Assignment 1

1. (20 pts) What’s big data and what are the features. Please give a brief explanation.

Big data is large amounts of data from human sourced information, traditional business systems, and machine-generated data. The 5 V’s of big data: Volume (amount), Velocity (speed), Variety (type), Veracity (accuracy), and Value (what can be gotten out of it).

1. (20 pts) Based on service provided by cloud computing platforms, how many types can we classify them? What are the typical applications of each classification?

Platform as a Service - Gives Application and Data

Infrastructure as a Service - Gives PaaS and Runtime, Middleware, and Operating System

Software as a Service - Gives IaaS and virtualization, hardware, Storage and Internet

Public Cloud - Makes resources available to the public for a fee. Anyone can use all resources unrestricted for their own use. IaaS -> AWS/Archspace

Private Cloud - Same ability as public cloud but on private scale. Higher security

Hybrid Cloud - traffic on private cloud. Burst into public cloud when demand/usage is high. Leverage cloud types based on user/process

1. (20 pts) What are the differences between traditional virtualization and container technologies?

Virtualization requires entirety of OS, Software, Builds, Paths

Containers only require the specifics of a software to run in a sandbox by itself

->makes for transferring software much less cumbersome

1. (20 pts) What is cloud computing? What can we do with it?

Allows on-demand network access to shared computing resources. Model for managing, storing, and processing data online

1. (20 pts) What is a datacenter and what kinds of services it can provide?

A data center is a building or space that houses computers for IT operations for businesses. Data centers resible super computers with tons of mainframes setup in a centralized space with computing components nearby to keep the hardware running correctly.

Data centers provide redundancy and backups and infrastructure for power, data communications, and security devices