Design Cloud Test Application & Research

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Oct 26, 2020

**Azure Account**

Here is a screenshot which shows the student Azure account in use for this course’s assignments (Figure 1):

Graphical user interface, application

Description automatically generated

*Figure 1. Microsoft Azure Portal.*

**Test Application**

The test application for this course activity set is still in early design and development. It will be a multi-page blogging application, connected to a MySQL database. It will be developed using Node and the React framework, with Bootstrap for a consistent style system.

Cloud Computing Research

**Evolution**

Cloud computing, we it’s understood and used today, was born out of an ever-growing divide between building business systems and maintaining them. The use of central cloud service providers mimics the beginning of centralized mainframes and client-server systems back in the 1980s. As the costs of maintaining and scaling in-house systems skyrocketed, key service providers began to offer consumption-based pricing models for using their PaaS, SaaS, and IaaS systems. Ultimately, some firm is handling the physical deployment and maintenance of these servers and related equipment. The difference is: it’s now affordable to hire someone else to carry the busywork.

**Case Study**

Using the example of Netflix’s transition to the cloud, here are a list of advantages and disadvantages to their maneuver.

Advantages:

1. They were able to move a lot of their new internal tools to open source, thus benefiting from the knowledge of the development community.
2. Moving to AWS decreased hardware costs and time to scale up a system. No prediction is now needed to address instant fluctuations in demand for service.
3. Netflix was able to create a more robust system of disaster recovery procedures and tools, including "Armageddon Monkey", which simulates a total failure of all their Amazon-based systems. They're now better prepared than ever for disaster.

Disadvantages:

1. Netflix was required to spend significant time re-training and acquiring talent so they could take advantage of the power in a cloud solution set.
2. Required to spend more time developing a brand new disaster recovery plan for data corruption and system failures.
3. Moving their systems to AWS opened them up to reliance on a competing company for mission-critical functionality (Amazon's Prime Video service).

**Cloud Vs. On-Premise**

The overall cost of an on-premise solution, in not just hardware and energy, but also in man-hours spent to procure a prototype, vastly outweigh the cost of a serverless or cloud-based solution. The use of cloud services entirely eliminates the need to troubleshoot hardware issues and manage configurations beyond what the cloud provider's online GUI or command line allows. The team can stay relatively streamlined because a more limited spectrum of skill sets are necessary to get a product off the ground and start acquiring revenue. In my own company, we faced a similar situation with building some internal applications. We could buy local servers/switches/adapters, schedule time with an infrastructure team for configuration and connecting to business domain servers and assets, and then hopefully develop the product without worrying that you are working on an insufficient platform to handle your final product. Or, we could make AWS accounts and use their serverless tool set, S3 bucket deployments, and virtual network adapters to connect our systems to the necessary servers and databases. We ended up going with the AWS route, and as a result, we are one of the cheapest teams, in terms of non-personnel operating costs, in the entire technology department.

References

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