

Embracing the Cloud

The New Normal

November 2021



Open > Insights™

Agenda

- 1 History of Cloud Computing
- 2 Migration Failures & How To Avoid Them
- 3 Key Considerations & Types of Cloud
- 4 Case Studies
- 5 About Open Insights

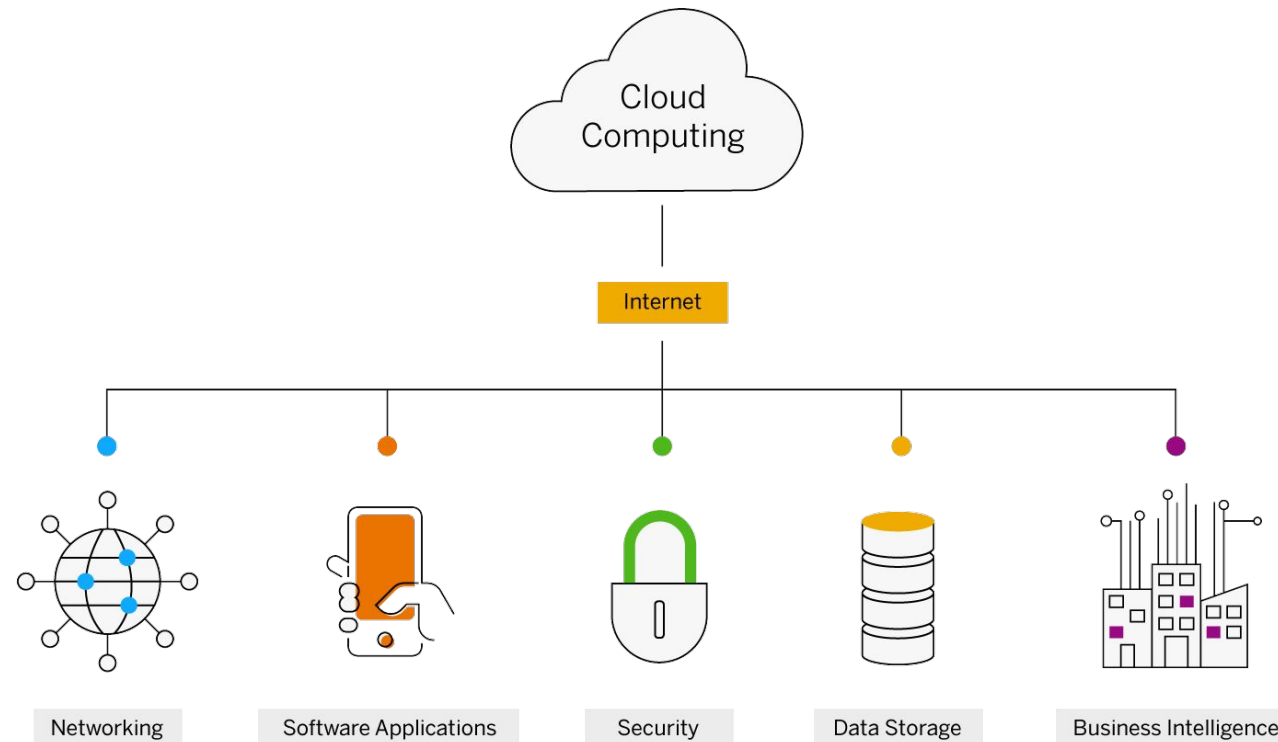
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What Is Cloud Computing?

On-demand availability of computer system resources especially **data storage and computing power**, without the need of direct active management by a user

- Wikipedia



History of Cloud Computing



digital

- Companies like IBM and DEC were providing **time-sharing services**



- Amazon creates Amazon Web Services in 2002 and starts offerings **Elastic Compute Cloud (EC2) in 2006**
- In 2008 NASA's Nebula becomes first open-source project to **offer private and hybrid cloud**
- Cloud computing used across the scientific community

1950s

1960s

1990s

2000s

2010s

- Mainframes were developed for Military purposes
- **Connected computer terminals** across an internal matrix



- Telecom companies **started providing VPN services**
- They **began using the cloud symbol** to denote the gap between the provider and the user



- Microsoft **launches Microsoft Azure**
- Rackspace Hosting and NASA launched open-source **cloud-software initiative OpenStack**
- IBM announces IBM SmartCloud



Cloud Computing evolution over the last 2 decades

THEN

Early 2000s

New technology, lack of awareness on how to control cost

Manual coding required

Fear over cloud provider transparency

Limited availability

Heavy manual work for building solutions

Integration with any unsupported tools to built from scratch

NOW

Easy to use tools and settings to control and minimize cost

Out of the box capabilities such as data governance, AI/ML etc.

General awareness on usefulness of cloud computing

Extensive resource scalability and high availability

Pre-built and ready to use solutions available

Robust cloud partner ecosystem enabling momentum and scale

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Statistics For Failed Data Migrations

85% of Big Data Projects fail

- Gartner

- **73%** of tech leaders expect their cloud migrations to take **more than one year** to complete, with **43%** expecting the process to last **more than two years**.
- **62%** of companies said their cloud migration project was **harder than expected**, and **55% went over budget**.

- Velostrata/Dimensional Research

Failed Data Migrations Case Studies



A massive migration initiative to move from mishmash of legacy apps to modern suite of applications on public cloud became a disaster



- 1.9 million Customers were unable to log into their accounts for a week
- Failed project
- Fixing technical issues
- Waiving overdraft and other fees
- Providing increased interests rates to compensate customers

More than **\$1.5 Billion** in losses



Chase Bank's initial attempt at implementing Big Data ended up in a big failure

More than **\$100 Million** in write-offs with initial BigData Effort



Microsoft's initial attempt to create a Hadoop alternative (codename Dryad) failed miserably. They enhanced it later as CosmosDB on Azure

More than **\$500 Million** in write-offs in 2010

Reasons For Cloud Migration Failures

Leadership Misalignment

C-Suite fails to effectively communicate crucial strategies and priorities, leading to project failures and money wastage

Lack of Skills

30% of big data project failures are due to lack of experience build data platforms

Hopeful Outlook

Missing foundational capabilities and immature operating model leading to redundant efforts and costs

Ambitious Intentions Lacking Execution

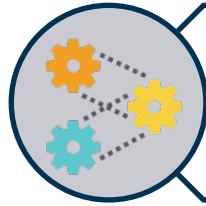
Companies often counterproductively overreach to become data driven in too short a time

Free for All

Companies do not understand importance of Data Governance

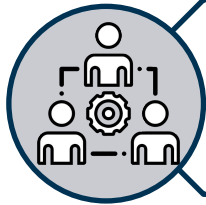
What To Avoid While Migrating?

How to avoid facing the same issues?



Iterate to Accelerate – De-risk, business benefits driven, iterative approach

Parallely build features and modules required for business cases prioritized. Capability matured with delivery of each additional business case.



Expertise - Team up with the right technical experience and a proven track record of implementation

Executed Complex Strategic Data Platform with migration of PBs of Data successfully for Large Global Enterprises across Domains

“Data Governance should not be an afterthought”



Data Strategy & Data Governance - Proven Data as a Service Framework with standardization, integration and Data Governance at core

Proven DaaS framework successfully replicated business data models across organizations global operations.



Up-Skill - Develop in-house skills

Client's existing resources active part of scrum. Skills built along via active knowledge sharing. Reduce dependency on partners

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Key Considerations

Infrastructure Stack

- Understand compatibility with different cloud providers
- Analyse cost of migrating tools

Service Availability

- Understand different customer services
- Find out location of cloud provider

Workload Analysis

- Understand memory and storage needs
- Compute requirements

Security and Compliance

- Determine methods for securing data while at rest and in motion
- Understand regulations on hosting data on cloud

Data Protection Requirements

- Determine what data will be on the cloud

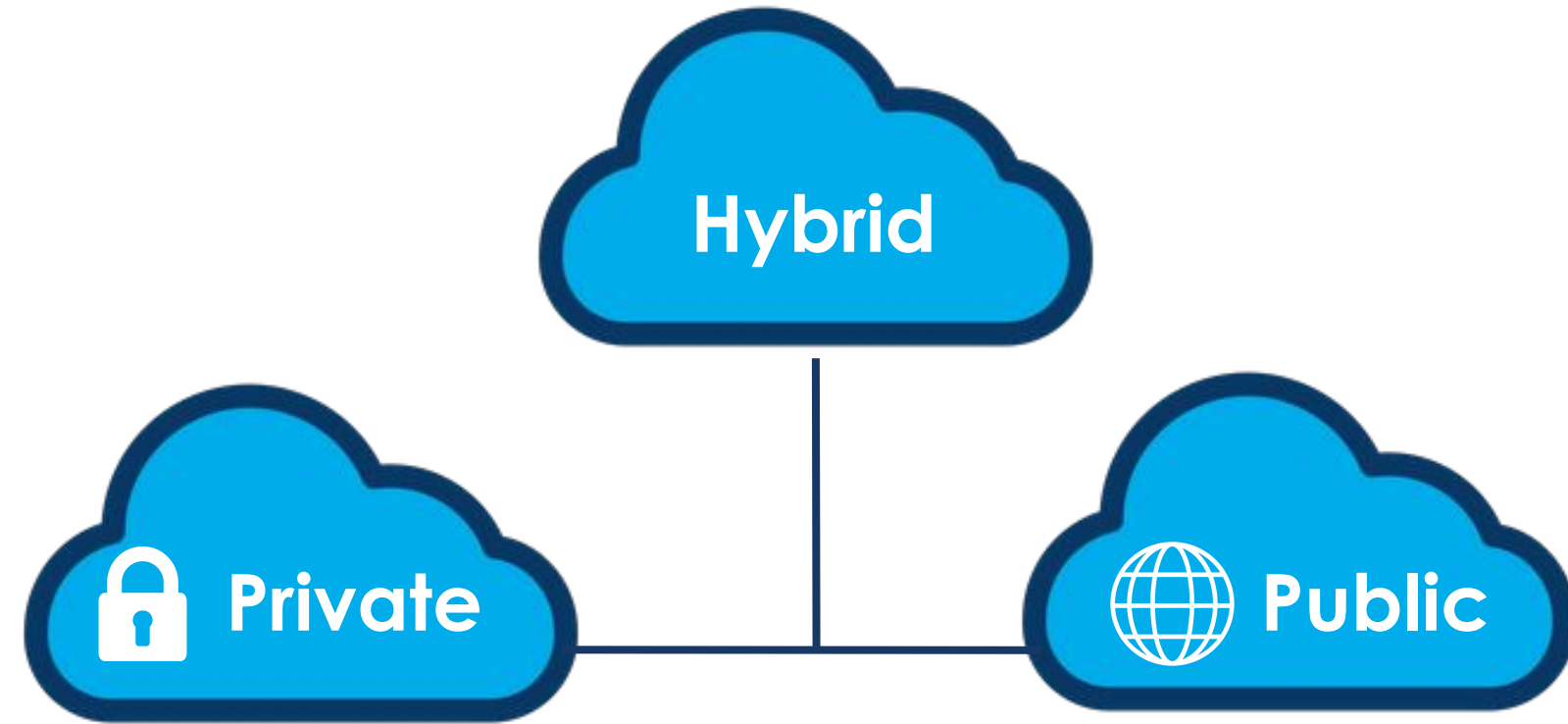
Support and Ecosystem

- Understand system interoperability
- Consider support provided by the service provider

Team Skill Set

- Decide on training existing resources or scouting the market for new talent

Types of Cloud Computing



Multicloud



Public Cloud

Created by IT Infrastructure not owned by the end user

Typically run off-premise at provider locations

Partitioned and redistributed between multiple tenants



Private Cloud

Cloud environments solely dedicated to an end user or user group

Could be run on-premise with a service provider or off-premise

Systems provide services to the sole end user or user group

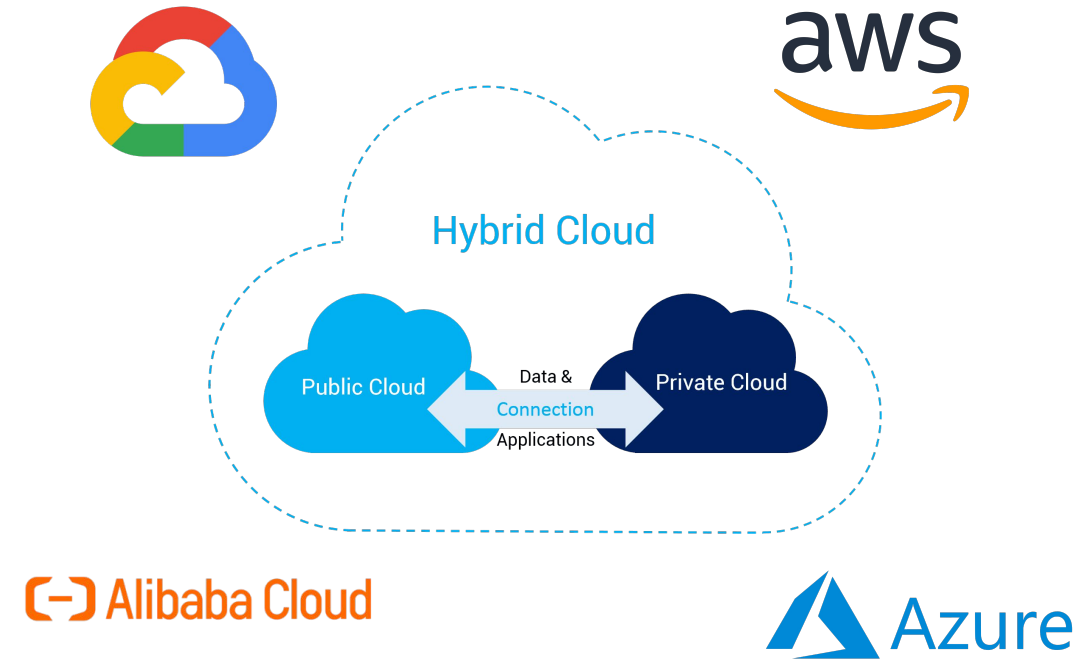


Hybrid Cloud

Cloud environments that are based on the combination of at least 1 private and 1 public cloud

Could be run on-premise within the organisation, on-premise or off-premise with a service provider

All the systems are managed as a single environment

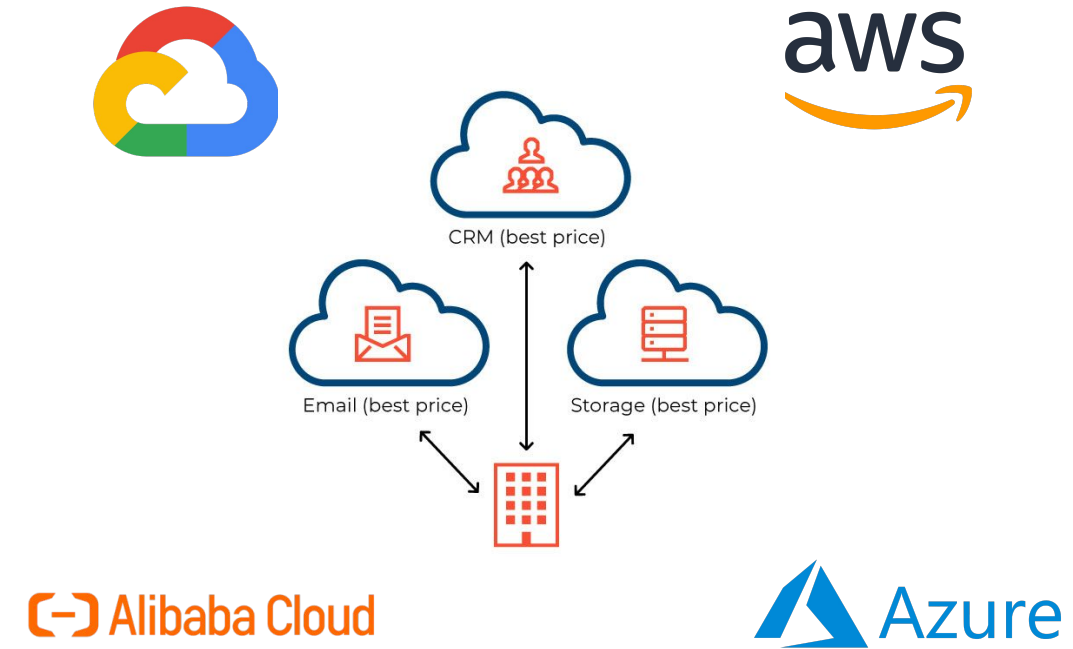


Multicloud

Cloud environments that are based on the combination of more than 1 cloud vendor (including private)

Enables enterprises to choose the optimal cloud resource as per the needs of applications and workloads

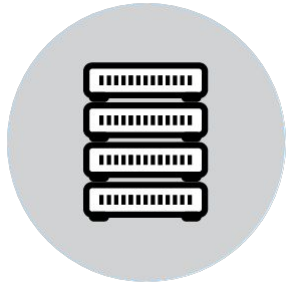
All the systems are managed as disparate systems and need additional software to orchestrate between the multiple clouds



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Cloud Migration for Multinational SEA Telco



On Premise

Data retention for 1 year only

Expensive storage and license costs

Lack of scalability leading to system outages

Fragmented and duplicated data sources

Data governance not implemented

Lack of capability to ingest from multiple data sources



Hybrid Cloud

Data retention for 5+ years

Optimized storage and computing costs

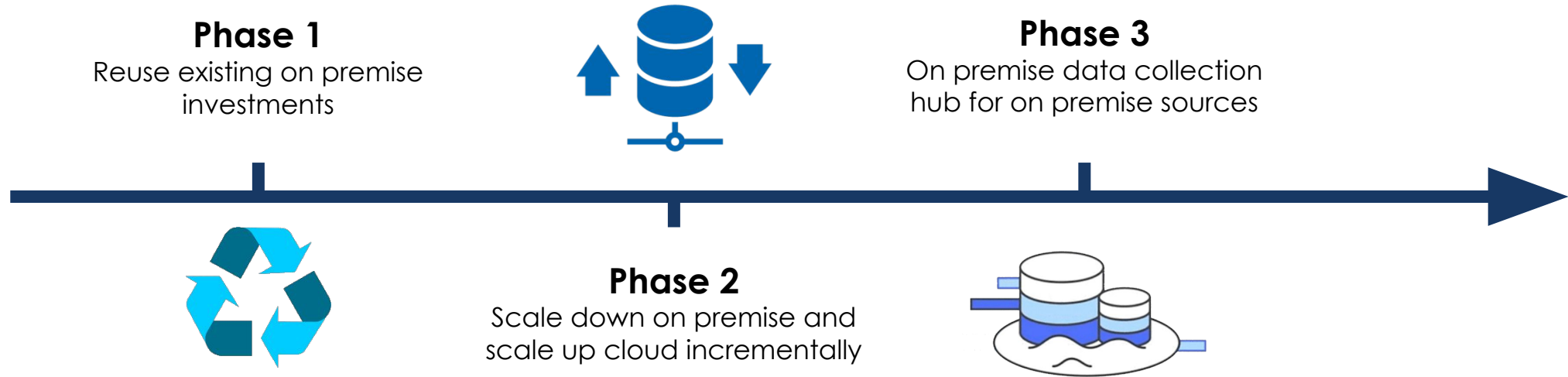
Extensive resource scalability and high availability

Unified DaaS

Built-in data governance

Availability of ready made connectors to most data sources

Cloud Migration Approach



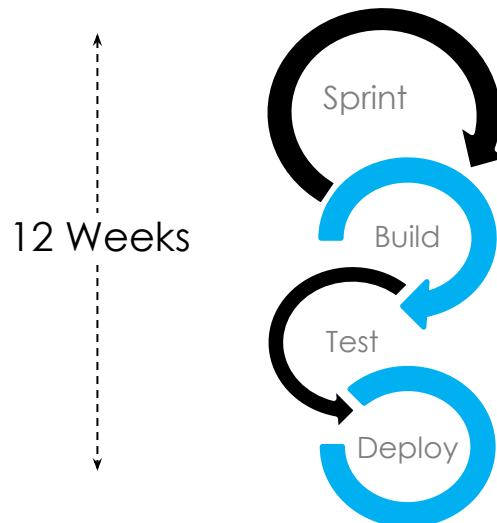
- Ability to scale quickly on the cloud is definitely a benefit, however it comes with a price and associated risk
- As migration to cloud continues there will be a reduction in the maintenance staff, reducing cost over time
- Ability to rollout additional features and capabilities faster due to readily available tools and solutions
- Going in a phased, incremental approach, will give you the opportunity to
 - **Assess** your scale needs
 - **Test** your risk appetite
 - **Reconfirm** the cost spend

Data Migration and Platform Implementation

Strategic Data Platform on Azure in 12 weeks at 1/3 of leading competitor's cost that delivered 2 high value use cases at launch

Objective

With objective of generating value for customers and new revenue lines for company, the leading US marketing company implemented Multi Touch Attribution and analytics with 3rd party data on Big Data Open source stack using Azure cloud



Delivered

82 Billion (40 TB)

Shopper Transaction processed to create historical view of last 24 months

70%

of all US in-store shopper transactions

>4 Terabytes

Processed in less than 30 mins on daily basis

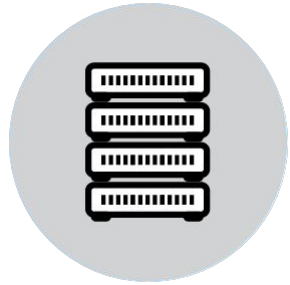
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Spent on year 1 cloud costs

Future Benefits

- On demand scalable analytics environment on Azure cloud that takes less than 30 minutes to configure and is ready to use
- Onboarding a new data source/retailer takes less than a week
- Subsequent use case implementation using the platform can be done in less than 4 weeks

Embracing Cloud at US Retail Marketing Company



Before

On boarding new data sources takes month

Expensive storage and license costs

Lack of scalability leading to system outages

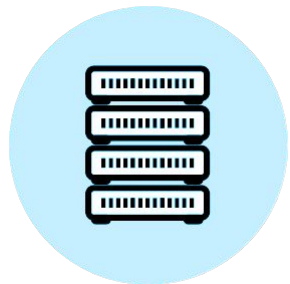


After

SLA based onboarding from 2 days to max 10 days

Optimized storage and computing costs

Extensive resource scalability and high availability



Outcome

- Availability of ready made connectors to most data sources
- 4 new use cases launched on the platform within 6 months, would have taken > 2 years earlier
- Predictable costs. Saving of upto \$2.5 m annually

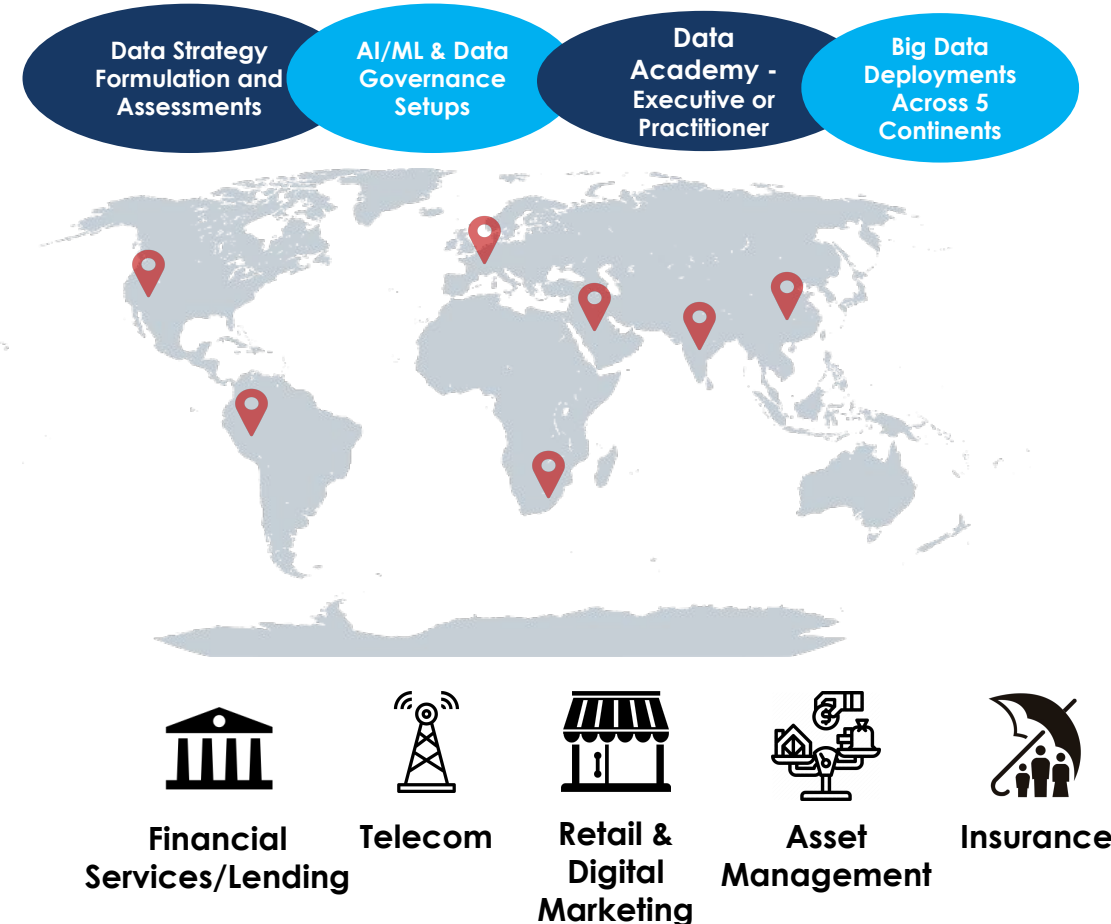
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About Open Insights

We help our clients **de-risk** the data modernization journey, and understand, optimize, monetize customer **INTERACTIONS** by enabling them to:

- **Drive Revenue & Cost Reduction** through Data & Insights
- 'Plug and Play' BigData platform
- Business-driven **ANALYTICS & AI SOLUTIONS**
- By developing a **Data Strategy** that enables a **Data-as-a-Service** powering Advanced Analytics
- Ensuring that Data is managed as an **Enterprise Asset** rather than a liability



Open>Insights™

www.open-insights.com

info@open-insights.com

Contacts:

faizan@open-insights.com

omar@open-insights.com

Seattle San Francisco Dallas Pune Santiago Amman Istanbul



www.open-insights.com



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