

Building a solid foundation for data enablement.
Kubernetes for modernising
data-intensive applications.

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Containers sound great. But what's the best way to use them?

It's a question we're hearing a lot from organisations grappling with the best way to modernise legacy tech and compete in an increasingly digital market.

With customer expectations evolving and agile new entrants challenging traditional players, the need for change is clear.

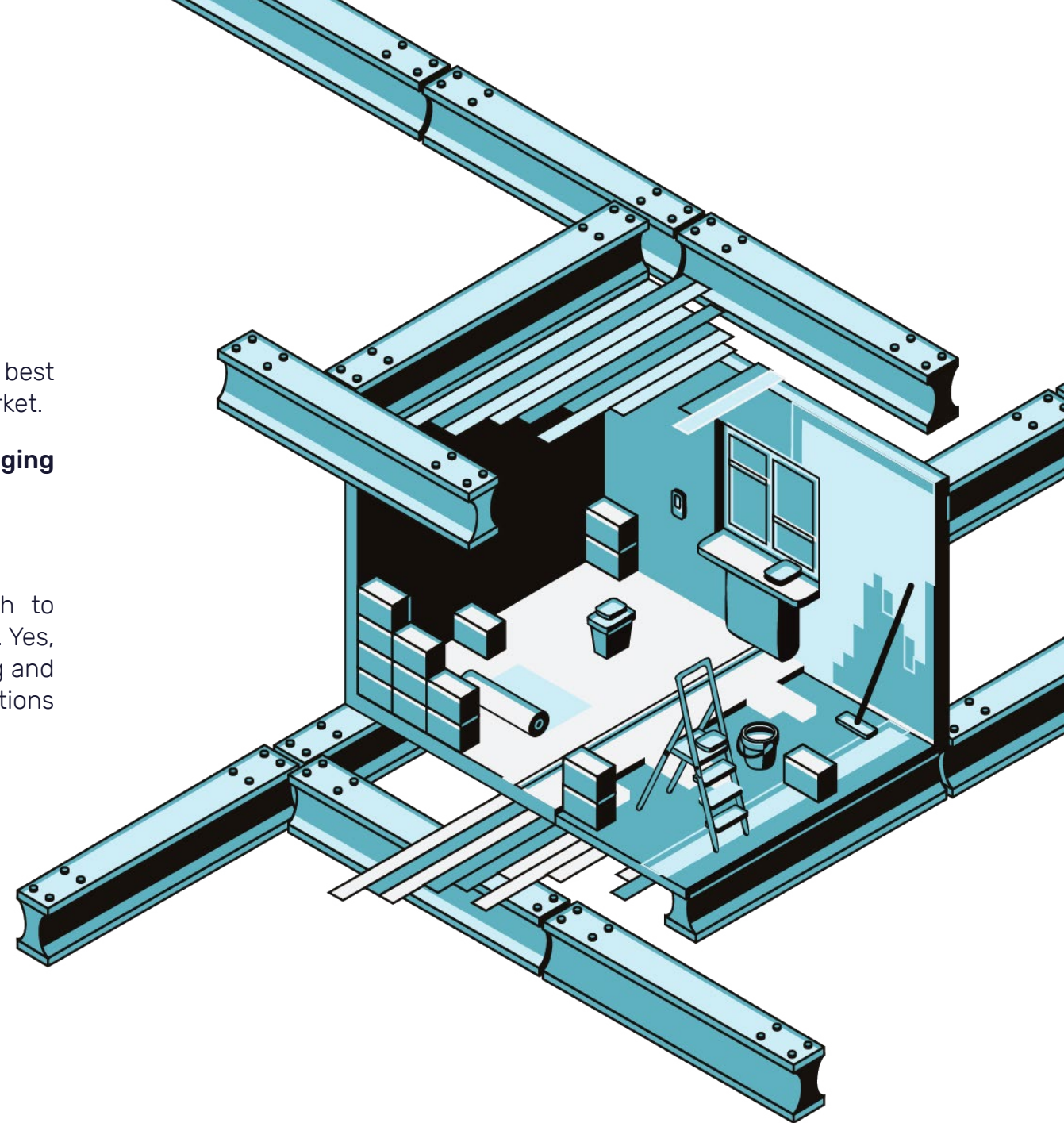
And Kubernetes offers a way to structure and de-risk the process.

Many early Kubernetes adopters took a 'fumble and see' approach to modernising compute-intensive solutions with data management needs. Yes, they're reaping cloud benefits, but the journey has been more frustrating and costlier than intended. And they end up lacking the strong, scalable foundations needed to drive long-term value.

This is due to many factors, such as:

- Steep Kubernetes learning curve
- Wide variation in needs across the business
- Cross-jurisdiction compliance

This guide is a first step in helping you avoid that situation.



Architectural strength The key to Kubernetes success.

Kubernetes is an effective tool in fulfilling many customer and regulatory needs, but without proper design work, it can feel like you're building a house on sand.

For example, using Kubernetes in a cloud landing zone without proper governance or a properly designed data foundation leaves you vulnerable to non-compliance and service issues.

After investing the time and resource to modernise, you then find the house collapsing because it was built on shaky foundations.

Challenges with Kubernetes-based application modernisation



Regulatory requirements from different jurisdictions



End-to-end data security



Steep learning curve and lack of internal knowledge



Lack of direct support from hyperscalers in terms of platform design and implementation



Lack of application refactoring guidelines to modernise workloads



Day 2 operations management

** Based on interviews with C-level executives and technical leads*

Kubernetes is a stepping stone for the data-enablement organisations need. But to get it right, you need architectural strength.

The aforementioned challenges often crop up because companies have started with use cases before determining what the architecture should look like.

Nordcloud is a European leader in cloud-native migration and modernisation. We're unique in that we offer a data Kubernetes architecture that helps you side-step those challenges – unifying management while making data available to containerised applications.

As a result of the Nordcloud Kubernetes Architecture, you're in a position to:

Simplify container-style modernisation

You have a unified management model for all clusters. At the same time, you can also leverage cloud-native services to build accessible, performant and consistent data.

Leverage and modernise data assets across functions and units at different paces

Consistent guardrails give you an effective holistic view and enable interoperability across applications. You actually get the flexibility and portability that Kubernetes promises.

Build a foundation for a modern data approach, but with less mess and less risk

Making it easier to negotiate security and compliance across all the different regulations and jurisdictions you're dealing with.

Deliver business agility without trade-offs

You don't have the same constraints around risk and security that often create barriers to innovation. You can easily leverage data ingested in the cloud. And you can build in containers, experiment, deploy and iterate in a safe and agile way. This enables different business units to modernise at different paces.

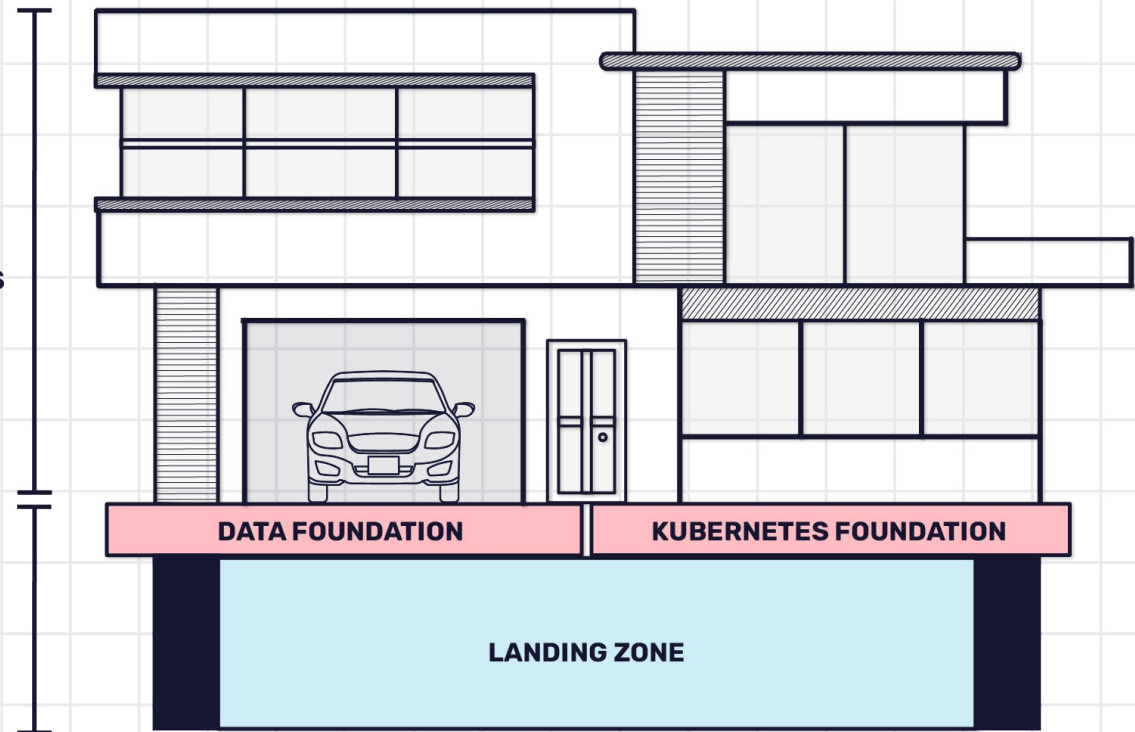
Your best-practice Kubernetes architectural model.

With Nordcloud's unique Kubernetes Architecture, you're not taking that 'fumble and see' approach as you experiment.

Instead, you're building in a well-planned, well-managed way, creating a robust design with strong foundations that's fit for the future. And you're enabling compliance, security and operational efficiency.

DATA-INTENSIVE
APPLICATION
ON KUBERTNETES

SECURE
FOUNDATION



What you get with the Landing Zone

LANDING ZONE

With our Landing Zone product, we've chosen the best tools based on our experience of more than 500 public cloud projects over the last 5 years. It gives you a technical cloud foundation using infrastructure-as-code (IaC), thereby providing the value, security and compliance you need.

In fact, many Nordcloud customers ultimately find cloud compliance easier than they did with their traditional hardware and their on-premises environments because of the way we use automation across implementation, enforcement and reporting.

BENEFITS

- Standardised and controlled environment for cloud-based applications
- Best practices and compliance controls inherited by every new project
- Automation and provisioning at scale, enabling speed and agility

FEATURES

- Connectivity and network security
- Data protection
- Cloud security and compliance
- Management at scale
- Cost visibility and control
- Audit trail
- IaC and DevOps integration
- Subscription and Resource Group provisioning
- Automated maintenance

DATA FOUNDATION

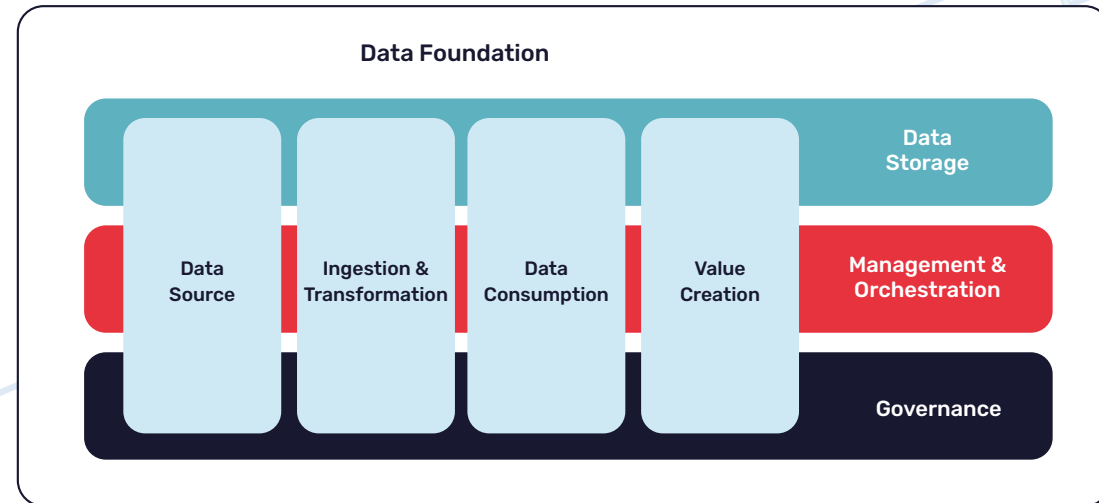
The Data Foundation sits on top of the Landing Zone, providing a well-documented managed data platform you can deploy quickly. It gives you the governance needed to enable modern, self-service data operations.

The Data Foundation:

- Provides consistent guardrails and enables interoperability across applications, so you can modernise data-intensive applications with less risk and mess
- Makes existing data assets across the organisation easy to manage and access
- Harmonises data from various sources for easy consumption from a single point, powering visualisation, applications, advanced analytics and automation

That way, you have a robust foundation for leveraging cloud benefits and creating value from data – while complying with regulations.

Data Foundation solution architecture



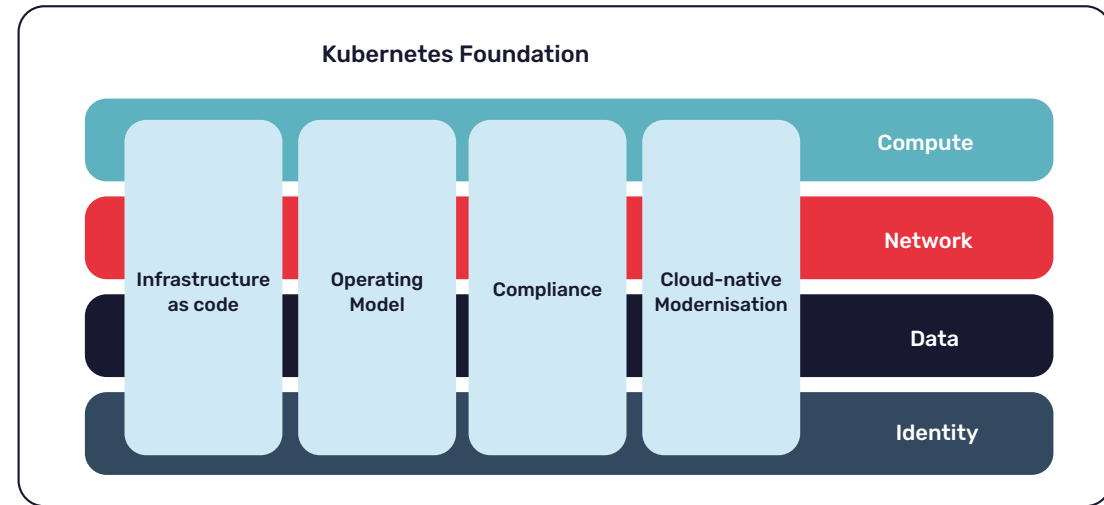
Management and orchestration tools deliver end-to-end data control from ingestion to consumption, while providing a scalable and cost effective storage and query engine. You also get an end-to-end data pipeline view from ingestion to consumption, together with automated discovery, classification and governance of all data assets.

KUBERNETES FOUNDATION

Our Kubernetes Foundation simplifies container-style application modernisation. You get agility without trade-offs, thanks to the following features and characteristics:

- Standardised and market-leading platforms with cherry-picked components for best performance agility and manageability
- Platform with a potential high availability of 99.95% supporting operation at a global scale
- Built in and using DevOps. Reusable code enables fast deployment, and immutable infrastructure supports reliability and security
- Out-of-the-box platform with expert support, so you can choose from different solutions to support workloads, even with edge

Kubernetes Foundation solution architecture



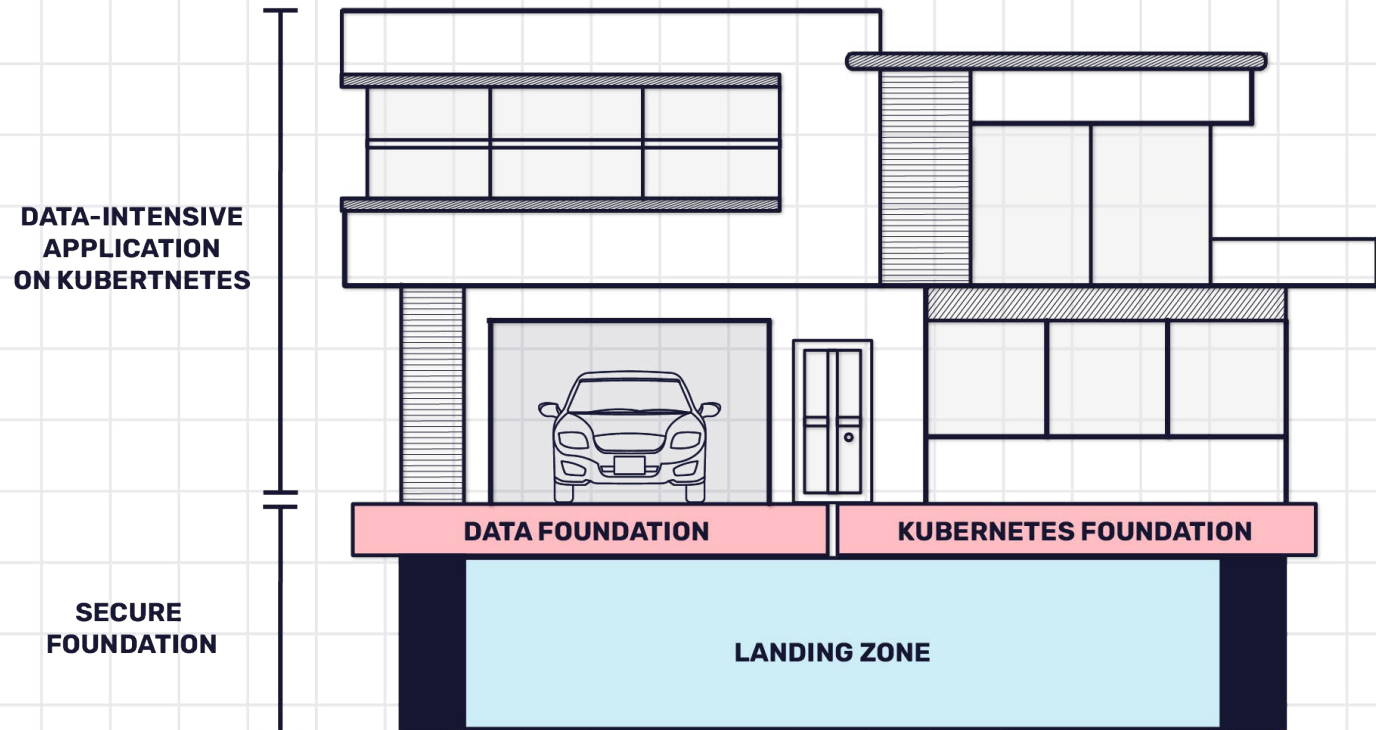
Governed and deployed with IaC, the Nordcloud Kubernetes Foundation simplifies compliance and security across your cloud environments and landscapes. This gives you a robust foundation for cloud-native application modernisation.

The architectural strength you need to modernise data-intensive applications.

This Nordcloud approach – encompassing the Landing Zone, Data Foundation and Kubernetes Foundation – gives you the architectural strength needed to benefit from containerisation.

- **You have a shortcut when it comes to the Kubernetes learning curve** – and can drive modernisation at different paces, in a secure way, while complying with varied regulatory requirements
- **Your team is positioned to develop, deploy, and manage container-based applications** – with the flexibility to move data and applications in the best way to achieve your business goals
- **You achieve this with less frustration and risk** – together with greater productivity and visibility

Why risk building on shaky foundations when you have easy access to this architectural strength?



Your next step

Free Kubernetes Kickstarter Workshop.

Your deliverable: A document outlining our recommendations and giving you architectural direction for Kubernetes.

[Book your free workshop](#)



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nordcloud.com

Get a free one-to-one workshop with a cloud-native expert. During the 3-hour session, we

- Analyse your organisational readiness for the cloud
- Assess the relevant regulatory and security requirements affecting your migration and modernisation approach
- Review your business applications and their goals
- Discuss containerisation options
- Identify the best containerisation approach