

6. Data Center Architecture in the Cloud

- **Location:** Vendors have regions worldwide and at least 2 data centers in each
- **Physical security:** The end user has no physical access. Vendor must achieve accreditations and compliance certifications, which are viewable online
- **Mechanical and electrical infrastructure:** In addition to hardware, this includes generators for an Uninterruptible Power Supply (UPS), air conditioning and fire suppression, all managed by vendor
- **Network infrastructure:** Networking operates at a software level. A **Virtual Private Cloud (VPC)** simulates physical switches, routers and firewalls in a traditional network.
- **Servers:** Servers are referred to as "instances" or Virtual Machines (VMs). There are several different kinds of servers for different purposes within one data center (eg. Databases, Big Data, EC2)
- **Storage:** Considered to be almost unlimited due to the scalability and durability of **AWS Elastic Block Store (EBS)**. This is persistent block-level storage which can be attached to different instances then removed and reattached elsewhere