Logo, company name

Description automatically generated

**Department of Computing Sciences and Mathematics**

**College of Art, Science, and Technology**

**ITEC 205: Cloud Fundamentals**

**Homework Assignment 3: Cloud Networking and Storage**

**Questions:**

1. What is AWS CAF and how it is used in cloud services assessment and analysis?

AWS CAF are six perspectives that are considered while assessing cloud services. The first is business which covers value realization. The second is people with their roles and readiness. The third is governance with prioritization and control. The fourth covers platform with the applications and infrastructure. The fifth is security which looks at risk and compliance. Then the sixth is operations with management and scale. The six perspectives are used with assessment and analysis as they cover the important areas of cloud services.

1. What are the benefits of the gap analysis in cloud assessment?

Gap analysis helps with understanding the allocation of resources and what to prioritize and where it is best to assign staff and spend their budget. It can help identify technical functions that were not included in the migration plan as well as check for compatibility issues and if policies or regulations are not being met with the plan.

1. What are three key cloud performance metrics we use in baseline analysis and reporting?

The three key cloud performance metrics we use are compute, network, and storage.

1. What are the differences between benchmarks and baseline in the context of cloud assessment?

The difference between benchmarks and baseline is their focus. The baseline will give us an account of the system’s performance. The benchmarks will provide a standard or reference we can then compare the baseline to.

1. What is PingID and in what aspect we use in the cloud computing?

PingID is a type of security token that looks at the allocated block of addresses and allows access with them which is useful in cloud computing as it is based on your ip.

1. What is the advantage of the SSO?

The advantage of SSO is that once you have been authenticated, you have access to all of the resources without having to input a password or code each time.

1. What are the differences between monolithic and microservices applications in cloud serves? Provide an example where every type is used and shows advantage.

Differences between monolithic and microservices are how their components are split up. The microservice will split up the data access layer into multiple parts while the monolithic is one tower. A monolithic application is used for straightforward sites like Microsoft word docs while microservices applications would be used for Amazon as they have a lot happening on their sites.

1. What are containers and how they differ from virtual machines?

A container is a place for storage so for the cloud it would store components needed to execute the microservice. Virtual machines differ from containers as they are able to use their storage themselves to run their environment while the containers are storage and need an outside service to run their storage.

1. What is AI and ML and how are the cloud services supports them?

AI is artificial intelligence which is the concept of machines that are able to perform tasks and decisions like humans. ML is machine learning and is the idea of being able to give a machine data and it will be able to perform tasks with it. The cloud services help with running AI and ML as AI can run repetitive tasks and ML can take data and learn from it so they need the power to run and the storage that the services provide.

1. Autonomous systems and IoT are examples that relies on cloud services to enable their technology. What are the possible solutions to support these two technologies using cloud services (i.e., vendors, and their services)?

A possible solution to support them with cloud services is to provide plenty of storage as they can generate a lot of data and will have to have it stored somewhere. There is also security as the cloud can help protect any sensitive data they might have.