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### SOFTWARE AS A SERVICE

SaaS (Software as a Service) is an application hosted on a remote server and accessed through the Internet.



**Examples:** SaaS is the web-based email service offered by such companies as Microsoft (Hotmail), Google (Gmail), and Yahoo! (Yahoo Mail).

The vendor (Microsoft, Yahoo, and so on) hosts all of the programs and data in a central location, providing end users with access to the data and software, which is accessed across the World Wide Web.



SaaS can be divided into two major categories:

**Line of business services** these are business solutions offered to companies and enterprises.

**Customer-oriented services** these services are offered to the general public on a subscription basis.

### Advantages

#### **\* Accessibility**

SaaS can run on any OS (Operating system) regardless if it's a Mac OS, Windows OS or Blackberry Tablet OS.

#### **\* Quick set up and deployment**

SaaS application is already installed and configured in the cloud. This minimises common delays resulting from often lengthy traditional software deployment.

#### **\* Easy upgrades**

The SaaS providers deal with hardware and software updates, deploying upgrades centrally to the hosted applications and removing this workload and responsibility from you.

#### **\* Scalability**

Change subscriptions as and when needed, eg when your business grows, or more users need to access the service.

\* SaaS vendors typically have very meticulous security audits.

\* There are lower software licensing costs.

### **Disadvantages of SaaS**

**Performance Issues:** Software on local machines may run at faster speeds compared to a SaaS being hosted on a remote data...

**Data Security Risks:** privacy of sensitive information is a major consideration around cloud and hosted services.

**Limited applications:** while SaaS is becoming more popular, there are still many applications that don't offer a hosted platform.

**Connectivity requirement:** since the SaaS model is based on web delivery, if your internet service fails, you will lose access to your software or data

**Termination of service:** Customers are violated any user level agreement then their provider has to terminate their service.

### **Driving forces**

- Popularity
  - Software Vendors Love it
  - Enterprises Love it
  - Plenty of SaaS Platforms
- Virtualization Benefits
- SaaS and SOA
- Economic Impact

### **Company Offering**

#### **Intuit:**

**Quick Book** is a one application for tracking business accounting developed by Intuit company. With the addition of QuickBooks online, accounting has moved to the cloud.

QuickBooks Online ([www.qboe.com](http://www.qboe.com)) gives small business owners the ability to access their financial data whether they are at work, home, or on the road.

Intuit gives users a high level of security because data is stored on firewall-protected servers and protected via automatic data backups.

It also provides software upgrades are included at no extra charge.

For companies that are growing, QuickBooks Online Plus offers advanced features such as automatic billing and time tracking, as well as the ability to share information with employees in multiple locations.

#### **QuickBooks Online features include:**

- The ability to access financial data anytime and from anywhere. QuickBooks Online is accessible to users 24 hours a day, seven days a week.
- Automated online banking. Download bank and credit card transactions automatically every night, so it's easy to keep data up to date.
- Reliable automatic data backup. Financial data is automatically backed up every day and is stored on Intuit's firewall-protected servers, which are monitored to keep critical business information safe and secure. QuickBooks Online also supports 128-bit Secure Sockets Layer (SSL) encryption.
- No software to buy, install, or maintain and no network required. The software is hosted online, so small business users never have to worry about installing new software or upgrades. QuickBooks Online remembers customer, product, and vendor information, so users don't have to re-enter data.

- Easy accounts receivable and accounts payable. Invoice customers and track customer payments. Create an invoice with the click of a button. Apply specific credits to invoices or apply a single-customer payment to multiple jobs or invoices. Receive bills and enter them into QuickBooks Online with the expected due date.
- Write and print checks. Enter information in the onscreen check form and print checks.

### Google:

Google Apps Premier Edition has the following unique features:

- **Per-user storage of 10GBs** offers about 100 times the storage of the average corporate mailbox.
- **APIs for business integration** APIs for data migration, user provisioning, single sign-on, and mail gateways enable businesses to further customize the service for unique environments.
- **Uptime of 99.9 percent** Service level agreements for high availability of Gmail, with Google monitoring and crediting customers if service levels are not met.
- **Advertising optional** Advertising is turned off by default, but businesses can choose to include Google's relevant target-based ads if desired.
- **Low fee** Simple annual fee of \$50 per user account per year makes it practical to offer these applications to select users in the organization.

In addition to Gmail, Google Calendar, Google Talk, and Start Page, all editions of Google Apps now include

Google Docs and Spreadsheets

Google Slides

Google Books

Google Blogger

Google Classroom

Google Meet

Gmail for mobile devices

### **Microsoft:**

Microsoft offers SaaS .One that is particularly appealing to small businesses is Microsoft Office Live Small Business.

You can find it at <http://www.smallbusiness.officelive.com>

### **Microsoft Office Live Small Business offers main features including**

Store Manager, an e-commerce tool to help small businesses easily sell products on their own web site and on eBay;

E-mail Marketing beta, to make sending email newsletters and promotions

Simple and affordable.

### **Small businesses that sign up will receive a set of tools and features for free, including**

- Web hosting
- Rich site-design capabilities
- Numerous productivity applications
- Contact management software for performing basic customer relationship Management (CRM)
- Custom domain name registration with 100 business email accounts (custom

Domains are free for the first year).

- This release is also compatible with the Firefox 2.0 web browser, making the service accessible on both Macs and PCs.

**The following features are available in Microsoft Office Live Small Business:**

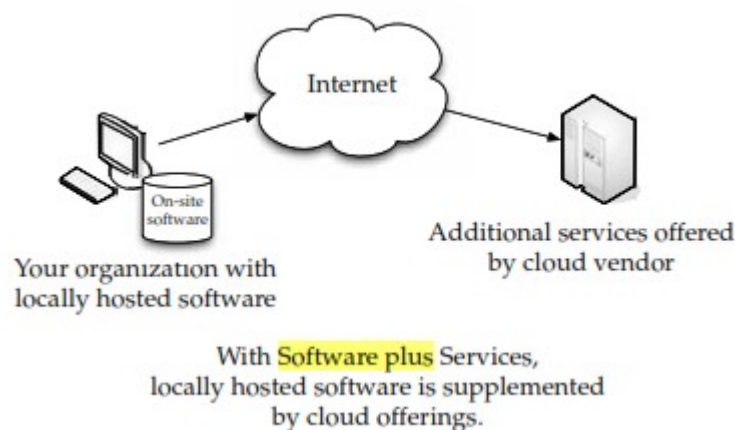
- Store Manager is a hosted e-commerce service that enables users to easily sell products on their own web site and on eBay.
- Custom domain name and business email is available to all customers for free for one year. Private domain name registration is included to help customers protect their contact information from spammers. Business email now includes 100 company-branded accounts, each with 5GB of storage.
- Web design capabilities, including the ability to customize the entire page, as well as the header, footer, navigation, page layouts, and more.
- Support for Firefox 2.0 means Office Live Small Business tools and features are now compatible with Macs.
- A simplified sign-up process allows small business owners to get started quickly. Users do not have to choose a domain name at sign-up or enter their credit card information.
- Domain flexibility allows businesses to obtain their domain name through any provider and redirect it to Office Live Small Business. In addition, customers may purchase additional domain names.
- Synchronization with Microsoft Office Outlook provides customers with access to vital business information such as their Office Live Small Business email, contacts, and calendars, both online and offline.

- E-mail Marketing beta enables users to stay connected to current customers and introduce themselves to new ones by sending regular email newsletters, promotions, and updates.
- Contact Manager is the foundation of customer marketing. The improved user interface enables customers to find and add contacts more efficiently.
- The adManager search marketing tool is now easier to use and allows users to advertise across multiple sites and search engines, including MSN, Live Search, Ask.com, Excite.com, and Lycos.com.



## **CHAPTER-2: Software plus Services**

Software plus Services (Software + Services) is Microsoft's philosophy for complementing the software company's on-premises software offerings with cloud-based remote computing software options. The approach is based on providing the benefits of both traditional physical-based software and Web-based software-as-a-service (SaaS) delivery methods in order to create more effective software solution options for customers.



### **Difference between Software as a service and Software plus Service**

SAAS solutions offer a web-based, fully hosted option in which the customer has no responsibility for infrastructure, software updates, hardware upgrades, backups, etc. Software is never purchased, but essentially rented on a monthly basis for an unlimited period of time.

Software Plus Services provides 3 options: 1) hosted, subscription model (SAAS), 2) purchasing software in a hosted environment, or 3) purchasing the software to deploy on-premise.

### **Advantages or Pros or Features of Software plus Services**

**User experience:** Combining client software that provides the features you want with the ability of the Internet to deliver those experiences gives you the best of both worlds.

**Working offline:** Not having to always work online gives you the flexibility to do your work by connecting occasionally and synching data, you get a good solution for road warriors and telecommuters who don't have the same bandwidth or can't always be connected.

**Privacy worries:** privacy is a major concern. With Software plus Services, you can keep the most sensitive data housed on-site, while less sensitive data can be moved to the cloud.

**Marketing:** Software plus Services gives vendors a chance to keep their names in front of clients. Since it's so easy to move from vendor to vendor, providing a partsoftware/part-Internet solution makes it easier to sell your product to a client.

**Power:** More efficiency is realized by running software locally and synching to the cloud as needed.

**Flexibility:** Vendors can offer software in different sizes and shapes—whether on-site or hosted. This gives customers an opportunity to have the right-sized solution.

### **Disadvantages or Cons Software plus Services**

**The main one is cost.** Bought a server and installed it locally.

**Second is Quality of Service (QoS).** It depends on your cloud vendor and is something you should address in a service level agreement before committing, but your ability to access data might be at risk if there are so many clients using your vendor's equipment. Unless your vendor is especially responsible, you run the risk of slow response times and possibly even failure.

The last downside is a big mental hurdle for a lot of people: **simple fear**. If you have your data stored on a cloud somewhere, is it really safe? Is it really secure?

## **Software plus Services Vendors**

**Microsoft** Microsoft offers Dynamics CRM, Microsoft Outlook, Windows Azure, and Azure Services Platform. Windows Azure is a collection of cloud-based services, including Live Framework, .NET Services, SQL Services, CRM Services, SharePoint Services, and Windows Azure Foundation Services for compute, storage, and management.

**Adobe** Adobe Integrated Runtime (AIR) brings Flash, Action Script, and MXML/Flex to the PC. Using AIR, vendors can build desktop applications that access the cloud.

**Salesforce.com** Salesforce.com's AppExchange is a set of APIs that vendors can use to create desktop applications to access salesforce data and run on the desktop of an end user.

**Apple** Apple offers a number of cloud-enabled features for its iPhone/iPod touch. Not only does it come with an integrated Safari web browser, but they also offer a software developer's kit (SDK) that allows software to be created for the iPhone/ iPod touch. Vendors can build their own applications, and on-the-go users can access cloud offerings with those applications.

**Google** Google's mobile platform is called "Android" and helps vendors build Software for mobile phones. Google also offers its Google Apps and the Google Chrome browser, which also installs Google Gears software on the desktop. This allows offline and online solutions.

**WeatherBug** An API from [api.weatherbug.com](http://api.weatherbug.com) is a set of APIs that vendors can use to create applications that utilize current weather data.

## **Adobe AIR**

### **Overview:**

AIR (also known as Adobe Integrated Runtime and formerly Adobe AIR) is a cross-platform runtime system developed by Adobe Systems for building desktop applications and mobile applications. Programmers using HTML, JavaScript, Adobe Flash, Flex technologies and Action Script to deploy rich Internet applications (RIAs) on a broad range of devices including desktop computers, netbooks, tablets, smartphones and TVs.

### **Adobe AIR Tools:**

AIR allows developers to use familiar tools such as Adobe Dreamweaver, Flash Builder, Flash Catalyst, Flash Professional or any text editor to build their applications and easily deliver a single application installer that works across operating systems.

### **Adobe AIR supported operating systems:**

Adobe AIR runs on Windows, Mac OS, Android, iOS and BlackBerry Tablet OS etc..

### **Where can I get the Adobe AIR runtime?**

- Desktop computers: Download from the Adobe AIR Download Centre.
- Android devices: Download from Google Play directly from your device.
- BlackBerry: The runtime is preinstalled and integrated into the BlackBerry Tablet OS.
- IOS devices: AIR apps for iOS install a "captive" version of Adobe AIR; therefore, users do not install a dedicated version of AIR.
- Television: The runtime is preinstalled on supported televisions.

### **Cost:**

The Adobe AIR runtime and AIR SDK are free for most users.

### Desktop features:

On desktop platforms, AIR supports:

- **Window management** – Opening multiple windows, minimizing, maximizing and resizing AIR windows
- **Menu bar** – Adding a native menu bar to AIR windows, with sub menus and custom menu items.
- **File management** – Discovering drives, files and folders on the PC, creating and deleting files, renaming, copying and moving files.
- **Console applications** – Executing native applications with command-line arguments, and receiving feedback via standard I/O & error streams.
- **Multithreading** – Managing multiple threads, to execute Action Script code in the background without freezing the user interface.
- **Web browser** – View HTML web pages with full CSS and JavaScript support within applications, with the integrated WebKit-based web browser.
- **Clipboard access** – Programmatically copy or paste text, bitmaps or files into the system clipboard.
- **Drag-and-drop** – Allows users to drag text, bitmaps or files into AIR applications.

### Mobile features :

On mobile platforms, AIR supports many mobile hardware features:

- **3D hardware-accelerated** graphics rendering (using Stage3D)
- **Touch-screen** events (including multi-touch gestures)
- Device camera and microphone access (including video encoding for recorded video)
- Accelerometer and geo-location sensor input (GPS or otherwise)
- **Networking** with HTTP, TCP and UDP protocols
- **AIR Gamepad** - allows mobile applications to serve as secondary displays and controllers for games.

### Adobe Security:

Security is a key concern of Adobe, users, system administrators, and application developers. For this reason, Adobe AIR includes a set of security rules and controls to safeguard the user and application developer.

### **Microsoft Online:**

Microsoft Online follows hybrid model for customers and vendors benefits.

#### **Hybrid Model:**

Microsoft is moving toward a hybrid strategy of Software plus Services, a combination of on-premise software, partner-hosted software, and Microsoft-hosted software.

#### **Microsoft Online software plus services:**

Microsoft **Online** offers Exchange Online , SharePoint Services ,Dynamics CRM, Microsoft Outlook, .NET Services, SQL Services and Active Directory etc..

#### **Microsoft Exchange Online:**

Microsoft Exchange Online is a hosted messaging solution that delivers the capabilities of Microsoft Exchange Server as a cloud-based service. It gives users access to email, calendar, contacts, and tasks from PCs, the web, and mobile devices. It integrates fully with Active Directory, enabling administrators to use group policies, as well as other administration tools, to manage Exchange Online features across their environment.

System requirements for Exchange Online

For system requirements, the monthly subscription-based service available for business, education, and government organizations.

Features:

- Advanced security capabilities
- Easy to maintain
- Access from anywhere
- Outlook integration
- Data safeguards
- IT-level phone support
- Microsoft FastTrack for Microsoft 365

### SharePoint Services

Organizations use Microsoft SharePoint to create websites. You can use it as a secure place to store, organize, share, and access information from any device. All you need is a web browser, such as Microsoft Edge, Internet Explorer, Chrome, or Firefox.

### Dynamics CRM

CRM stands for customer relationship management. It's a category of integrated, data-driven software solutions that improve how you interact and do business with your customers. CRM systems help you manage and maintain customer relationships, track sales leads, marketing, and pipeline, and deliver actionable data.

### Microsoft Outlook

Microsoft Outlook is an application that is used mainly to send and receive emails. It can also be used to manage various types of personal data including calendar appointments and similar entries, tasks, contacts, and notes.

### .NET Services

The .Net framework is a software development platform developed by Microsoft. The framework was meant to create applications, which would run on the Windows Platform.

### SQL Services

The SQL Services is a database software application developed by Microsoft for storing, retrieving large amount of data.

### Active Directory

Active Directory, introduced with Windows Server 2000, is included with most versions of Windows Server, but is also available as a service. Its primary function is to facilitate authentication and authorization of users (members) and resources within an AD domain. It is used to provision, store, and manage users, groups, passwords, and contacts, among other objects.

### Main Features :

- Centralized **resources** and **security** administration.
- Single logon for access to global **resources**.
- Simplified resource location.



## **Mobile Device Integration**

A key component of Software plus Services is the ability to work in the cloud from a mobile device.

Mobile cloud computing is defined as an integration of cloud computing technology and mobile devices in order to make mobile devices resourceful in terms of computational power, memory, storage, energy, and context awareness.

Google Android is the best operating system used in mobile devices. it was developed by Google.

### **Google Android:**

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets.

Android is developed by a consortium of developers known as the Open Handset Alliance and commercially sponsored by Google.

The first commercial Android device launched in September 2008.

It is free and open source software;

Software packages on Android, which use the APK format, are generally distributed through proprietary application stores like Google Play Store.

Android has been the best-selling OS worldwide on smartphones.

### **Features in Android:**

- Beautiful USER INTERFACE
- Connectivity : Bluetooth, Wi-Fi, NFC and WiMAX etc..
- Storage : SQLite, a lightweight relational database, is used for data storage purposes.
- Media support : JPEG, PNG, GIF, and BMP. Etc ..
- Messaging ; SMS & MMS
- Web browser : Chrome ..etc

- Multi-Language
- Multi-tasking
- Resizable widgets
- Multi-touch