**What is Application and Desktop Virtualisation?**

**Application Virtualization:**

* Microsoft Application Virtualization (App-V) can make applications available to end user computers without having to install the applications directly on those computers. This is made possible through a process known as sequencing the application, which enables each application to run in its own self-contained virtual environment on the client computer. The sequenced applications are isolated from each other. This eliminates application conflicts, but the applications can still interact with the client computer.
* The App-V client is the feature that lets the end user interact with the applications after they have been published to the computer.
* The client manages the virtual environment in which the virtualized applications run on each computer.
* After the client has been installed on a computer, the applications must be made available to the computer through a process known as publishing, which enables the end user to run the virtual applications.
* The publishing process copies the virtual application icons and shortcuts to the computer—typically on the Windows desktop or on the Start menu—and also copies the package definition and file type association information to the computer.
* Publishing also makes the application package content available to the end user’s computer.
* The virtual application package content can be copied onto one or more Application Virtualization servers so that it can be streamed down to the clients on demand and cached locally.
* File servers and Web servers can also be used as streaming servers, or the content can be copied directly to the end user’s computer—for example, if you are using an electronic software distribution system, such as Microsoft Endpoint Configuration Manager. In a multi-server implementation, maintaining the package content and keeping it up to date on all the streaming servers requires a comprehensive package management solution. Depending on the size of your organization, you might need to have many virtual applications available to end users located all over the world. Managing the packages to ensure that the appropriate applications are available to all users where and when they need access to them is therefore an important requirement.

**Products: Microsoft App-V, Citrix XenApp, VMWare ThinApp**

**Desktop Virtualization:**

* It is the process in which various desktops are hosted on a server and the enduser can access the desktop via a client like Amazon Workspaces.
* Desktop virtualization is technology that lets users simulate a workstation load to access a desktop from a connected device remotely or locally. This separates the desktop environment and its applications from the physical client device used to access it.
* It is of 3 types:
  + VDI – Virtual Desktop Infrastructure. This process is one in which the desktop is hosted on a separate VM available on a Server PC. The VM has its own computation environment-RAM, Storage etc dedicated to that particular user. This is done with the help of a Hypervisor.

A key benefit of VDI is that it can deliver the Windows 10 desktop and operating system to the end user’s devices. However, because VDI supports only one user per Windows 10 instance, it requires a separate VM for each Windows 10 user.

* + RDS – Remote Desktop Services. This process lets users remotely access desktops and Windows applications through the Microsoft Windows Server operating system. Applications and desktop images are served via Microsoft Remote Desktop Protocol (RDP).
  + DaaS – Desktop as a Service. VMs are hosted on a cloud-based backend by a third-party provider. DaaS is readily scalable, can be more flexible than on-premise solutions, and generally deploys faster than many other desktop virtualization options. Vendors – Amazon Workspaces, VMWare Horizon Cloud, Citrix Managed Desktops.

**What is a Virtual Desktop Infrastructure?**

VDI is the use of VMs to provide enduser with a desktop hosted on another server. Users can access these virtual desktops from any device or location, and all processing is done on the host server. Users connect to their desktop instances through a connection broker, which is a software-based gateway that acts as an intermediary between the user and the server.

2 types:

With **persistent VDI**, a user connects to the same desktop each time, and users are able to personalize the desktop for their needs since changes are saved even after the connection is reset. In other words, desktops in a persistent VDI environment act exactly like a personal physical desktop.

In contrast, **nonpersistent VDI**, where users connect to generic desktops and no changes are saved, is usually simpler and cheaper, since there is no need to maintain customized desktops between sessions. Nonpersistent VDI is often used in organizations with a lot of task workers, or employees who perform a limited set of repetitive tasks and don’t need a customized desktop.

**How does a VDI work in general and what are major VDI players/ products in the market?**

Major VDI players:

Citrix XenDesktop

VMWare View / Horizon

**Architecture behind a VDI solution and the communication flow.**

**What is Desktop-as-a-Service offering?**

**What are the predominant DaaS players/products in the market**?

Vendors – Amazon Workspaces, VMWare Horizon Cloud, Citrix Managed Desktops.

**VMware Horizon**

Virtual desktop infrastructure (VDI) products, such as VMware Horizon® 7, enable IT departments to run virtual machine (VM) desktops and applications in the data center and remotely deliver these desktops and applications to employees as a managed service. This computer-within-a-computer strategy enables multiple VMs to be run per physical server core.

End users gain a familiar, personalized environment that they can access from any number of devices anywhere throughout the enterprise or from home. Administrators gain centralized control, efficiency, and security by having desktop data in the data center.

VMware Horizon® 7 enables IT departments to run remote desktops and applications in the datacenter, and deliver these desktops and applications to employees as a managed service

**Packaging and License**

Horizon 7 is available in three editions—Standard, Advanced, and Enterprise—plus a Linux option.

VMware Horizon 7 Enterprise Edition is required for Just-in-Time Desktops and Apps. This edition includes Dynamic Environment Manager, for managing applications and Windows environment settings. Dynamic Environment Manager can manage applications installed in the base image of a virtual desktop machine or RDSH server, and it can manage applications provided by VMware App Volumes.

**Components**

Client Devices

Horizon Connection Server

Horizon Client

VMware Horizon Web Portal

Horizon Agent

Horizon Administrator

View Composer

vCenter Sphere

**Prerequisites**

System Requirements for Server Components