1. Cloud asset management

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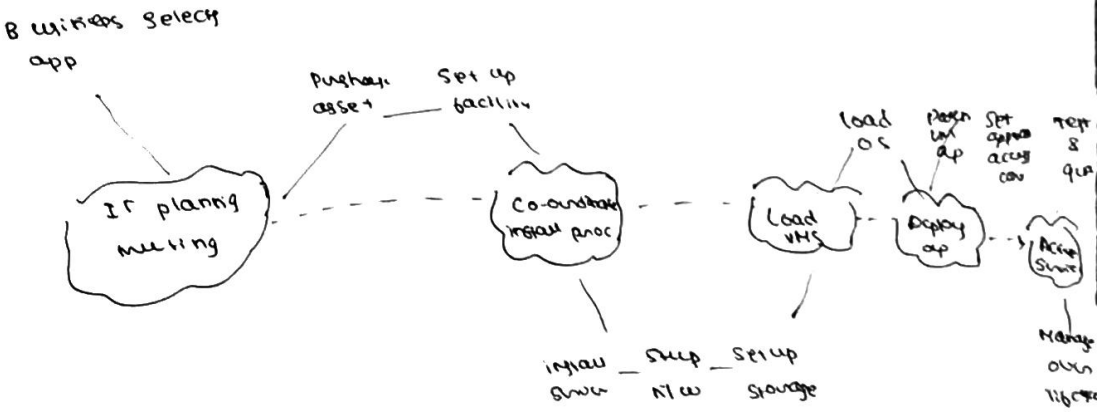
- cloud asset mangt is a component of cloud management service
- It is focused on the mngmnt of business's physical cloud environmt such as product/service
- asset mgnt provides visibility and control of all the assets and infra that make up cloud env
- It enables business to effectively keeps track asset to maintain smooth running of infra
- It includes both Iaas and Paas
- Cloud asset mangmnt includes
  - Software packaing
  - Incident mngmnt
  - Pool mngmnt
  - Release mngmnt
  - System mngmt
  - configuration mngm
  - Backup mngmnt
  - Operational readiness mangment

- Benifits of CAM
  - Security
  - Time saving
  - Inventory accuracy : collects all inventory info to optimise the secure data
  - Automation

2) Provisioning

→ • Provisioning process is a service that any group of compliant processes called "soketion virtualisation"

- It is the allocation of cloud provider's resources and services to customer.
- Provisioned products are setup built with all the software and infra required to support a business application
- Standard soln are defined so that standard workflows can be derived
- Server hardware is assembled, cabled and connected to the n/w and SAN before work order are released.
- The growing catalog of cloud service that customers can provision including infrastructure as srive, Saas, Paas in pubic on private cloud envnts.



3) cloud charge back model

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1) Subscription based model

- This model follows fixed pricing technique
- In this model, customer have monthly / yearly fee to accer the service
- Service opted are active for subscripth period
- Renewal of subscription can be made manually or automatic

2) Pay-per-use

- In this model customer has to pay for the servic that are being used by them.
- Payment can be made fully or partially.
- Service providers can charge for time of using resource
- In this mostly used in SaaS model

3) Hybrid pricing

- This is a combination of subscripth and pay per use model.
- In this service are provided in advance for a limited amnt of time.

4) Flat fee

- In this model services are provided based on fixed rate
- Service are not charged by hour or by use of resource.

- The main benifit of flat fee model is it is simple and predictable.
- It causes strain on server resource.

5) Product / service based

- This model is based on actual measurement of service consumption.
- In this charges depends on amnt of memory, CPU, disk space, nlw traffic etc.

4) Cloud virtualisth technology

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- virtualisth is a abstract layer that decouply the physical hardware from OS to deliver greater resource utilisth & flexibility
- virtualisth allows to share single physical instance of resource among multiple customer
- In cloud virtualisth, user share the data present in cloud but with help of virth user share the infrastr
- cloud virtualisth provide user with standard version of applicth
- Access to VM and host machine is facilitated by software known as hypervisor.
- Benifit
  - → low cost of infra
  - → Reducing power consup
  - → Reducing hardware cost
  - → Increased availibity
  - → time saving
  - → Scable.
- there are mainly 2 type virth tech
  1) Hardware virtual
  2) OS virtualisth

5) Storage virtn

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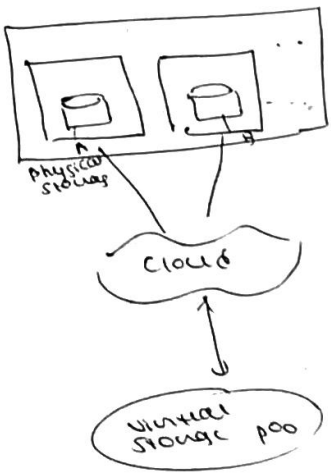
- storage virtn is sharing physical storage into multiple storage devices which further appear to be single storage device.
- It can be viewed as group of avable storage device which manage from central console
- virtn provides benifits such as easy backup & recovery
- It is widely used in data centers
- It does not show actual complexity of SAN storage Adv Nw
- virtualising storage seprates the storage mngmt software from underlying hardware
- Storage virtualisth node is essentially a virtual controller that virtualisy and manages physical storage
- All disk are placed inside 'virtual pool' to create 'virtual disk'



- Advantage

→ Easy retrival & upload

→ Better Management
Data accessed buy placed in high purpose storage syste

→ Secity - Data stored in diff plac & secure with max secity

- E

6) types of virtualisth technolg

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- the 2 major types of virtualisth tech are widely used

1) hardware virtual

- VM software or VM manager that directly installed on hardware system is known as hardware virtualth
- It is also known as hypervisor based virtual
- It has virtualisth layer running immediately on the hardware, which devides server machine into several VM
- It provides binary transparency
- After HV we can install diff guest OS on each VM
- Ex : IBM LPARs, HP IVM, Citrix Xen Serv

2) OS virtualn

- OS virtualn creates virtual envs within a single instance of an OS
- virtual envs created with OS are called 'containers'
- When VM software / VM manager is installed on HOST OS instead of hardware that is known as OS virtualn
- It is mainly used for testing the app on diff platforms of OS.

7) Hypervisor

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- Hypervisor is a software that enables a user to create and run one or more VM simultaneously
- It enables hardware to be divided into multiple logical partions and ensures isolation among them
- It is also called as VM monitor (VMM)
- Hypervisor supports ethernet transport mechanism & also SCSI for virtual storage
- Functions
  - → Isolation of VM → Provisioning of Resource
  - → Start & stops the VM → Virtualize all hardware
- There 2 types

1) Type 1 : Bare Metal hypervisor

- It executes on bare system.
- It does not have any host OS
- Ex : RTS hypervis, Oracle VM

2) Type 2 : Hosted hypervisor

- It is a software interface that emulates the devices with which system interacts
- Ex : VMware Workstation, VM ware fusion, Microsoft Hyper

8) Define SOA

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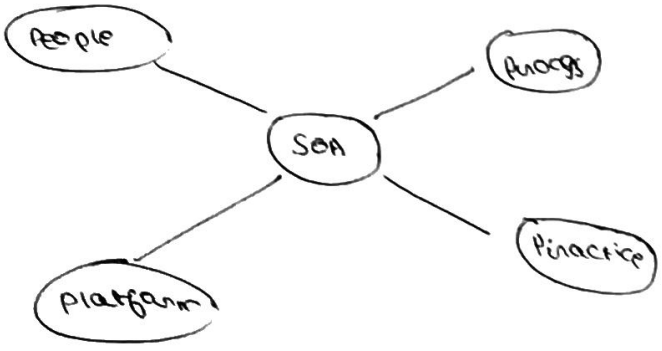
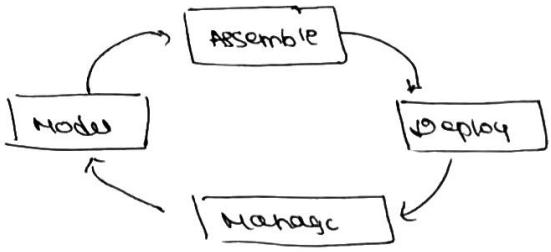
- SOA stands for Service Oriented Architecture.
- SOA is defined as a methodology for architecting the solution that looks for flexibility based on loose coupling and encapsulation.
- the functionalities of SOA are exposed as service.
- SOA is defined by what service is and service are defined by the following characteristics
  - Explicit, implimentation independent interface
  - Loosely bound
  - Invoked through communication protocols
  - stay both transparency and interoperability
  - Summarised reusable business task and assets.

- SOA is very flexible
- Architects sees SOA from the perspective of the entire business



9) SOA lifecycle

- SOA can be defined as a methodology for architecturing the solution that looks for flexibility based on loose coupling and encapsulation.
- The SOA lifecycle go through different phases



1. Model

- This is the first phase.
- Starts with gathering of requirements and info for designing the process and arch in SOA model
- Then design and optimize the defined business process.
- By modelling, deep understanding of business process before building software.

2. Assemble

- After the business process are modelled and optimised SOA implimented with help of integrating services
- Services can be newly implimented or can reuse the existing one.
- Assemble services to form composite app
- This phase is abt binding functionality that already exists and service enabling it.

3. Deploy

- After modelling & assembling, SOA assets are deployed into secure and integrated environment
- Deployment needs to meet the performance and availability needs of the business

4. Manage

- the deployed system must be managed and monitored for both IT and business perspective.
- the info gathered during manage step is feed back into life cycle for continuous process improvement.
- In manage phase deal with issues such as quality of service, security, system administration or

10) cloud performance monitoring commands

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1. mpstat

- It provides account process info
- It accurately displays state of CPU usage of system,
- It initialise lowest CPU 0, secon with CPU 1 so on
- Syntax mpstat ( ) ( ) ( )
- Interval is to specify the time gap between reports

2. netstat

- It reports network config and activity
- Syntax netstat ( ) ( )
- when we this comman with -r option, it gives info abt kernal routing table
- when we use -n option, it gives addess as dotted quad IP num.
- netstat -i will give info abt nlw interfaces and -a gives all nlw connections and listing ports

3. ipcs

- It provides info abt active interprocess communicath facility
- ipcs ( ) ( )
- It gives info abt calling process, shared memory, semaphores etc.
- ipcs command

-m	Shared mem	-s	semaphore
-q	msg queue	-a	all

4. ps command

- It reports process status
- ps ( )
- We can use ps command to see the details abt the status of process.

5. load

- It is used load the binary code from file into app address space to the interpreter.
- We can pass the name of the file that contains the code.
- Syntax load filename