CS 360 - Introduction to cloud computing

Mid Exam

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1A) An API gateway is an API management tool that sits between a client and a collection of backend services. API stands for Application Program interface. It is responsible for request routing, composition and protocol translation. Support for stateful and stateless APIs. Powerful, flexible authentication mechanisms such as AWS identity and Access management policies, Lambda authorizer functions.

Ex:1) ~~Log-in~~ Weather Snippets:

One common API usage example we come across on a daily basis is weather data. Rich weather snippets seems to be common place found on all platforms like Google, Search weather APP etc. But Google also gives report from third party is by means of API which sends them latest report.

2) Pay with Pay pal:

It is also an API based functionality It works like logging-in using a Social media service Pay with Pay Pal functionality is built with APIs to ensure that the end application can only do without exposing sensitive data.

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In terms of inner-workings this handy function is very similar to log-in process described above. When user clicks the Pay with Pay-Pal button the application sends a request to Pay-Pal API and it will be Paid.

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2A) The 3 layers of cloud computing service are:

1) Infrastructure as a service (IaaS) the basic layer provide infrastructure related services and is responsible for hardware - related issues power etc. It is flexible.
Ex: AWS EC2, cisco Metapod.

2) Platform as service (PaaS) model takes responsibility of operating systems, database management service and programming language. cost effective.
Faster market for Developers.
Ex: windows Azure, open shift

3) Software as service (SaaS) model handles software related issues and provides amenities to cloud users. universally accessible from any platform
Ex: Google Apps, cisco webex

PAAS is cost effective model as it is easy for deployment of web Applications. Private & Public Deployment is possible. Developers are limited to the provider's languages & tools.

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3A) Components of Cloud Computing Architecture.

1) Client Infrastructure: It is front end component. It provides GUI to interact with cloud.

2) Application: The application may be any software or platform that a client want to access.

3) Service. A cloud services manages which type you require according to clients requirement.

There are 3 types of services

1) SAAS 2) PAAS 3) IAAS.

4) Runtime Cloud: Run time cloud provides execution and runtime environment to virtual machines

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4A) Data Storage, Virtualization, Servers & Networking are used as resources in IRAS. Most vendors are responsible for managing the above four resources.

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5A) The characteristics of cloud Architecture that separates it from Traditional one are:

1) In cloud Architecture the server hardware is provided and maintance is done by service provider.

2) user can draw services they require over internet eliminating the need to purchase any new hardware.

3) users pay for services they use. It is not like ~~flexible~~ to pay any fixed monthly plan like in Traditional hosting.

4) cloud Architecture is scalable on demand. users can increase or decrease their resources depending on their business needs.

5) cloud offers better data security & recovery from any natural disasters & human errors it backs up data over multiple locations.