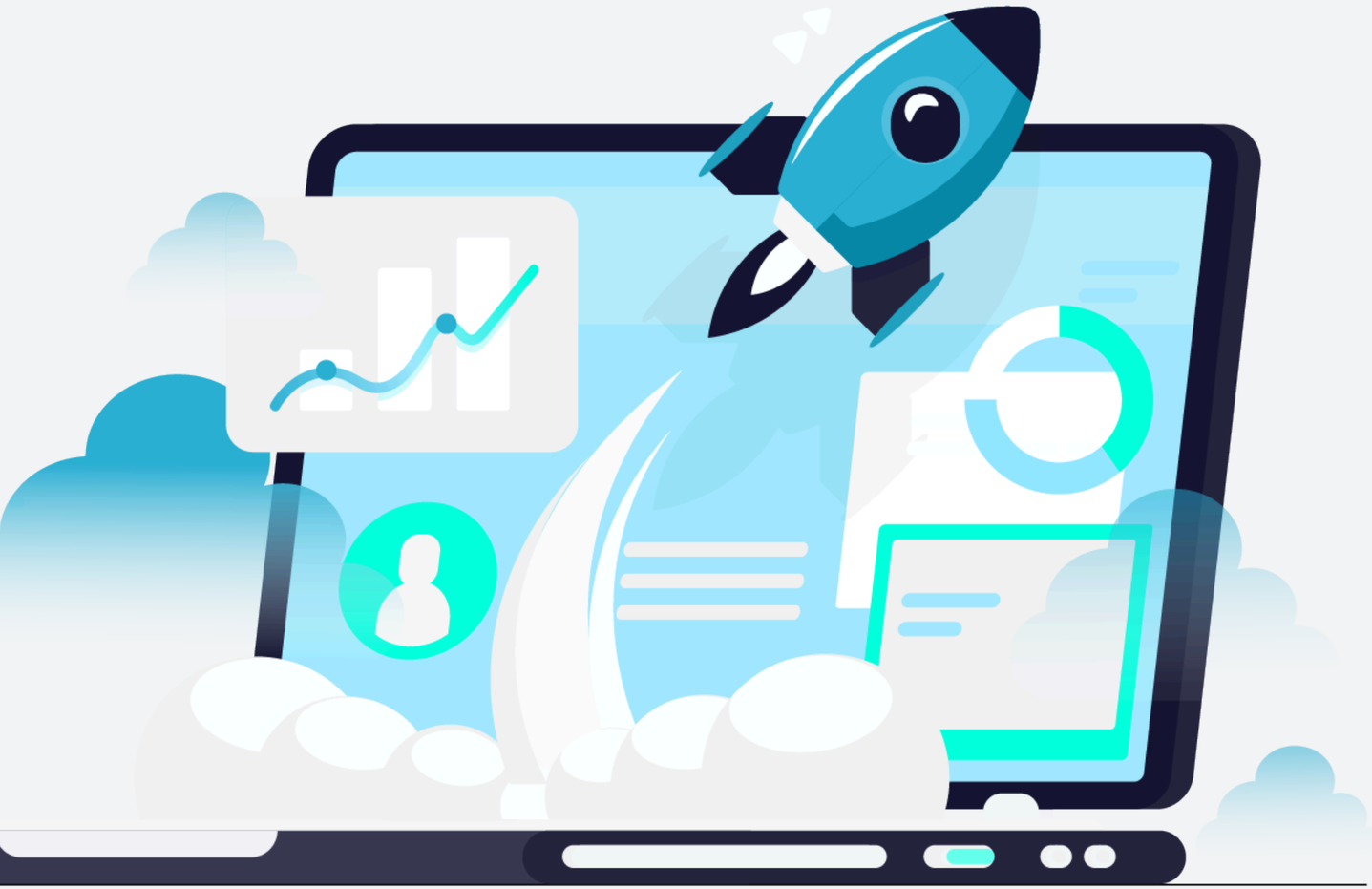

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Transforming IT towards **self-service**

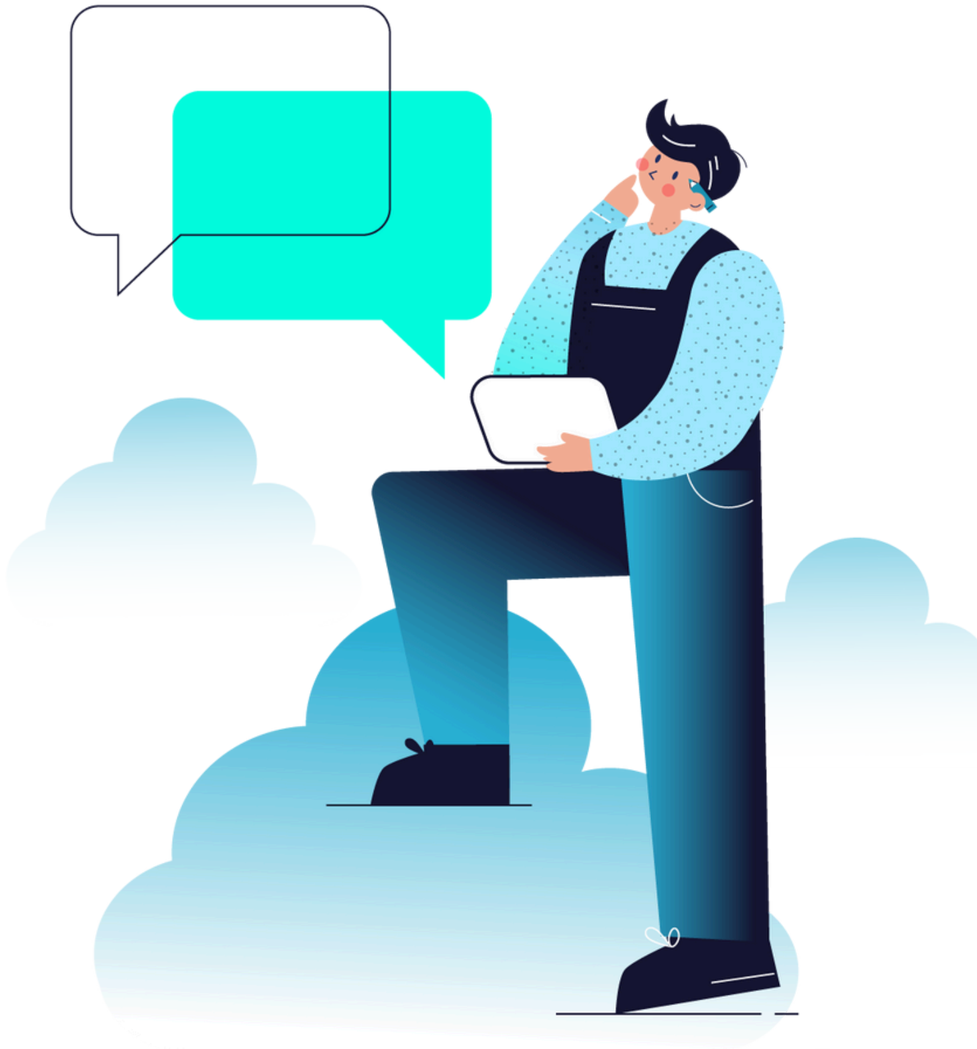
Succeeding in a platform-driven developer economy

What's in this whitepaper

Chapter 1

The march towards ‘everything as a software’

In the past decade, nearly all organisations have been focused on building software-powered products, services and supporting capabilities. It hasn’t been an easy journey. Competitive product cycles in software businesses are faster than traditional multi-year planning cycles. It’s been difficult to attract the best software developers to ‘old’ businesses.



The march towards 'everything as a software'

To create a better software capability, most enterprises implemented some combination of the following solutions:

Solutions	Effects
Adopt agile in software delivery and as an organising principle for many business areas	• Autonomous application teams/tribes owning large sets of software-led business products and services • Sprint-based delivery that can readjust every 2 weeks as needed
Reduce dependence on the part of IT that has to work in the legacy context	• Major focus on achieving the lowest possible cost of delivery at the expense of speed and service quality • Public cloud became the primary target environment for new application development • DevOps capabilities were hired inside the business as opposed to IT

Combining these solutions worked extremely well at the beginning, as evidenced by the massive growth in AWS and then Azure. But it was soon apparent that – once greenfield quick wins were done – organisations still needed IT for data, brownfield infrastructure management and integration.

Growing pains during digital transformation

This situation created a dilemma for IT organisations:

*How do we **respond quickly** to the changing needs of our faster-moving digital business?*

*How do we **evolve IT delivery** so it can keep up in a software organisation?*

Lift-and-shift migrations gave IT access to elastic capacity and an evergreen technology platform – but they didn’t typically change ways of working in the IT services offered to developers and application teams. This wasn’t a problem in the early stages of cloud adoption. When the organisation was building greenfield applications at limited scale, the Cloud Centre of Excellence could support the speed and automation required.

The march towards 'everything as a software'

However, as the scale and complexity of digital applications increased, many IT infrastructure/cloud departments struggled to meet the business' needs at the speed and quality product teams/tribes wanted.

24%

Of tech leaders say their organisation **struggles to enable IT operations** to support the needs of a product-focused organisation

52%

Of tech leaders say **improving automation** and reducing reliance on manual IT operations is a challenge

Source: Nordcloud Cloud Revolution Summit survey 2024

Digital transformation meets platform engineering

In practical terms, application teams depend on IT to provide standardised, supported and secure infrastructure. But it’s taking too long and costing too much to deliver with the current IT support model.

So how do you rethink IT operations to meet product team needs, so it can provide support efficiently and cost-effectively?

The ideal scenario for application teams is to get an AWS-like self-service experience from IT.

A small minority of IT organisations have these capabilities. In this whitepaper, we’ll look at how they’re doing it – along with an approach for moving towards best practice in your organisation.

Let’s move on to Chapter 1, which sets out what the target IT support model should look like.

of Fortune 1000 companies will have formal infrastructure platform organisations by 2027

Source: Gartner Research, Modernizing Infrastructure Platforms and Operating Models in Support of Digital Foundations

Introducing the target IT support model for platform engineering

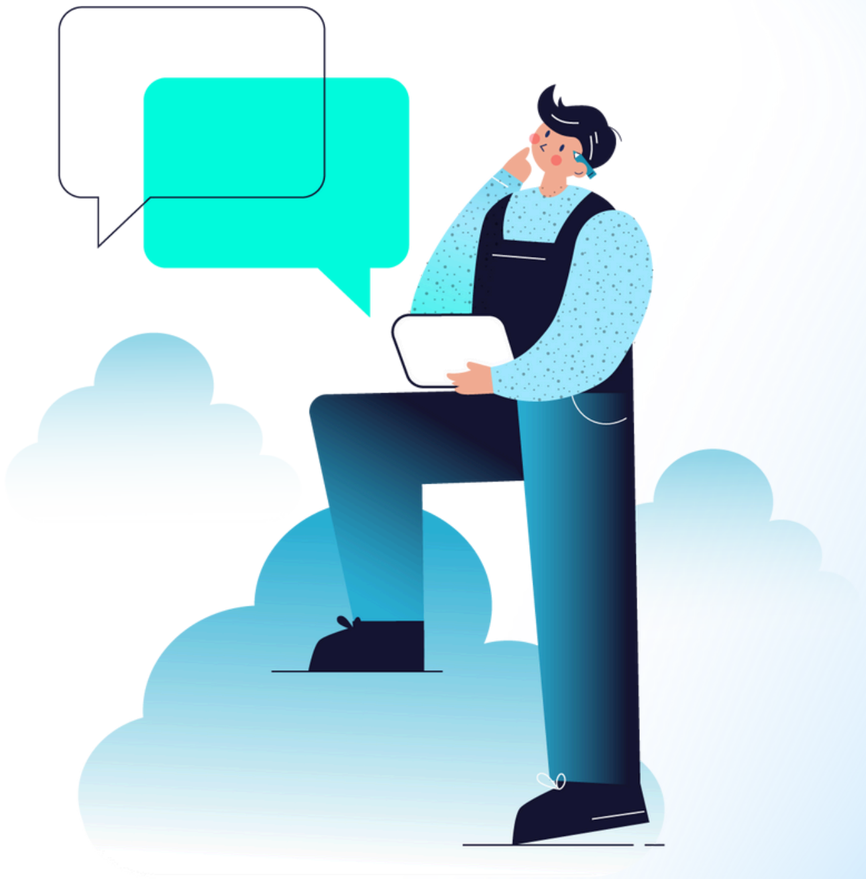
What does ‘good’ look like when it comes to platform-enabled IT operations?

The leaders in automated IT delivery can complete a request from the application team in less than an hour.

This includes approvals, governance and the transition to operations. Instead of a chain of tickets where different infrastructure teams are solving a part of the workflow (be it network, containers or databases), these leaders are delivering complete, developer-relevant use cases.

What needs to change?

How do you get that speed? What does it take, for example, to deliver an environment to build microservices with golden path Kubernetes, databases and data access and have it IN production in less than 30 minutes?



You need to make the following **key changes** from a support model perspective:

01.

Onboarding

Each IT team must support automated processes to onboard systems to 24x7 management

This way, every system in automated delivery has Day 2 security, availability and performance management. Given recent advances in infrastructure code usage and AI-assisted scripting, this is a reasonable expectation.

02.

Provisioning

All standard IT infrastructure builds must support automation

When every IT infrastructure team is committed to providing API or script-based provisioning, it's possible to convert a chain of tickets to an automated IT workflow.

03.

Governance

Change management governance must be done with an approval pipeline

It's still common to find change management and approval governance handled in weekly meetings instead of immediate ticket workflows. If approval only takes place once a week, no automation will meet application team needs. It's now possible to automatically collect and present cloud costs, chargeback information, architecture and design diagrams so you deliver cost, compliance and architecture documentation automatically to change processes.

You need to make the following **key changes** from a support model perspective:

04.

Cost optimisation

There must be central cost optimisation processes

To deliver self-service to developer teams, IT platform teams managing a specific infrastructure area (like databases or Kubernetes) must continuously optimise costs. It's very difficult for a developer to size environments correctly when starting an automated workflow. By having central cost optimisation processes defined by experts, you reduce risk of overspend and streamline at the operational level.

05.

Security

There must be secure-by-default automation

Each IT team must also commit to fixing vulnerabilities quickly, as they're discovered. This is essential for information security to be satisfied with the self-service.

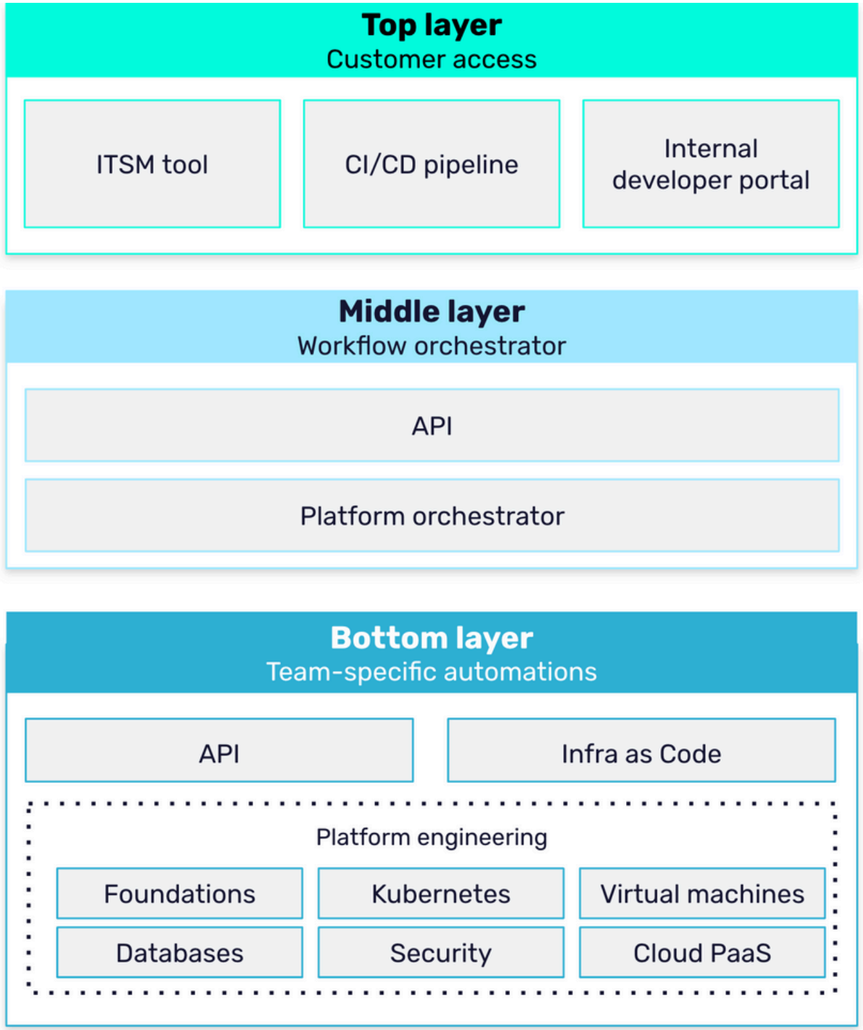
Now let's look at the tech layers needed to make these changes.

Key support model changes:

1. Onboarding
2. Provisioning
3. Governance
4. Cost optimisation
5. Security

What tech capabilities do you need?

Technology layers to deliver self-service capabilities



Self-service
via launch portal and APIs; possibly supporting tickets.
"Provide an Azure sub with AKS installed."

Orchestrating
defined use cases; supported by a dedicated team.
"Call cloud platform team's API + Kubernetes team's defined AKS installation."

Platform capabilities
published by dedicated teams, which are responsible for APIs/technical implementation and operations.

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Customer access (the launch portal)

To give application teams an AWS-like self-service experience from IT, you need 3 technology layers:

- Customer access (the launch portal)
- Workflow orchestrator
- Team-specific automations

At the highest technology level, there's the **launch portal** where IT customers can invoke self-service automation. In large organisations, this isn't generally a one-size-fits-all proposition. Some teams might like something familiar like ServiceNow; other teams might prefer an internal developer portal.

Self-service blocks are part of the build-test-deploy cycle and are launched from a **CI/CD** tool like Azure DevOps or Github.

The launch portal calls the **API** from the workflow orchestrator.

Workflow orchestrator

To give application teams an AWS-like self-service experience from IT, you need 3 technology layers:

- Customer access (the launch portal)
- **Workflow orchestrator**
- Team-specific automations

Workflows replace chains of tickets. A typical virtual machine-based, end-to-end workflow covers 50 tasks – from launching hardened operating system images, creating access groups and installing EDR software to automatically creating runbooks and architecture diagrams. Different IT teams own the scripts that perform these tasks.

The workflow orchestrator combines the logic from each team. When a customer initiates a launch request, the orchestrator ensures the parameters each automation section needs are delivered. Its job is to ensure maximum reuse of current automation assets and tie them into a repeatable process that can cross-use building blocks.

Each IT team can ship its logic in their preferred way. Some will prefer shipping a container that encapsulates all provisioning logic. Others will provide an API that can be called. In some cases, scripts can just be integrated.

Team-specific automation

To give application teams an AWS-like self-service experience from IT, you need 3 technology layers:

- Customer access (the launch portal)
- Workflow orchestrator
- Team-specific automations

Today, many IT delivery teams implement infrastructure as code automation using various tools and frameworks, such as Terraform, Ansible, Bicep or AWS CDK (often implemented as part of a CD pipeline). Because application teams need the same automation to work in both development and production environments, IT workflow automation must reuse what operation teams are comfortable with in daily work.

Case study

FROM WEEKS TO 30 MINUTES:

100% automated provisioning process saves time and money

A global engineering company had automated 80% of provisioning but had hit a ceiling with automation – they still had delays in request-to-production and CAB meeting queues.

We automated all tasks (85!) in the development environment build process – provisioning, runbook creation and managed services onboarding.

Now, they can get fully operational development environments within 30 minutes from request approval – all part of the end-to-end automated flow covering change management, provisioning and service transition. Redundant CAB meetings have been eliminated, IT is providing managed self-service to agile teams and they've improved the developer experience.

Case study, cont'd

Automated IT workflows deliver working, supported, secure infrastructure in 30 minutes

- The company has a standardised test environment with VMs and a database machine
- We built a workflow where the customer fills in a form with information such as sizing requirements and cost centre
- The workflow calculates the infrastructure costs and sends a ticket for approval
- When approval comes, the workflow:
  - Takes a customised hardened image
  - Implements security software
  - Configures patching and data protection
  - Creates an architecture diagram
  - Puts a runbook on a webpage
- In 30 minutes, the customer has the environment, and it's in production

The journey to maturity

We've looked at what the target IT support model should look like, with the required tech layers. But how do you get there from your current state? How do you start the journey to mature platform engineering, where you can efficiently meet the needs of a modern, agile, software-driven business?

In this chapter, we'll go through a process of assessing your current maturity and identifying the gaps you need to fill.

Assess capabilities across 3 pillars

You need to assess your maturity and identify gaps across 3 different pillars:

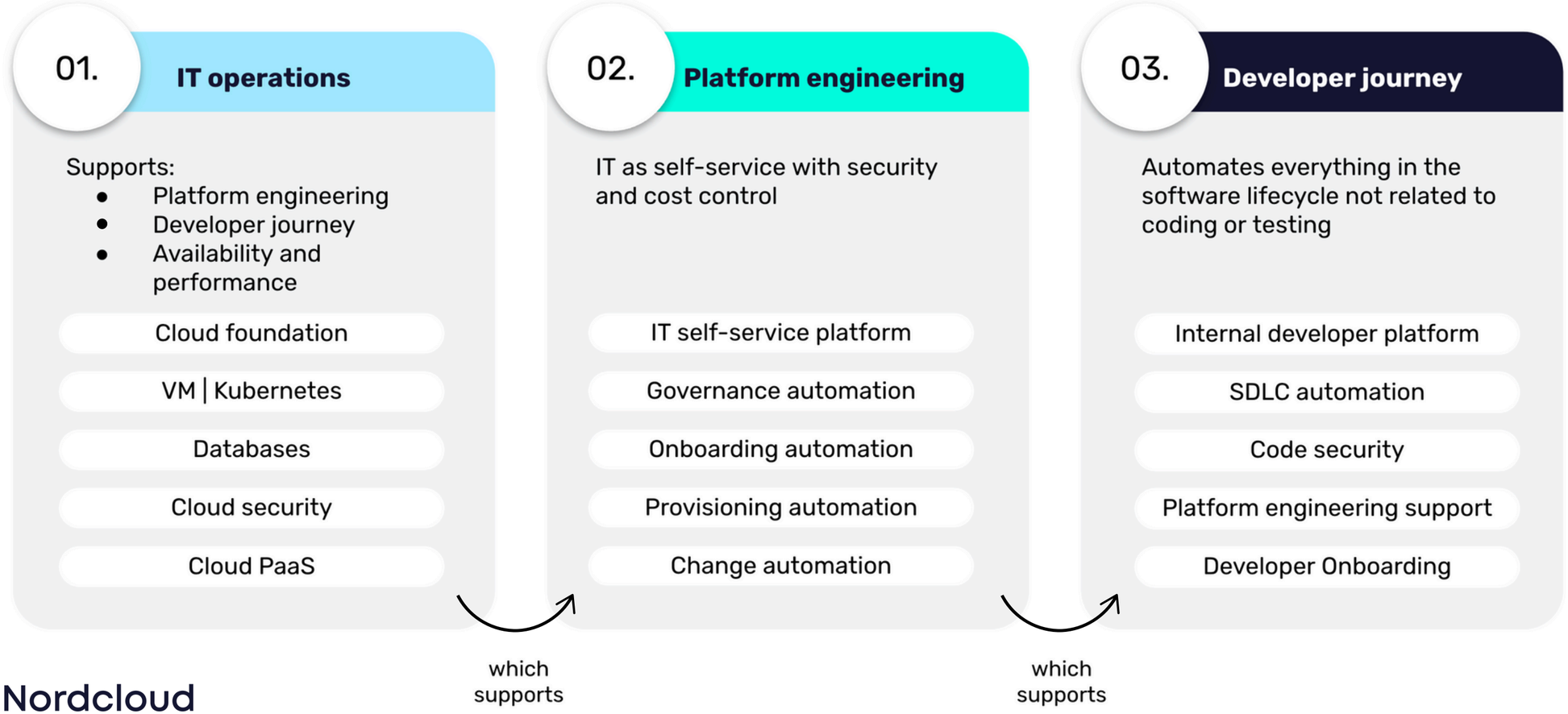
- IT operations
- Platform engineering
- Developer journey

Gaps can be closed through a combination of build and buy.

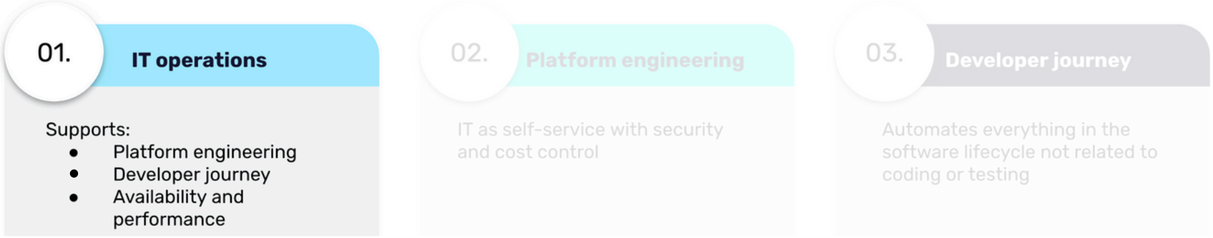
How to assess capabilities:

- Interview application teams and IT infrastructure teams
- Analyse product team tickets
- Review vendor contracts

3 pillars of capabilities needed to deliver self-service



IT operations



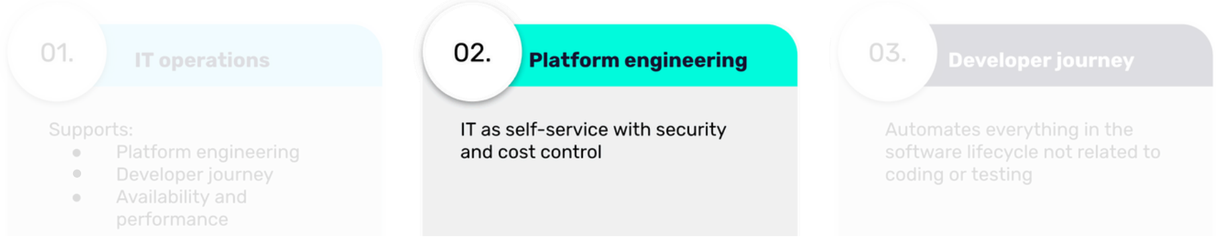
IT operations capabilities are the foundation for enabling platform engineering and the developer journey, as well as providing the right levels of availability and performance. The aim is to introduce automation across IT operations. The requirements in the previous chapter cover automation across onboarding to management, provisioning, change management governance, cost optimisation and security.

To deliver those requirements:

- Some teams may need additional investments in automation and training for operations across cloud foundations/landing zones, VMs, Kubernetes, databases, cloud security and cloud PaaS

- Vendor contracts may need amending

The journey to maturity



Platform engineering

This pillar is about the ability to deliver self-service workflows:

- Do you have the technologies, team and partner(s) to help you build fully automated IT workflows?
- What needs to change to enable more automated governance in IT and finance?
- Do all your IT providers (internal and external) support automated workload onboarding, or do you need to build the capability?

Developer journey

If your organisation is investing in developer services, determine what synergies there are with IT platform engineering.

For example:

- IT workflow building blocks can be used to beef up the internal developer portal offering and increase adoption of reusable components

- Platform automation may also reduce the cost of providing test and integration environments for API services different developer teams provide

From gaps to action

01. Pilot

Once you've identified the gaps in each pillar and have high-level plans to close them (build vs buy), we recommend starting with a pilot. This provides practical lessons on what's involved with restructuring processes and technologies to deliver self-service capabilities.

A good pilot use case is:

- Used often
- Involves technology where IT teams already have substantial automation investments (which can be leveraged)

The pilot's goal isn't so much about demonstrating in-team automation – rather, it's about adding governance automation and managed services onboarding while eliminating ticket chains. This means the pilot delivers overall learnings faster when it's not solely focused on building the infrastructure team's automation capability.

A pilot gives you quick wins and valuable insight

If you have budget for cost savings and automation, a pilot is a great starting point. It shows how automation can be used to serve agile application teams at previously unthinkable levels (and price points).

Common areas we look at for pilots are:

- Self-service provisioning – landing zones, databases, FinOps, Kubernetes, VM Ops
- Service requests

If a major challenge relates to lack of capacity – like not enough people to send to all the Monday stand-ups – then self-service provisioning can be a good starting point. Even if you have automated landing zones, there are lots of opportunities across the other areas. For example, you can get to a point where users can request an environment to build microservices running on Kubernetes, with all the network and API requirements met. They just click and it's done.

From gaps to action

02. Solidifying the plan

Together, the gap analysis and pilot tell you what maturity level improvements are needed in IT infrastructure teams, so you can solidify your build vs buy plan and roadmap to self-service:

The interviews and ticket analysis will have revealed **the pain points customers would like to fix first.**

The pilot will have clarified the **updates needed in change and service management.**

IT's internal go-to-market strategy should be **aligned with investments in developer services and platforms** to leverage the synergy.

Conclusion

Public cloud migration was supposed to give digitally transforming businesses the agility they needed, given the self-service capabilities. But application teams don't have the skills or access to do everything themselves.

In this whitepaper, we've outlined how central IT can achieve the same operating speed as application teams, helping realise ambitions around building software-powered products, services and supporting capabilities.

As you transform IT towards self-service, you not only position the organisation to succeed in a platform-driven developer economy – you also give it a competitive advantage in fast-paced, competitive markets.

Because platforms are the future, and it's within your grasp to provide an AWS-like self-service experience from IT.

Contact us

Want help benchmarking self-service maturity?

Need support conducting a thorough capability gap analysis?

Unsure whether to go with build or buy?

Our experts can help.

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Nordcloud is a European leader in cloud advisory, migration, application modernisation, development, managed services and training. We work with enterprises to streamline Day 2 IT operations, get ahead with platform engineering and overcome obstacles to ongoing digital transformation.

When you work with us, you get cloud-native experts untangling issues, pre-empting new pitfalls, enabling automation and self-service, providing essential technical support and reducing your cloud spend. The upshot: more efficient operations and more sustainable results from digital transformation.

Why Nordcloud

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 with proven experience across strategy, platform engineering, automation, managed services and upskilling.

Empowered teams

Our entire approach is about empowering your teams, not creating dependencies. From technology to training, from design to DevOps, you get the support needed to capitaliseon cloud benefits. That way, you're positioned to maximise the cost savings and value potential of digital transformation and platform engineering ongoing.

Global cloud leadership

Gartner recognised us as a Visionary in its Magic Quadrant for Public Cloud IT Transformation Services. And we're 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.

Contact us to discuss your journey to IT self-service

Contact us