Guide

Your Internal Platform Managed as a Product; Here is How

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Nowadays, most organizations are searching for the holy grail of flexibility/agility to respond to change in the digital domain. Many organizations have embarked on a journey to become a leader in "digital." They want to transform their business requirements into digital products without having IT or some other organizational function being a bottleneck. Many approaches to digital transformation have now been standardized:

- Investing in digital customer channels,
- Re-organizing teams into Agile/DevOps teams with increased autonomy and accountability, and
- Investing in new technologies (Cloud, AI, IoT, you name it).

On the IT infrastructure side, many organizations have adopted cloud services (often hybrid) to facilitate the speed and dynamics required by application teams.

We see organizations who adopt a platform approach to internal services to empower consuming teams getting ahead faster. The hope is that a platform approach can make them fully utilize the advantages of this new technology and their digital operating model.

A reduced time to market, the ability to adapt to and even lead the market with new business capabilities powered by scalable software, connected hardware, and data are all benefits that can be enabled.

We also see many organizations trying to manage the new technology in the way they used to run generic IT systems before, using support desks, tickets, and manual tollgates to guarantee compliance. Bogged down by operational work, these organizations struggle to deliver value using new technology.

Before we go further, let us define what we mean by internal platform and product approach:

1. A Product approach:
You create something that you aim to sell for a profit. In this case, we are talking strictly about products that are based on software. A product needs to be relevant to its users, fulfill a specific need, and be delivered with a high level of quality. A product does not sell itself, so marketing its value and usage to your customers is essential. A product needs to adapt to current market conditions, meaning that a product can and should change over time to fit newly arising needs, users, or new technologies in the digital domain. Changing the product happens incrementally but also needs to be working towards mid- and long-term goals. Adapting a product to change means it can eventually become obsolete and phased out if it can no longer provide value to its users.

2. Internal Platform:
A platform provides one or a set of capabilities that internal teams can use to deliver business capabilities. The platform capabilities are generic for all its users. An internal platform exposes its capabilities through APIs to be consumed by applications or services created by the platform users. Example internal platforms are software delivery (CI/CD), software hosting (IT Infrastructure), software observability (monitoring, logging, and alerting), and even data platforms (data lakes, meshes, analytics).

‘Both Gartner and Evan Bottcher from Thoughtworks provide great definitions on a higher abstraction level.’

Platform (Digital Business)

“A platform is a product that serves or enables other products or services.

Platforms (in the context of digital business) exist at many levels. They range from high-level platforms that enable a platform business model to low-level platforms that provide a collection of business and/or technology capabilities that other products or services consume to deliver their own business capabilities.

Platforms that enable a platform business model have associated business ecosystems. They typically expose their capabilities to members of those ecosystems via APIs.

Internal platforms also typically expose their capabilities via APIs. But they may offer other mechanisms, such as direct data access, as required by the products that consume them.”

https://www.gartner.com/en/information-technology/glossary/platform-digital-business)

What I Talk About When I Talk About Platforms

“A digital platform is a foundation of self-service APIs, tools, services, knowledge, and support which are arranged as a compelling internal product. Autonomous delivery teams can make use of the platform to deliver product features at a higher pace, with reduced co-ordination.”

Evan Bottcher
https://martinfowler.com/articles/talk-about-platforms.html

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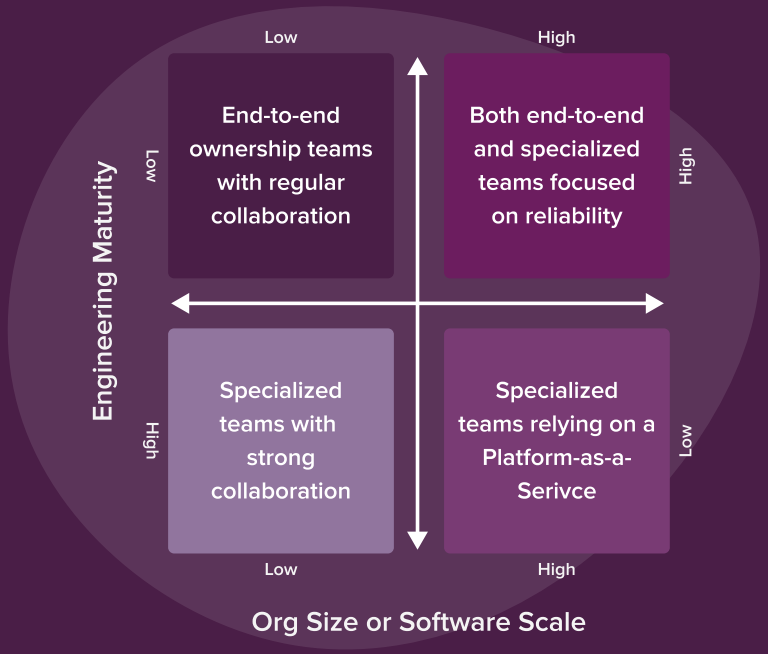
Does an Internal Platform Make Sense For My Organization?

For some organizations, an internal platform may not make sense. The book Team Topologies provides guidance (page 73) for adopting a platform team based on organizational size and engineering maturity within the organization. Once an organization has more than a couple of Dev teams, the internal platform becomes relevant. Engineering maturity can increase within an organization, but this effort is often much higher and takes longer than adopting an internal platform.



Mathew Skelton, Manuel Païs, Team Topologies, 2019, page 73

In our experience, a significant factor is the cost of development. Running an internal platform and its team costs money, but this can scale to 1000s of users, reducing the workload for each user. Another thing to consider is whether developers add any value to the organization or its customers or can differentiate by managing their infrastructure. Often this is not the case and centralizing some services in an internal platform makes sense.

The Product Approach Applied to Platforms Impacts Multiple Aspects of an Operating Model

Organizational Design

Given that an organizational unit or team now has multiple options to procure core IT services, competition is introduced between the internal IT department and the market. The internal services must offer a competing product to stay relevant or provide a unique offering that cannot be procured elsewhere. If the internal platform services cannot provide a competing product and adoption is low, companies should consider discontinuing the service.

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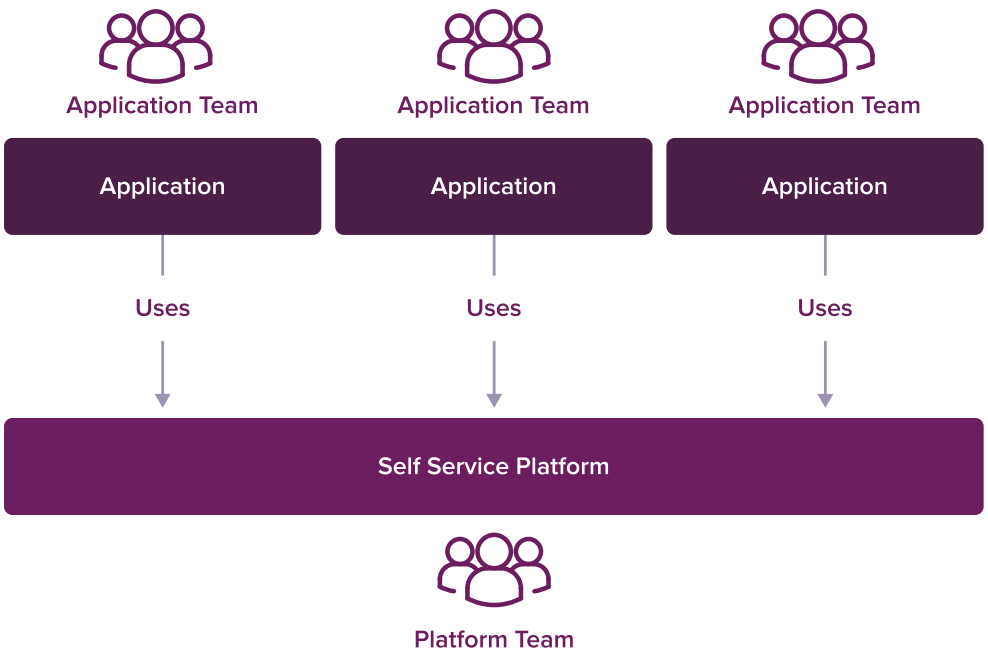
01 A platform approach means that the platform is provided as an integrated product with customizable building blocks and is provided by a multidisciplinary platform team. The platform team can be the team that manages a cloud platform or can be the team that integrates the API's provided by any existing infrastructure services.



02 The platform reduces lead times by providing ready-to-use services and decreases the cognitive load for its users by making services easy to adopt. The larger the organization, the more relevant this becomes. Skilled engineers are scarce, and any decrease in cognitive load means lowering the cost of developing new digital business capabilities.

Customer Centricity

One of the most significant differences between traditional infrastructure (or other core IT services) and a productized platform is the aspect of customer-centricity. Customer centricity starts with treating a user with a request to the service as someone to be served well and preferably even pleased. A platform focused on its customers aims to be fast and provide the right thing for its users. To deliver the "right thing" for the users, the platform team must understand what is valuable for the platform users and the organization. Any hypothesized value needs to be measured and validated.

Staying customer-centric also means adapting the product to the internal market, to achieve product-market fit. In most cases, a platform service will not be able to service all the organization's needs. Some users' needs will be so specific that there will not be a business case to facilitate this by the platform team. For the engineering teams, the key is clarity about what the service offers and what users can expect. If the platform service portfolio is clear to the users, they can consciously choose to adopt the platform services

Building the Right Things

A customer-centric platform service aims to continuously improve its service to provide more value for its users. That means you are looking to get feedback from users about how satisfied they are with the product, what features are missing and how the service itself can improve. Be wary, though, as users often are focused on short-term gains, so a platform product owner must inspire the platform users about what is possible and create a compelling image of the platform's future.

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The platform roadmap should focus on improving the customer journeys of its users to provide the most value for the customers. Without this focus, a platform can get stuck in building nice-to-haves that do not add up to an integrated user experience and real user value in the end. The emergence of the term “Developer Experience” (“DevEx” for short) signifies a trend in the industry that platform initiatives and technologies have now shifted from providing a specific capability to facilitating entire development journeys from code to production.

The integrated nature of a platform service makes it interesting for its users. Lately, we see the term Integrated Development Platform being used to describe an internal platform that is fully integrated (see sidebar) and that can facilitate multiple user journeys end-to-end.

Internal Development Platform (IDP)

What is it?
An internal development platform combines tools and services focused on enabling the platform’s users offered as a unified experience. The IDP can contain any number of capabilities ranging from Version Control, CI/CD, provisioning, observability to hosting/running tools. The set of capabilities depends on the requirements of the customers of the platform and the organization.

The platform services offer a single pane of glass, allowing any engineer to focus on delivering value instead of configuring underlying infrastructure. The single pane of glass should always be provided as an API and CLI and may offer a GUI.

The development portal should offer templates and quick starts to users so they feel empowered. Any template offered should follow standardized patterns which are secure by design and are known to perform. A key challenge here is maintaining the lifecycle of standardized patterns to help users evolve together with the platform services.’

A general rule of thumb when talking about “quality of life” is that you out-source the activities that bring you no pleasure so you can focus on things that do. When your users are developers, you need to consider what activities they don’t enjoy or cannot do. Facilitating these activities via platform services means delivering a product that users are probably willing to take off your shelf. A typical example is security hardening; doing this well requires specialized knowledge, so incorporating this into your platform will reduce the burden for many developers. Building security hardening as a default in your platform product means a win-win for your users and your organization.

Finally, your platform services need to be composable. Even if you understand 80% of the users and facilitate their customer journey end-to-end, users may be interested in using only some of your services and using them as building blocks for their solution. Especially on a bigger scale where platform users have very diverse needs, offering building blocks can save an organization a lot of cost and the platform users a lot of frustration.

Delivering Value

We see many platform organizations struggle with this topic. Value is often seen as something that is only achieved by customer-facing teams, while the IT services teams only cost money. Given that the platform aims to please its users, you need some metrics to know you are delivering value.

The mindset one needs to adopt is one of the tenets of the DevOps culture: “create with the end in mind.” When defining a feature for the platform, we need to determine what the expected effect will be for the end-user

We can start by asking questions to derive metrics and define value

In the table above, we can see an example list of questions and derived metrics.

Question	Value	Metric
Will the platform user become happier?	Happiness	• Platform Users Net Promoter Score
Will the user be able to deliver features to their users faster?	Speed	• Lead time • Deployment Frequency
Will the quality of the delivered software improve?	Quality	• Change Failure Rate • Availability • Mean Time To Recover
Will the cost of development be reduced?	Cost	• Cost of Development Iteration

As you can see in the table on the left, a couple of apparent questions have, in this case, led us to the famous four metrics from the "*State of DevOps 2021*" report

https://services.google.com/fh/files/misc/state-of-devops-2021.pdf
by Google's DevOps Research and Assessment (DORA) team.

This shows that we don't have to reinvent the wheel to define our metrics. A benefit of adopting the DORA metrics is that they have been widely adopted with success by multiple organizations and that you can benchmark your metrics against other organizations.

While the DORA metrics are a good start, it is always a worthwhile exercise to discuss metrics and value with your users. Once we understand value and metrics to measure it, we can prioritize features with the most value to please the user.

DORA metrics, DevOps, and Platform services

DORA has studied the software delivery performance of organizations starting from 2014. Focused on investigating the impact of the DevOps practices and way of working, DORA has created a model that shows how the usage of different practices and capabilities correlate with improving software delivery performance and, ultimately, organizational performance.

The DORA research has shown year after year that organizations that adopt DevOps outperform their peers in speed and reliability when it comes to software delivery.

The DORA model shows that a high level of automation coupled with adaptive change approval gives teams agency over their process and results in a higher change management effectiveness. A self-service platform is not only tailored to facilitate this but is essential to enable this.

Adopting a productized platform approach for software delivery capabilities combined with DevOps practices and ways of working can help your organization quickly gain the benefit of speed and reliability.

Anything on a roadmap contains hypothesized value until a roadmap item is delivered and the customer has given positive feedback. Collecting platform usage data will gradually increase the platform team's understanding of user needs, pains, and gains and prevent you from building features that will not be utilized.

Run the Internal platform Product Like a startup

When deciding to start an internal platform as a product, you can seize the opportunity to treat it as an internal startup. Focusing on the organizational design and staying customer-centric means you can rapidly test the hypothesis of your platform, providing the envisioned value. This approach dramatically reduces the risk of spending large amounts of money on costly platform change initiatives that will take a long time to deliver and potentially bring no value.

At Xebia, we see more companies successfully set up a dedicated platform team with a Product Owner who is accountable for the platform than organizations who try to change existing infrastructure teams with all their cultural heritage. An accountable Product Owner is responsible for the product's success and financials.

In his book The Startup Way, Eric Ries provides a guideline for bootstrapping internal startups and the product's phases (**https://thestartupway.com/**). This model offers excellent guidance for the phases that you will encounter in your internal platform product lifecycle:

Prove. In this phase, you need to prove that your internal platform delivers a positive ROI and value to its users. A couple of teams should have adopted the product with a positive result. Moving on to the next phase can happen once you have established a proven product that can scale.

Scale. In this phase, you aim to increase the adoption of the product further while maintaining scalability and product quality. Moving on to the next phase can happen when you have onboarded most of the market and can still serve your users with a positive ROI.

Deepen. In this phase, you focus on improving the product for all its users and onboarding the users/teams with the most complex challenges.

Takeaways for your Platform Journey

If your organization is looking for an internal platform service, make sure it is run as a product. When considering organizational design, customer-centricity, and product lifecycle, it is possible to benefit from any new technological capability.

While a journey towards a platform as a product is not easy, you can continuously get a return on your investment and maybe even be the digital leader you aim to become.

Xebia

Our Identity

Xebia explores and creates new frontiers. Always one step ahead of what businesses need, we turn the latest technology trends into advantages for our customers. As a mainstream frontrunner, we create new solutions and build the future with our clients.

An international network of passionate technologists and pioneering craftsmen, Xebia provides the cutting-edge tools, training and consulting services that make businesses work better, smarter, and faster.