SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107
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Department of Information Technology

Course Name – CS8791 Cloud Computing

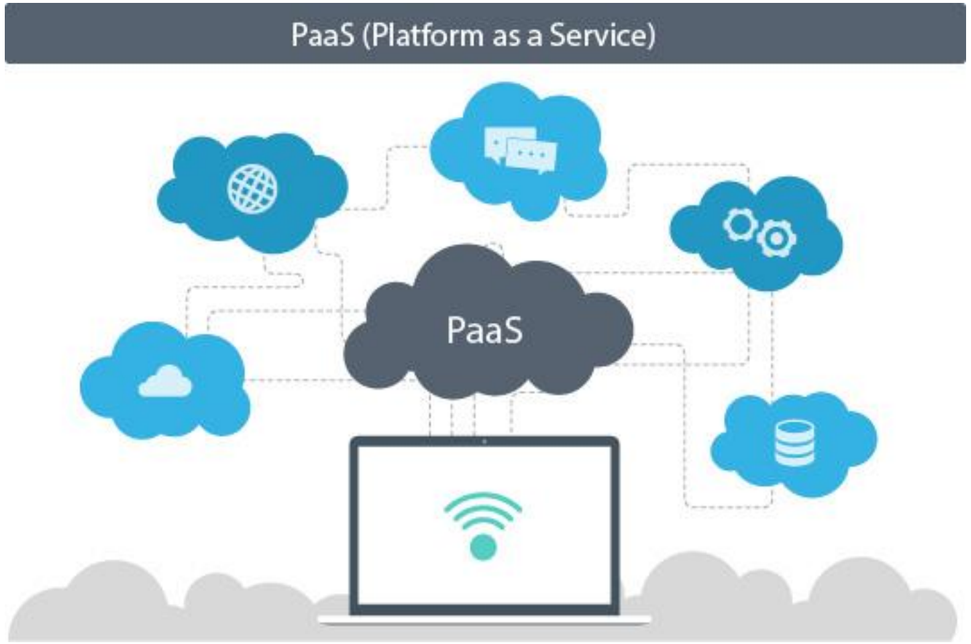
IV Year / VII Semester

Unit 3 – Cloud Architecture, Services and Storage

Topic 6 – Platform as a Service

PaaS

- Provides platform for running applications in the cloud
- They constitute the middleware on top of which applications are built.
- In PaaS we can able to develop, deploy, and manage the execution of applications
- a platform includes operating system and runtime library support.
- PaaS (Platform as a Service provides you computing platforms which typically includes operating system,
  programming language execution environment,
  database,
  web server etc.



PaaS

- Application management is the core functionality of the middleware.
- Developers design their systems in terms of applications and are not concerned with hardware (physical or virtual), operating systems, and other low-level services.
- The core middleware is in charge of managing the resources and scaling applications on demand or automatically, according to the commitments made with users.
- Developers generally have the full power of programming languages such as Java, .NET, Python, or Ruby, with some restrictions to provide better scalability and security.

PaaS

- PaaS solutions can offer middleware for developing applications together with the infrastructure or simply provide users with the software that is installed on the user premises.
- It is possible to organize the various solutions into three wide categories PaaS-I, PaaSII, and PaaS-III.
- The first category identifies PaaS implementations that completely follow the cloud computing style for application development and deployment.
- Example - Force.com and Longjump. Both deliver as platforms the combination of middleware and infrastructure.

PaaS

- In the second class we can list all those solutions that are focused on providing a scalable infrastructure for Web application, mostly websites.
- In this case, developers generally use the providers' APIs, which are built on top of industrial runtimes, to develop applications.
- Example - Google AppEngine is the most popular product in this category.

PaaS

- The third category consists of all those solutions that provide a cloud programming platform for any kind of application, not only Web applications

- Example - Microsoft Windows Azure, which provides a comprehensive framework for building service-oriented cloud applications on top of the .NET technology, hosted on Microsoft's datacenter

- Manjrasoft Aneka, Apprenda SaaSGrid, Appistry Cloud IQ Platform, DataSynapse, and GigaSpaces DataGrid, provide only middleware with different services

PaaS

- Some essential characteristics that identify a PaaS solution:
  - Runtimeframework.
  - Abstraction
  - Automation.
  - Cloud services

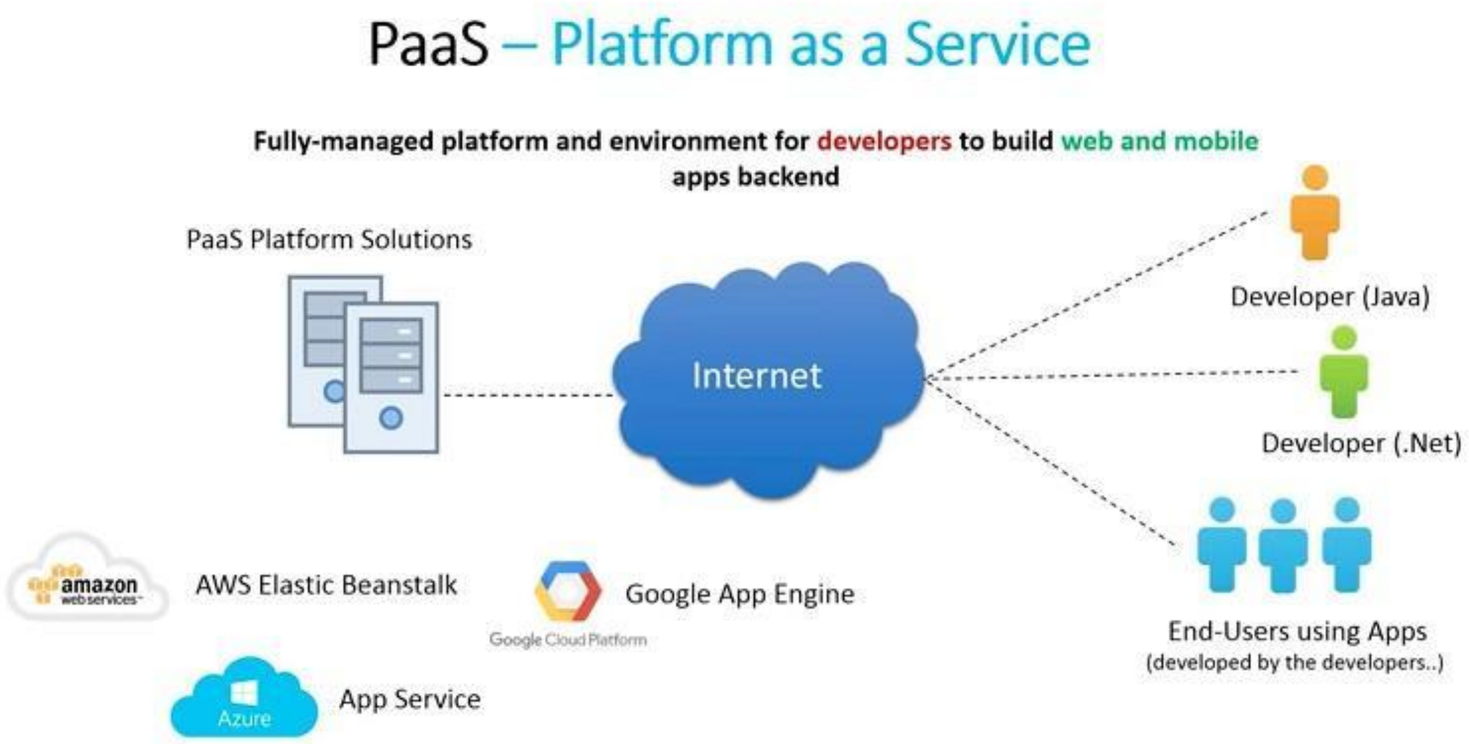
- from a financial standpoint, although IaaS solutions allow shifting the capital cost into operational costs through outsourcing, PaaS solutions can cut the cost across development, deployment, and management of applications.

- It helps management reduce the risk of ever-changing technologies by offloading the cost of upgrading the technology to the PaaS provider.

PaaS

Examples:

- Google AppEngine,
- AWS Elastic Beanstalk,
- Windows Azure,
- Heroku,
- Force.com,
- Apache Stratos.



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