

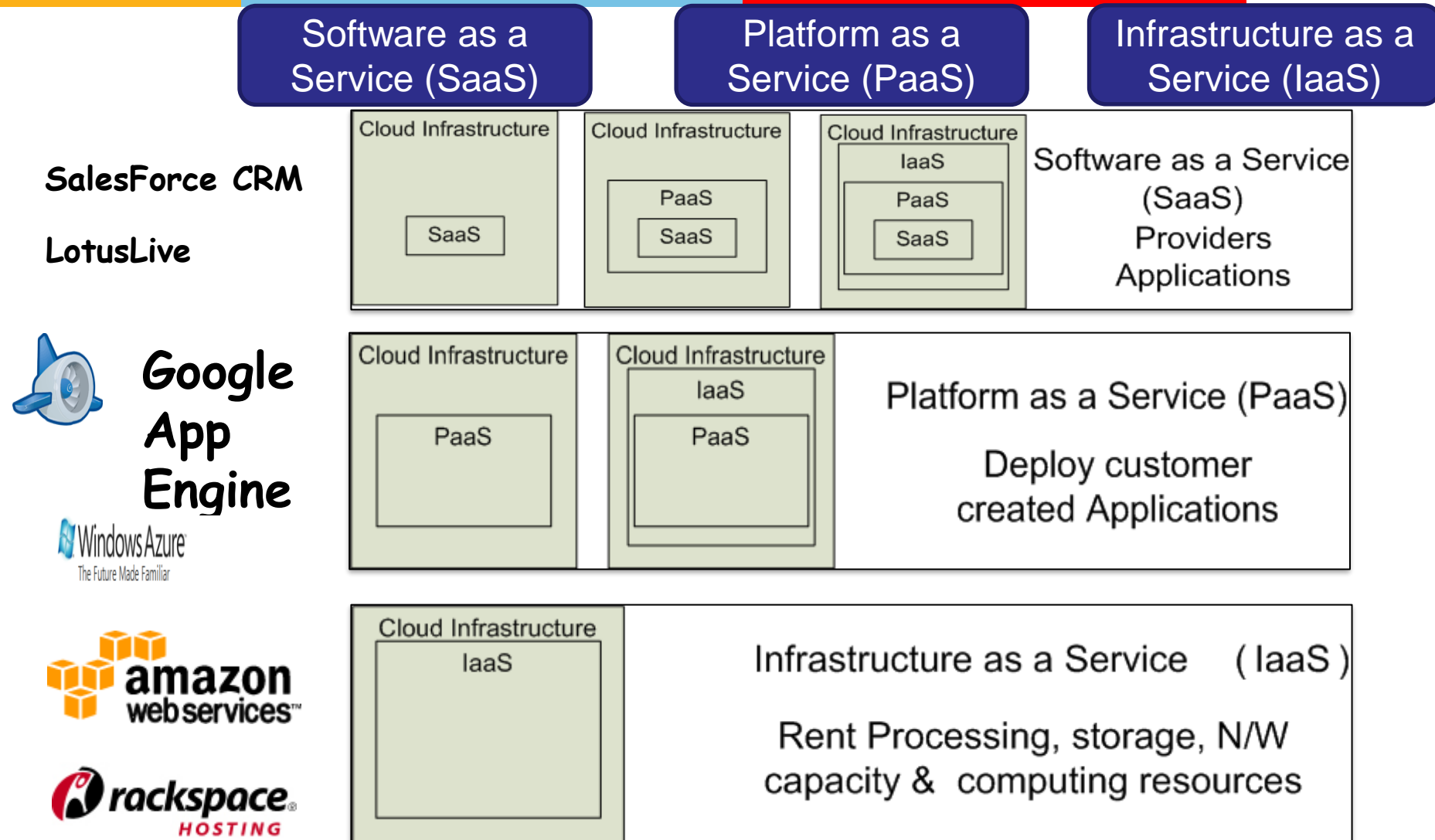


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Cloud Computing

SEWP ZG527

3 Cloud Service Models



Software as a Service (SaaS)

Software as a service features a complete application

offered as a service on demand.

A single instance of the software runs on the cloud and services multiple end users or client organizations.

E.g. salesforce.com , Google Apps

Platform as a Service

Platform as a service encapsulates a layer of software and provides it as a service that can be used to build higher-level services.

2 Perspectives for PaaS :-

- 1. Producer:- Someone producing PaaS might produce a platform by integrating an OS, middleware, application software, and even a development environment that is then provided to a customer as a service.**
- 2. Consumer:-Someone using PaaS would see an encapsulated service that is presented to them through an API. The customer interacts with the platform through the API, and the platform does what is necessary to manage and scale itself to provide a given level of service.**

Virtual appliances can be classified as instances of PaaS.

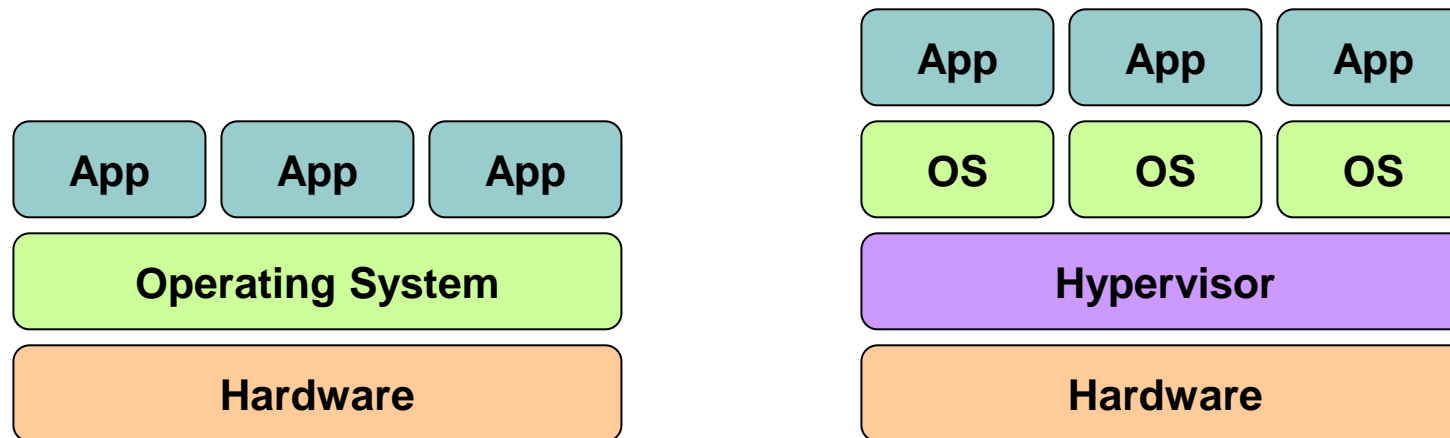
Infrastructure as a Service

Infrastructure as a service delivers basic storage and computing capabilities as standardized services over the network.

Servers, storage systems, switches, routers , and other systems are pooled and made available to handle workloads that range from application components to high-performance computing applications.

Cloud Infrastructures

Key Technology is Virtualization



Virtualization plays an important role as an enabling technology for datacentre implementation by abstracting compute, network, and storage service platforms from the underlying physical hardware

Cloud Providers Characteristics

- **Provide on-demand provisioning of computational resources**
- **Use virtualization technologies to lease these resources**
- **Provide public and simple remote interfaces to manage those resources**
- **Use a pay-as-you-go cost model, typically charging by the hour**
- **Operate data centers large enough to provide a seemingly unlimited amount of resources to their clients**

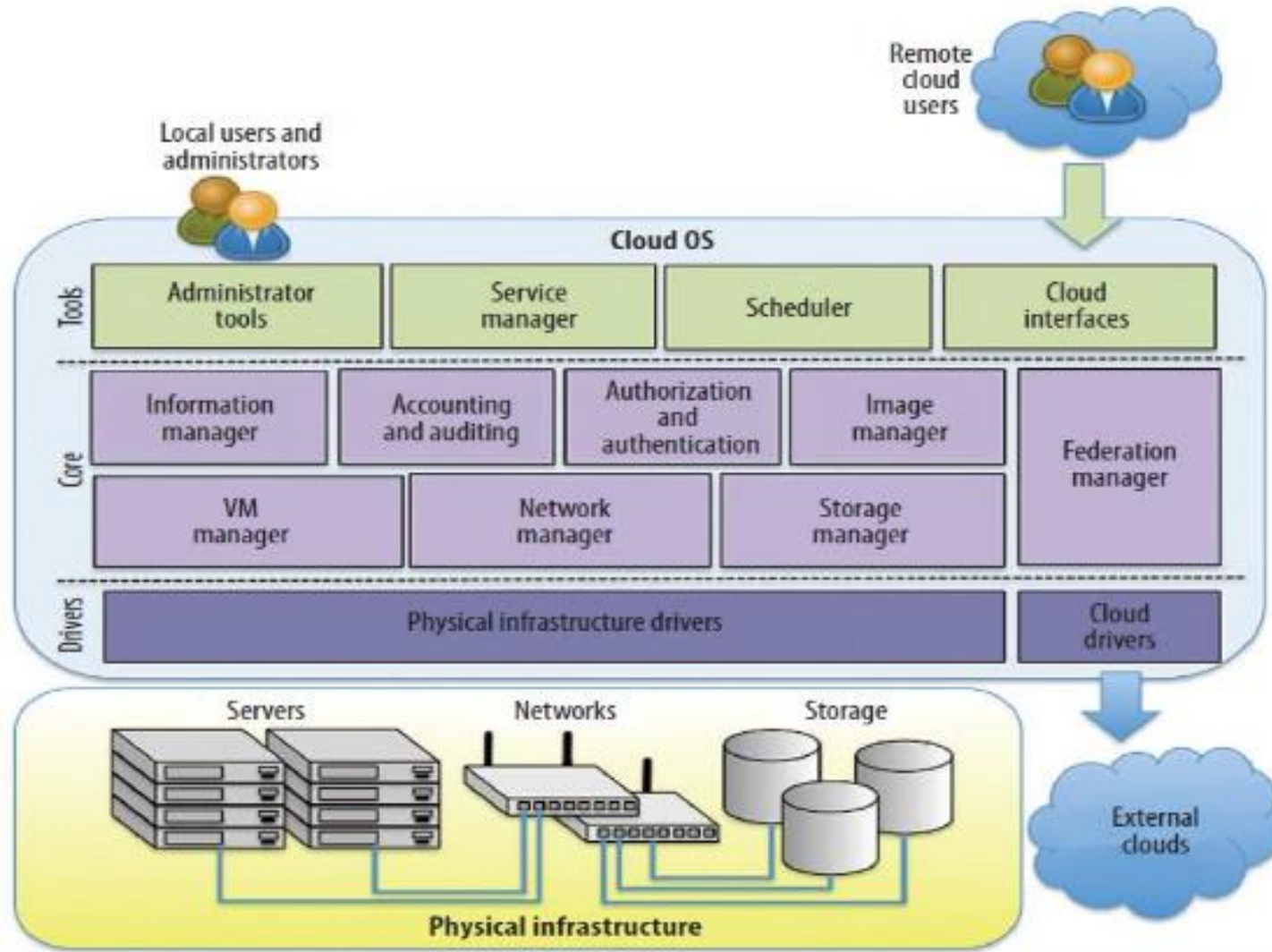
Management of Virtualized Resources

Distributed Management of Virtual Machines

Reservation-Based Provisioning of Virtualized Resources

Provisioning to Meet SLA Commitments

The Cloud OS



The cloud OS, the main component of an IaaS cloud architecture, is organized in three layers: drivers, core components, and high-level tools.

The cloud operating system is responsible for:

1. managing the physical and virtual infrastructure,
2. orchestrating and commanding service provisioning and deployment
3. providing federation capabilities for accessing and deploying virtual resources in remote cloud infrastructures