**Analytics Challenges faced by Data Analyst :**

* Queries are taking way too long to run and is stalling analysis.
* No easy way to combine and query all the data that is collected.
* Being a data department, not an infrastructure department. Maintaining and upgrading our own servers is unsustainable.
* On-premises clusters aren’t scaling the analysis.
* Only afford to store a subset of the data our business generates.
* Don’t have a central data analytics warehouse or set of tools.

**Big Data on-premises vs in the cloud :**

* Google cloud is used for data analysis because:
* Storage is cheap.
* Focus on queries , not on infrastructure.
* Massive scalability.
* The cost of 1GB of storage has dropped dramatically.
* Traditional big data platforms require an investment in infrastructure.
* Typical big data processing : Time to understanding :
* Monitoring
* Performance tuning
* Utilization improvements
* Deployment & Configuration.
* Insights
* Resource Provisioning
* Handling growing scale
* Reliability
* Big data with google : Focus on insights , not on infrastructure.
* On-premises you manage hardware :
* Storage
* Processing
* Memory
* Network
* In the cloud an actual global elastic cloud :
* Invest your time in query writing , not infrastructure.
* Google cloud enables on-demand scalability.
* Underprovisioned on-premises : Takes more time.
* Overprovisioned on-premises : Costly.
* Google cloud services are there when we are using and go away when they are not in use.
* Separation of storage and computing power enables efficient resource allocation :
* On-premises : Pay for ability to use processing power even when no query is running.
* Google cloud : Pay for only the resource you are using and no more.
* Key takeaway : BigQuery scales automatically and you pay only for what you use.