Managing Azure costs

* Total cost of ownership calculator
  + This can compare the cost of running in the datacenter vs running in azure
  + You enter details for the on prem workload and then review the suggested industry standard for the same services on azure.
  + A side by side report is then produced to compare the costs in hardware, IT labour, storage, etc
  + Define workloads: servers, databases, and storage used
  + Adjust assumptions: costs such as electricity, IT worker wage, maintenance costs
  + View report!

* Purchase Azure services: common questions
  + What type of azure subscriptions can I use?
    - Free trial: 12 months of free popular services
    - PAYG: Pay for what you use with a credit/debit card
    - Member offers: Existing membership on MS products may give you free Azure credits
  + How to purchase Azure services?
    - Through an enterprise agreement: Sign an agreement to commit a predetermined amount on azure over 3 yrs
    - Directly from the web/portal
    - Cloud solution provider: Microsoft partner that helps build solutions in Azure
  + What factors affect cost?
    - Resource type
    - Usage meters: generate usage records which are used to calculate bills
    - Resource usage
    - Sub type
    - Marketplace resources
  + How does location or network traffic impact costs?
    - Different regions have different prices
    - Billing zones
  + YOU CAN ESTIMATE THE COST FOR ALL THESE QUESTIONS USING THE AZURE PRICING CALCULATOR

* Manage and minimise costs
  + Understand estimated costs before deployment using pricing calculator and TCOC
  + Use Azure advisor to monitor usage
  + Use spending limits to prevent accidental overrun
  + Use Azure Reservations to prepay for resources in advance
  + Choose low cost locations and regions
  + Use MS Cost Management and billing to control spending
  + Apply tags to identify cost owners
  + Resize underutilised virtual machines, deallocate when not used, and delete when not needed
  + Migrate from IaaS to PaaS which are managed for you, so you don’t need to worry about optimisations
  + Choose cheaper OS licenses
  + Use Azure Hybrid Benefit to repurpose software licenses onto Azure VMs

SLAs and service lifecycle

* SLAs
  + You can view the SLAs for each Azure service in the Service Level Agreements page
  + SLAs are measured as a percentage, ranging from 99.9 (3 nines) to 99.99 (4 nines)
  + **Service credit:** Percentage of fees credited back to customer during downtime
    - To request this, you need to file a claim within a timeline
  + Free products don’t have an SLA
  + Azure Status provides a global view of the health of azure regions, Azure Service Health provides a personalised view of the health of services/regions you are using.

* How to define application SLAs
  + Business impact?
  + Effect on business operations?
  + Usage patterns and critical times?
  + Once you have this information, you can map these requirements to specific azure services

* Once you have the above information, you can plan your workload:
  1. Identify workloads (a distinct capability or task that’s logically separated from other tasks, such as VMs). Each workload defines a set of requirements for availability, scalability, data consistency and disaster recovery.
  2. After identifying the workloads and their SLAs, multiply their SLAs together
* What if the SLA doesn’t meet requirements?
  1. Choose customisation options that fit the required SLA, such as different VM disks or service tiers
  2. Build availability requirements into the design, such as deploying in different availability zones
  3. Include redundancy to increase availability

* Preview services and features
* Preview services are developed by Azure R&D and are new services that they are adding. You can access them through the portal
* Service lifecycle:
  1. Development phase: the azure team collects and defines requirements
  2. Public preview phase: public can access and experiment with the new service, and provide feedback
  3. Production ready/General availability: Released to customers after testing
* Terms and conditions: each azure preview has its own T&Cs
* Preview features are available when you manage the service the feature has been released for
* Preview features for the azure portal: You can access preview Portal features via Microsoft Azure (preview). These new portal features focus on performance, navigation and accessibility improvements to the azure portal
* You can provide feedback via the azure feedback community ideas page
* Stay updated on latest announcements via Azure Updates page