

# Big Data Concepts

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## - Motivations

### • Use Cases

- Investment / Trading
  - Telco
  - Trade / Customs
  - Security / Controls
  - Inventories / Transactions
  - CRM
  - Search
  - KM
  - HEP
  - Astronomy
  - Social Media
  - Social Networks
  - ⋮
  - ⋮
- } Logistics
- } Commerce
- } IR
- } Physics
- } Social Network Graph
- ⋮
- ⋮

## \* Old vs. New

- Previously : Producers → Consumers
- Currently : Everyone ↔ Everyone Else

## • Enablers

### - Storage

- Physical (Disk)
- Speed (HDD → SSD)
- Memory (RAM)
- Arrays (Aggregated / Pooled)

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- Array (Aggregated / Pooled)
- Distributed (K-Safety)

#### - Processing

- CPU (Moore's Law / MultiCore)
- GPU (Accelerators)
- Cluster (COTS)

#### - Availability (Data)

- Databases (Datasets)
- APIs (Vendors) [SF7P]

#### - Infrastructure (Cloud)

- Rent Storage / compute
- Rent Databases / Streams [Value Add]