

# Go beyond iPaaS

How to future-proof your digital architecture



# Contents

Executive summary	03
Introduction	04
What does iPaaS do?	05
How we got here:The evolution of iPaaS	07
Looking beyond iPaaS	10
Why MuleSoft?	14
<b>01 Integration, automation, and API management</b> that work together	<b>14</b>
<b>02 Anypoint Platform:</b> The unified platform for iPaaS and universal API management	<b>15</b>
<b>03 The full business-led approach:</b> How to go beyond iPaaS	<b>17</b>
Conclusion	18
Learn more	19

# Executive summary

Integration Platform-as-a-Service (iPaaS) is a solution to help organizations meet business goals through connecting their data. But it is not a catch-all solution and is insufficient to rely on for long-term business growth.

In addition to iPaaS, most organizations have adopted API management and automation solutions that leverage APIs and (un)attended bots. They know that a multi-solution focus must be used in the long run to empower and accelerate IT and business teams, help future-proof organizations, and reduce costs.

Using a combination of integration, automation, and universal API management solutions sets up organizations for success. This approach allows them to deliver on initiatives across the organization while providing them with the agility and advantages needed to meet increasing customer expectations in the digital-first age.



# Introduction

Selecting the right iPaaS is critical for all businesses looking to accelerate digital efforts and gain an advantage with ever-increasing customer expectations.

Business teams have different initiatives, and iPaaS alone is not a universal tool that can quickly meet their needs. iPaaS enables IT agility and empowers them to achieve more. But ever-increasing use cases are cropping up for business teams that IT does not have the scale to handle. So how can business teams leverage IT to build on top of their critical work? Enter the no-code automation solution. Organizations now need solutions that enable multiple teams and open up integration to meet a variety of business initiatives. In addition to their iPaaS solution, organizations need to empower other parts of the business to self-serve and automate.

Adopting an iPaaS is a significant first step to unlocking your data to create customer experiences that exceed expectations. So let's look into iPaaS and how it can empower your organization. The right PaaS should help your business achieve two objectives:

1. It should address your organization's integration challenges across a wide range of applications and data infrastructures in a single, unified platform.
2. It should scale along with your business as it grows.

## CUSTOMER SPOTLIGHT



**“What we needed went beyond what a standalone iPaaS solution could offer. We needed a platform that allowed us to scale, and scale fast. MuleSoft’s all-in-one platform for APIs and integrations allowed us to get a fast start, see the business impact of our integration projects right out of the gates, and gave us the tools and framework necessary to effectively solve the underlying complexity, faster — all in a future-proof way.”**

YANNA WINTER, CIO, [GENERALI](#)

# What does iPaaS do?

There are three distinct characteristics of a modern iPaaS: configurable connectivity, extensibility, and a unified platform of capabilities that address a wide range of integration needs and use cases.

## Configurable connectivity

iPaaS needs to have configurable connectivity to generate immediate value. We recommend adopting a solution that has a marketplace for pre-built connectors, templates, and APIs that allow your organization to share and reuse assets quickly and easily.

Configurable connectivity enables your organization to easily select industry-leading cloud apps and add new capabilities to your ecosystem.

## Extensibility

Your iPaaS should be robust, agile, and able to extend as your business grows. It should also be powerful enough to support specialists with a fully powered integrated development environment (IDE) to solve strategic integration problems.

## Low-code vs. extensibility

Extensibility and simplicity are often at odds with each other. For a business team to use a solution, it must be low-code and

straightforward. At the same time, IT has complex use cases to handle that require a more extensible solution to support the varying needs of the business. These needs are fundamentally different and require separate tools to address their respective teams' needs. iPaaS solutions that try to address both frequently are typically too complicated for business users and not complex enough for IT.

## MULESOFT COMPOSER: THE NO-CODE SOLUTION

An API-led approach supports integration and automation efforts across the organization. A core component of the API-led approach is a no-code solution, like MuleSoft Composer, that enables business users to create integrations themselves while allowing IT to maintain oversight. This approach allows business users to drive innovation in their organizations without depending on development resources from IT.



## Unified platform

Core integration is at the center of iPaaS and connects applications to other applications. Organizations often turn to one or more approaches to achieve connections including:

- Migrating existing on-premises applications and data to the cloud.
- Integrating SaaS applications with on-premises applications and data.
- Connecting cloud-native applications across on-premises and cloud environments.

With universal API management and iPaaS in a single platform, organizations can implement the above use cases, expose and monitor access to key record systems through APIs, and reuse assets

## UNIVERSAL API MANAGEMENT

Universal API management avoids the limitations of traditional approaches to API management and enables developers to consume all organizations' APIs through a single catalog. This management solution acts as a one-stop-shop single source of truth – regardless of where the APIs are developed.



---

**Learn more about the future of API management.** [Read the blog post.](#)

---

developed anywhere without losing existing investments.

Traditional point-to-point integrations can be a solution in some cases. However, these use cases highlight that relying solely on point-to-point integrations can create complexity by:

1. Eradicating decades of investment in data and application logic.
2. Eliminating opportunities for reuse and accelerated development.
3. Creating tightly coupled applications that impede agility.

Businesses must look at integration as both a solution and a strategy to strengthen the overall architecture.

Traditional API gateways and iPaaS solutions cannot adopt APIs unless they are developed within their platform. A universal API management solution allows you to adapt quickly and incorporate these external APIs. In addition, by adopting a universal API management platform, IT teams will not need to double their efforts and recreate work developed externally.



# How we got here: The evolution of iPaaS

The explosion of cloud applications radically simplified the deployment and consumption of business applications and development platforms. The benefits are huge: moving to the cloud can reduce IT overhead costs by 30-40%. However, it also created a growing problem for organizations: data silos across systems and applications.

Developers attempted to solve this new issue with the previously successful approach of writing custom code to connect information from one system to the next. Unfortunately, this resulted in complex networks of point-to-point architectures that ultimately increased technical debt. While point-to-point integration has a time and

place, organizations quickly found that it was not a catch-all solution for integration and it resulted in integrations that were not scalable or extensible.

Enter iPaaS. An iPaaS is a suite of cloud services that connect any combination of cloud and on-premise technologies, enabling

## CUSTOMER SPOTLIGHT



**“Avoid the trap of thinking too small. Any business that’s looking to achieve a successful digital transformation needs an integration platform that delivers three key things: the ability to get started quickly, deliver immediate value, and to be able to design for the future.”**

**MARK HEMSLEY,**  
HEAD OF ARCHITECTURE, RAIL DELIVERY GROUP

businesses to connect data from separate applications, systems, and warehouses.

The rising appeal of iPaaS and the emergence of cloud architectures resulted in a boom in solutions in the iPaaS market. But with the development of new technologies and solutions comes many similar businesses offering the latest-greatest solution. Many vendors attempted to cut corners by repackaging dated products in a process called cloud washing. Many of these iPaaS solutions perpetuated the problems with the custom code it was intended to replace, leaving businesses with what was essentially a point-to-point architecture that ultimately created technical debt at an even faster rate.

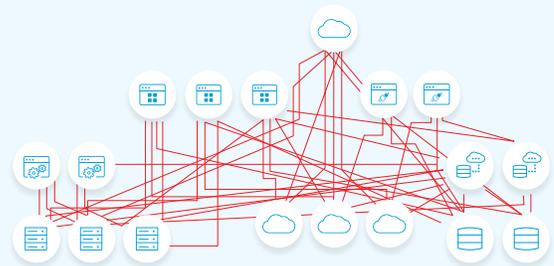
While point-to-point integration is really useful in automating business-specific processes, it is not a solution that scales well across an entire organization.

Automation solutions that use point-to-point architectures must work with integration platforms that support more robust architectures, like microservices and API-led. For example, point-to-point alone cannot address questions like: how easy is it to change fixed integrations when a process changes or a business grows? What happens when primary systems receive an update or if a company is looking to migrate to a new business system?

A quick system integration fix can turn into your worst nightmare. It can become completely unmanageable, incompatible with infrastructures, and incredibly costly to fix if used as the sole method for integration.

## WHAT IS POINT-TO-POINT INTEGRATION?

Businesses often use point-to-point integration as a quick way to quickly solve a data synchronization issue between two or more databases. Whether it's an out-of-the-box plug-in or bespoke development in-house, point-to-point integration seems easy and cost-effective to push data from A to B. Unfortunately, many organizations are learning that relying solely on point-to-point integration is not a universally applicable integration solution.

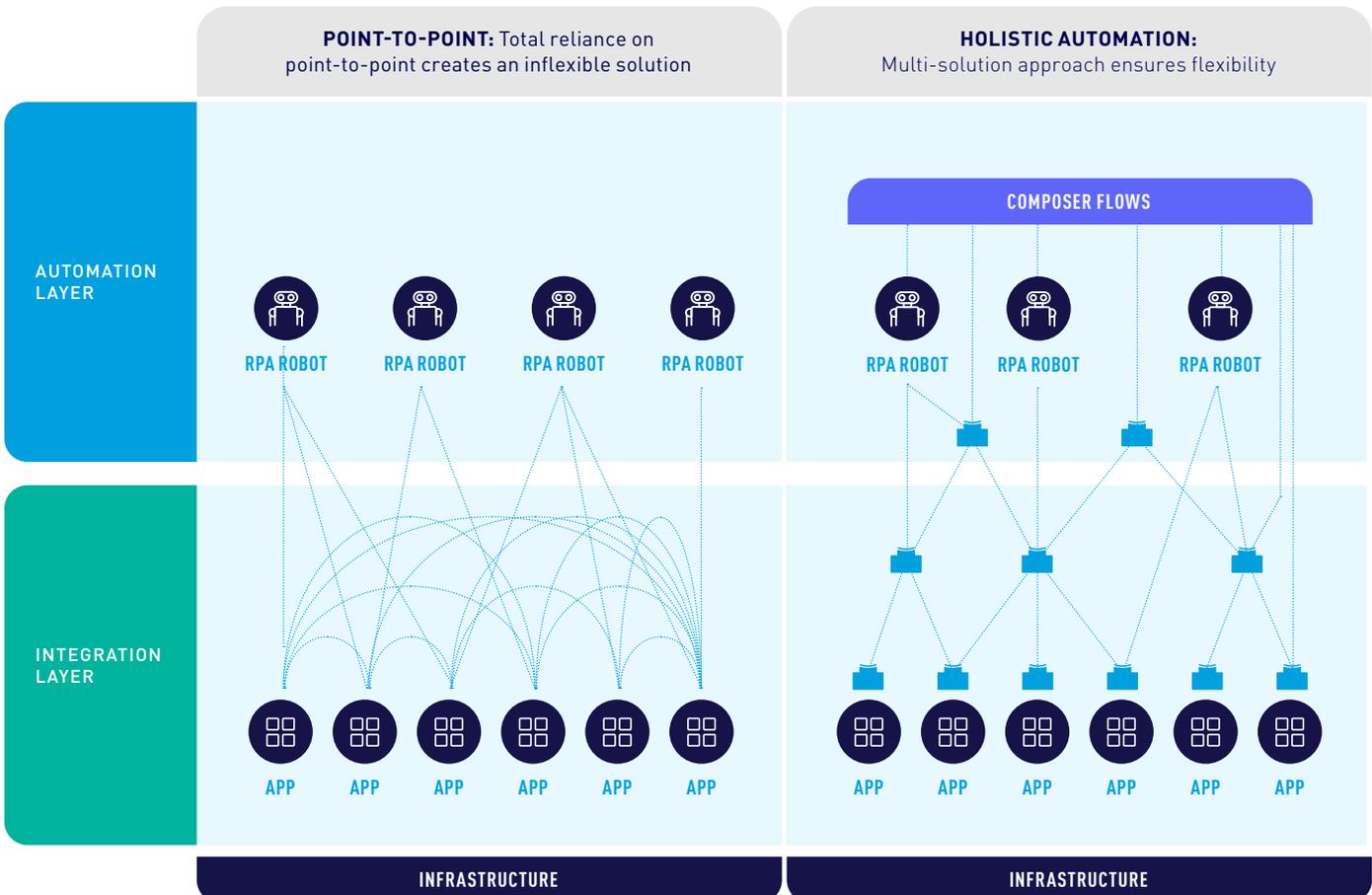


## Point-to-point integration only vs. automation approach

It is essential to note that a full automation approach includes integration (iPaaS), orchestration, RPA, and more. So let's look at a point-to-point only integration vs. a holistic automation approach.

In this example, we can see how total reliance on point-to-point creates an inflexible solution. While on the right, a multi-solution approach ensures flexibility across the organization and enables all parts of the business to take part in automation.

**“A multi-solution approach ensures flexibility across the organization and enables all parts of the business to take part in automation.”**



# Looking beyond iPaaS

The previous example shows how total reliance on point-to-point creates an inflexible solution. However, it is not just the technology that's significant – it's the “why” behind it.

## The world has changed, and so have your customer expectations

In the early 2000s, we saw a massive shift toward the experience economy and a need for speed. It was no longer big beating the small, but rather the fast beating the slow. A need for innovation emerged after centuries of status quo. The COVID-19 crisis further amplified this shift. Today, the world has rapidly accelerated into the fourth industrial revolution, and companies no longer compete on product and price alone.

Organizations are now empowering developers to build new experiences with their data by plugging into the data from other organizations' ecosystems. Development is now a revered craft and is the means of differentiation for any organization. One does not *buy* innovation or differentiation – you must *build* outstanding customer experiences.

## CUSTOMER SPOTLIGHT



**“Before MuleSoft and Salesforce, we were processing 30,000 applications per month with a \$30 million annual personnel budget. Now, we are able to process 60,000 applications per month with the same \$30 million annual budget. Prior to modernizing PEAK, we would have had to double our staff to accomplish this.”**

ANTOINETTE TARANTO,  
CHIEF CUSTOMER OFFICER, [STATE OF COLORADO](#)

## Turning to APIs for innovation

Enter APIs. There was a shift from SOA to WOA, and then REST emerged – a firewall, mobile, browser, and internet-friendly type of API. One of the key advantages of REST APIs is their flexibility. Data is not tied to resources or methods, so REST can handle multiple types of calls, return different data formats, and even change structurally with the correct implementation of hypermedia. This flexibility allows developers to build an API that meets your needs while also meeting the needs of very diverse customers.

The rise of APIs came from organizations' need to innovate and differentiate faster. Using APIs helps to meet the increased

customer expectations and build new experiences on mobile, web, or any other channel with more ease. APIs enabled these new experiences and, more specifically, the data that APIs surfaced. With all of this change, APIs play a critical role in modern integration.

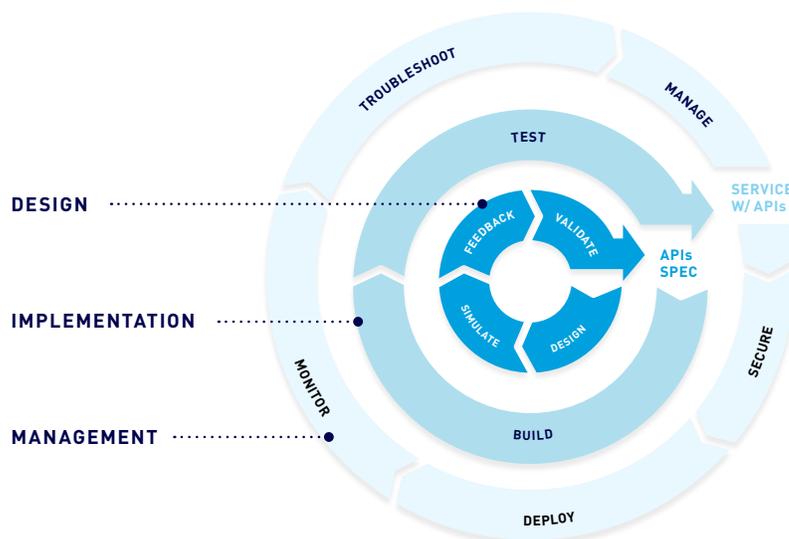
## The need for API lifecycle management

As API adoption has increased, its usage has spread across all areas of the business. Procurement services, mobile apps, and user interaction tracking can all run through APIs. An organization's IT infrastructure should have the agility to enable these business requirements.

### FULL LIFECYCLE API MANAGEMENT IN THE CLOUD

While APIs are key to integration in today's digital world, it's not just APIs alone. Organizations must give their API programs a first-class treatment that allows developers the flexibility to integrate with their ever-changing environments.

The focus is on serving the full lifecycle of an API and enabling the associated ecosystem. From API design to serving the API developer to serving the developer community consuming the APIs – this lifecycle is the heart of API management. APIs are a product. An API first approach considers this lifecycle and



the strategic use of APIs as a product and manages it as such. Here, the outcome is a well-designed, managed, and secured API to serve developers building new experiences.

[Read API lifecycle management eBook](#)

## From application integration to API-led connectivity

Many organizations do not approach integration with a long-term strategic mindset despite its importance. Often, it's not a consideration at all. Or integration is only considered with a short-term approach, prioritizing an individual project at the expense of the enterprise.

IT leaders must meet two seemingly contradictory goals: foster stability and control over core systems of record while enabling innovation and rapid iteration of the applications that access those systems of record. This challenge is called bi-modal or two-speed IT. Existing connectivity approaches are not fit for these new challenges.

A new approach is required, one that leverages existing investments and enables IT to seize the moment and drive real change. This approach should enable agility and allow IT to maintain visibility and control. This change requires shifting IT from project delivery to delivering assets as services and enabling line of business (LOB) to build their own connections, processes, and automation. At the same time, central IT will govern access, SLAs, and data quality. In short, IT has to become an enabler for the business.

## Unlock the full potential of iPaaS with API-led connectivity

The iPaaS space is rooted in a cloud-based experience for a wide range of integration patterns – including application to application, B2B, MFT, etc. The focus of iPaaS is the integrator, and the outcome of integration is a running process where information flows within.

However, the outcome of integration ultimately is not integration itself – a short-sighted focus. Instead, the result is a new business model, new experiences, and a transformed organization where teams can innovate quickly. APIs are integral in today's conversation and for very valid reasons – they are the heart of how technology supports the pace of innovation businesses and customer requirements.

Organizations have found value in point-to-point iPaaS vendors to automate routine tasks, like sending email notifications when a trigger occurs in Salesforce or automatically pulling data from an excel file and loading it into a database. But the unfortunate reality is that central IT teams can rarely use these solutions to help them replace the custom code that forms the backbone of so many organizations today.

Few platforms are versatile enough to address the wide range of use cases required to enable connectivity across an entire organization – from creating simple integrations to fundamentally transforming their IT infrastructure.

## THE DIFFERENCE BETWEEN APIS AND API-LED CONNECTIVITY

Connectivity is a multi-faceted problem across data access, orchestration, and presentation, and the right solution must consider this problem holistically rather than in a piecemeal fashion. Only considering APIs means only solving one part of the connectivity challenge.

### → APIs

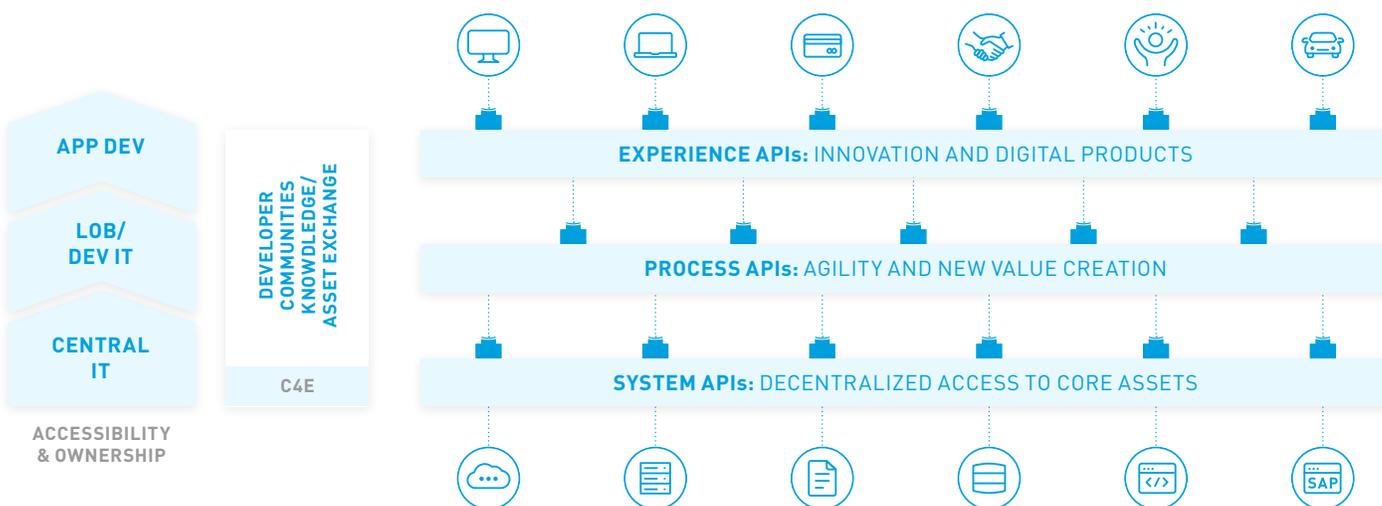
APIs are the instruments that provide both a consumable and controlled means of accessing connectivity. They serve as a contract between the consumer of data and that data provider. It acts as a point of demarcation and abstraction, decoupling the two parties and allowing them to work independently (as long as they continue to be bound by the API contract). Finally, APIs also play an important governance role in securing and managing access to that connectivity.

APIs can only serve as a presentation layer if it sits over a set of orchestration and connectivity flows. This orchestration and connectivity are critical: without it, API-to-API connectivity is simply another means of building out point-to-point integration.

### → API-led connectivity

API-led connectivity is a methodical approach for ordering and structuring APIs as building blocks to connect and expose assets in three distinct layers. In this architecture, APIs serve specific roles and provide access to non-central data across the organization without compromising governance, compliance, and control.

Legacy application functionality and data exposed as base level “system APIs” are composed into core API products (sometimes called “process APIs”) made to be consumed in multiple business contexts. Further API abstractions are added as needed to serve the needs of new consumer contexts. For example, “experience APIs” are intended for a specific consumer channel like mobile.



# Why MuleSoft?

We know that investing in the right technology at the right time is critical and it's never too early to begin thinking about solutions and strategies that will help you grow and scale with your business. It's important to choose technologies to solve immediate problems where you can realize immediate value. At the same time, your tools for digital transformation should plan for the long term and be a future-proof solution that can scale with your organization's changing goals.

## Three reasons to partner with MuleSoft

MuleSoft customers have realized immediate value with out-of-the-box connectors, integration templates, a drag-and-drop design environment, and more. With our strategic approach, the short-term value accelerates the long-term gains many of our customers see:

1. Unlocking backend data in legacy systems.
2. Building innovative experiences without being restricted by data.
3. Remaining resilient to unexpected shifts in the market due to crisis or instability.

## 01 Integration, automation, and API management that work together

As with any new technology investment, organizations must get up and running as soon as possible to realize value. For simple integration flows (like Salesforce to Slack connectivity, for example), many modern iPaaS solutions can work. But it is crucial to select an integration solution that goes beyond simple use cases and handles complex mission-critical integrations.

MuleSoft Anypoint platform is an iPaaS solution designed to get an integration specialist up and running quickly through comprehensive documentation, training, and a library of templates, examples, and connectors to educate developers with ease.



Traditional tactical integration platforms are often built for small companies with simple use cases, which your IT team must build repeatedly. With MuleSoft, you'll build a library of integration assets that you can reuse to accelerate delivery speed over time. Anypoint Platform's rich feature set, combined with MuleSoft's innovative API-led connectivity approach, allows businesses to integrate at lightning speed with scalability – whether you are a specialist or low-code user.

## 02 Anypoint Platform: The unified platform for iPaaS and universal API management

MuleSoft offers one of the only platforms versatile enough to address the wide range of use cases required to enable connectivity across an entire organization – from creating simple integrations to solving complex challenges and fundamentally transforming their IT infrastructure.

API management and iPaaS solutions each perform unique and critical functions needed to succeed in the digital economy. An iPaaS solution will allow you to connect systems and exchange data between systems, applications, and devices. An API management solution will allow you to simultaneously design, secure, and catalog your APIs and analyze the performance of those APIs. To win today, you need both.

With an effective API management solution, you will be able to manage the entire lifecycle of your APIs, ensure security around your APIs, and make them discoverable for reuse. By taking

an API-led approach to connectivity and with MuleSoft, you can begin to transform your IT infrastructure into a composable modern IT infrastructure.

As you're working with MuleSoft, there is inherent scalability. Scaling is all about capability and capacity. With the MuleSoft Anypoint Platform approach to integration, you will be able to:

- Effectively handle growing transaction volume.
- Ensure security and governance at scale.
- Build a flexible IT infrastructure.
- Continue to innovate and meet the changing needs of your customers.

While taking care of immediate needs is essential, it's critical to the continued success of your business to look beyond your organization's short-term challenges and set your business up for future growth with a scalable foundation. Integration is a critical part of that foundation.

### UNLOCK AUTOMATION WITH MULESOFT COMPOSER AND RPA

By empowering business teams to self-serve, organizations can close their IT delivery gaps. MuleSoft Composer is a no-code solution that enables business teams to create integrations through clicks, not code. As a result, Composer allows business teams to innovate within their organizations by connecting systems and data quicker.

Composer provides many out-of-the-box connectors that allow business teams to create powerful workflows. One example would be automatically creating orders in NetSuite once a Salesforce opportunity is closed and notifying billing teams in Slack.

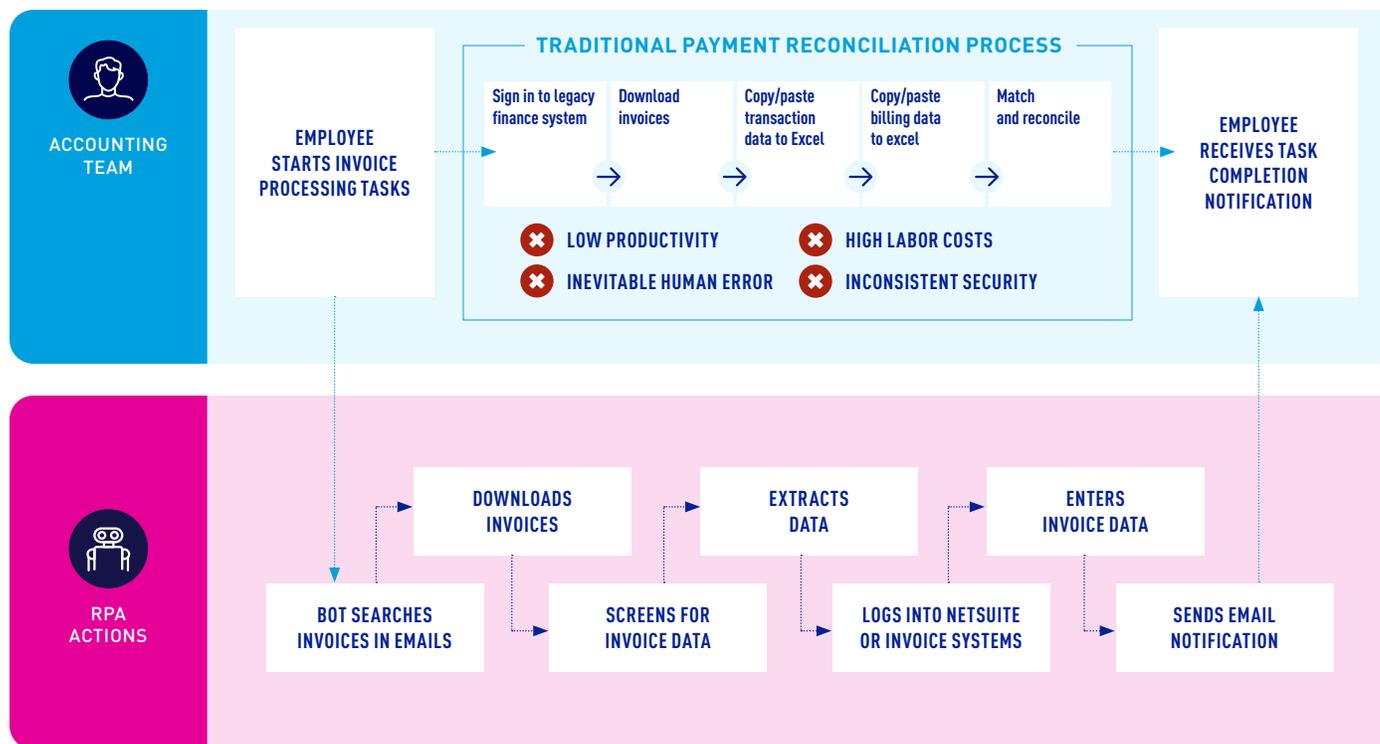
Business teams also often perform tasks that can be repetitive and require manual labor. RPA is a business automation solution that automates these repetitive tasks with bots. This can be applied to any system with a UI – even legacy systems. RPA supports business teams with four significant benefits:

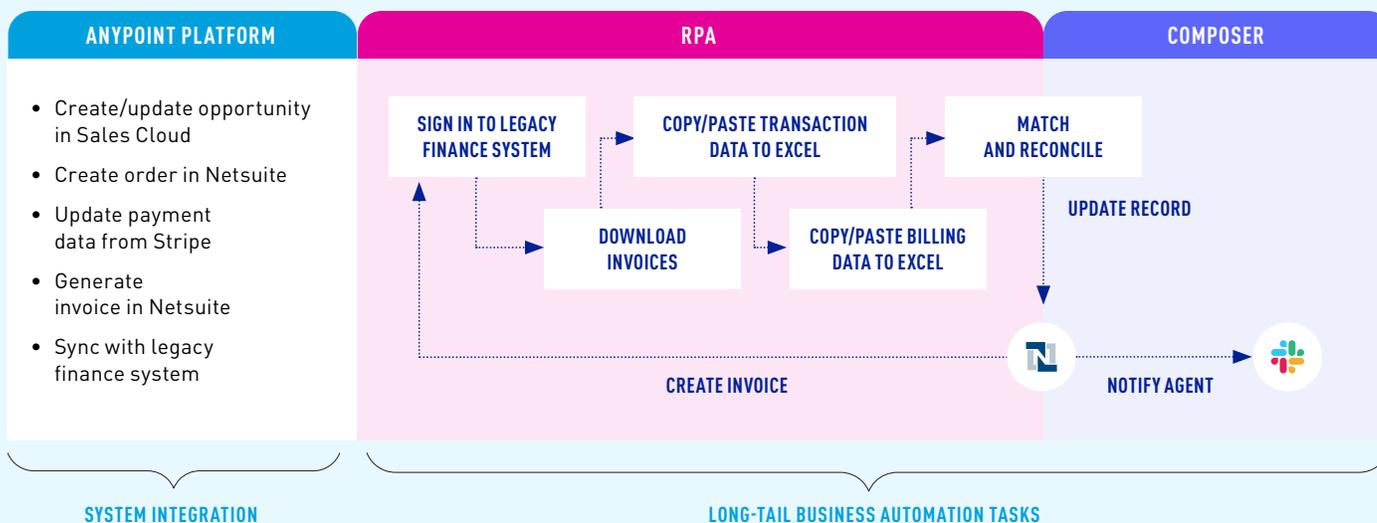
1. Automating data entry in legacy systems.
2. Extracting data from documents, web pages, PDFs, emails, and more.
3. Recognize and extract texts from images and screens.
4. Automate multi-step workflows like copying and pasting data, validating data inputs, and sending notifications.

While typical RPA solutions focus on supporting task automation, organizations are looking for an RPA solution that fully supports multi-step workflows and processes – and can work alongside your iPaaS and API management solutions.

Let's take a look into how MuleSoft RPA can accomplish this complete solution with MuleSoft Composer and Anypoint Platform:

## PAYMENT RECONCILIATION WITH RPA





### 03 The full business-led approach: How to go beyond iPaaS

With the flexibility and no-code RPA and Composer solutions, automation and integration are no longer limited to lengthy and costly development cycles that IT teams can only drive. This approach frees up IT to focus on using an

iPaaS solution to create more complex integrations between siloed systems. In addition, these automation and integration solutions result in powerful customer experiences that allow organizations' business and IT teams to achieve end-to-end automation by working seamlessly together.

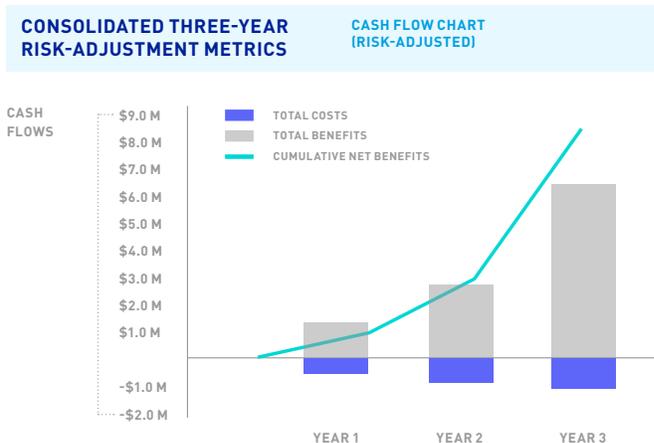
### AS YOU CONTINUE TO BUILD ON MULESOFT, THE VALUE OPPORTUNITY IS SIGNIFICANT

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed several customers with years of experience using Anypoint Platform to illustrate the benefits and costs of investing in MuleSoft over time.

Forrester highlights that Anypoint Platform delivers full lifecycle API management and iPaaS on a single runtime, allowing customers to consolidate the number of integration technologies and applications used. Because of this, the customers

interviewed saved more than \$1.6 million from reduced maintenance of APIs, integrations, and retired technologies.

[Read the Forrester Report](#)



# Conclusion

The choices IT leaders make when staring down integration challenges are critical to long-term viability. But you don't have to sacrifice one for the other. Instead, to get ahead of future disruptions, look for the correct integration partner and solution – one that is flexible, capable of providing you with the resources needed to meet your customer needs, and puts you in a position to navigate the future with speed and agility.

Your digital architecture should be enabled by an agile integration solution, a robust universal API management platform, and an automation solution that empowers business teams.

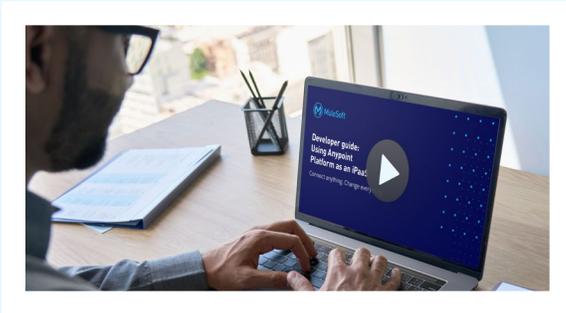
Relying solely on iPaaS as a catch-all solution forces organizations and IT teams to rely on a singular tool when you need a complete toolbox with a selection of tools fit for the right job.

**“MuleSoft is the platform for our continued agility and its solutions checked all of the boxes, while every other major player out there had very few of the capabilities that we were looking for and needed.”**

**CHRISTOPHER NELSON,**  
SENIOR DIRECTOR OF BUSINESS  
APPLICATIONS, [SPLUNK](#)



# Learn more



## Learn how to use Anypoint Platform as an iPaaS

See firsthand why Anypoint Platform, combined with our innovative approach to API-led connectivity, is a market-leading iPaaS solution.

[Watch the demo](#)



## Get started with MuleSoft today

See why MuleSoft's API-led approach future-proofs an organizations' integration and automation needs with Anypoint Platform, Composer, and RPA.

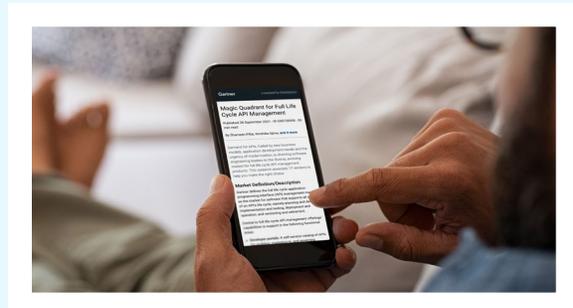
[Contact us now](#)



## Develop your API strategy from the ground up

MuleSoft and ProgrammableWeb have teamed up to create an API strategy blueprint that looks at how organizations can create exceptional customer experiences through four critical business and technology building blocks.

[Read the whitepaper](#)



## The only leader in both the Gartner Magic Quadrant for iPaaS and API management

Anypoint Platform is the only unified platform that allows you to design, develop, secure, and manage integrations – wherever the data resides – in a way that creates speed and agility for the business.

[Learn more](#)





**MULESOFT, A SALESFORCE COMPANY**

MuleSoft, provider of the world's #1 trusted integration and API platform, empowers any company to quickly unlock and integrate their apps and data to create seamless experiences, faster.

For more information, visit: [mulesoft.com](https://mulesoft.com)

MULESOFT IS A REGISTERED TRADEMARK OF MULESOFT, INC., A SALESFORCE COMPANY.  
ALL OTHER MARKS ARE THOSE OF RESPECTIVE OWNERS.