Best Practices For Implementing An Internal API Hub

How A Phased Approach Delivers Successful Digital Transformation

RapidAPI

Leading enterprises have increasingly looked to APIs to execute on their digital transformation strategy. But amidst this expanding reliance on APIs, it has become clear that the legacy gateway solutions used to manage them can't keep pace with today's requirements such as new API types, multi-cloud environments, and varied integrations with developer tooling for API development and testing. For leading organizations it has become abundantly clear that to execute their digital transformation strategy they need a next-generation API platform to empower internal developers and move their business forward.

The clear choice to meet these next-generation challenges is RapidAPI Enterprise Hub - the customizable API platform used by developers across all industries to find, manage, and connect to hundreds of APIs, as well as external API subscriptions. Built on the world's largest public API hub, RapidAPI Enterprise Hub enables leading enterprises to accelerate innovation and bring software to market faster.

That acceleration starts with proper implementation of RapidAPI Enterprise Hub through a phased approach that drives both immediate and long term value for organizations. This approach enables companies to provide an API hub to internal teams along with the flexibility to open it up to external partners. To best accomplish this, we recommend deploying as an internal API hub initially to align all your API assets before extending to external partners. This guide will cover the steps and phases required to most effectively implement your internal API hub. Using this phased approach to implement RapidAPI Enterprise Hub, enterprises can deliver on the promise of their digital transformation strategy.

In this guide, you will learn:

RapidAPI Enterprise Hub

Leveraging years of experience working with leading enterprises and millions of developers, RapidAPI Enterprise Hub is a next-generation API platform that is built to solve the challenges of modern day API environments - disparate API gateways, expanding number of unmanaged APIs and subscriptions, new API types, increasing requirements around developer tooling for API development, testing, and more.

RapidAPI Enterprise Hub creates one place where developers can publish, share, and manage all of the APIs in use across their organization. This single connection point for APIs enables better collaboration, improving developer productivity and accelerating software development cycles.

Across all of these challenges, RapidAPI Enterprise Hub is designed to support the needs of multiple user types, specifically, API administrators, builders, and consumers. Each of these user types have their own set of needs and expectations for how they want to interact with the platform.

RapidAPI Enterprise Hub

Administrators - These are the developers and business owners that oversee the governance and administration of the APIs, such as Role Based Access Controls and provisioning.

Builders - Developers that design, build, and publish APIs to the API hub which other developers from across the organization can ultimately discover and consume.

Consumers - Those developers and other users who subscribe to the APIs listed in your company's API hub. Most commonly these are internal users from across the organization, but additional consumer types can include partner and even third-party developers depending on use case.

Each one of these user types has their own set of challenges and problems they need to solve but the common thread that unites them is the need for a centralized platform which consolidates all of the organization's APIs into a single place. One of the biggest challenges enterprises face is organizational silos in their API program, oftentimes with multiple gateway providers and API types making up a completely heterogeneous environment. This splintering has a deleterious effect on the entire developer experience across all of these user types. It makes it difficult for administrators to implement consistent governance, builders to share what they have created, and consumers to discover the APIs that should be available to them. This slows software development time, creates inefficiencies, redundancies, and ultimately injects excess cost into development cycles.

To most effectively navigate this complexity and maximize value across all of these user types requires a deliberate phased approach. An approach which is built on the principle of centralizing APIs' usage and discoverability to deliver an intuitive, better overall developer experience. This phased approach and its focus on developer experience is constructed to help ensure user adoption - one of the critical areas where solutions alternative to RapidAPI Enterprise Hub often fall short.

Alternative Options To RapidAPI Enterprise Hub

When looking at the needs associated with their API strategy, many organizations want to understand alternatives to investing in a next-generation API platform.

Some companies try to make do with makeshift tools for API collaboration - spreadsheets, Confluence pages, or web pages custom-built with a CMS. Some companies consider using a developer portal associated with an API gateway, not realizing the drawbacks of this approach. Or some will attempt to actually build an API platform on their own. While these approaches may seem simple to execute, they create a number of issues for the organization particularly as the API ecosystem and its requirements continue to expand.

Most commonly, these alternative approaches tend to reinforce disparate API environments with multiple solutions being used to support multiple gateways and evolving developer requirements. Consolidating all APIs onto a single gateway vendor's developer portal is time and resource-intensive. Once implemented, the inherent vendor lock-in creates its own new set of risks including a lack of support for new API types, developer tooling, and more.

Presented with these challenges it's easy to think that building completely in-house might be the better course of action. But the DIY approach also ultimately puts up roadblocks in digital transformation initiatives by making it difficult to extract the maximum amount of value from your APIs. Building requires an inordinate amount of time and resources to first build and then perpetually maintain your API infrastructure. This takes time and resources away from high-value API initiatives that drive revenue, create differentiation, and deepen partnerships.

And there's a common challenge across all of these approaches. They all lack an effective implementation strategy that leverages a phased approach built on the principles of quickly realizing and maximizing the value of your API ecosystem.

Planning Resources

But before approaching any one of the phases, it is important to have clearly defined roles and responsibilities for those who will be involved in the implementation. As a general rule there are a couple of functions that are critical and filled by either individual owners or small teams.

Project Owner - Depending on your organization this may be the person who will be responsible for RapidAPI Enterprise Hub when it goes live. Alternatively this could be an operational person that more generally handles project management as their core function.

Technical Owner - The person responsible for overseeing and managing the technical team responsible for implementation. This person's primary objective is to work with RapidAPI's Customer Success Team to scope technical requirements and keep technical milestones on track for timely delivery.

Implementation Team - The size of this group varies by organization and there are two primary methodologies for composing it. Method one is pulling together a team from an existing group oftentimes within IT or Engineering. Method two is taking a cross-functional approach pulling engineering and other technical resources from across the line of business teams that will interact with the API hub. Both approaches come with their own set of benefits. Utilizing an existing IT team can gain some efficiencies drawing with people that are used to working with one another. On the other hand, the cross-functional approach may deliver a more complete view of requirements when scoping and implementing the API hub.

Taking A Phased Approach

To introduce RapidAPI Enterprise Hub to your organization successfully, it's best to implement it in phases. Taking a phased approach enables an organization to expedite time to value for the API hub deployment and maximize the likelihood of timely project delivery.

Implementing RapidAPI Enterprise Hub is best accomplished following three sequential phases:

1. API Catalog

2. Analytics

3. Access and Provisioning

Preparation Phase - Goals and Self Assessment

To be successful across the following phases, it is important to ask the right questions prior to beginning implementation. Before implementation begins, there are some useful questions to answer which will help frame up your goals and assess the API program's performance against them.

Questions To Ask

For more details on questions see Appendix

What are the top level goals of your digital transformation initiative?

What stage of maturity and operationalization is your API environment?

What is your current level of user adoption/usage across these systems?

Phase 1 - API Catalog

Implementing an API catalog first with RapidAPI Enterprise Hub offers the fastest route to value. An API catalog creates a centralized place for all your APIs, giving developers a complete view into all of the resources available to them. Having this complete view of all of the organization's APIs drives developer adoption of APIs and the organization's API platform, positioning the API hub well for long term success.

Metrics and KPIs

- Total Number of APIs
- Number of Users
- Average Time to Market for new Digital Services (Software Development Speed)

Additionally, with the API catalog serving as the central repository for all of your organization's APIs, multiple teams of builders can now begin adding to it with any API they create to it, laying the groundwork for a healthy, growing API ecosystem. This gives your organization a centralized location for an expanding ecosystem of API discovery, publishing, and collaboration. Developers can reuse APIs from across the entirety of the organization, accelerating software development and transforming the business. Finally, this catalog sets the foundation for the subsequent implementation phases of Analytics and Access and Provisioning.

Questions To Ask

For more details on questions see Appendix

Who are the users and what are their role types?

How are you going to categorize the APIs that you publish?

Phase 2 - Analytics

With APIs effectively cataloged, the next step is to derive insights from their performance. That is where adding analytics comes in — empowering API builders and consumers to monitor and analyze API performance. Without analytics in place, API builders have to undertake extensive manual effort to determine if there are any issues with the APIs they have published, what normal usage looks like and the overall utility of their API. Without analytics, consumers are exposed to blindspots in their applications' experience. For instance, a slow application experience that could be attributed to a slow performing API.

Metrics and KPIs

- Average and Max Latency
- Issue Resolution Times
- Total Number of APIs Consumed
- API Call Volumes
- Call Volume Distribution

Questions To Ask

For more details on questions see Appendix

What does the overall analytics environment look like today? How can data from RapidAPI Enterprise Hub be leveraged to complement that?

Who are the intended users and how are users expected to leverage analytics?

Phase 3 - Access and Provisioning

To this point, even with an API catalog and analytics in place, all developer onboarding has still required manual steps in the workflow to provision API access. Introducing some level of automation can reduce onboarding time and deliver a better overall developer experience as your API ecosystem begins to scale and more developers request access from across your organization.

By adding automation in this third phase you can dramatically improve the developer onboarding experience and reduce the amount of administrative overhead dedicated to your API hub. This is accomplished by enabling developers to request access to APIs and be assigned and provisioned API keys all from within the API hub. While some manual review and approval of API access may still be retained, time-intensive components of a manual provisioning process can be reduced significantly. Adding a programmatic layer to the provisioning and API subscription process frees up administrators who oftentimes are developers themselves to focus on higher value projects and tasks.

Metrics and KPIs

- Time to 200 (time it takes a developer to request access and make their first call)
- Number of Users Logging in
- API Call Volumes
- Time to Market (Software Development)

Questions To Ask

For more details on questions see Appendix

What does the approval process look like today? How much of it can/should be automated?

As a policy, who should be responsible for approvals?

How Leading Enterprises Implement RapidAPI Enterprise Hub

RapidAPI's implementation strategy has proven successful with many leading enterprises worldwide. To better understand the implementation approach described above, let's examine how one leading financial services company implemented RapidAPI Enterprise Hub.

A global financial services company needed an internal API hub to support their multi-year digital transformation initiative. Like many large scale enterprises, this company was faced with the challenge of internal APIs being siloed out across multiple lines of business, geographies, and gateway providers. This resulted in developers building and rebuilding redundant APIs for customer claims, basic account information, and more.

The company needed a way of unifying these disparate experiences to create a centralized API catalog that could be used by all business groups to find, manage, and share APIs. The desired outcome was improved collaboration and accelerated innovation driving the digital transformation initiative centered on reuse of APIs across groups.The company explored trying to meet their needs with developer portals associated with API gateways, and their own homegrown portal, but none of these alternatives were successful.

Using RapidAPI Enterprise Hub, the company was able to bring together these disparate environments, creating a centralized catalog for API discovery and collaboration. Phased implementation allowed the company to ensure not just technical success, but also impactful user adoption.

From the start of the project, the company had a clear view of who their expected users would be and the desired outcome from their interactions with the API platform. This enabled them to clearly define metrics aligned with the objective of increasing shared API use across the organization.

To assess their progress against this objective the company analyzed:

Number of users logging into the API Platform

Number of calls

Users and apps per API

Their clear view on the desired outcome and metrics to track against it is what made the phased implementation approach most effective. The organization was able to solve its most pressing technical challenge of organizational silos quickly and did so in a manner that put users first with a clear understanding of their different types and needs. This in turn incentivized adoption and positioned the internal API hub as the critical point where the company collectively could execute against their digital transformation strategy. Finally, having a strong foundation of an internal API hub and API catalog in place set the stage for future efforts to make APIs available externally to partners for consumption as well.

Conclusion

Organizations that want to ensure successful execution of their digital transformation strategy choose the next-generation API platform, RapidAPI Enterprise Hub. Following RapidAPI's phased approach to implement an internal API hub helps with getting started and establishes the most effective path to immediate and long term value. This value is built on the new efficiencies enabled through a better overall developer experience. Starting with API Catalog offers the most efficient path to value for users. Analytics expands on these immediate benefits to deliver deeper insights into your APIs usage and performance. With this complete view of users, APIs, and their performance, Access and Provisioning optimizes the developer experience building further on the efficiencies and user experience that has been implemented in the first two phases. With this phased approach enterprises can deliver on the promise of their digital transformation strategy, bringing software to market faster and accelerating innovation.

Appendix

Preparation Phase - Goals and Self-Assessment

What are the top level goals of your digital transformation initiative?

The API platform will enable you to execute your digital transformation strategy so it is essential that you frame its objectives with your organization's broader strategic initiatives in mind. Is your digital transformation focused on creating new efficiencies — reducing software development times? Implementing a new business model — leveraging APIs to attract new partners or strengthen existing relationships? Starting with north star goals not only helps keep business and technical objectives in sync, but also creates a clear vision for how you intend for your API hub to be used across your varying user types.

What stage of maturity and operationalization is your API environment?

Do you have a few APIs? Hundreds? How many gateways are currently being utilized along with ancillary systems for functions such as support? Getting a baseline on where you stand today will help inform which capabilities and functions you will implement for the first time with RapidAPI Enterprise Hub as opposed to those which exist but require upgrades and subsequently a change management plan.

What is your current level of user adoption/usage across these systems?

Having a view on how utilized and effective your existing systems are offers a solid foundation to start thinking about and planning change management for your users. Systems that are currently performing well can be transitioned after those that have more significant gaps have been addressed. This allows you to solve the bigger issues first and showcase the value of RapidAPI Enterprise Hub to its users. The goal is user adoption so it's important to avoid needlessly forcing users onto new systems before the benefits of RapidAPI Enterprise Hub have been recognized and experienced by its users. Drilling down further into existing usage also offers a clear indicator of the effectiveness of your existing system(s) — those with low adoption or usage rates may well be an indicator of functional gaps RapidAPI Enterprise Hub can quickly address.

Phase 1 - API Catalog Questions

When approaching the API Catalog phase of your RapidAPI Enterprise Hub implementation it is important to consider two primary components: users (again factoring in the different user types) and the APIs themselves. The objective of these questions is to help draw out how you can deliver the most value for your users quickly to spur adoption.

Who are the users and what are their role types?

Think back to the roles outlined previously, administrators, builders, and consumers — each of these user types have their own set of needs when using RapidAPI Enterprise Hub. These role types come with varying levels of access and enabled capabilities requirements. It's these requirements that should guide user types, for instance builders need to have some route to publish what they create to the API hub whereas consumers need only access for discovery and consumption.

How are you going to categorize the APIs that you publish?

How the organization chooses to sort and filter the APIs listed in its API hub ultimately is what makes those APIs more or less discoverable for the consumer. Establishing and adhering to a clear methodology from the outset lays the groundwork for long term and effective discovery as the API ecosystem continues to grow.

Appendix

Phase 2 - Analytics Questions

When planning the addition of analytics, there is a fundamental principle that should drive your answers to the following questions — maximize the insights derived from the API ecosystem to inform broader business and technical decisions. To guide this component of implementation and ensure that your users, both builders and consumers, benefit from adding analytics there are a couple key questions you should ask:

What does the overall analytics environment look like today? How can data from RapidAPI Enterprise Hub be leveraged to complement that?

Like other components of your RapidAPI Enterprise Hub deployment, it's important to assess analytics in the context of existing systems you are already using. Data exposed via analytics in RapidAPI Enterprise Hub can be married with that exposed in existing analytics platforms to fill gaps and complete the picture of API, application, and business performance. For instance, growth in your API call volumes could be an indicator of an application scaling, signifying adoption amongst users through a new channel. Support resolution times could be analyzed to determine a baseline timeframe for resolving issues related to APIs, and set targets for increasing efficiencies in the process.

Who are the intended users and how are users expected to leverage analytics?

Broadly speaking, analytics users fall into two categories, builders and consumers, each with their own implications and uses for analytics. Builders generally look to analytics to help identify any issues or problems there might be with the APIs they have built. Consumers, on the other hand, are more concerned with usage, deriving insights about the performance and adoption of their applications based on metrics such as call volumes and their increase or reduction over time.

Phase 3 - Access and Provisioning Questions

The last phase of implementation should be guided by the idea of policy access as a function of user experience. The idea is you can leverage access and provisioning policies to deliver a better user experience for administrators, builders, and consumers. As is often the case with user access controls though, there needs to be a balance between ensuring security and providing ease of use. These questions can help determine the proper balance for your organization:

What does the approval process look like today? How much of it can/should be automated?

Access and provisioning to this point has been a mostly manual process, but it's likely that not all of the organization's APIs necessitate that level of scrutiny. This is especially true for strictly internal use cases. Those APIs which do not interact with sensitive data, are good candidates for completely self-service provisioning policies eliminating the need for a human in the loop. By contrast, some API types or user types should always involve a manual review of API access and/or usage.

Who is responsible for approvals today? Is there any opportunity to decentralize approvals further?

There are two common routes here, administrators (often a centralized team) or the builders themselves. Placing the responsibility on administrators offers a higher level of oversight and scrutiny but can sometimes slow onboarding with fewer people handling requests. Or builders, which may create more overall coverage from a resource standpoint. This approach requires you to ensure that developers are enabled with the tools and policy criteria they need to monitor and properly administer access in accordance with company policy.

10/21

RapidAPI

Global HQ
2 Shaw Alley, Fourth Floor
San Francisco, CA 94105

Contact
info@rapidapi.com
www.rapidapi.com

RapidAPI empowers millions of developers to build modern software with a next-generation API platform including the world's largest API hub and fully-integrated solutions for API collaboration, discovery, testing, publishing, consumption, and more.

8

Questions Worksheet

Preparation Phase - Goals and Self Assessment

What are the top level goals of your digital transformation initiative?

What stage of maturity and operationalization is your API environment?

What is your current level of user adoption/usage across these systems?

Phase 1 - API Catalog Questions

Who are the users and what are their role types?

How are you going to categorize the APIs that you publish?

Phase 2 - Analytics Questions

What does the overall analytics environment look like today? How can data from RapidAPI Enterprise Hub be leveraged to complement that?

Who are the intended users and how are users expected to leverage analytics?

Phase 3 - Access and Provisioning Questions

What does the approval process look like today? How much of it can/should be automated?

As a policy, who should be responsible for approvals?