Cloud Computing and Virtualization

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**What does VMware, IAAS, PAAS, and SAAS have in common?**

VMware is a software that allows a user to create multiple personal virtual machines on a single physical server. This allows the user to have multiple OS’s on the same machine or have a worry-free OS to experiment on. IAAS or Infrastructure as a Service is relatively self-explanatory, it is when a user does not want to build or manage their own infrastructure so the user will pay a provider as they use servers, storage, or domains. PAAS or Platform as a service, like IAAS is also self-explanatory. When a user does not want to deal with the hassle of buying and managing the cost of hardware/ software necessary to run an application that user will buy platform as a service. Finally, SAAS or Software as a service (which is also self-explanatory) allows for a user to use an ON-Demand software via online device or internet browser. These things all share one thing. They give the user access to a service, application, OS that they would otherwise have to provider/ build themselves. If a user needs plenty of infrastructure they can purchase Infrastructure as a Service through Amazon Web Services, if a user needs a platform they can buy a Platform as a service from Apprenda, if a user needs software they can buy Software as a service through companies like Google Apps, if a user needs a worry-free OS they can use VMware.

**What is Intel doing with IAAS?**

Intel is using Infrastructure as a Service as a way to create a private cloud of infrastructure for IT managers and departments. It allows for IT departments to automate their interface and not only speed up the rate at which IT departments can process and fulfill requests but Infrastructure as a Service can also scale dynamically on demand.

**Who are the major cloud computing vendors, and what is the relation to virtualization?**

The largest cloud computing vendors/ companies are Amazon Web Services, Microsoft, and Google. Virtualization allows for software to modify/ manipulate hardware and Cloud computing is a service that directly comes from that modification/manipulation.

**What is the Verizon doing involving cloud computing without owning the cloud? Who did they buy to get into the IOT market? What is there idea for IOT, and deployment model?**

Verizon was pushed out of the cloud computing market by AWB, Microsoft and Google. In response Verizon decided to invest is cloud storage and the Internet of Things (IOT). Verizon bought nPhase, Hughes Telematics, Telogis, Fleetmatics, Sensity Systems, and LQD. While nPhase was the initial push into the Internet of Things market every company acquisition that followed is important to there over strategy. Verizon first bought nPhase in a joint ownership with Qualcomm to study and develop machine to machine communication/ cooperation. Verizon then bought Hughes Telematics to get into the connected car industry. Four years later Verizon bought Telogis for the company’s vehicle fleet management system, which is cloud-based software. Soon after buying Telogis, Verizon purchased Fleetmatics for the company’s GPS vehicle tracking. The purchase of Fleetmatics made Verizon the owner of the largest fleet of connect vehicles in the world. Diverging from their strategy of purchasing companies focusing on connected vehicles, Verizon bought Sensity systems. Sensity systems has a technology that helps reduce energy consumption in light, has weather monitoring, public parking analyzation, and public safety alerts. Finally, in Nov. 16 Verizon bought out LQD with made kiosks to provide people with WIFI, directions, and public service announcements. With the first few acquisitions, Verizon positioned itself well in the growing intelligent car industry. With the last two acquisitions, Verizon is trying to position itself to build smart cities as well.

**What are 5 IOT devices?**

Some Internet of Things devices are Smart door locks, smart home applications and home appliances with internet connectivity, wireless home energy monitors, Bluetooth trackers like “tile”, and home security systems with accompanying applications. Smart Locks can have proximity sensors like Bluetooth or NFC to allow a door to unlock as the owner of the lock approaches. Some smart locks allow buyers to remotely lock or unlock doors. Smart home applications with their accompanying appliances allow for users to control various aspects of their home through an application on their phone. Such as checking if the oven is on or turning on the heat on the way home on a cold night. Wireless home energy monitors come with an application that tells a user their total energy usage and breaks down what consumes the most to the least energy. Bluetooth trackers allow for user to activate little ringers through an application that makes loud noise and makes a lost item easily found. Home security systems can be hooked up to WIFI and can be accessed by the home owner’s phone through an application.

**How does a cloud model relate to operating systems, what are the common links?**

The cloud model allows for storing data, computing, and running software through the internet. An operating system allows for Hard drives and CPUs to store data and compute and run software locally. A cloud model can do all the things an operating system can accomplished but the cloud model is reliant on the internet to function.

**Is ESXI an operating system?**

No, although ESXI is based off of VMkernel ESXI operates above the operating system to monitor virtual machine and allows for a single machine to host multiple virtual machine independently from one another.

**How does all this Relate?**

Cloud storage, cloud computing, online services and the Internet of Things is the direction that the computer industry is taking. All major communication and computer companies are making large pushes into this industry to position themselves well for when this industry truly takes off. The next step points towards cloud-based operating systems. That have would have extremely fast computing, large storage, and a low energy consumption.