Nordcloud
an IBM Company

Jumpstart Your Data Platform

How a cloud-native data estate helps
you **avoid** common **data management pitfalls**
(and it's easier to deploy than you think)

Introduction

A cloud-native data estate is a data management approach that leverages the benefits of cloud computing to build, deploy and operate data-driven applications and services.

This approach enables organisations to take advantage of the cloud's scalability, flexibility and cost-effectiveness to manage and analyse large amounts of data in real time.

In this whitepaper, we'll explore:

1. The challenges involved in implementing a data estate
2. How a cloud-native data estate helps overcome them
3. How to get started with a cloud-native data estate – and streamline the process

Challenges involved in implementing a data estate

During the last year, here are common challenges we saw companies face when dealing with their data estates.

Data silos
The estate is littered with inefficiencies and shadow data copies that have developed naturally over time. It all works, but there's no standardised data management. This leaves the organisation exposed to data-related risks, such as data breaches.

Data strategy
The organisation lacks enterprise data connectivity, a data strategy and/or a centralised operating model – which restricts the pace of transformation.

Security
Ensuring the security and privacy of data is a major concern for many organisations, and the data estate needs to be more carefully designed to meet these needs. Security concerns stifle innovation.

Culture
A cloud-based data estate requires a shift in mindset and culture, and this can be challenging for organisations that are used to traditional data management approaches.

Centralised everything
One team, one query engine and one storage. Historically, there was the perception that one solution was best. Centralisation was the most effective way to avoid data going in every direction inside a company: only one central data lake and only one central team create the pipelines for ingesting data. These central entities became the bottleneck.

Complexity
There are elaborate architectures that don't scale as more teams engage with data.

Uncertainty
There's constant evolution of tools and options, but lack of clear guidance on where to start and how to bring value.

Governance
Lack of consistent processes and policies create data silos.

Time to value
New solutions can take months to deploy and deliver ROI. There's an inability to provide real-time, trusted data to inform timely business decisions.

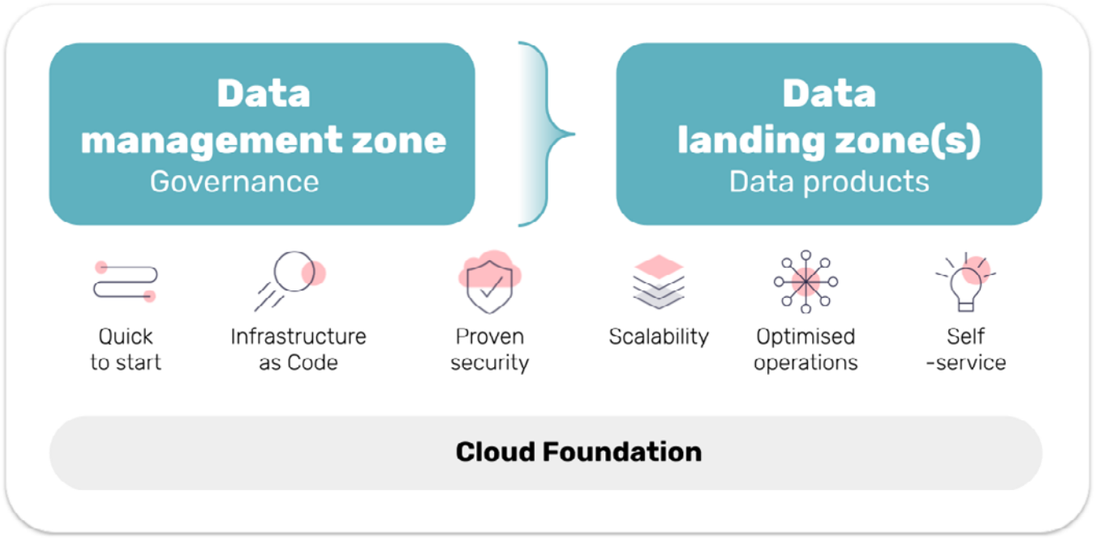
Organisation - or partner-specific data architectures
Only the organisation or one selected partner can update the data platform. Perhaps it's even built in the cloud, but without best practices in mind.

PoCs unable to scale
Building the data estate has started from a proof-of-concept initiated by a team or business unit that doesn't account for the business requirements of other teams / business units – or hyperscaler best practices. As a result, the implementation doesn't scale outside the original PoC scope, leading to incorrect assumptions of performance and scalability.

Characteristics of a cloud-native data estate

A cloud-native data estate is designed to be agile, scalable and resilient. It's built using cloud-native technologies and approaches, such as containers, microservices and serverless computing. When designed correctly, it helps overcome those challenges because it can respond rapidly to changing business needs and handle large amounts of data with ease.

Structure of a cloud-native data foundation



2 key characteristics of a cloud-native data estate

01.

It's built using a modular, distributed architecture (multiple data landing zones)

This enables it to be flexible and adaptable – and allows different parts of the estate to be updated and modified independently of one another. This approach removes the often-seen need to decide on and fix data architectures early in a project. The data landing zone approach gives you flexibility to choose between distributed mesh or fabric and centralised warehouse or data lake later on – as each approach becomes relevant. When business requirements evolve and accumulate, the original design might prove to be sub-optimal, and massive re-architecting can be avoided.

02.

It's designed to be highly available and fault-tolerant

This is achieved through the use of redundant systems available from the cloud – and the ability to quickly recover from failures.

Benefits of a cloud-native data estate

There are several benefits to building and operating a cloud-native data estate.

01.

Scalability

The cloud-native data estate can easily scale up to meet changing business needs, without the need for costly hardware upgrades or maintenance. Similarly, scaling down doesn't leave you with unused hardware or licencing liabilities. Scaling in either direction can be achieved within minutes or hours.

02.

Cost-effectiveness

Because it leverages cloud's scalability and pay-as-you-go model, the cloud-native data estate can be more cost-effective than traditional on-premises data management approaches.

03.

Agility

The modular, distributed architecture of the cloud-native data estate enables it to be easily modified and updated to meet changing business needs. For instance, the building blocks of our Data Foundations are modular: one management zone, one or multiple data landing zones.

04.

Flexibility

The cloud-native data estate can support a wide range of technologies and use cases, and can be extended to on-premises systems and tools.

05.

Vendor and resource neutrality

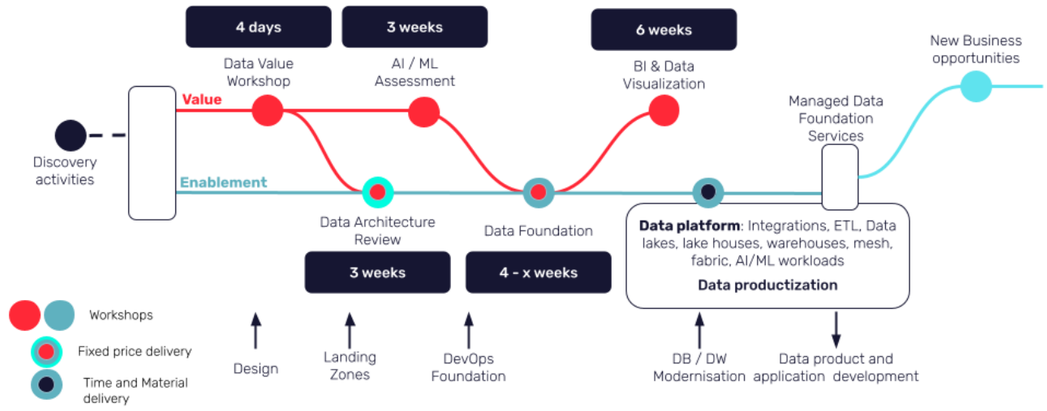
The data landing zones provide architectures and governance that can be used across vendors and resources. This provides a foundation for your estate to leverage new services from public cloud providers, whose horizons extend from small businesses to the biggest global corporations. Documentation and upskilling materials are available online, and potential partners for development and operations are available across markets.

How to get started with implementing a cloud-native data estate

The first step is to get a general overview of all the stakeholders, tools and business value that will be contributors to or beneficiaries of the data estate. We call this first step **the Data Architecture Review (DAR).**

The DAR report contains the value that's expected from data and which area(s) to start with. It outlines the requirements to begin **a Data Foundation (DF)** implementation, ensuring that challenges we mentioned are mitigated.

That output – combined with templates from our Data Foundation, hyperscaler recommended practices and our expertise – is materialised when we deploy the infrastructure in the cloud for data processing.



Following our approach and leveraging the DAR + DF bring you the following benefits:

- Reduced effort, timescale and risk associated with starting from scratch / custom design efforts
- Avoiding designing an organisation-wide solution through the lens of single team or business unit
- Avoiding having to fix decisions early about a data lake / data mesh approach, remaining flexible to avoid re-implementation costs
- Reduced security effort, with templates that lead to a reduced attack surface
- Infrastructure as Code and DataOps methods

Using this approach means data strategy, architecture and implementation converge to create a starter solution pattern. The DAR report outlines the increments and approach to take after piloting, so you can hit the ground running.

Conclusion

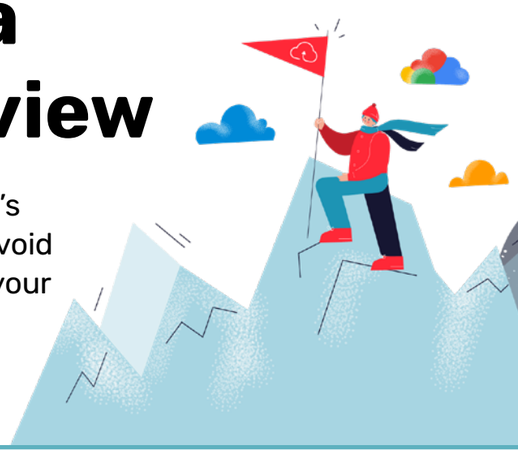
In order to answer questions, predict outcomes, discover relationships and drive business growth, you need to enable analytics, data science and applications with data.

A cloud-native data estate is a powerful approach to data management. It leverages the benefits of cloud computing to build, deploy and operate data-driven applications and services. And it offers you the scalability and flexibility you need to manage and analyse large amounts of data in real-time – cost-effectively.

However, implementing a cloud-native data estate also presents challenges, including ensuring security and privacy, integrating with existing systems and adapting to a new culture. By planning and addressing these challenges with a Data Architecture Review and Data Foundation, you can streamline implementation of a cloud-native data estate – and reap the benefits it offers.

Learn more about Nordcloud's Data Architecture Review

Our Data Architecture Review uses Nordcloud's experience-driven methodology to help you avoid common pitfalls and unlock more value from your data assets over the short and long term.



In just 3 weeks, you get a report rooted in key business drivers that identifies:

1. Your goals, target user groups, scopes and restrictions
2. Your target architectures
3. How to scale pinpoint proof-of-concepts into corporate-level data architectures
4. How to translate business requirements into technical design across different customer teams and business units
5. Skill and role gaps, with proposed improvement actions
6. Pilot scope selected from the identified business drivers (smallest effort, biggest business impact)
7. Plan to build a scalable Data Foundation pilot accounting for customer-specific technologies
8. Roadmap covering how to incorporate all data assets and products under one Data Foundation governance framework

Contact us for a free one hour briefing to learn more

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About Nordcloud

Nordcloud is a European leader in cloud strategy, migration, data-driven innovation and managed services.

Clients say working with us is like having a compass for their cloud journey – you have cloud-native experts guiding best practice, pre-empting pitfalls, providing essential technical support and helping you achieve better, faster results.

Faster results
We're cloud pioneers with a 100% cloud heritage. This means we're not just jumping on bandwagons or superimposing trends on to legacy ways of working. You get better, faster results because you have cloud natives guiding your journey.

Empowered teams
Our entire approach is about empowering your teams, not creating dependencies. From technology to training, from data to DevOps, you get the support needed to capitalise on cloud benefits. That way, you're positioned to maximise the cost savings and value potential of the cloud ongoing.

Global cloud leadership
We're a Visionary in Gartner's Magic Quadrant for Public Cloud IT Transformation Services and one of the few certified providers across all 3 public cloud platforms – Microsoft Azure, Google Cloud Platform and Amazon Web Services. You therefore get impartial advice based on a broad market perspective.

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