You will share resources
- The architecture will change
- You will never see the lights...

