

UNIT-III

5 marks

1. With diagram explain Software as a Service? Discuss its major categories.

Software as a service:

1. In Software as a service, an application is hosted by a service provider and then accessed via the World Wide Web by a client.
2. SaaS (Software as a Service) is an application hosted on a remote server and accessed through the Internet.



1. 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).
2. 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.
3. They provide end users to access data and software and which is accessed through the World Wide Web.
4. 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.

2. Explain the Advantages of Software as a Service?

1. With a short time it help to improve productivity, when compared to the long implementation cycles and failure rate of enterprise software.
2. There are lower software licensing costs.
3. 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.
4. SaaS can be used to avoid the custom development cycles to get applications to the organization quickly.
5. SaaS vendors typically have very detailed security audits.
6. SaaS vendors allow companies to have the most current version of an application as possible.
7. This allows the organization to spend their development dollars on new advance in their industry, rather than supporting old versions of applications

3. Discuss disadvantages of Software as a Service(SaaS)?

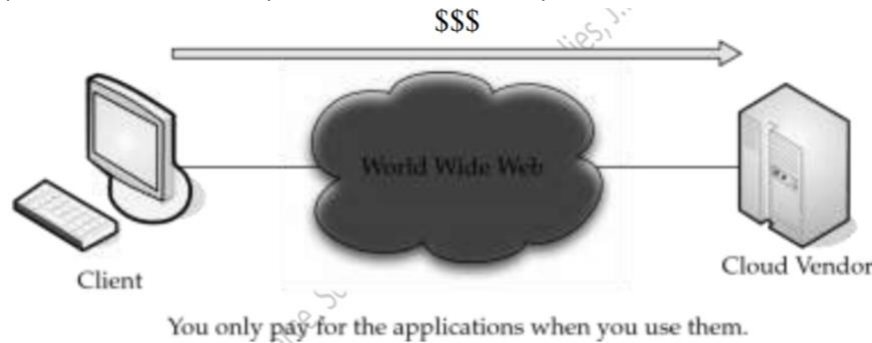
1. Lack of control - in-house software application gives businesses a higher degree of control than hosted solutions where control resides with a third party. Typically everyone has to use the latest version of the software application and cannot defer upgrades or changes in the features.
2. Security and data issues/ Insufficient Data Security - access management and the privacy of sensitive information is a major consideration around cloud and hosted services.
3. Limited range of applications - while SaaS is becoming more popular, there are still many applications that don not offer a hosted platform.
4. 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.
5. 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.
6. 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 inhouse 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.

4. What is Virtualization? Discuss a) Software Considerations b) Driving Forces

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.

a) Software Considerations:

1. Using the existing software idea, the user purchases a software package and license by paying a onetime fee.
2. Support and updates are provided by the vendor under the terms of the license agreement.
3. This can be costly if you are installing a new application on hundreds or thousands of computers.
4. 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.
5. If you stop using the application, you stop paying.
6. Additionally, the software is not installed on the user's computer.
7. Example is Hotmail, access your Hotmail inbox via your web browser.



b) Driving Forces:

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

1. Some would argue that SaaS is popular because of the popularity of cloud computing.
2. In fact, there are a number of issues that are driving more cloud vendors to offer SaaS and more clients to sign on.

5. What is Blue Cloud? Discuss companies offering in SaaS a) QuickBooks b) Google

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.

a) QuickBooks:

1. 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.
2. The offering also gives users a high level of security because data is stored on firewall-protected servers and protected via automatic data backups.
3. Software upgrades are included at no extra charge.

4. 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.
5. QuickBooks Online features include:
6. The ability to access financial data anytime and from anywhere. QuickBooks Online is accessible to users 24 hours a day, seven days a week.
7. Automated online banking. Download bank and credit card transactions automatically every night, so it is easy to keep data up to date.
8. Financial data is automatically backed up every day and is stored on firewall-protected servers.
9. No software to buy, install, or maintain and no network required.
10. The software is hosted online, so small business users never have to worry about installing new software or upgrades.
11. Invoice customers and track customer payments. Create an invoice with the click of a button.

b) Google:

1. Google's SaaS offerings include Google Apps and Google Apps Premier Edition.
2. 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.
3. More than 100,000 small businesses and hundreds of universities use the service.
4. Google Apps Standard Edition and Google Apps Education Edition is offered for free.
5. Google also offers Google Docs and Spreadsheets for all levels of Google Apps.
6. 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.
7. 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

6. What is QuickBooks Online ?Discuss companies offering in SaaS a) Microsoft b) IBM

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.

a) Microsoft:

1. Microsoft offers SaaS in a number of forms. One that is particularly appealing to small businesses is Microsoft Office Live Small Business.
2. You can find it at [http://www .smallbusiness.officelive.com](http://www.smallbusiness.officelive.com).
3. 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.
4. 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)

5. The following features are available in Microsoft Office Live Small Business:
6. Store Manager is a hosted e-commerce service that enables users to easily sell products on their own web site and on eBay.
7. Custom domain name and business email is available to all customers for free for one year.
8. Web design capabilities, including the ability to customize the entire page, as well as the header, footer, navigation, page layouts, and more.
9. Synchronization with Microsoft Office Outlook email, contacts, and calendars, both online and offline.
10. E-mail Marketing enables users to stay connected to current customers and sending regular email newsletters, promotions, and updates.
11. The adManager search marketing tool to advertise across multiple sites and search engines, including MSN, Live Search, Ask.com.

b) IBM:

1. IBM—offers its own SaaS solution under the name “Blue Cloud.”
2. 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.
3. Blue Cloud is based on open-standards and open-source software supported by IBM software, systems technology, and services.
4. 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.
5. IBM is collaborating on cloud computing initiatives with select corporations, universities, Internet-based enterprises, and government agencies
6. IBM’s first Blue Cloud offerings were available to customers in the spring of 2008, supporting systems with Power and x86 processors.
7. 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.
8. 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 SOA-based web services.
9. 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.
10. 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.
11. 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.

7. Discuss industry-specific Software as a Service applications?

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:

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

HealthVault:

1. Microsoft launched its Microsoft HealthVault, a software and services platform.
2. It helps people better manage their health information.
3. HealthVault can bring the health and technology industries together to create new applications.
4. Its services that help people manage and monitor their personal health information, including weight loss and disease management, such as for diabetes.
5. 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:

1. ActiveHealth Management
2. Allscripts
3. American Diabetes Association
4. American Heart Association
5. American Lung Association
6. American Stroke Association
7. HealthMedia Inc.
8. Healthphone Solutions Ltd.

AdvancedMD:

1. Another popular healthcare SaaS is AdvancedMD.
2. It is a medical billing software company providing a medical billing software product for physician office and billing office management.
3. Thousands of medical office users and healthcare providers use AdvancedMD's medical software every day.
4. And according to the company, each year, some 98 percent of their active medical clients renew their service.
5. 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.

6. AdvancedMD continues today as a Microsoft partner and Healthcare user group member.

8. What is WebEx? Discuss industry-specific SaaS applications a) HealthVault b) AdvancedMD

1. WebEx was acquired by Cisco Systems in 2007.
2. 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.

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9. What is CMiC ? Discuss industry-specific SaaS applications a) OpenChannel b) Epicor

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.

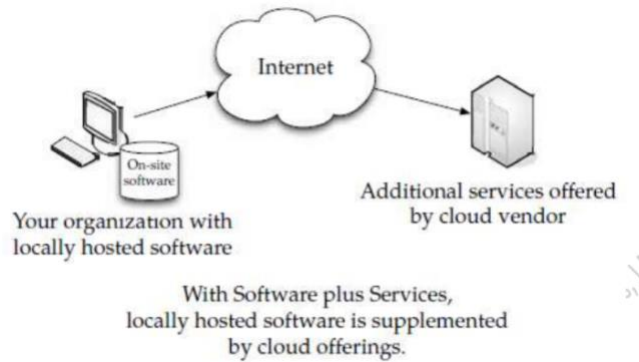
Banking—OpenChannel:

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.

10. Discuss software plus service with diagram?

Software plus Services:

1. In this model, typical SaaS is boosted with software running locally.
2. That is, you run some software on-site and reach out to the cloud for additional services.
3. 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.
4. Software plus Services takes the concept of Software as a Service (SaaS) to match packaged software.
5. Here are some of the ways in which it can help your organization:



11. Explain the Benefits of Software Plus Services?

Benefits of Software Plus Services:

1. 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.
2. 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.
3. 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.
4. 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.
5. Power: More efficiency is realized by running software locally and synching to the cloud as needed.
6. 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.

12. Explain advantages and disadvantages of Software Plus Services?

Pros of Software plus service are:

1. If software is installed on the datacenter servers and on the client PCs. We need to spend time maintaining equipment and installing patches and updates.
2. 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.
3. Software plus Services periodically checks the cloud and updates local software with current information, also sending changed information back to the cloud.

Cons of Software plus services are:

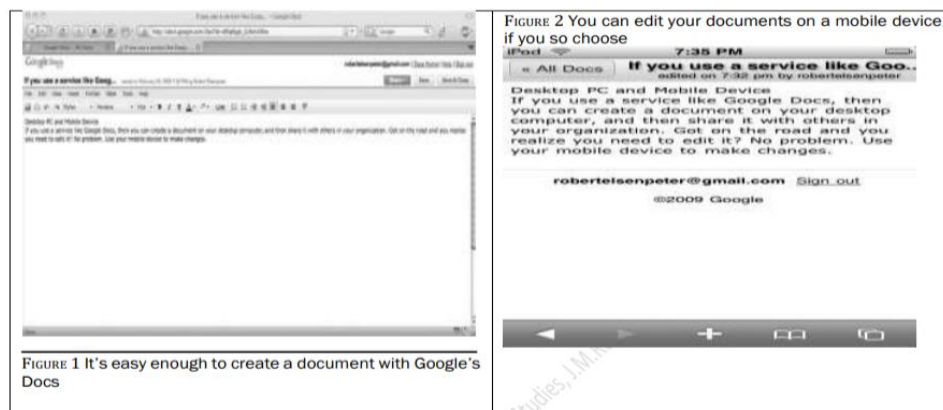
1. The downsides of Software plus Services are cost.
 2. Second is Quality of Service (QoS). This, of course, depends on your cloud vendor and is something you should address in a service level agreement before committing.
 3. Unless your vendor is especially responsible, you run the risk of slow response times and possibly even failure.
1. The last downside is simple fear. If you have your data stored on a cloud somewhere, is it really safe? Is it really secure?

2. 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."

13. Discuss Mobile Device Integration with example?

Mobile Device Integration:

1. A key component of Software plus Services is the ability to work in the cloud from a mobile device.
2. There are a number of free applications that you can use on the cloud.
3. 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.
4. The same document is shown (in Figure 1) on a desktop computer, and (in Figure 2) on a mobile device.
5. This is a simplistic example, but it shows how you can use the cloud to your advantage, especially with mobile users.
6. 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.



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

14. What is Adobe AIR? Discuss Software plus services Providers – a) Apple iPhone SDK b) Microsoft Online

Adobe AIR:

1. Adobe Systems offers its Adobe Integrated Runtime (AIR), formerly code-named Apollo.
2. 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.
3. New features in Adobe AIR include an embedded local database, PDF support, enhanced capabilities for JavaScript.
4. Developers use Adobe AIR Software Developer's Kit (SDK) can be downloaded for free from www.adobe.com/go/air.

Apple iPhone SDK:

1. It is for popular iPhone and iPod touch devices.
2. 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.
3. Currently, anyone can download the beta iPhone SDK for free and run the iPhone Simulator on their Mac.
4. 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.

Microsoft Online:

1. Microsoft offer Software plus Services with integrating some of its most popular like Exchange.
2. 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.