AZURE MANAGED DISKS, IOPS AND THROUGHPUT

IOPS : IOPS (Input/Output Operations Per Second) is a crucial metric that measures the number of read and write operations your Azure storage can handle per second.

EX: Kitchen capacity handle orders per minute.

Relevant for : DB’S, Virtual machines, Transactions.

Throughput : Throughput is a key metric in Azure that measures how much data can be transferred across your infrastructure in a given period.

EX: Kitchen capacity to prepare and deliver foof per minute.

Relevant for : Video streaming, backups and data archival.

Azure Availability Set : In Azure, an Availability Set is a crucial component for ensuring the high availability of your virtual machines (VMs) and the applications running on them.

EX : If a rack fails only virtual machines goes down other stay running.

Fault domain: Group of Virtual machine same physical source and network switch protect against hardware failures.

Update domains : Logical groups for patching and maintainance updates virtual machines in different update domains sequentially, reducing downtime during planned maintainance.

Managed disks : Azure managed disks are block-level storage volumes, like virtualized hard drives, managed by Microsoft Azure. They are designed for use with Azure Virtual Machines (VMs) and simplify the process of provisioning, scaling, and managing storage for your VMs.

* Ultra Disks: The highest-performing option with configurable IOPS and throughput, ideal for I/O-intensive workloads like SAP HANA and top-tier databases.
* Premium SSD v2: High-performance, low-latency disks suitable for production and performance-sensitive workloads requiring consistent performance.
* Premium SSD: Designed for IO-intensive workloads with high throughput and low latency, ideal for demanding applications like SQL Server and Oracle.
* Standard SSD: A cost-effective option providing consistent latency, suitable for web servers, lightly used enterprise applications, and development/testing environments.
* Standard HDD: A low-cost option for backups, non-critical data, and other workloads with infrequent access requirements

Unmanaged disks : In Azure, unmanaged disks were an earlier method of storing Virtual Hard Disks (VHDs) for your Virtual Machines (VMs).

* Essentially, an unmanaged disk was a page blob, a type of storage optimized for random read/write operations, within a user-managed Azure storage account.

Availability Zones : Azure availability zones are distinct physical locations within an Azure region. Think of each zone as one or more datacenters within a region, designed with independent power, cooling, and networking infrastructure.