

Unit -V

5- marks:

1. What is Cloud Services for Individuals, explain different most popular cloud applications Available for individuals?

The most basic and the easiest way to move to the cloud is at an individual or small business level. There are a growing number of popular applications out there, and they are free or offered at a very low cost.

Different type of most popular cloud applications available for individuals are:

Apple Mobile Me (<http://www.me.com/>):

1. This service synchronizes emails, photos, and contacts among multiple devices.
2. Your computer, laptop, and mobile devices can remain in sync as long as they have access to Apple's cloud servers.

Google Docs (<http://docs.google.com/>):

1. Providing an in-built interface.
2. Google Docs provides applications that you normally associate with the desktop—a word processor, spreadsheet, and presentation designer.
3. Documents can be saved to the cloud or locally.
4. Multiple users can collaborate on the same document from different computers with changes taking effect instantly.

Adobe Acrobat (<http://www.adobe.com/>):

1. Known for its free PDF reader.
2. Adobe provides its own online word processor and cloud storage space for your documents.
3. It also includes collaboration tools and an online PDF converter.

Jooce (<http://www.jooce.com/>):

1. Jooce is a Flash-based desktop environment.
2. Mostly for users of Internet cafés.
3. Dragging a file onto the desktop uploads it to the cloud.
4. Giving you access to your files from any Internet-connected computer.

Evernote (<http://www.evernote.com/>):

1. Evernote allows you to save photos, screenshots, or files to their servers in the cloud.
2. If the images contain text, they are scanned and indexed to create a virtual database.
3. You can Synchronize Evernote data with the cloud.

Microsoft Live Search (<http://www.live.com/>):

1. Microsoft's mobile phone search engine uses heavy cloud processing to bring detailed searches to handheld devices.
2. Twitterfone uses speech recognition in the cloud to transcribe voice messages into tweets on the Twitter social network.

Picnik (<http://www.picnik.com/>):

1. This service provides photo editing in the cloud.
2. You upload pictures from your local machine or import them from another site—like Flickr or Facebook.
3. The site has powerful photo editing tools and it is also possible to add text, shapes, or a frame to your photos.

Adobe Photoshop Express (<http://www.photoshop.com/express>):

1. This is another editor by the creators of the powerful Photoshop application.
2. You can store your photos on the cloud and edit them with the same tools.
3. You can also use with a desktop version of Photoshop. Once your photo editing is done.
4. You can add your photos to the site's gallery.

G.ho.st (<http://g.ho.st/>):

1. Standing for Global Hosted Operating System.
2. G.ho.st is a Flash-based virtual operating system.
3. The site has the feel of a computer desktop and offers up to 5GB of free storage and 3GB for email, web, and office applications.

2. Explain Cloud Services for Individuals a) Evernote b) Apple Mobile Me c) G.ho.st d) Google Docs e) Picnik

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3. What is Skytap Solution? Discuss in details Skytap Virtual Lab?

Skytap Solution: Skytap offers a virtual lab in the cloud. It helps to move from local environment and offer an API to help mount a solid migration.

Skytap Virtual Lab:

1. Cloud-based virtualization solution company Skytap offers Skytap Virtual Lab.
2. It enables application development and test teams to setting up lab infrastructure on demand (including servers, software, networking, and storage).
3. It uses a powerful virtual lab management application to automate the setup, testing, and tear-down of complex, multitiered environments.
4. A Skytap virtual lab automation solution available as an on-demand service over the Web and provide customers with cloud -base services.
5. Those who do not have the risk of an in-house implementation they can go for Virtual lab.
6. Using virtual lab and virtual project environment the distributed teams can work together and resolves software defects easily.
7. Skytap's introduction of virtual lab automation as a SaaS [Software as a Service].
8. Skytap's customers include Independent Software Vendors, Systems Integrators, and test outsourcing firms, mid-size companies.
9. The Skytap solution enables us to quickly scale up our lab infrastructure to meet tight development deadlines and provides global application development team with the tools and platform they need to test and ship the products on time.
10. Skytap Virtual Lab has given us the capability to rapidly bring lab resources online regardless of whether the team is working on-site or off-site.

Customers using Skytap are able to access the following:

Virtual infrastructure on-demand:

- a. Virtually unlimited hardware, software, and storage available from any location and any browser.
- b. Skytap Virtual Lab scales up and down with software project demands and requires no upfront investment.

Automated setup and tear-down of environments:

- a. A web-based virtual lab automation application that eliminates manual setup and tear-down tasks.
- b. It enables the rapid providing and duplication of multimachine production environments for development and testing.

Skytap Library:

1. A prepopulated software library that includes major operating systems, databases, and applications in multiple languages.
2. It dramatically reduces media installation tasks and enables construction of lab environments by dragging and dropping preconfigured virtual machines.

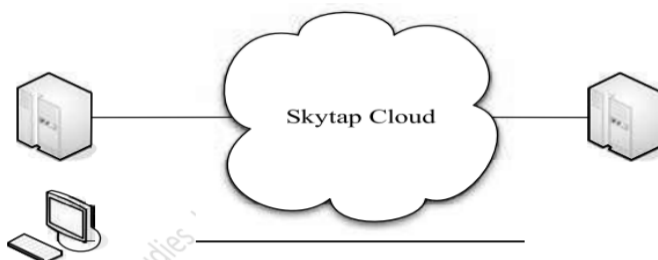
Collaboration in a virtual environment:

1. The capability to directly collaborate on software issues and defects in a virtualized environment.
2. Entire multimachine lab environments can be suspended and shared with distributed, global team members to enable reproduction and diagnosis of software bugs and issues

4. Discuss in details Skytap Migration API?

Skytap Migration API:

1. The Skytap API enables customers to mix Skytap's cloud-based Virtual Lab platform with their existing on-site IT infrastructure.
2. Skytap's Web Services API allows organizations to create a "hybrid" IT model.
3. Without completely ending the already established business processes, Skytap's API and advanced networking features allow companies to gradually adopt cloud resources.
4. Skytap allows companies to run their existing applications, virtual machines, and systems unchanged on industry standard platforms.
5. Skytap cloud infrastructure supports the leading hypervisors, including VMware.
6. It also supports for Microsoft Hyper-V, and operating systems, such as Microsoft Windows, Linux, and Solaris.
7. The API and advanced networking features that are now in Skytap Virtual Lab include
8. A Web Service interface that enables cloud resources to be controlled programmatically
9. Public/static IP addresses to provide seamless access to Skytap environments
10. Automated upload of existing virtual machines and software to run in Skytap Virtual Lab
11. Skytap Virtual Lab provides virtualized infrastructure, including hardware, storage, and networking resources that can be accessed on demand.
12. Customers get access to a complete virtual lab solution, When Skytap's Virtual Lab management application is combined with the Skytap Library
13. Virtual machine library that includes major operating systems, databases, and other application softwares.



The Skytap solution involves accessing their cloud and running lab services at your own site.

5. Discuss Force.com Migration Tool in details?

Force.com:

1. The Force.com Migration Tool is an Ant library that lets you migrate metadata (code and settings) from your organization to Force.com's cloud using point and click GUI.
2. Ant is a java-based built tool created as part of the Apache open-source project
3. Metadata is data that describes other data. Webpages include metadata in the form of meta tags (description and keywords)
4. Example of metadata – you take photo with today's cameras a bunch of metadata is gathered and saved with it – data and time, filename, camera settings, geolocation. So force.com Migration Tool helps to migrate metadata.
5. The Force.com platform holds your application as metadata on the platform, and you can access this metadata.
6. That is how the Force.com IDE works—it uses the metadata to get your code, your packages, your triggers, and edit them locally.
7. Each time you edit an Apex page, it sends the code back to the Force.com servers where it is compiled.
8. The Force.com Migration Tool is a Java/Ant-based command-line utility for moving metadata between a local directory and Force.com.

The Force.com Migration Tool is especially useful in these scenarios:

Development projects: When you need to populate a test environment with large amounts of setup changes. If you were to make these changes using a web interface, it would take a large amount of time.

Multistage release processes: Most development processes run in iterative cycles of building, testing, and staging before they are released to a production environment.

Repetitive deployment using the same parameters: You can retrieve all your organization's metadata, make changes as needed, and deploy that metadata.

6. What is vCenter Converter? Discuss Enterprise-Class Cloud Offerings a) MS Exchange online b) VMotion

VMware -vCenter Converter (MIGRATION TOOL): VMware offers its vCenter Converter to migrate physical servers to virtual servers. The application can be run on a number of different types of hardware and supports most versions of Microsoft Windows operating systems.

Enterprise-Class Cloud Offerings are:

a) MS Exchange:

- a. Microsoft Exchange Server is a mail server and calendaring server developed by Microsoft.
- b. Microsoft Exchange Server is Microsoft's email, calendaring, contact, scheduling and collaboration platform. It is deployed on the Windows Server operating system (OS) for business use.
- c. A basis of most enterprises is the Microsoft Exchange service for email.
- d. Microsoft Exchange Online is a hosted messaging solution that delivers the capabilities of Microsoft Exchange Server as a cloud-based service.
- e. Microsoft Exchange Online gives users access to email, calendar, contacts, and tasks from PCs, the web, and mobile devices.

- f. SharePoint Online, while available on Office 365, is a collaborative platform that integrates with Microsoft Office.
- g. SharePoint Online, which can be configured for a company's usage, allows an enterprise to store, retrieve, search, archive, track, manage, and report on digitized documents.
- h. Microsoft SharePoint Online is a collection of cloud- and web-based technologies that makes it easy to store, share and manage digital information.
- i. Microsoft offers Exchange Online and Microsoft SharePoint Online for businesses of all sizes

b) VMotion (MIGRATION TOOL):

- 1. The main tool for migrations in VMware's collections is VMotion.
- 2. VMotion controls the complete virtualization of servers, storage, and networking to move an entire running virtual machine directly from one server to another.
- 3. The entire state of a virtual machine is captured or compressed by a set of files stored on shared storage.
- 4. VMware's vStorage VMFS cluster file system allows both the source and the target VMware ESX server to access these virtual machine files concurrently.
- 5. The active memory and complete execution state of a virtual machine can then be rapidly transmitted over a high-speed network.
- 6. Since the network is also virtualized by VMware ESX, the virtual machine keeps(holds) its network identity and connections, confirming a smooth(continuous) migration process.

7. Explain different features of VMotion migration tool?

VMotion offers these capabilities:

- 1. Perform migrations with no downtime, undetectable by your users.
- 2. Optimize virtual machines in resource pools(groups).
- 3. Perform hardware maintenance without downtime and disrupting operations.
- 4. Move virtual machines from poorly performing or failing physical servers onto new machines.
- 5. Multiple concurrent migrations can optimize a virtual IT environment.
- 6. A migration wizard can provide real-time availability information to identify the optimal placement of a virtual machine.
- 7. Migrate any virtual machine running any operating system across hardware supported by VMware ESX, including Fibre Channel.
- 8. It orders arrange and select live migrations to ensure that mission-critical virtual machines maintain access to the resources they need.
- 9. Schedule migrations to happen at predefined times, and without an administrator's presence.
- 10. Maintain an audit trail with a detailed record of migrations.
- 11. VMware VMotion is included in the VMware Infrastructure Enterprise edition.
- 12. VMware VMotion and VMware Storage VMotion are available as an add-on product to VMware Infrastructure Foundation and Standard editions.

8. Explain the features of VMware -vCenter Converter?

1. VMware offers its vCenter Converter to migrate physical servers to virtual servers.
 2. The application can be run on a number of different types of hardware and supports most versions of Microsoft Windows operating systems.
 3. With this enterprise-class migration tool, you can
 4. Quickly convert local and remote physical machines into virtual machines with no downtime.
 5. Simultaneously convert multiple servers with a centralized management console and conversion wizard.
 6. Convert other virtual machine formats (like Microsoft Virtual PC and Microsoft Virtual Server) or back up images of physical machines to VMware virtual machines.
 7. Restore VMware Consolidated Backup (VCB) images onto running virtual machines.
 8. Clone and back up physical machines to virtual machines, as part of a disaster recovery plan.
1. Among its features, VMware Converter includes these attributes:
 1. The ability to perform simultaneous conversions, enabling large-scale virtualization projects.
 2. Sector-based copying to enhance cloning and conversion speed.
 3. Use of a centralized management console that allows users to queue up and monitor multiple simultaneous remote locations, as well as local conversions.
 4. Wizards minimize the number of steps in a conversion.
 5. The ability to clone both local and remote servers allows conversions in remote locations.

9. Discuss different features of Hyper-V Live Migration tool?

Hyper-V Live Migration (MIGRATION TOOL):

1. Microsoft Server 2008 Hyper-V makes migration a very simple, it is used for moving virtual servers around to different machines.
2. It is extremely simple to use. It is a matter of pointing and clicking on a management console.
3. Migration is accomplished through Live Migration.
4. Hyper -V Live Migration tool is a part of Windows Server 2008 R2.
5. Hyper -V Live migration utilizes the integrated hypervisor technology and high-availability features of the server operating system.
6. It helps customers to move running applications between servers to accommodate changing, dynamic computing needs across a datacenter.
7. Microsoft is forcing its new virtualization products including System Center Virtual Machine Manager 2008, Microsoft Application Virtualization 4.5, and Microsoft Hyper-V Server 2008, which is a no-cost download.
8. By using Windows Server 2008 Hyper-V to enhance virtualization performance and host more virtual machines per physical server.

a. Microsoft's virtual products include

1. Microsoft Hyper-V Server 2008, a hypervisor-based server virtualization product, that is available at no cost via the Web.
2. Microsoft Hyper-V Server 2008 provides an optimized virtualization solution that allows customers to consolidate Windows or Linux workloads onto a single physical server.

3. System Center Virtual Machine Manager 2008 enables customers to configure and deploy new virtual machines and centrally manage their virtualized infrastructure. whether running on Windows Server 2008 Hyper-V.

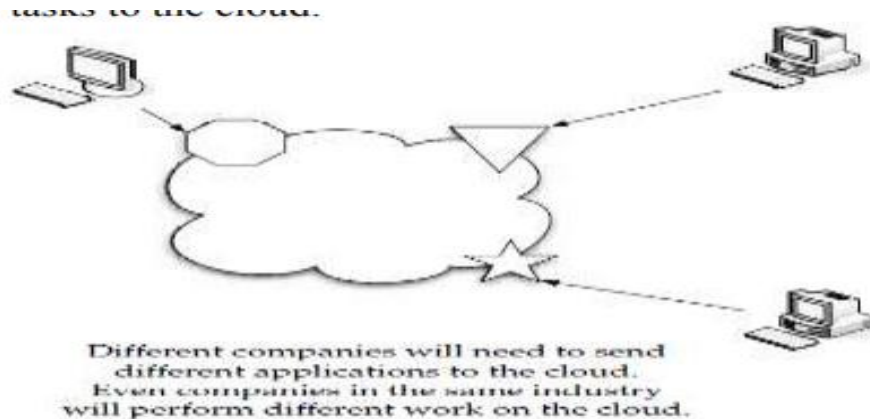
10. Discuss application needed, sending data and approach in Migration the cloud?

Migration:

There are some general considerations for any organization that you should keep in mind when considering a move

Which Applications Do You Need?:

1. Deciding what you should migrate to the cloud really comes down to figuring out what you want out of the cloud.
2. If we are looking to store data on someone else's servers?
3. Then it is simply a matter of deciding which data you want to send (and pay for) and what data does not need to be sent.
4. If you are using the cloud for SaaS or PaaS, you have to look at which applications are most appropriate for maintenance on the cloud.
5. It will differ from organization to organization, but you should not move your key mission-critical tasks to the cloud.



1. For example, a company that develops software for healthcare providers is going to have different needs than a financial advisor.
2. But when you do decide to move to the cloud, make sure the applications you are going to use do not consume too many network resources.
3. This is something to figure out before you have committed and started migrating data.
4. Companies like Amazon have built their content delivery network with data centers at points all around the world.

Sending Your Existing Data to the Cloud:

1. There are all sorts of data that you can send to the cloud. You can store specific files, you can run applications online or you name it.
2. But let us take a look at Symantec's solution and what one of their customers gets out of sending their data to the Symantec cloud.
3. Symantec Online Backup is used to protect business records while reducing the time and money spent managing backups.

4. With Symantec's Software-as-a-Service (SaaS) online backup application, small and mid-sized businesses can ensure their data is protected.
5. Symantec Online Backup provides businesses with backup and recovery for PCs and servers over the Internet.
6. Businesses using Symantec Online Backup eliminate the need to purchase and manage on-site hardware and receive increased protection from theft and disasters.
7. Data is automatically stored off-site in multiple geographically distributed datacenters and can be restored to any location using a supported web browser.
8. The service is hosted in the cloud by Symantec, Symantec is storing data in more than one location.
9. The system also sends an email to confirm that a backup was successful

Use the Wave Approach:

1. The best way to migrate your data to the cloud is by following the same steps you would when rolling out a new operating system to your organization.
2. Use the wave approach and release your data in waves.
3. At first, You can find out if the solution was what you required.
4. You are finding out if your vendor is the right one to work with.
5. Start with small data that is of low importance. Then, as you add more data, send more important stuff.
6. Now, if you start with the data of least importance, you are not going to see the performance that you will when more important data move to the cloud.
7. That just makes sense, because the low priority data is not accessed all that much to test the cloud. But, starting small gives you a place to start.
8. It gives you a chance to see how the data fits on the cloud.
9. If it turns out things are not going well, you can take corrective action to fix it, or just pull the plug and walk away.
10. But with a little planning and effort, starting small will polish off your cloud efforts in a careful manner.

