MICROSOFT AZURE

Introduction

Microsoft Azure, often referred to as Azure is a cloud computing service operated by Microsoft for application management via Microsoft-managed data centers. Azure is a complete cloud platform that can host your existing applications and streamline new application development. Azure can even enhance on-premises applications. Azure integrates the cloud services that you need to develop, test, deploy, and manage your applications, all while taking advantage of the efficiencies of cloud computing. Azure provides cloud computing services like analytics, virtual computing, storage, networking, security and many other domains. It provides services in the form of IaaS, PaaS and SaaS. It easily integrates with Microsoft Products making it very popular using Microsoft products.

TYPE OF CLOUD:

Microsoft Azure is an example of a public cloud. With a public cloud, all hardware, software and other supporting infrastructure is owned and managed by the cloud provider. You access these services and manage your account using a web browser.

TYPES OF SERVICES:

Azure IaaS

IaaS is the most flexible category of cloud services. Instead of buying hardware, with IaaS, you rent IT infrastructure servers, virtual machines (VMs), storage, networks, and operating systems from Microsoft on a pay-as-you-go basis. All infrastructure is managed on the customer's behalf, leaving you responsible for managing the operating systems, data, and applications. Azure can provide a virtual data center, complete with security features, through which businesses can host websites, store and backup data, develop and test environments, build web apps, and run high-performance computing.

Azure PaaS

Through PaaS services like app Services, Azure Search, and Azure CDN, Azure offers everything companies need to deliver cloud applications on a pay-as-you-go basis, from the smallest web apps to enterprise-level software. Azure's PaaS offerings give developers total control over their application, allowing them the freedom to work on building, safe in the knowledge that things like OS patches or load balancing will just work. PaaS solution requires less user management. That means that the PaaS is a complete development and deployment environment in the cloud and provides a framework that developers can build upon to develop or customize cloud-based applications. For example, the Azure Web Apps service provides an environment for you to host your web applications but you don't have to access the virtual machine and the operating system.

Azure SaaS

SaaS solution requires the least management. Microsoft is responsible for managing everything, and you just use the software. SaaS allows you to connect to and use cloud-based apps over the Internet. When you are implementing a SaaS solution, you are responsible for configuring the SaaS solution. Common examples are Outlook email, calendar, and office tools (such as Microsoft Office 365)

HOW TO USE AZURE?

The Azure portal is a web-based, unified console that provides an alternative to command-line tools. With the Azure portal, you can manage your Azure subscription using a graphical user interface. You can build, manage, and monitor everything from simple web apps to complex cloud deployments. Create custom dashboards for an organized view of resources. Configure accessibility options for an optimal experience.

Benefits of Microsoft Azure

Microsoft Azure may be considered second to Amazon Web Services in few features, but it has quite a few that make it stand tall on its own.

On-Demand Scalability- When we talk of Application Hosting we can never be sure of how many resources are enough and how many are too much. Microsoft Azure ensures your applications and data is distributed well enough that means you never run short of Server space. It also means your applications do not run on a single server making them available even in dire situations. Since these resources are properly clustered out and they can scale at will and in no time.

Cost Effective- One of the major benefits with cloud service providers is the cut down of upfront costs. Since you can configure and scale at will, you are not required to invest heavily here. It offers to pay-as-go model, meaning you get cost-cutting in the right sense.

Hybrid Environments- with Microsoft Azure you can build Hybrid infrastructures, where your resources can partially reside on the cloud and can partially operate from an on premise infrastructure. Hence you are safe from costly workaround.

Big data Applications- Hadoop and Big data are the need of the hour. With data increasing exponentially we need applications that can help process this data. Microsoft Azure brings this capability of processing large volumes of data on top of its cloud platform.

Integration Capabilities- Microsoft Azure can readily integrates with most of the Microsoft products. Be it, connecting to SaaS, PaaS, IaaS applications or even something like Visual Studio or Active Directory.

Storage and Security- Storage resources have to adept enough to handle the large and different format of data coming from different sources. Microsoft Azure lets you store data in form of files, objects, structured and unstructured data and a lot more. This happens reliable and securely. Microsoft Azure ensures high level of security for your applications. It ensures all the resources in Azure cloud are guarded with firewalls and data is moved over the network with encryption. You have access to authentication and access management meaning you data and application are secure to the core.

Scheduling and Automation- Everyone hates doing repetitive tasks. What if we could automate mundane tasks or recurring tasks be it fetching some data, setting up triggers or scaling your resources when needed? Microsoft Azure does that for you ensuring you can utilise your workforce for more productive outcomes and get rid of stagnancy or repetition of work.

Data Backup and Recovery- Data Backup ensures you have a copy of your data maintained in case if your primary copy of data or resources is lost. With Microsoft Azure, you have an option of backing up your data in different Azure regions or data centres. You can maintain as many as six copies of your data. This signifies that the chance of losing your data on Microsoft Azure is minimal. When it comes to reliability your data is available 99.9 percent.

HOW SECURE IS AZURE?

Here are a few of the security precautions Microsoft takes to protect Azure customers:

● Automatic encryption. Everything sent within the Azure environment is automatically encrypted. The Azure network has automatic detection to prevent distributed denial-of-service (DDoS) attacks, similar to some of the largest services on the Internet, such as Xbox and Microsoft's Office 365.

● Other safeguards include automated smart traffic monitoring and profiling. It is easier to detect and deflect threats when systems know when something looks out of the ordinary, reducing the risk any threats pose that may have breached external security systems.

● Smart access control. Management (admin) accounts are run over separate networks than most team members. Managers can also control and restrict access to a limited time period, device, or even a specific document.

● Microsoft goes to great lengths to protect hardware and firmware, constantly reviewing and revising code, even creating hardware that can automatically detect threats before software is loaded and active. If anything malicious is detected, it can pause software activity until the threat is removed.

● Azure is the first cloud platform to support both software and hardware-based Trusted Execution Environments (TEEs). TEEs ensure that encrypted data – whether it is stored, in transit or inactive is – safe from unauthorised access and tampering.

● Operational security is serious business. Microsoft employs 3,500 cybersecurity experts, including 200 who continually look for weaknesses. Any that are found are input into the operational security procedures Azure uses to improve against potential external threats.

● You don't even need to worry if you are working off-site and need secure access. With ExpressRoute, you can access Azure through an encrypted Virtual Private Network (VPN), wherever you are in the world.

AMAZON WEB SERVICES (AWS)

INTRODUCTION:

Amazon Web Services (AWS) is a subsidiary of Amazon providing on-demand cloud computing platforms and APIs to individuals, companies, and governments, on a metered pay-as-you-go basis. It is the world's most comprehensive and broadly adopted cloud platform, offering over 200 fully-featured services from data centres globally. Millions of customers — including the fastest-growing startups, largest enterprises, and leading government agencies — are using AWS to lower costs, become more agile, and innovate faster.

AWS has significantly more services, and more features within those services, than any other cloud provider–from infrastructure technologies like compute, storage, and databases–to emerging technologies, such as machine learning and artificial intelligence, data lakes and analytics, and Internet of Things. This makes it faster, easier, and more cost effective to move existing applications to the cloud and build nearly anything you can imagine.

The AWS technology is implemented at server farms throughout the world, and maintained by the Amazon subsidiary. Fees are based on a combination of usage (known as a "Pay-as-you-go" model), hardware, operating system, software, or networking features chosen by the subscriber required availability, redundancy, security and service options.

TYPE OF CLOUD:

Amazon Web Services is a public cloud as all its services are available to everyone over the internet both free and on a pay per use basis, and is owned and managed by amazon.com Inc.

SERVICES PROVIDED BY AWS:

AWS provides all PaaS, IaaS as well as SaaS. Each service of Amazon has its own merits and flaws and is suitable for the specific needs of a company.

Infrastructure as a service

IaaS is one of Amazon Web Services that focuses on providing infrastructure services based on cloud computing technology. It has clients in 190 countries and 66 available Zones within 21 geographic regions. IaaS Amazon Service is used to replace physical resources, such as servers, with virtual resources hosted and managed by Amazon. System users can run any operating system or application on these leased servers, without incurring any extra fees for maintenance and operation. All these features make AWS IaaS a widely-used platform by companies nowadays. **Magento** can be considered a typical example of IaaS in AWS.

AWS IaaS Benefits

- Availability of separate development environment
- Hardware and operating system specifications for the service can be selected and used directly from the network
- Allow expanding the resources of the server in terms of quantity and functionality
- No errors or extra costs arise while upgrading the system

Platform as a service

PaaS plays an important role in simplifying the application development process on the web. With cloud technology, developers can access the platform data from anywhere. This can facilitate project development on a global scale. However, it also means that the developers will have less control over the application design environment.

AWS SaaS benefits

- Resources can easily be scaled up or down as your business changes.
- Provides a variety of services to facilitate the development, testing, and deployment of apps.
- Multiple users can access via the same development application.
- Able to integrate with web services and databases.

Software as a service

This Software as a service (also called Web-based software, on-demand software, or hosted software) is a software distribution model whose applications are hosted and made discoverable to the customers over the Internet. When embracing this solution, you will have the access to the application, along with its security, availability, and performance managed by the provider. SaaS is also one of Amazon's web services favoured by a large number of users worldwide.

AWS SaaS benefits

- Able to use directly over the network without having to install any software.
- All data can be stored on the Internet and can be accessed via any device, as long as an Internet connection is available.
- Multiple users can access the same data warehouse.
- Quick setup and operation of advanced applications.

PRODUCTS:

Amazon Web Services offers a broad set of global cloud-based products including compute, storage, databases, analytics, networking, mobile, developer tools, management tools, IoT, security and enterprise applications. These services help organizations move faster, lower IT costs, and scale. It offers more than 200 products including machine learning, amazon

augmented artificial intelligence, database, business analytics, compute engine for raw computing power and many more.

Amazon Elastic Compute Cloud (EC2):

Amazon EC2 is an IaaS offered by AWS and is the leading provider of IaaS in the current market. Powered by a huge infrastructure that the company has built to run its retail business, **Amazon EC2 provides a true virtual computing environment**. By providing a variety of virtual machine or instance types, operating systems, and software packages to choose from, Amazon. EC2 enables the user to instantiate virtual machines of his choice through a web service interface. The user can change the capacity and characteristics of the virtual machine by using the web service interfaces, hence named elastic. Computing capacity is provided in the form of virtual machines or server instances by booting Amazon Machine Images (AMI), which can be instantiated by the user.

Amazon Simple Storage Service (S3):

Amazon S3 is the storage for the Internet. It is designed to make web-scale computing easier for developers. Amazon S3 provides a simple web service interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web and allows users to offload storage where one can take advantage of scalability and pay-as-you-go pricing. It gives any developer access to the same highly scalable, reliable, secure, fast, inexpensive infrastructure that Amazon uses to run its own global network of websites. Along with its simplicity, it also takes care of other features like security, scalability, reliability, performance, and cost. Amazon S3 provides a highly durable and available store for a variety of content, ranging from web applications to media files.

Amazon Simple Queue Service:

Amazon SQS is a fast, reliable, scalable, fully managed message queuing service. SQS makes it simple and cost effective to decouple the components of a cloud application. SQS can be used to transmit any volume of data, at any level of throughput, without losing messages or requiring other services to be always available. Amazon SQS is a distributed queue system that enables web service applications to quickly and reliably queue messages that one component in the application generates to be consumed by another component. A queue is a temporary repository for messages that are waiting to be processed.

INTERACTION MEDIUMS

AWS offers extensive documentation to use its services and products as well as AWS management console using which users can easily manage their existing resources, issue more cloud resources and get their billing summary. It also helps corporations to manage the admins in their cloud project and change security credentials and settings, and manage permissions.

Google Cloud Platform

Google Cloud Platform (GCP), offered by Google, is a suite of cloud computing services that runs on the same infrastructure that Google uses internally for its end-user products. Google Cloud consists of a set of physical assets, such as computers and hard disk drives, and virtual resources, such as virtual machines (VMs) that are contained in Google's data centers around the globe. Alongside a set of management tools, it provides a series of modular cloud services including computing, data storage, data analytics and machine learning.

Google Cloud Platform enables developers to build, test, and deploy applications on Google's highly scalable and reliable infrastructure. Google has one of the largest and most advanced networks across the globe.

Applications hosted on the cloud platform can automatically scale up to handle the most demanding workloads and scale down when traffic subsides. The cloud platform is designed to scale like Google's own products, even when there is a huge traffic spike. The user has to pay only for what he or she uses.

Type of Cloud Deployment Model:

Google cloud offers a public cloud deployment model where other organisations and users outside Google can use and employ services as and when they are required, comparable to Amazon Web Services and Microsoft Azure. The difference is that GCP is built upon Google's massive, cutting-edge infrastructure that handles the traffic and workload of all Google users.

Type of Services:

There is a wide range of services available in GCP ranging from Infrastructure-as-a-Service (**IaaS**), Platform-as-a-Service (**PaaS**) to completely managed Software-as-a-Service (**SaaS**).

Infrastructure as a Service

Google Cloud's IaaS products allow enterprises to mix and match services into combinations that provide the precise environment they need. IaaS services at google cloud allow users to run testing and deployment cycles, improve disaster recovery, perform big data analytics, handle scaling and provisioning required resources quickly. Some products offered in the IaaS domain are:

Google Cloud: It is a RESTful online file storage web service for storing and accessing one's data on Google's infrastructure. The service combines the performance and scalability of Google's cloud with advanced security and sharing capabilities. Google Cloud Storage is safe and secure. Data are protected through redundant storage at multiple physical locations.

Google Compute Engine: It allows clients to run workloads on Google's physical hardware. It provides a scalable number of virtual machines (VMs) to serve as large compute clusters for that purpose.

Platform as a Service

Google cloud's app engine is the best example of providing a PaaS. It is used for building web applications and mobile backend using container instances preconfigured with one of several available runtimes, each of which include a set of standard App Engine libraries.

Google App Engine supports apps written in several programming languages. With App Engine's Java runtime environment, one can build one's app using standard Java technologies. App Engine also features a Python and Php runtime environment. Finally, App Engine provides a Go runtime environment that runs natively compiled Go code. These runtime environments are built to ensure that your application runs quickly, securely, and without interference from other apps on the system.

Software as a Service

Google cloud provides multiple services such as Anthos, Kubernetes Engine and a large number of APIs as SaaS offerings. These services not only are SaaS but also help other users to build efficient and scalable SaaS products. They open users to cutting-edge data analytics, and machine learning capabilities along with efficient management of users and deployment.

Google Cloud Print is a service that extends the printer's function to any device that can connect to the Internet. To use Google Cloud Print, the user needs to have a free Google profile, an app, a program, or a website that incorporates the Google Cloud Print feature, a cloud-ready printer or printer connected to a computer logged on to the Internet.

PRODUCTS

Google cloud features over 100 products through its services. Customers interacting with the products interact in a pay-as-you-use type architecture. Some of the featured products that the platform offers are Compute Engine, Cloud Storage, Cloud SDK, Kubernetes Engine, Cloud SQL.

Ways to interact with the services:

1) **Google Cloud Console-** Google Cloud Console provides a web-based, graphical user interface that you can use to manage your Google Cloud projects and resources. When one uses the Cloud Console, he/she can either create a new project or choose an existing project, and then use the resources that one creates in the context of that project.
2) **Command-line interface-** Most Google Cloud tasks can be performed by using the gcloud command-line tool. The gcloud tool lets you manage development workflow and Google Cloud resources in a terminal window.
3) **Client Libraries-** Google Cloud provides client libraries that enable easy creation and management of resources. Google Cloud client libraries expose APIs for two main purposes:

- App APIs provide access to services. The libraries are designed around service metaphors, so you can work with the services more naturally. The libraries also provide helpers for authentication and authorization.
- Admin APIs offer functionality for resource management for facilitation in building automated tools.

MeghRaj

In order to utilise and harness the benefits of Cloud Computing, Government of India has embarked upon an ambitious initiative - "GI Cloud" which has been named as 'MeghRaj'. The focus of this initiative is to accelerate delivery of e-services in the country while optimizing ICT spending of the Government. It will ensure optimum utilization of the infrastructure and speed up the development and deployment of eGov applications. The architectural vision of GI Cloud encompasses a set of discrete cloud computing environments spread across multiple locations, built on existing or new (augmented) infrastructure, following a set of common protocols, guidelines and standards issued by the Government of India.

TYPE OF CLOUD

Meghraj GI is a Hybrid Cloud. Hybrid cloud deployments allow for the Government Department to benefit from features of Cloud as well as on-premise deployments. Listed below are the features that would make hybrid cloud attractive for Government Departments:

1. Hybrid Integration Styles: Combining app integration, API integration and data integration.
2. Hybrid Connectivity: Reach across secure connections to get access to data residing on premise from Cloud.
3. Hybrid deployment: Application and virtual machines can be flexibly migrated or deployed on cloud and on-premises to optimize solution architecture.

Services offered as part of National Cloud

The National Informatics Centre (NIC) is providing National Cloud services under the initiative MeghRaj. The services offered are as follows.

Infrastructure as a Service (IaaS)

IaaS provides you basic virtual compute infrastructure resources like CPU, Memory, Disk Storage attached to blank VMs with allowing you to install OS, using ISOs, from scratch and customization. However, you have to use your own licenses for OS and Application software (if any).

Platform as a Services (PaaS)

PaaS provides pre-installed web and database servers so that you can publish and run web application without worrying about server setup. The servers are pre-configured ready with basic security hardening. Use PaaS service to quickly deploy servers and publish your web applications. The OS & Application Software licenses are provided by us as part of offering.

Software as a Services (SaaS)

This provides on demand software service. SaaS is a software delivery model where users are not responsible for supporting the application or any of the components. The server

infrastructure, OS and software is being managed by cloud services. If you are having web application and want to distribute it to users, use our Cloud Service to deliver through Software as a Service.

Storage as a Service (STaaS)

STaaS provides need-based storage solution. It provides excellent alternative to the traditional on-site and dedicated storage systems and reduces the complexities of deploying and managing multiple storage tiers. You can use it to mitigate risks in disaster recovery, provide long-term retention for records and enhance both continuity and availability.

Hosting Environments

NIC Cloud Services provides 3 different types of environments for creating virtual machines i.e., Production, Staging and Development so that you keep your VM segregated and manage them properly based on the business need for both PaaS as well as IaaS service model.

Following are the Services support provided to your application as part of the cloud hosting :

1. Server Vulnerability Assessment
2. Server Antivirus
3. Server Backup
4. Network/Application Firewall

Features of GI Cloud

- Multi-Location Cloud: Multiple cloud nodes are being setup across India in National Data Centres of NIC. This will give Departments a choice of hosting their applications in any of the nodes.
- Self Service Portal: Users can deploy and manage their cloud resources with ease.
- Secure Cloud: Multi-layered secured infrastructure, setup in National Data Centres of NIC is being managed and monitored by highly skilled Cyber Security team of NIC.
- Secured Access: Users can access cloud solutions using their own devices from anywhere at any time over the secured network using VPN.

Advantages of GI Cloud

- Optimum utilization of existing infrastructure
- Rapid deployment and reusability: Any software made available by any government of department in India can be made available to other departments as well without additional costs.
- Manageability and maintainability: It provide single point for maintaining Information & Communication Technology (ICT) infrastructure in India.
- Scalability: According to the demands from the citizens of India, infrastructure of the government can be increased accordingly.
- Efficient service delivery
- Security: A security framework for the entire GI Cloud will lead to less environmental complexity and less potential vulnerability.
- Increased user mobility
- Reduced effort in managing technology
- Ease of first time IT solution deployment
- Cost reduction
- Standardization: GI Cloud shall prescribe the standards around interoperability, integration, security, data security and portability etc.

VMWARE

Introduction

VMware, Inc. is an American cloud computing and virtualization technology company headquartered in California. VMware's desktop software runs on Microsoft Windows, Linux, and macOS, while its enterprise software hypervisor for servers, VMware ESXi, is a bare-metal hypervisor that runs directly on server hardware without requiring an additional underlying operating system.

VMware's most notable products are its hypervisors. VMware became well known for its first type 2 hypervisor known as GSX. This product has since evolved into two hypervisor product lines: VMware's type 1 hypervisors running directly on hardware and their hosted type 2 hypervisors

Service Offering Model

- Infrastructure as a Service (IaaS).
- Datacenter as a Service

Deployment Model

Software Solutions provided by VMware can be classified into two categories

1. For Private Cloud
2. For Public and Hybrid Cloud

Services Provided by VMware

VMware is currently providing a range of products for the development of private and public clouds and for leveraging the services offered by both as a hybrid cloud, such as VMware vCloud Director, VMware vCloud Datacenter Services, VMware vSphere, and VMware vShield NSX to name a few.

Software Solutions for Private Cloud

VMware’s private cloud offering provides greater standardization, rapid provisioning, and self-service for all applications and unparalleled cost savings by consolidating their physical infrastructures.

Private clouds can be created by using the VMware vSphere and VMware vCloud Director. VMware vSphere is a robust virtualization platform used to transform IT infrastructures into virtual storage, compute, and network resources and provide them as a service within the organization. VMware vSphere provides services at both the infrastructure and application levels. At the infrastructure level, it provides options to perform efficient operation and management of the compute, storage, and network resources. At the application level, service-level controls are provided for the applications running on the underlying infrastructures, leading to available, secure, and scalable applications.

VMware vCloud Director abstracts the virtual computing environment from the underlying resources and provides a multitenant architecture that features isolated virtual resources, independent LDAP authentication, specific policy controls, and unique catalogs.

VMware vShield technologies (now NSX vShield) are used to provide security to these environments by using services like perimeter protection, port-level firewall, NAT and DHCP services, site-to-site VPN, network isolation, and web load balancing

The vCloud API is an open, REST-based API that provides scripted access, complying with the open virtualization format (OVF). The API can be used along with VMware vCenter Orchestrator to automate and orchestrate operational processes like routine tasks, activities, and workflows.

Software Solutions for Public and Hybrid Cloud

Public and hybrid cloud solutions are provided by VMware by partnering with other companies, certified as service providers. VMware vCloud Datacenter Services and VMware vCloud Express offer efficient solutions for utilizing IaaS either as a public cloud or a hybrid cloud.

Cloud Foundation can manage VMware environments hosted either on-prem or in multi-cloud locations, however most of the VMware cloud services are utilized in hybrid architectures.
The main concept for VMware Cloud Foundation is to give users an easy way to integrate multiple environment types into one single platform and apply those services to a diverse setup.

VMware Cloud services are grouped into three categories:

- Services which you can use anywhere in your hybrid configuration within Cloud Foundation.
- Services available natively in the cloud.
- Services offered as Datacenter-as-a-Service.

VMware Cloud Storage vSAN

vSAN serves as the storage component for VMware Cloud Foundation. vSAN is a software-defined storage solution that enables a hyper-converged infrastructure, or a cluster of hosts, to group together all of their storage resources and present them as a single available datastore.
These are some of the important features vSAN has to offer:

- **Policy-based provisioning**: Instead of creating volumes or LUNs and then assigning those to particular resources, vSAN provisions storage based on a storage policy you assign your resources (such as a virtual machine) as you create them, based on specific service level parameters.
- **Software-level RAID**: vSAN does not use hardware RAID. Instead, it protects data at the software layer by replicating VMDK files across hosts that are part of the cluster based on fault tolerance parameters associated with the storage provisioning policies mentioned above.
- **Vendor agnostic**: vSAN has been designed to run on industry standard x86 hardware and is vendor independent. Since it is a software-based storage solution, it can run on any hardware that meets the requirements.

VMware Cloud on AWS

VMware Cloud on AWS, runs SDDC on dedicated, elastic, bare-metal AWS infrastructure.
Here are some details of the underlying infrastructure:

- The service runs on EC2 storage optimized high I/O instances with Non-Volatile Memory Express (NVME) SSDs.
- Each SDDC host (up to 16 hosts allowed in one SDDC cluster) has 36 cores, 512 GB of memory, and 15.2 TB of NVME storage.

You can manage this SDDC environment through the Cloud Foundation platform and integrate it with your on-prem SDDC workloads. This easy and seamless integration brings important advantages:

- An easy migration process of all your Virtual Machines to the cloud. VMware has a step-by-step migration guide available for customers planning to move everything to AWS. You can even migrate live workloads using vMotion.
- No need to rearchitect or refactor apps for use in the cloud. Basically, the lift and shift approach.
- Manage hybrid apps with all existing VMware tools through Cloud Foundation such as vServer, VMware Horizon, or vCenter Server.

Access to all the full range of native AWS services such as Amazon Redshift, Amazon S3, AWS ELB, RDS, and more from your AWS SDDC cloud environment. AWS SDDC is directly connected to the customer's VPC (virtual private cloud) using ENI (Elastic Network Interface) through which the customer has access to all the range of AWS services.

VMware Cloud on Azure

Similar to VMware on AWS, VMware on Azure is built on VMware Cloud Foundation with the same SDDC offerings: virtualized compute, network, and storage. It runs on top of the same concept of hyper-converged infrastructure which sits on dedicated bare-metal Azure servers that share some of the characteristics mentioned before for the AWS case:

- Intel Xeon processors.
- Node with max capacity of up to 36 physical cores each.
- A maximum of 3.2TB of NVME cache per node.
- Up to 11.25 TB of flash storage per cluster.

Unlike VMware Cloud on AWS, which is a platform that was made and managed directly by VMware, VMware Cloud on Azure is a platform offered as a Microsoft service. Though certified by VMware in conjunction with CloudSimple, which facilitates VMware services in the public cloud, VMware Cloud on Azure remains a Microsoft-managed service. This means that under one single contract with Azure, you can get all the terms for both the Cloud Foundation on Azure product plus all the other range of services offered by Azure.
You can integrate your VMware SDDC with Azure services such as Azure storage, Azure Active Directory, Azure Analytics, or Office 365.