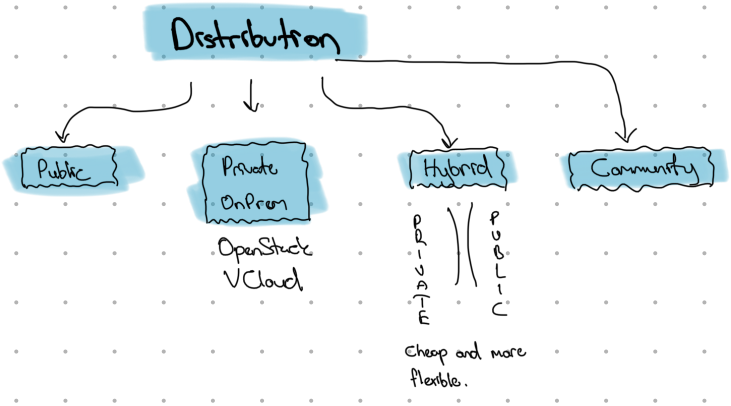
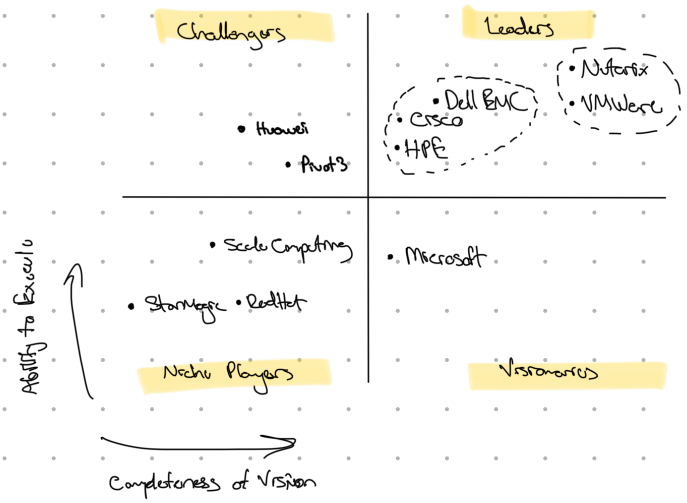
Week III - Cloud Computing Definitions

Keywords:
* Secure Multi Parting Computation (SMPC)
* Homomorphic * NIST
* Federated

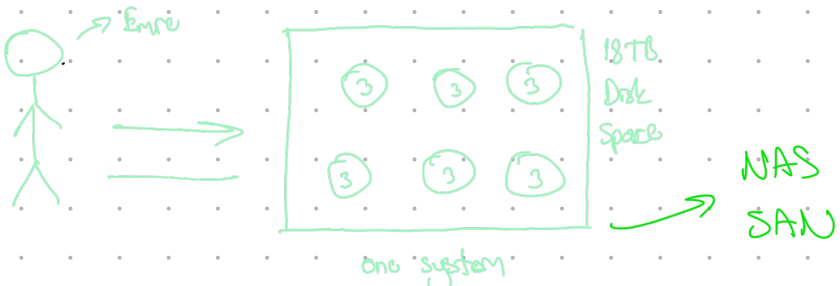




NIST Definition of Cloud Computing

- → On-demand Self Service
- → Broad Network Access
- → Resource Pooling
- → Rapid Elasticity
- → Measured Service

Distributed System: Using multiple and independent nodes like a one system. Distributed systems are scalable, supports different architectures and highly available.



For Example: DNS Servers, web pages

* All distributed systems must communicate with each other for unification.
  ↳ For that, use INFINIBAND SWITCH (Mellanox) (Not for a end user)

Road to Cloud Computing

1) Grid Computing – One Purpose
1960 - 1980. Solving large problems with parallel computing. (BOINC)

2) Utility Computing – Multi Purpose
1990's. Offering computing resources as a metered service. (Multiplexing + Multitasking + Multi Tenancy)

3) SaaS Computing
2000's. Network based subscriptions to applications.

4) Cloud Computing
Now. Next generation internet computing.

NAS	SAN
Block based	File based
Fiber based net.	SMB / CIFS
	Network UTP

High Performance Computing

Problems about Distributed Systems

1) Add a new node to the cluster without service interupt
(Hot swap)
2) Physical and cyber security