ASSIGNMENT-2

Cloud Computing

(BTCS-612-18)

Submitted By :-

SALONI
2124397
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Submitted To :-

Manpreet Ma'am

I.K. Gujral Punjab Technical University, Kapurthala

Ques 1)- Case Study :- How do you select Cloud Migration package for a project ? Evaluate Service offerings for Project Migration and Pricing of cloud migration packages offered by Major Service providers. Show Comparative Tables, Charts, diagrams to facilitate visual Comparision of different packages...

Ans-1) Steps Involved

Step-1 Define Project Requirements

① Assessment of Current Infrastructure - This involves analysing the current hardware, software, network architecture and data storage systems in use with organisations. It includes identifying servers, databases, applications and any other components. Critical to organisation's operations. It's crucial to map out dependencies between components of infrastructure. For example, which applications rely on specific database or servers

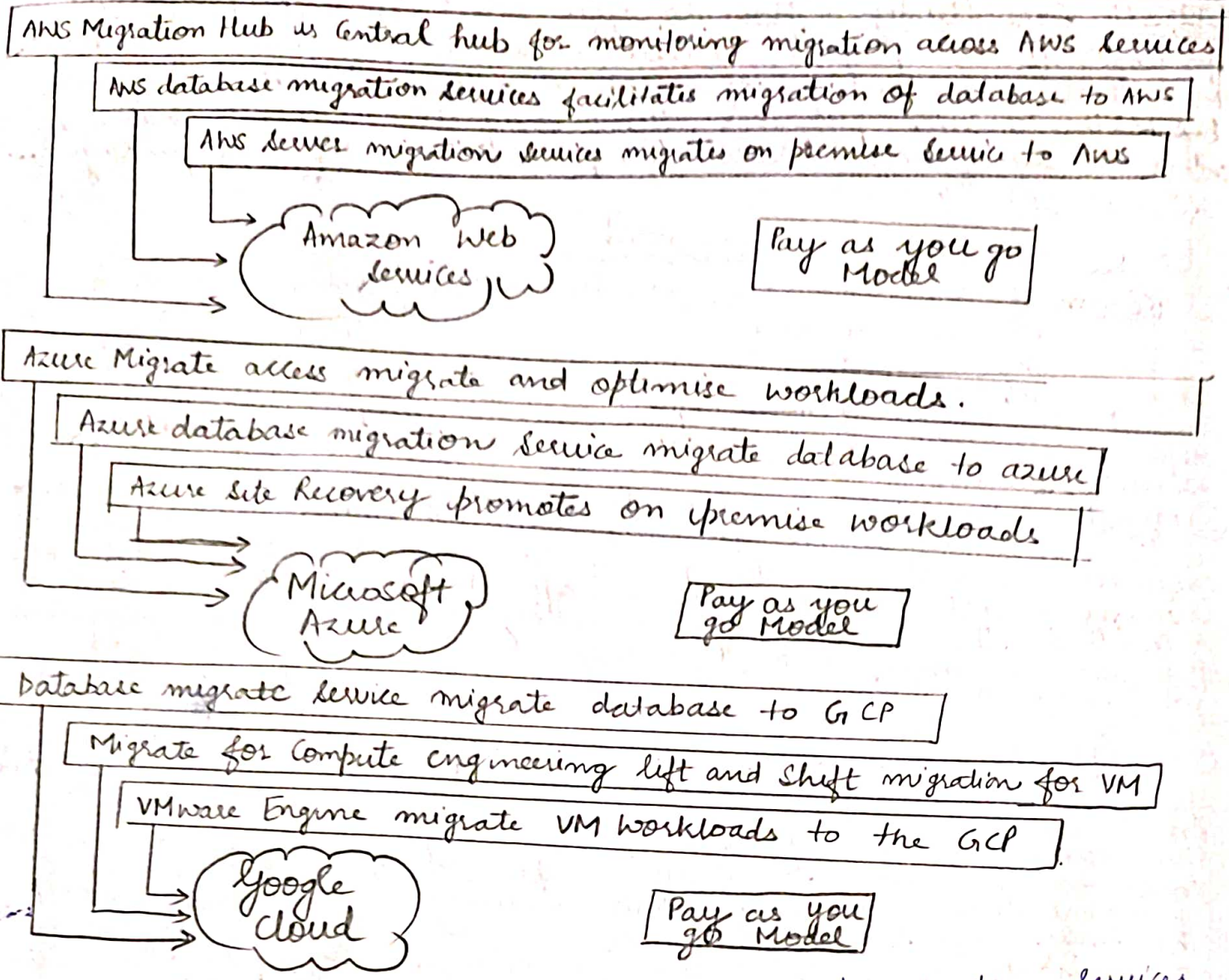
② Migration Goals - Determine if primary objective of migration is to reduce infrastructure cost. This could involve optimising resources utilisation, adopting pay as you pricing models or leveraging cost saving features offered by cloud providers. Access whether scalability is a key driver for the migration organisation may seek to leverage the elasticity of cloud computing to scale resources up or down based on demand thereby avoiding over-provisioning or under provisioning

③ Compliance and Security needs - Identifying any industry specific regulations or compliance standards that the organisations must adhere to such as GDPR, HIPAA, PCI, DSS etc Ensure that choosen cloud provider offers compliance certificates and tools to maintain regularly compliance. Access the sensitivity of organisation's data and define security requirements accordingly This may include encryption, access control, security management accordingly. This may include encryption, access controls, identifying access management packages and policies, threat detection, and incident response capabilities.

④ Performance Requirements :- Determine acceptable levels of latency for application and services. Some workloads may require low latency access to data or high speed networks connectivity... Define Performance metrics related to data transfer rates, processing speeds and overall system performance. This is particularly important for data insensitive workloads such as analytics or machine learning applications.

Step 2 Evaluate Service Offerings

The service offerings from major cloud service Providers (CSPs) involves a comprehensive analysis of their compatibility with the organisation current infrastructure, application and database. This assessment includes scrutinizing migration tools and services provided by each CSP to facilitate seamless transition from on premise system to google clouds. Scalability and elasticity features are carefully examined ensuring that each service provider can accomodate future growth and workload demands efficiently. Additionally the evaluation of encompasses is an appraisal of data management and storage solutions, Compute, networking services as well as security and compliance features Moreover availability of robust management and monitoring tools coupled with reliable support options and service level agreements is taken into account to ensure smooth migration and on going operational excellence.



Amazon Web Services (AWS) provides a range of migration services tailored to facilitate smooth transitions to the cloud. AWS migration Hub enabling organisations to track migration across AWS services efficiently. The pay as you go model ensure cost effiveness with charges based on resource consumption. AWS database migration Services (DMS) simplifies database migration to AWS, supporting heterogeneous migration with minimal downtime. Similarly, AWS Server migration Services (SMS) automate migration of on premises Servers to AWS, reducing manual effort and downtime. Microsoft Azure offers Azure migration for workloads assessment and migration, Azure database migration Service for seamless database migrations and Azure Site Recovery for disaster recovery preparedness. Google cloud Platform (GCP) provides database migration services for migrating databases. Migrate for Compute engine for lift shift migration of VMs and VMs wares engine for migrating of workloads for GCP. With a pay as you go pricing model, GCP migration Services ensure flexibility and cost adoptation endeavours.

Step 3 Comparitive Analysis

In this we will Compare the different clouds ie AWS, Azure and GCP on the basis of various factors.

Criteria	AWS	Azure	GCP
Database Migration	Yes	Yes	Yes
Server Migration	Yes	Limited	Yes
Assessment Tools	Yes	Yes	Yes
Cost Estimation	Yes	Yes	Yes
Compliance Support	Yes	Yes	Yes
Cost	$XXX	$XXX	$XXX
Cost Breakdown	Detailed	Detailed	Detailed
Discount option	Reserved Instances	Reserved Instances	Committed Use Discount

migration services and price comparison.

Step 4 Decision Making

Decision making involves careful consideration of various features to choose most suitable cloud migration package for the project.

1. Cost :-

(A) Total Cost of ownership - Assessing TCO involves evaluating not just the initial migration costs but also ongoing operational expenses including compute, storage, networking, support cost over long term. It's essential to factor in potential cost savings such as reserved instances or committed use discounts offered by cloud providers. (B) Scalability - Conduct a comparative analysis of the total costs associated with each cloud migration package, considering factors such as data transfer fees, storage cost, and any additional features or services required.

2. Features :-

(A) Alignment with Project Requirements :- Match the features offered by each cloud migration package with the specific requirement of the project. Consider aspects each as database migration capabilities server migration tools, assessment and optimization tools and compatability with existing infrastructure and applications

(B) Scalability and Flexibility :- Evaluate whether the features provided by each option meet not only current needs of the project but also future scalability requirement. Look for features that enables flexibility in resources provisioning, workload management and adaptation to changing business needs.

3. Support and SLAs :-

(A) Technical Support - Evaluate the level of technical support provided by each cloud servers providers, including the availability of

support channels, it is response times and expertise of support staff. Consider weather support option meets the organisation requirement for timely assistance and problem resolution during migration and on going operation.

(6) Service level Agreements (SLAs) - Reviews the SLAs offered by each providers particularly regarding uptime gurantees, performance and data availability. Access the finacial penalities and credits providers in case of SLAs avoidation and ensure they align with organisation tolerance for down-time and service description.

⁂ Conclusion

In the Conclusion, after conducting a comphrensive evaluation of various cloud migration packages offered by major service providers like Amazon web service, Microsoft Azure, Google cloud platform it is important to select packages that best align with project requirement. The selection process should take into account several factors including cost, features, support, flexibility. Based on the evaluation, select the cloud migration packages that best align with project requirements.