UNIT III

Cloud Computing At Work: Software as a service − Overview, driving forces, Company offerings, Industries, Software plus Services – Overview, Mobile Device Integration −Providers, Microsoft Online.

Cloud Computing at Work

Software as a service:

- In Software as a service, an application is hosted by a service provider and then accessed via the World Wide Web by a client.
- we discuss SaaS and examine the pros and cons of it. We will also talk about how specific vendors are offering SaaS, and then how SaaS exists in different industries.

Overview

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

- An easy way to think of SaaS is the web-based email service offered by such companies as Microsoft (Hotmail), Google (Gmail), and Yahoo! (Yahoo Mail).
- Each mail service meets the basic criteria: the vendor (Microsoft, Yahoo, and so on) hosts all of the programs and data in a central location.
- They provide end users to access data and software and which is accessed through the World Wide Web.
- This is a simple explanation of SaaS, but the same methods applied to a different applications used by businesses or individual end users.

Email is stored by the vendor, and accessed by the client.

SaaS can be divided into two major categories:

- **Line of business services**

  1. These are business solutions offered to companies and enterprises.
  2. They are sold via a subscription service.
  3. Applications covered under this category include business processes, like customer relations applications.

- **Customer-oriented services**
  1. These services are offered to the general public on a subscription basis.
  2. More often they are offered for free and supported by advertising.
  3. Examples in this category include the web mail services, online gaming, and consumer banking, among others.

Advantages of Saas

- With a short time it help to improve productivity, when compared to the long implementation cycles and failure rate of enterprise software.

- There are lower software licensing costs.

- SaaS offerings feature the biggest cost savings over installed software by eliminating the need for enterprises to install and maintain hardware, pay labor costs, and maintain the applications.

- SaaS can be used to avoid the custom development cycles to get applications to the organization quickly.

- SaaS vendors typically have very detailed security audits.

- SaaS vendors allow companies to have the most current version of an application as possible.

- This allows the organization to spend their development dollars on new advance in their industry, rather than supporting old versions of applications.

-OR-

• Lower up-front cost - SaaS is generally subscription-based and has no up-front licence fees resulting in lower initial costs. The SaaS provider manages the IT infrastructure that is running the software, which brings down fees for hardware and software maintenance.

• 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.
- **Accessibility** – All you need to access a SaaS application is a browser and an internet connection. This is generally available on a wide range of devices and from anywhere in the world, making SaaS more accessible than the traditional business software installation.
- **Scalability** – SaaS providers generally offer many subscription options and flexibility to change subscriptions as and when needed, eg when your business grows, or more users need to access the service.

Software Considerations (typically over a period of time-facts.)

- Using the existing software idea, the user purchases a software package and license by paying a one-time fee.
- Support and updates are provided by the vendor under the terms of the license agreement.
- This can be costly if you are installing a new application on hundreds or thousands of computers.
- SaaS, on the other hand, has no licensing, you pay for it through the use of a subscription, and you only pay for what you use.
- If you stop using the application, you stop paying.

$$$

You only pay for the applications when you use them.

- Additionally, the software is not installed on the user's computer.
- Example is Hotmail, access your Hotmail inbox via your web browser.

Vendor Advantages

- The advantages flow both ways. Not only does the end user benefit, but so does the vendor.
- And financial benefit is the top one—vendors get a constant stream of income, often what is more than the traditional software licensing setup.
- Additionally, through SaaS, vendors can stop the piracy business and unlicensed use of software.
- Vendors also benefit more as more subscribers come online.

Limitations/disadvantages of Saas

Designing an application to efficiently deliver it to thousands of customers via the Internet is hard work.

- **Lack of control** - in-house software application gives businesses a higher degree of control than hosted solutions where control resides with a third party. Typically everyone has to use the latest version of the software application and cannot defer upgrades or changes in the features.
- **Security and data issues/ Insufficient Data Security** - access management and the privacy of sensitive information is a major consideration around cloud and hosted services.

- **Limited range of applications** - while SaaS is becoming more popular, there are still many applications that don not 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
- **Performance** - SaaS may run at somewhat slower speeds than on-premise client or server applications, so it is worth keeping performance in mind your software isn't hosted on a local machine.
- **Troublesome Software Integration** - When working with an external SaaS service provider to host multiple apps, there might be an integration problem with the existing in-house software. The in-house APIs and data structures might not integrate properly with the external software. As a result, you should always perform compatibility checks with all SaaS applications for better results.

Driving Forces (someone or something that has the power to make things happen:)

- Some would argue that SaaS is popular because of the popularity of cloud computing.
- In fact, there are a number of issues that are driving more cloud vendors to offer SaaS and more clients to sign on.
- Let's take a look at why SaaS is driven as much as it is.

Popularity

Technology is an ever-improving process where web browsers, servers and development see vast improvements yearly. All these improvements make SaaS much more available to its users. From simple logins to accessing data on multiple devices, SaaS will become even more accessible and integrated in the future. Internet speeds also increase nowadays.

Software Vendors Love it

- A few years back there is only few vendors who tell about Saas.
- But now more and more vendors are on board for SaaS.
- Now, even company like SAP and Oracle have joined the ranks of SaaS developers.
- In addition to the big names, there are hundreds of smaller developers activating out SaaS offerings.
- You can expect even more SaaS applications to be made available in the months and years to come.

Enterprises Love it

- SaaS can be deployed both internally and externally.
- External use is especially interesting to IT professionals, because it takes work off their shoulders.
- They are able to focus more on their work and face competitive world, rather than simply maintaining servers and responding when servers fail.
- IT professionals might enjoy developing their own SaaS applications to be used internally.

A lot of SaaS Platforms

- There are many SaaS platforms out there, and they grow each month.
- For example, Oracle is developing its own SaaS platform while Microsoft is working to make their own applications SaaS-ready.
- As SaaS becomes more and more popular, more vendors are going to be forced to make their platforms SaaS-friendly for SaaS-based applications.
  - Another reason SaaS platforms will continue to grow is because of the interest in Green IT (server.power)

Virtualization Benefits

- Virtualization makes it easy to move to an SaaS system.
- Nowadays Independent software vendors (ISVs) is adopting SaaS, that leads to growth of virtualization.
- The growing popularity of some SaaS vendors using Amazon's EC2 cloud platform and the overall popularity of virtualized platforms will help with the development of SaaS.

Company Offerings

There are dozens of companies offering SaaS.

QuickBooks Overview

- QuickBooks Online (www.qboe.com) gives small business owners the ability to access their financial data whether they are at work, home, or on the road.
- The offering also gives users a high level of security because data is stored on firewall-protected servers and protected via automatic data backups.
- 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 is easy to keep data up to date.
  - Financial data is automatically backed up every day and is stored on firewall-protected servers.
  - 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.
  - Invoice customers and track customer payments. Create an invoice with the click of a button.

iPhone and BlackBerry Capabilities

- Intuit Inc. offers both iPhone and BlackBerry integration with QuickBooks Online, the leading web based small business accounting software.
- With the iPhone and BlackBerry upgrade, the more than 130,000 small businesses that subscribe to QuickBooks Online can manage their business anywhere—with or without a computer.
- Online users get an up-to-date view of their finances by
  - Checking current bank and credit card balances
  - Finding vendor and customer contact info with addresses via Google Maps
  - Running balance sheet and profit and loss reports

Google

- Google's SaaS offerings include Google Apps and Google Apps Premier Edition.
- Google Apps, launched as a free service in August 2006, is a suite of applications that includes Gmail webmail services, Google Calendar shared calendaring, Google Talk instant messaging and Voice over IP.
- More than 100,000 small businesses and hundreds of universities use the service.
- Google Apps Standard Edition and Google Apps Education Edition is offered for free.
- Google also offers Google Docs and Spreadsheets for all levels of Google Apps.
- Google Apps Premier Edition has the following unique features: Per-user storage of 10GBs, APIs for business integration, Uptime of 99.9 percent, Advertising optional
- In addition to Gmail, Google Calendar, Google Talk, and Start Page, all editions of Google Apps now include Google Docs and Spreadsheets, Gmail for mobile devices on BlackBerry

Microsoft

- Microsoft offers SaaS in a number of forms. 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 features including Store Manager, an e-commerce tool to help small businesses easily sell products on their own web site and on eBay; and E-mail Marketing beta, to make sending email newsletters and promotions simple.
- Small businesses that sign up will receive a set of tools and features for free, including-Web hosting, Rich site-design capabilities, customer relationship management (CRM)
- 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.
  - Web design capabilities, including the ability to customize the entire page, as well as the header, footer, navigation, page layouts, and more.
  - Synchronization with Microsoft Office Outlook email, contacts, and calendars, both online and offline.
  - E-mail Marketing enables users to stay connected to current customers and sending regular email newsletters, promotions, and updates.
  - The adManager search marketing tool to advertise across multiple sites and search engines, including MSN, Live Search, Ask.com.

IBM

- IBM—offers its own SaaS solution under the name "Blue Cloud."
- Blue Cloud is a series of cloud computing offerings that will allow corporate datacenters to operate more like the Internet by enabling computing across a distributed, globally accessible fabric of resources, rather than on local machines or remote server farms.
- Blue Cloud is based on open-standards and open-source software supported by IBM software, systems technology, and services.

- IBM's Blue Cloud development is supported by more than 200 IBM Internet-scale researchers worldwide and targets clients who want to explore the extreme scale of cloud computing infrastructures.

- IBM is collaborating on cloud computing initiatives with select corporations, universities, Internet-based enterprises, and government agencies

- IBM's first Blue Cloud offerings were available to customers in the spring of 2008, supporting systems with Power and x86 processors.

- Blue Cloud—based on IBM's Almaden Research Center cloud infrastructure—includes Xen and PowerVM virtualized Linux operating system images and Hadoop parallel workload scheduling.

- IBM developed Blue Cloud to help clients take advantage of cloud computing, including the ability of cloud applications to integrate with their existing IT infrastructure via SOAbased web services.

- Blue Cloud will particularly focus on the breakthroughs required in IT management simplification to ensure security, privacy, and reliability, as well as high utilization and efficiency.

- The Blue Cloud concept grew out of work that IBM did in support of its own software innovators with an IBM innovation portal called the Technology Adoption Program.

- IBM developers can request that computing resources be provisioned with software to test and conduct trials on their innovations with IBM employees through the program.

Industries

But it is not just the big names like Amazon and Microsoft offering general SaaS. Different industries have their own players that offer unique, industry-specific SaaS applications. In this section, we take a closer look at some of those industries and the players within them.

Healthcare

- It is risky to have health files on the cloud.
- Two prominent systems provide the security for such a solution.
- Both Microsoft's HealthVault and AdvancedMD offer cloud solutions for the healthcare industry.

HealthVault

- Microsoft launched its Microsoft HealthVault, a software and services platform.
- It helps people better manage their health information.
- HealthVault can bring the health and technology industries together to create new applications.
- Its services that help people manage and monitor their personal health information, including weight loss and disease management, such as for diabetes.
- The launch of HealthVault makes it possible for people to collect their private health information
- For companies across the health industry to deliver compatible tools and services built on the HealthVault platform. Ex: Microsoft also offers HealthVault Search.

Industry Support HealthVault offers more applications and devices from the following organizations:

- ActiveHealth Management
- Allscripts
- American Diabetes Association
- American Heart Association
- American Lung Association
- American Stroke Association
- HealthMedia Inc.
- Healthphone Solutions Ltd.

AdvancedMD

- Another popular healthcare SaaS is AdvancedMD.
- It is a medical billing software company providing a medical billing software product for physician office and billing office management.
- Thousands of medical office users and healthcare providers use AdvancedMD's medical software every day.
- And according to the company, each year, some 98 percent of their active medical clients renew their service.
- AdvancedMD's medical billing and practice management software is 100 percent web-based, meaning it can be used at anytime, anywhere one can get on the Internet.
- AdvancedMD continues today as a Microsoft partner and Healthcare user group member.

Collaboration—WebEx

- WebEx was acquired by Cisco Systems in 2007.
- The platform provides network-based recording (NBR) capabilities for web conferencing, allowing hosts to record sessions and create valuable libraries of archived meetings, events, seminars, and support sessions.
- The WebEx collaboration suite consists of five applications, each designed for specific collaborative business processes. The suite consists of five components:

- WebEx Meeting Center
- WebEx Event Center
- WebEx Sales Center
- WebEx Training Center
- WebEx Support Center

Construction—CMiC

1. CMiC offers its construction software solutions for the architectural, engineering, and construction industry.
2. CMiC's offering—CMiC Emerging—provides general contractors who have revenues under $250 million
3. CMiC SaaS applications specifically designed to help achieve growth, improve productivity, and enhance efficiency.
4. CMiC Emerging allows contractors who don't have the technical resources to use the same robust financial and project management capabilities.

Retail—Epicor

1. Epicor Software Corporation offers its Retail SaaS solution for retailers.
2. The SaaS application gives small and medium specialty and department store retailers a delivery method that reduces capital investment and implementation requirements.
3. Epicor's integrated Retail SaaS solution is a pay-as-you-go model that consists of merchandising, allocation, business intelligence, POS, sales audit, and CRM.
4. With IBM Partnership as IBM's Remote Management Agent (RMA) provide Retail software.
5. Provides retailers with the ability to remotely monitor, configure, and track hardware, software, and applications in one store or multiple store locations, from a central point.

Banking—OpenChannel

1. OpenChannel SaaS offerings provide options for implementing online banking and bill payment functionality across multiple channels, including mobile devices.
2. OpenChannel provides a range of options for implementing online banking and bill payment functionality across multiple channels.
3. Utilizing industry-standard web services, financial institutions can customize the presentation of online banking and bill payment functionality to meet the unique needs of their customers and differentiate their online capabilities.
4. OpenChannel brings together the industry's best online banking and bill payment capabilities with an extremely flexible approach to integrating, implementing and managing world class financial management solutions.
5. It has capabilities, such as Electronic bill payment integration, Value-based routing/payment preference, Security, Mobile banking and payments.
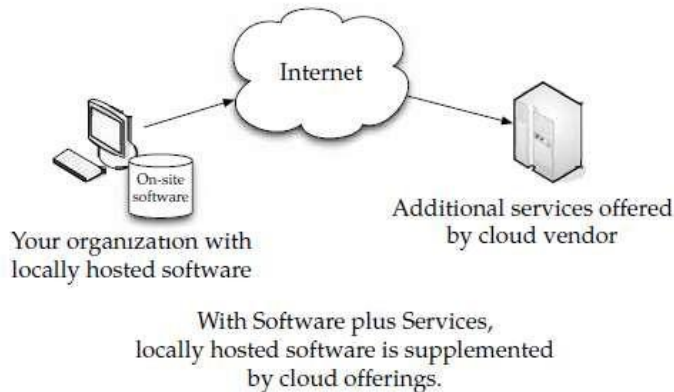
Software plus Services

- In this model, typical SaaS is boosted with software running locally.
- That is, you run some software on-site and reach out to the cloud for additional services.

- You maintain some software on-site, which accesses data stored on the cloud. This is especially good for remote workers, road warriors, telecommuters, and anyone else who needs to be away from the corporate datacenter.

Overview

- Software plus Services takes the concept of Software as a Service (SaaS) to match packaged software.
- Here are some of the ways in which it can help your organization:

With Software plus Services,
locally hosted software is supplemented
by cloud offerings.

Benefits 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: By** connecting occasionally and synching data, you get a good solution for road warriors and telecommuters who do not have the same bandwidth or cannot always be connected.

- **Privacy worries**: 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. providing a parts software/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 onsite or hosted. This gives customers an opportunity to have the right-sized solution.

Pros/advantages of Software Plus Services

1. If software is installed on the datacenter servers and on the client PCs.
2. We need to spend time maintaining equipment and installing patches and updates.
3. But for all the headache of managing their own datacenter and clients, the software is always available (unless a piece of equipment happens to go down) and under their control.
4. This is a tough model for telecommuters or workers who leave the office and work remotely.
5. They can certainly dial in via a virtual private network.

6. If a company makes extensive use of the cloud. They maintain all their applications and data on the cloud.
7. Because it removes the headaches of managing a datacenter, and they really only pay for what they use.
8. This is also a good model for workers who have to work remotely—they just need access to an Internet connection and they can do their work.
9. But, unfortunately, if their link to the cloud is out or if vendor equipment goes down, then workers cannot get their work done.
10. Software plus Services is the middle ground between the two architectures.
11. While data is maintained on the cloud, software is still maintained at the client's location.
12. The software is smaller and good in deployment, but if the connection to the cloud is down or the cloud vendor has problems then totally out of luck.
13. Software plus Services periodically checks the cloud and updates local software with current information, also sending changed information back to the cloud.
14. If the connection does go down, the software will have the most recently updated information and work can still continue.

Cons/disadvantages of software plus service
1. The downsides of Software plus Services are cost.
2. If we do not use as much of the services portion of the model, then you could not pay as much.
3. However, if you are using it heavily, it might make more financial sense to house the servers locally.
4. For instance, if we outsource your email to a cloud vendor, you could be paying quite a lot, whereas you would pay a little if you just bought a server and installed it locally.
5. Second is Quality of Service (QoS). This, of course, depends on your cloud vendor and is something you should address in a service level agreement before committing.
6. But your ability to access data might be at risk if there are so many clients using your vendor's equipment.
7. Unless your vendor is especially responsible, you run the risk of slow response times and possibly even failure.
8. The last downside is simple fear. If you have your data stored on a cloud somewhere, is it really safe? Is it really secure?
9. Social networking site Facebook came under fire in early 2009 when they issued a terms of service adjustment saying, in essence, "We own whatever you put up here."

Vendors in Software plus services
Software plus Services offerings that prevalent companies have.

- **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, ActionScript, 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. It 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 (an example of its use is shown on an iPod touch in Figure 10-1) is a set of APIs that vendors can use to create applications that utilize current weather data.

FIGURE shows WeatherBug takes weather information stored on the Internet and displays it, depending on how the API is created


Mobile Device Integration

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

- There are a number of free applications that you can use on the cloud.

- for example, Google's free apps. You can start a document at your PC and then share it with others or continue working on it on your mobile device.

- The same document is shown (in Figure 1) on a desktop computer, and (in Figure 2) on a mobile device.

- This is a simplistic example, but it shows how you can use the cloud to your advantage, especially with mobile users.

- If we go for a service like Force.com and see if anyone has already created the application you need. If not, assign your programmers to the problem. Google Android is one way to keep your programmers busy.

FIGURE 1 It's easy enough to create a document with Google's Docs

FIGURE 2 You can edit your documents on a mobile device, if you so choose
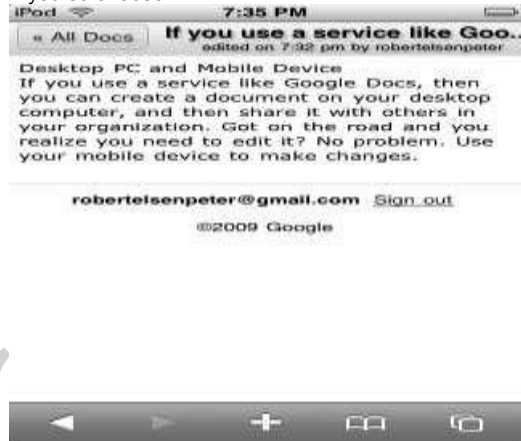
Google Android

1. A leading technology and wireless companies joined forces to develop Android.
2. It is an open platform for mobile devices.
3. Google Inc., T-Mobile, HTC, Motorola, and others collaborated on the development of Android through the Open Handset Alliance, a multinational alliance of technology and mobile industry leaders.
4. This alliance shares a common goal on mobile devices and giving consumers a chance to experience performance improvements over existing mobile platforms.
5. By providing developers with a new level of openness that enables them to work more collaboratively.
6. With nearly 3 billion users worldwide.
7. It is challenge for developers, wireless operators, and handset manufacturers to respond as quickly as possible to the ever-changing needs of mobile consumers.
8. Through Android, developers, wireless operators, and handset manufacturers will be better positioned to bring to market innovative new products faster and at a much lower cost.
9. The Android platform is available under one of the most developer friendly open-source licenses, which gives mobile operators and device manufacturers significant freedom and flexibility to design products.
10. Android holds the promise of benefits for consumers, developers, and manufacturers of mobile services and devices.
11. Handset manufacturers and wireless operators will be free to customize Android in order to bring to market innovative new products faster and at a much lower cost.
12. Developers will have access to handset capabilities and tools that will enable them to build user-friendly services, bringing the Internet developer model to the mobile space

Open Handset Alliance Founding Members

Members of the Open Handset Alliance include

- Aplix (www.aplixcorp.com)
- Ascender Corporation (www.ascendercorp.com)
- Audience (www.audience.com)
- Broadcom (www.broadcom.com)
- China Mobile (www.chinamobile.com)
- eBay (www.ebay.com)
- Google (www.google.com)
- HTC (www.htc.com)
- Intel (www.intel.com)
- KDDI (www.kddi.com)
- LivingImage (www.livingimage.jp)
- LG (www.lge.com)

Providers- Software plus services

- Software plus Services is a good match for mobile users, telecommuters.
- Let's look at some development solutions you might consider when creating your own Software plus Services deployments.

Adobe AIR

- Adobe Systems offers its Adobe Integrated Runtime (AIR), formerly code-named Apollo.
- Adobe AIR is a cross-operating-system application runtime that allows developers to use HTML/CSS, AJAX, Adobe Flash, to extend rich Internet applications to the desktop.
- New features in Adobe AIR include an embedded local database, PDF support, enhanced capabilities for JavaScript.
- Developers use Adobe AIR Software Developer's Kit (SDK) can be downloaded for free from www.adobe.com/go/air.

Adobe RIA (Rich Internet applications)

- Adobe's RIA platform, which enables developers and designers to create and deliver rich, dynamic, branded content and applications across all major operating systems.
- Key elements of Adobe AIR are open source, including the WebKit HTML engine, the ActionScript Virtual Machine and SQLite local database functionality.

Apple iPhone SDK

- It is for popular iPhone and iPod touch devices.
- Apple offers its iPhone Software Development Kit (SDK) The iPhone SDK provides developers with a rich set of application programming interfaces (APIs) and tools to create applications for iPhone and iPod touch.

- Currently, anyone can download the beta iPhone SDK for free and run the iPhone Simulator on their Mac.
- Apple also introduced its new iPhone Developer Program, giving developers everything they need to create native applications, and the new App Store, a way for developers to wirelessly deliver their applications to iPhone and iPod touch users.

App Store

- The iPhone software contains the App Store, an application that lets users browse, search, purchase, and wirelessly download third-party applications directly onto their iPhone or iPod touch.
- The App Store enables developers to reach every iPhone and iPod touch user.
- Developers set the price for their applications— including free—and retain 70 percent of all sales revenues.
- Users can download free applications at no charge to either the user or developer, or purchase priced applications with just one click.

Microsoft Online

- Microsoft offer Software plus Services with integrating some of its most popular like Exchange.
- It also provides a means to function on the cloud in a way that you are probably already used to with your in-house computers.

Hybrid Model

- It is from entirely web-based, to entirely on-premise solutions, and anywhere in between-hybrid

- Microsoft is moving toward a hybrid of Software plus Services, this will helps customers and partners with richer applications, more choices, and greater opportunity through a combination of on-premise software, partner-hosted software, and Microsoft-hosted software.
- In hybrid, Microsoft expanded its Microsoft Online Services—which includes Exchange Online and SharePoint Online—to organizations of all sizes.
- With services like Microsoft Online Services and Microsoft Dynamics CRM 4.0, organizations will have the flexibility required to address their business needs.

Partnership

- To help partners understand how they can benefit from Microsoft's Software plus Services Microsoft created a partner opportunity framework that maps the three main delivery models—on-premise, partner-hosted, and Microsoft-hosted.
- This framework helps partners to define, understand, and capitalize on the full range of business opportunities that are enabled by a Software plus Services .

Exchange Online and SharePoint Online

- Exchange Online and SharePoint Online are two examples of how partners can extend their reach, grow their revenues, and increase the number to sales in a Microsoft-hosted scenario.
- In September 2007, Microsoft initially announced the worldwide availability of Microsoft Online Services—which includes Exchange Online, SharePoint Online, Office Communications Online, and Office Live Meeting—to organizations with more than 5,000 users.
- Microsoft Online Services helps partners to deliver greater value to customers and grow their own businesses profitably.

Microsoft Dynamics CRM 4.0

- Microsoft Dynamics CRM 4.0, released in December of 2007, also provides a key part of Microsoft's Software plus Services.
- The unique advantages of the new Microsoft Dynamics CRM 4.0, which can be delivered on-premise or on-demand as a hosted solution, make Microsoft Dynamics CRM an option for solution providers who want to rapidly offer a solution that meets customer needs and maximizes their potential to grow their own business through additional services.

Business Model

- With Microsoft Online Services, customers have the option to access messaging, collaborations and communications software over the Internet.
- These services will be sold as a suite or as stand-alone products with prices starting as low as US$3 per month.
- Under the business model, partners selling the two suites will receive 12 percent of the first-year contract value with a recurring revenue stream of 6 percent of the subscription fee every year for the life of the customer contract.
- To help partners get the guidance for discovery, enrollment, and activation of the two suites, a program called Quickstart for Microsoft Online Services was announced.

Opportunities

- Microsoft also offers a spectrum of new partner opportunities: across the fast-growing unified communications platform;

- The range of opportunities for Microsoft Windows and small businesses; a new Mobile Readiness program to help partners take advantage of the increasing mobility space;
- And new licensing and financing programs to help partners improve their customers' purchasing experience with more flexible, predictable, and manageable options.

Unified Communications
- Microsoft has also seen broad adoption of its unified communications platform and products, including Microsoft Office Communications Server 2007, Microsoft Office Communicator 2007, and Microsoft Exchange Server 2007.
- Microsoft Office Communications Server alone has experienced business growth over the past couple of years, is licensed to 35 percent of Fortune 500 companies, and partners are recognizing the opportunity:

Mobility Opportunities
- Microsoft's SMB customers have reported that among network devices, smartphones will constitute their largest growth area in the next five years.
- To help reseller partners prepare for this, Microsoft's Mobile Communications Business offers its Mobile Readiness Program,

Active Directory
- Active Directory is a Microsoft directory service, and it is used to store, and manage users, groups, passwords, and contacts, among other objects.
- To configure Active Directory with Exchange Online, you want to use the Microsoft Online Services Directory Synchronization Tool.
- You should also configure Active Directory User attributes if you want to use User Login User Principal Names (UPNs) for the sake of consistency with the on-site Active Directory environment.

END OF UNIT -3