

* Cloud Computing

- 18/01/2023
- 20/01/2023
- 30/01/2023 - Ans.
- ~~08/02/2023~~ 102/2023
- 06/02/2023
- 09/02/2023
- 18/02/2023
- 22/02/2023
- 23/02/2023
- 01/03/2023
- 02/03/2023

• Introduction: Syllabus and Text book

Introduction
Terminology
overview
Laten and Writing Paper
Assignment - I
Cloud Sim
Big DATA
overview
Analytics :

• **Cloud Computing: Definition:** model for enabling ubiquitous, convenient, on demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, apps and services) that can be rapidly provisioned and released with minimal management effort or Service provider interaction.

• **Taxonomy:** 5 characteristics ; 3 service Model ; 4 deployment model.

→ on-demand self-service
→ Broad Network Access
→ Resource Pooling
→ Rapid Elasticity
→ Measured service.

→ Software as a service (SaaS)
→ Platform as a Service (PaaS)
→ Infrastructure as a Service (IaaS)

→ Private Cloud
→ Community Cloud
→ Public Cloud
→ Hybrid Cloud

• **Characteristics:**

Service Model:

20/01/2023

• **Virtualisation.**

* **Obstacles of Cloud Computing:** (There is always other side of a coin)
- Cloud Computing Adoption Obstacles.

• **Optimisation Goals for Primary Storage.**

- Economic
- Performance Consistency
- Compression
- Data Reduction.
- Optimal Cost Structure
- Tape Elimination.
- Transparent Integration
- Deduplication
- Version Support Control
- Pay-as-you-grow.
- Pay as you grow

Mass Effect
Cyberpunk 2077

• **Interconnected Cloud Computing Environments:**
Challenges, Taxonomy,

Paper

- Provisioning

Sims 3

06/02/2023

- Provisioning → Cloud services
- ~~Discovery~~ Selection
- Allocation

- Portability :: VM Mobility
 - Data Portability → Avoid ~~data~~ Vendor lock-in

- Security - Trust
 - Public key Private key

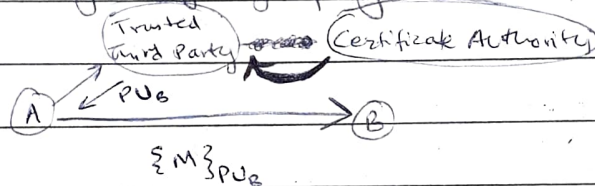
09/02/2023 -

- Security - Trust - Public key Private key.

Still stuck in crypto, with public key and private key.

13/02/2023.

Public key Cryptography. (Asymmetric)



Security, Trust

PGP - Pretty Good Privacy

Dominio Effect

22/02/2023

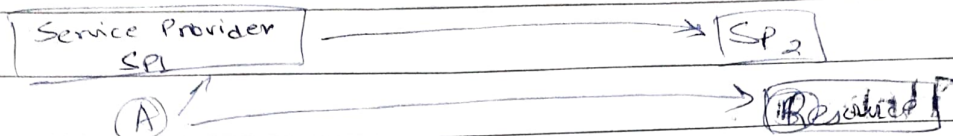
* Example of Shuffling Two strings with Respect to a context.

23/02/2023

* Security Trust:

• Preprocessing.

- Security: Authorisation and Identity Management.



SHA(M)

$\{M\} \rightarrow \{H(M)\}_{PRN}$

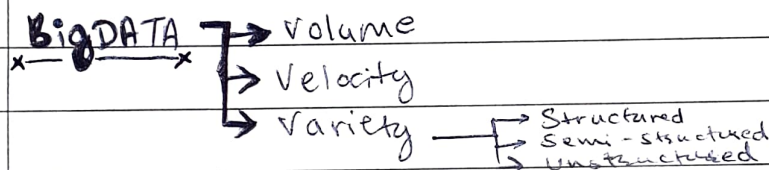
HMAC: Hash-based Message Authentication Code.

$$HMAC(K, M) = H(H(K) \parallel H(M))$$

* SLA: Federated SLA Management

SLA: Legal Issues

8 bitk \rightarrow 1 byte ; 1024 bytes \rightarrow 1 KiB ; 1024 KiB \rightarrow 1 MiB ;
1024 MiB \rightarrow 1 GiB, \rightarrow TiB \rightarrow PiB \rightarrow EiB \rightarrow ZiB \rightarrow YiB



02/03/2023

* Introduction: Data and Bigdata; Motivation

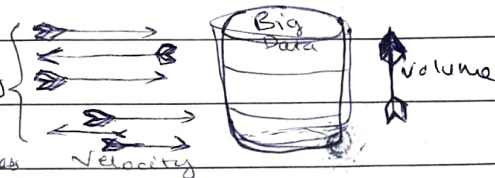
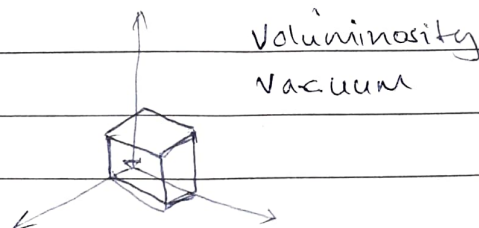
- Motivation: Controversy - How many V's are there in Big Data Paradigm
Information - What are widely accepted v's of Big Data
Confusion - What are the

• Facts on big data

Other v's of Big Data. ($V_3 + C$)

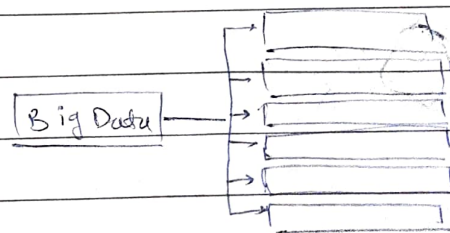
- Veracity
- Validity: ~~Volume~~ Volume - Validity = worthless
- Value: BigData = volume + Value

- Virtual
- Complexity
- Visibility
- Visualisation
- Variability
- Volatility



• Samonymy of Big Data Technology.

• Compute Infrastructure



MAPREDUCE

MAPPER

REDUCER

02/03/2023.

HADOOP:

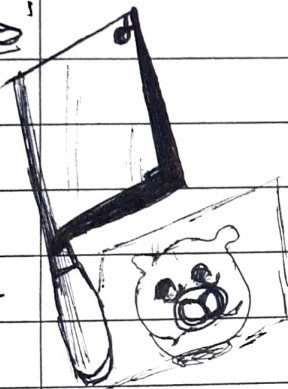
MAPREDUCE, MAPPER, REDUCER

Mergesort already sorted groups; m-way merge sort.

m-way ~~sorting~~ sorting sorting

m-way ~~to~~ sorting [2], where m is number of individual sorted groups

HDFS Architecture



Study
Analyze

MAPREDUCE

MAPPER

REDUCER

02/03/2023.

HADOOP:

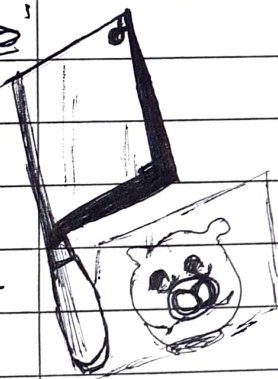
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HDFS Architecture



Aradhya