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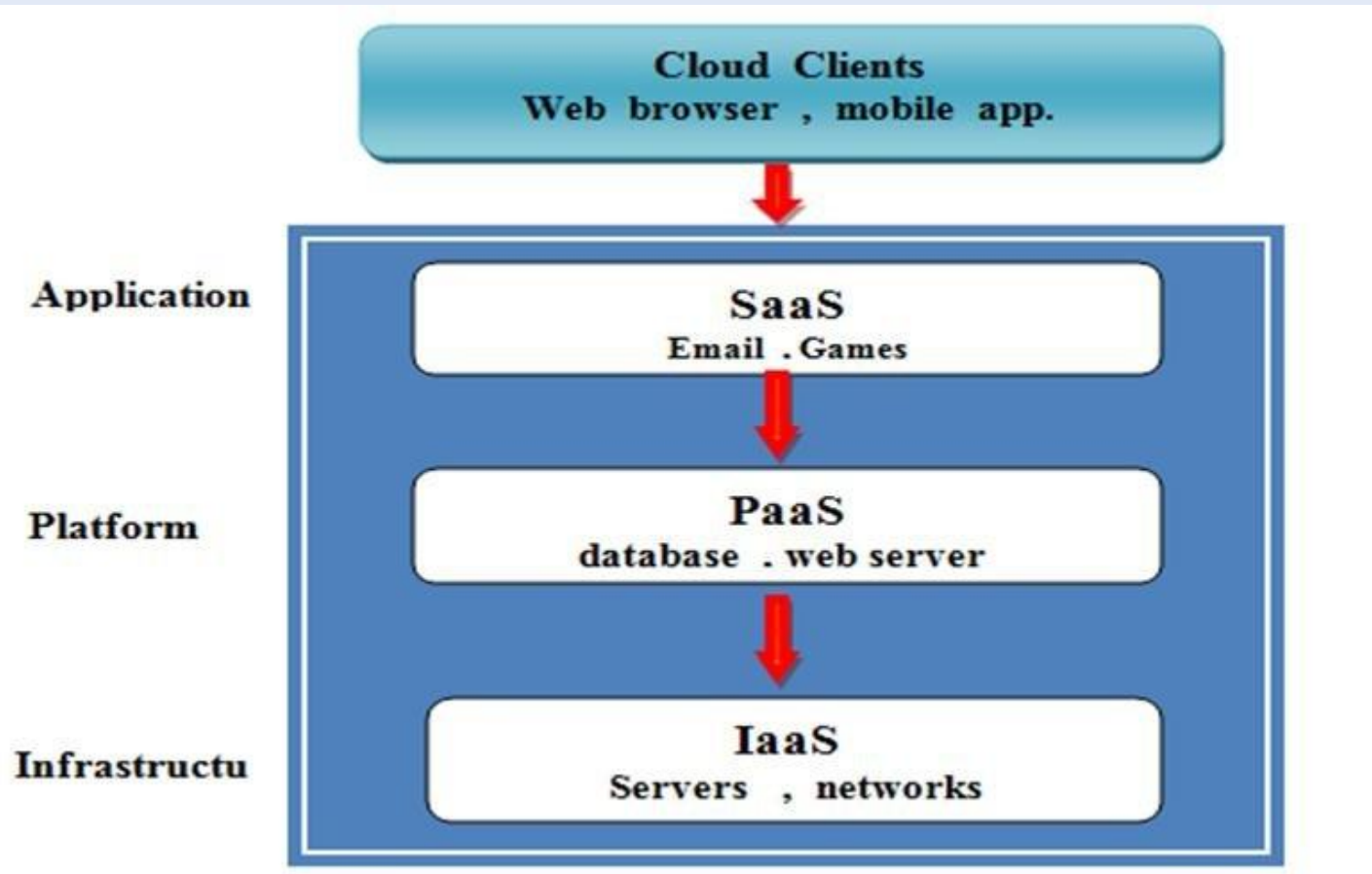
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The Cloud Services Delivery Model

Cloud Services Delivery Model



A cloud services delivery model is commonly referred to as an SPI and falls into three generally accepted services

- ❑ **SOFTWARE AS A SERVICE**
- ❑ **PLATFORM AS A SERVICE**
- ❑ **INFRASTRUCTURE AS A SERVICE**

Software-as-a-Service

- ❑ **Software-as-a-Service (SaaS)** is a **cloud computing model** where software applications are delivered to users over the internet **on a subscription or pay-per-use basis**, rather than being purchased and installed locally on a computer.
- ❑ Instead of buying software, users “rent” it from a provider. The provider hosts, maintains, updates, and secures the software. Users simply access it using a web browser or a lightweight client from any device with an internet connection.

SaaS Works vs Traditional Software

Aspect	Traditional Software	SaaS Model
Installation	Installed on local computers	Accessed via internet browser
Licensing	One-time purchase (CapEx)	Subscription or pay-per-use (OpEx)
Hardware required	Yes (PCs)	No
Upgrades	Manually done by IT teams	Automatic, done by vendor
Access	Device-dependent, limited locations	Anywhere, any authorized device
Maintenance	User responsibility	Vendor responsibility

Key Benefits

- ❑ **Cost Efficiency:** No investment in software licenses, hardware, or infrastructure. Pay only for what you use — through subscription (monthly/yearly) or pay-per-use models. Shifts cost from CapEx (Capital Expenditure) to OpEx (Operational Expenditure).
- ❑ **Zero Maintenance and Easy Updates :** The **vendor handles all updates**, patches, bug fixes, and maintenance. Users always access the **latest version** of the software. No need for in-house IT teams to manage the software lifecycle.
- ❑ **Anywhere, Anytime Access:** SaaS applications are **web-based** and accessible via browser. Users can work from any location on **any authorized device** (laptop, tablet, phone). Great for **remote work**, mobile access, and distributed teams.

Key Benefits

- ❑ **Scalability:** SaaS applications can scale quickly to meet user demand. Organizations can easily add or remove users without infrastructure changes. Cloud vendors offer flexible plans to accommodate growth.
- ❑ **Multitenant Architecture:** A single instance of the application serves multiple customers, with logical data separation. This reduces cost and improves efficiency while maintaining data privacy. Vendors can rapidly deploy features across all tenants at once.

SaaS Examples

- ❑ Google Workspace (Gmail, Docs, Drive)
- ❑ Microsoft 365
- ❑ Salesforce (CRM)
- ❑ Zoom (video conferencing)
- ❑ Dropbox (file storage)

Platform-as-a-Service

- ❑ **Platform-as-a-Service (PaaS)** is a cloud computing service that provides a platform and environment for developers to build, test, deploy, and manage applications—without managing the underlying hardware and infrastructure.
- ❑ The vendor provides tools, servers, storage, databases, and runtime environments. Developers focus only on coding and logic, not on system setup. Accessible via a web browser, usually in a pay-as-you-go model.

PaaS Works vs Traditional Software

Feature	Traditional In-House Development	PaaS Model
Development Tools	Installed locally	Web-based and cloud-hosted
Server/Hardware Management	Managed by in-house IT team	Managed by cloud provider
Software Deployment	Manual	One-click or automated
Setup Cost	High	Low (pay-as-you-go)
Collaboration	Limited, manual sharing	Built-in multi-user collaboration

Key Benefits

- ❑ **Cost Efficiency:** No need to buy physical hardware or install tools. Pay only for the resources and tools you use. Ideal for startups and small teams.
- ❑ **Faster Application Development :** Ready-to-use development tools (e.g., editors, frameworks). Reduces setup time. Focus stays on coding, not infrastructure.
- ❑ **Anywhere, Anytime Access:** Developers can code, test, and deploy from anywhere via browser. Enables real-time collaboration among teams in different locations

Key Benefits

- ❑ **Scalability:** Easily scale applications based on usage and demand. Cloud providers manage load balancing and failover.
- ❑ **Security Maintenance and Automatic Updates :** Security, patching, backups, and updates handled by vendor. Developers don't need to worry about infrastructure vulnerabilities. Development tools, libraries, and backend platforms are kept up to date by the provider

Paas Examples

- ❑ Google - Google App Engine
- ❑ Microsoft - Azure App Services
- ❑ Oracle - Oracle Cloud Platform
- ❑ Amazon - AWS Elastic Beanstalk

Infrastructure-as-a-Service

- ❑ **Infrastructure-as-a-Service (IaaS)** is a cloud computing service model that delivers virtualized computing resources like servers, storage, and networking over the internet.
- ❑ Users rent infrastructure instead of buying physical hardware. It provides the foundation for running operating systems, applications, and data storage. The cloud provider manages the physical hardware, while the user controls the operating system, software, and apps.

IaaS Works vs Traditional Software

Feature	Traditional Hosting	IaaS Model
Infrastructure Setup	On-premise hardware	Provided virtually by vendor
Cost Model	Upfront capital investment (CapEx)	Pay-as-you-go (OpEx)
Scalability	Fixed capacity	Highly scalable on demand
Maintenance	User maintains hardware	Vendor maintains infrastructure
Deployment Time	Slow (weeks or months)	Fast (minutes to hours)

Key Benefits

- ❑ **Cost Efficiency:** Pay only for what you use (CPU, storage, bandwidth, etc.). Avoids large capital expenses on physical hardware.
- ❑ **Scalability and Flexibility :** Scale up or down computing resources instantly based on workload. Supports dynamic business needs without hardware limitations.
- ❑ **No Hardware Maintenance:** The cloud provider manages servers, power, cooling, and physical security. Reduces the burden on internal IT teams.
- ❑ **Faster Time to Deploy :** Deploy servers and resources in minutes. Enables rapid testing, development, and release cycles.

Paas Examples

- ❑ Google -Google Compute Engine
- ❑ Microsoft - Azure Virtual Machines
- ❑ Oracle - Oracle Cloud Infrastructure (OCI)
- ❑ Amazon - AWS EC2 (Elastic Compute Cloud)
- ❑ IBM - IBM Cloud Infrastructure