MuleSoft

WHITEPAPER

How to articulate the value of integration

Table of contents

01 Introduction

Integration has become a key determinant of who leads and who lags in today's global economy. Businesses with cutting-edge integration strategies have raised the bar with faster project delivery, lower operational costs, and new revenue streams. They are quickly leaving more traditional players in the dust.

Businesses with cutting-edge integration strategies have raised the bar with faster project delivery, lower operational costs, and new revenue streams. They are quickly leaving more traditional players in the dust.

Despite its growing importance, organizations still struggle to achieve a truly connected state. The average business transaction now crosses 35 different back-end systems. This is generating more data than ever before. Traditional approaches to enterprise application integration no longer suffice.

The right integration strategy allows organizations to cut complexity and drive tangible business value. By quickly connecting new information and operationalizing it across the entire enterprise, they can increase automation, ensure tighter security, and create competitive advantages in their industry.

However, technology teams often struggle to rally their organizations behind a new integration approach. A key reason for this is that they are not communicating the value story in a clear and compelling way. Why? Because some find the story is a hard one to tell. But it doesn't have to be.

MuleSoft developed a framework to help IT leaders structure, calculate, and articulate the business value of their integration

efforts. The framework calculates the value of integration in two categories: direct value, known as platform benefits, and indirect value, known as business outcomes. Articulating value in these two categories helps business-oriented executives understand why different approaches to integration matter. It can also motivate integration project teams by underscoring the business value of their projects. This whitepaper outlines this framework in more detail.

02 The importance of articulating integration value

Current integration approaches fall short of meeting business needs. This will only worsen in the years to come. In a recent MuleSoft survey, 97% of businesses said they were currently undergoing or planning to undergo digital transformation initiatives, but 84% said integration challenges are hindering their efforts. Project volumes are expected to grow 32% this year alone, each with their own integration requirements.

"Project volumes are expected to grow 32% this year alone, each with their own integration requirements."

To combat these challenges, many businesses are beginning to rally their organizations behind an API-led integration strategy. It allows them to connect an increasing number of technologies together with a set of standardized, reusable API services. These services are key to unlocking value opportunities and reducing the burden of integration to digital transformation.

Services created for reuse internally dramatically improve developer productivity and project quality. Their benefits then multiply across the organization. As developers complete more projects, time to market is reduced. IT's focus shifts from keeping the lights on to innovating, and the business saves operational cost.

When businesses build APIs with an outside-in strategy, external parties can consume the API products. This opens up new revenue streams and improves security for data exposed to partners and communities.

The value of adopting a new integration approach is significant. It creates opportunities to improve project speed and security and reduce costs. It also unlocks business value. Extra revenue, automation, and faster time to market are a few examples. Before diving into how leading businesses have achieved these outcomes let's first review a key challenge many companies currently face when integrating their data, applications, and devices: aligning their organization.

03 Top blockers to organizational alignment

Although it's straightforward to describe some examples of how a different approach to integration creates value, many IT leaders struggle to clearly articulate the full breadth of what they are for their organization, and the details behind it. This causes two problems:

Problem 1: Business leadership isn't aligned on the impact of integration.

In a recent survey of 650 IT leaders, 40% reported that APIs improved innovation and 53% said they improved productivity, both of which reduce mass inefficiencies across technology teams. Though the report found alignment between business and IT leadership is growing year over year, only 15% of organizations report having a leadership-mandated API-led strategy, suggesting the majority of organizations' leaders have not yet bought into the value integration initiatives could bring to the organization.

Problem 2: Technology teams aren't getting behind the change.

Even when there is executive buy-in to adopt a new or different approach to integration, technology teams often lack a view of the business value their projects are driving. Instead, they see it as yet another chore on their growing list of projects. This often results in low adoption and a set of demotivated developers.

For technology leaders, this makes the job twice as hard. Not only do they face a difficult time persuading their business counterparts in the boardroom, but they struggle to motivate their technology teams to act even if broader business buy-in is secured. Let's dig into each of these dimensions.

The risks business executives face if they don't understand integration value

According to Gartner's latest CIO agenda, a CIO's role is becoming more business-focused. Eighty-three percent are now part of the leadership team and spend more time than ever in boardrooms with CEOs, CFOs, and other non-technical colleagues. They are charged with shifting their business colleagues' perception of IT's role as a "keeping the lights on" function to instead seeing IT as an enabler of business value and innovation. A crucial part of making that shift is the ability to clearly draw the connection between IT investments and business outcomes.

In this new operating model, investing in integration is a core component; it allows IT to operate faster and create value. Early academic studies show examples of this impact already — for example, one suggested that firms with an API strategy have approximately 10% higher stock market value than those that don't. If IT executives aren't able to speak about integration in value-terms, they will fail to convince non-IT executives and risk missing out on this lucrative investment.

The evolution of IT's role as a business catalyst

Historically, line-of-business organizations have become accustomed to giving orders to their IT colleagues. In many cases, this creates an unhealthy dynamic whereby IT implements protection mechanisms against the business — they throttle change requests or over-estimate work to guard against competing and changing demands.
Today, a new dynamic has emerged. In digitally mature organizations, the line of business groups and their IT counterparts work in partnership with a shared vision and set of key performance indicators.

What happens when IT teams ignore business outcomes

In addition to aligning with and convincing business executives, it's important to articulate value to integration project teams. Recent figures estimate 15-25% of IT projects fail. One major reason for this is a lack of alignment between IT projects and business outcomes. Without a clear definition of the business value an integration project is helping to create, a number of problems can occur. Examples include:

Problem 1: Projects stray from their intended impact.

Problems arise during all IT projects; it's inevitable. However, without a definition of business value to refer back to, project teams risk responding to these problems with a solution that is not in line with the C-level's needs.

Problem 2: Developer motivation decreases and project quality suffers.

Without any value metrics to track against, the impact of a project can not be measured. This, in turn, can have an effect on the motivation of the project teams and lead to poor quality of work over time.

The benefit of articulating integration value at the project level ultimately helps bridge the gap between executives and the IT community. For developers, it helps them stay motivated, and for executives, it keeps the workforce moving toward common, business-impacting goals.

IT leaders struggle to communicate integration value

Despite the importance of articulating the business value of integration, organizations typically do not do it very well. Deloitte's 2018 survey of 1,400 global executives found areas for improvement during both the initial investment phase and on an ongoing basis.

Only 25% of CIOs say they have a structured process for capturing the value of their IT investments on an ongoing basis.

For the investment phase, the survey found only 37% of CIOs have a well-defined IT investment process and business case template to articulate value. And the percentage may be even lower than it first seems. When other non-IT C-level executives were asked the same question in the survey, only 25% agree a process and template was in place. That means of the CIOs with something in place, a large portion (32%[1]) are missing the mark. On top of this, once this investment has been made, the survey revealed the tracking of value dropped. Only 25% of CIOs say they have a structured process for capturing the value of their IT investments on an ongoing basis.

Why is this the case? There are two primary reasons: lack of practice and absence of a widely accepted integration value framework.

Lack of practice

The interaction between IT and business has evolved significantly. IT used to be seen as a "keep the lights on" function. In this operational role, IT leaders didn't get much practice in articulating the full value of their IT investments to their business counterparts during investment cycles. Any

1 MuleSoft calculations based on Deloitte figures: 37%–25% = 12% --> 12%/37% = 32%

investments that IT requested to make were often infrequent and in response to business growth. As such, during IT-business investment meetings, IT typically focused on how their proposed investment could meet business requirements at lower cost[2], rather than its potential to generate multiple sources of business value outside of its initial use case.

Absence of a value framework

Many IT organizations are getting better at talking about the value of their business applications, but given the complexity of integration itself, there is no widely accepted framework to articulate value. There are many factors at play. Take the comparison of current custom-code integration approaches with a potentially new API-based alternative: APIs can help improve the productivity of a workforce through reuse. That, in turn, can help bring in more revenue or cut costs quicker. They can also improve security through the ability to apply policies to endpoints that restrict access to certain users, which could mean fewer fines or less time spent dealing with security incidents. In addition, APIs can be monetized as an organization charges users for access to data. The list goes on.

MuleSoft developed a framework to help organizations clearly articulate the sources of value created through integration. In the next section, we describe what it is, provide examples of it in practice, and suggest when to apply it.

2 An example: investing in an ERP to support the expansion of transaction volumes in the most cost effective manner.

04 The integration value framework

The total value of integration for an organization is measured in two ways: direct and indirect value. Direct value is the benefit an organization realizes through the use of a given integration platform, technology, or approach. Indirect value is the broader business outcomes an organization sees as a result of that integration. Articulating value in both is important.

MuleSoft's value framework captures both the direct and indirect value created using modern API services. We call these "platform benefits" and "business outcomes," respectively. This framework can not only be used to drive value conversations with executives across technology and business, but also motivate integration project teams and drive adoption of new approaches. The following sections of this whitepaper explore the framework, why it's important, and how to use it to measure the value of integration in your organization.

Understanding the direct value of integration

Platform benefits are direct benefits an organization can realize by using a given integration technology and approach. Platform benefits fall into three categories: build, run, and manage risk.

Category	Platform benefit
› Build	› Fewer hours building integrations / APIs › Improved project quality › Quicker developer on-ramp
› Run	› Fewer hours maintaining integrations / APIs to “keep the lights on” › Fewer hours upgrading / updating API / integrations › Reduced deploy and run costs
› Manage risk	› Increased security & governance › Increased reliability & availability › Increased scalability

- **Build:** Using a given integration platform and approach to improve the build phase of a project. Benefit areas include fewer hours spent building integrations and APIs, improved project quality, and quicker on-ramping of new developers.
- **Run:** Using a given integration platform and approach to improve the run phase of projects. Benefit areas include fewer maintenance hours associated with integrations and APIs to “keep the lights on,” fewer hours upgrading and updating integrations and APIs, and lower deploy and run costs of the accompanying integration hardware, software, and infrastructure.
- **Manage risk:** Finally, using a given integration platform and approach to reduce the risk of vulnerabilities in the enterprise’s IT estate. Benefit areas include increased security and governance of endpoints and increased reliability, availability, and scalability of the integration platform and wider IT architecture.

Assigning a monetary value to each of these platform benefits is straightforward. Simply combine a small set of inputs to represent the organization's integration current state with expected improvements. These improvements can be based on actual successes seen elsewhere in the organization or benchmarks from third parties. Let's take a look at some of these calculations in action.

Calculating the direct value of integration through platform benefits

Example: Global retailer

A global retail customer evaluated MuleSoft's API-led connectivity integration approach against its existing custom-code and point-to-point approach. First, the retailer evaluated the financial impact an API-led connectivity approach would have on one of their upcoming projects: $320,000 in build value and $40,000 in maintenance value. From there, they extrapolated their calculations over a three-year period to get a long-term indication of value: $9.6 million in build value and $2.4 million in maintenance value.

Let's walk through the framework they used to quantify this value.

Platform benefit No. 1:

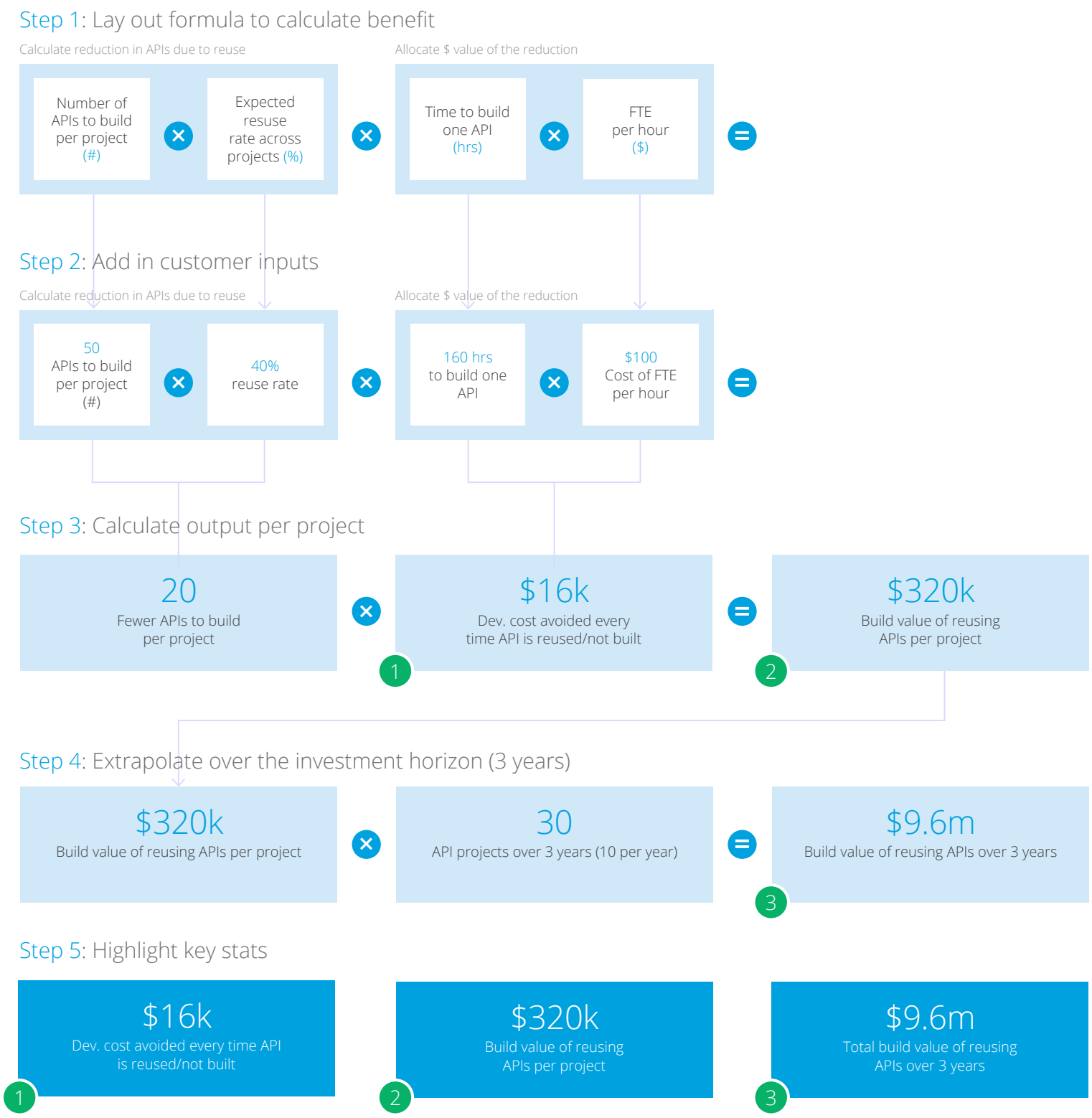
Fewer hours building integrations

The first calculation concerns the build phase of integrations. There are two drivers that lead to fewer hours building integrations with an API-led connectivity approach. The first driver is reducing the number of APIs and integration-related assets for each new project, since they can be reused from a previous implementation. Reuse is maximized through the use of Anypoint Exchange and a Center for Enablement (C4E) operating model.

The second driver is building new APIs or integration-related assets from scratch with more efficiency. Efficiency is maximized through one skill set across the integration organization, using a single integration tool: MuleSoft's Anypoint Platform has an easy-to-use UI, prebuilt functionality, and is compatible with third-party software to make the Software Development Life Cycle (SDLC) more efficient with continuous integration and continuous deployment (CI/CD).

Using MuleSoft's framework below, the retailer was able to pinpoint the number of development hours an API-led connectivity approach would save their organization.

The global retailer used this formula to calculate the total build value:



Platform benefit No. 2: Fewer hours maintaining integrations

Similar to the previous calculation, there are two drivers that lead to fewer hours required to maintain integrations with MuleSoft's API-led connectivity approach. First, instead of creating new APIs for every integration project, all of which need to be maintained separately, organizations are able to reuse their existing APIs and components and reduce the hours required for maintenance. As demonstrated below, the global retailer calculated a 40% reuse rate that would ultimately save $40,000 in annual maintenance value per project and $2.4 million over a three-year period.

Second, APIs are able to be maintained more efficiently. Anypoint Platform's end-to-end monitoring capabilities and standardized APIs make diagnosing and fixing potential issues faster and require less effort than traditional integration approaches.

The global retailer used the following formula to calculate the financial value the decrease in maintenance hours would save the organization:

Step 1: Lay out formula to calculate benefit

Calculate reduction in APIs due to reuse

Number of APIs to maintain per project (#) × Expected resuse rate across projects (%)

×

Allocate $ value of the reduction

Time to maintain one API (hours per year) × FTE per hour ($)

=

Step 2: Add in customer inputs

Calculate reduction in APIs due to reuse

50 APIs to maintain per project (#) × 40% reuse rate

×

Alloted $ value of the reduction

20 hrs Time to maintain one API per year × $100 Cost of FTE per hour

=

Step 3: Calculate output per project

20
fewer APIs to maintain

×

$2,000
Annual maintenance cost avoided each time an API is reused or not built

1

=

$40,000
Annual maintenance value of reusing APIs per project

2

Step 4: Extrapolate over the investment horizon (3 years)

$40,000
Maintenance value of reusing APIs per project

×

Cumulative number of API projects over 3 years*
*See Table 1

=

$2.4m
Maintenance value of using APIs over 3 years

3

Calculations for Step 4: Cumulative maintenance value over 3 years

Year	Number of projects built in year	Cumulative number of projects built	Maintenance benefit per project	Total maintenance benefit
1	10	10	$40,000	$400,000
2	10	20	$40,000	$800,000
3	10	30	$40,000	$1,200,000
				$2,400,000

Step 5: Highlight key stats

1 $2,000
Annual maintenance cost avoided every time an API is reused or not built

2 $40,000
Annual maintenance value of reusing APIs per project

3 $2.4m
Maintenance value of reusing APIs over 3 years

By using this process to calculate the total value of the platform benefits, the global retailer was able to clearly articulate the direct financial value the business would realize with an API-led integration approach:

Category	Platform benefit	Year value	Description
Build	Fewer hours building APIs	$12.5m	› FTE time freed up by building less and more efficiently*
	Improved quality	$970k	› FTE time freed up by remediating defects
	Quicker developer on-ramp	$750k	› FTE time freed up by becoming fully proficient sooner
Run	Fewer hours maintaining APIs to keep the lights on	$4.7m	› FTE time freed up by maintaining less and more efficiently*
	Fewer hours upgrading/ updating APIs	$2m	› FTE time not spent updating APIs and/or the surrounding API ecosystem
	Reduced deploy and run costs	$3.2m	› Lower capex and opex: savings in infrastructure, hardware, software
Manage risk	Increased security and governance	$16m	› Less chance of endpoint breaches. Avoid regulatory fines and remediation costs
	Increased reliability and availability	$4m lost revenue avoided	› Less chance of integrations / APIs causing downtime in customer-facing and supporting processes
	Increased scalability	$1.5m lost revenue avoided	› Less chance of integrations / APIs reaching capacity during peak volumes and restricting business flow

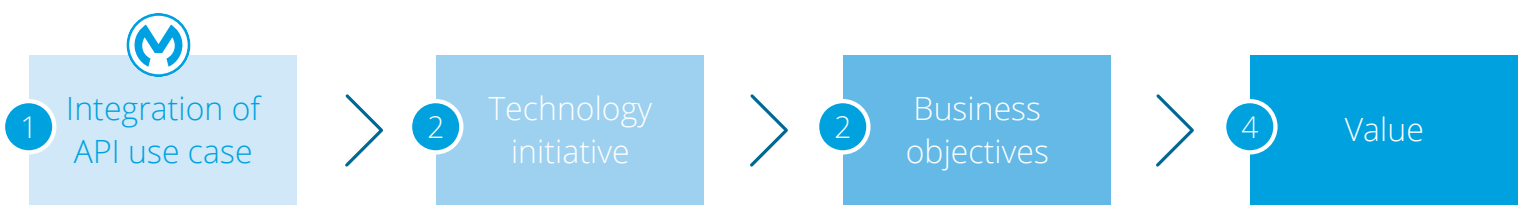
* Higher than previous calculations due to the inclusion of efficiency gains on top of reuse benefit.

Table 1: Total 3-year value of standardized, reusable APIs vs. custom code.

These monetary values only tell part of a compelling story. Presenting platform benefits of an integration solution on its own leaves out two key points of the full value of integration picture. First, the indirect effect of a given approach to integration, e.g. more revenue through higher project throughput; second, alignment to organizational goals and KPIs. Both of these are crucial in helping business-oriented executives understand the full benefits of a given integration approach and ensuring integration project teams are aligned and motivated. To address these two points let’s look at the next section, understanding the indirect value of integration through business outcomes.

Understanding the indirect value of integration through business outcomes

Indirect value is, simply defined, the broader business outcomes an organization sees as a result of integration. Specific outcomes often include increased revenue, reduced cost, and/or mitigated risk. Integration is a key enabler of a business outcome, and showing how is key to clearly articulating the wider value of integration. MuleSoft's approach to this is a four-box framework. It takes stakeholders on a journey, educating them on what needs to be built at a technical level and how this relates back to business value:



1. **Integration or API use case:** The integrations and/or APIs to be built.
2. **Technology initiative:** A defined technology program. MuleSoft typically sees 25 common initiatives, including "move to the cloud" and "single view of the customer."
3. **Business objectives:** Objectives set by business stakeholders. MuleSoft typically sees five general objectives: improving customer experience, improving employee experience, improving operational efficiency, introducing new products and services, and improving partner experience.
4. **Value:** Finally, the value of the above three elements combined will typically be one of four things: increase revenue, reduce costs, improve capital utilization, or reduce organizational risk.

The value of this framework is that it provides clear linkages between technical integration use cases, wider technology initiatives, and business value. It educates a non-technical audience on where integration fits. It also aligns technology to value creation opportunities, and as a result has the potential to unlock business funding pools instead of those traditionally assigned to IT. To bring this structure to life, here's an example from Big Bus Tours.

Example: Big Bus Tours

Big Bus is the world's largest owner-operator of hop-on-hop-off open-top sightseeing tours, with a global fleet of 400 buses in 19 cities, turning 5 million tourists into explorers every year. Prior to using MuleSoft, they faced an ongoing decline in traditional "on-street" sales using paper vouchers and market demand for online sales options. They had to dramatically transform their sales strategy using new sales channels (web and mobile app) and an extensive partner network. However, they were unable to do this with data that was locked in monolithic legacy systems along with the inefficient process of establishing point-to-point connections for every new partner added to their ecosystem. Using MuleSoft, they were able to overcome these challenges and begin transforming their business. Using a set of reusable APIs built with Anypoint Platform, they sped up this onboarding process.

An example of how one of Big Bus Tours' APIs had a huge impact on their business outcomes can be seen in the tree below:

Integration use case	Technology initiative	Business objective	Value
Created booking API that exposes Big Bus booking systems to partners such as travel agents and online travel websites	Provide partners with real-time access to the Big Bus data, allowing them to search products, check availability, make and cancel reservations, and generate digital tickets	Increase revenue by opening up sales via partner network	› More than 1,000 partners across 27 countries using booking API › 26% more trade revenue year on year › Faster onboarding for new partners

Platform benefits and business outcomes are both important in articulating the value of integration. They serve different, but equally necessary purposes. The next step in measuring the total value of integration is to connect direct and indirect value.

Bringing it together: platform benefits and business outcomes

Platform benefits are fundamentally different from business outcomes. One shows direct value, and the other shows where integration fits into wider objectives or indirect value, respectively. They serve different purposes but must be brought together to provide a full picture of the value of integration.

Take, for example, any platform benefit that reduces the hours during the build and run phase of an integration project (e.g. fewer development hours due to reuse). Any organization experiencing this benefit due to their integration approach can receive it in two ways:

1. They use the saved hours to deliver the IT initiative quicker, deliver the business objective quicker, and therefore receive the business value sooner (as per the business outcomes four-box framework). The value, in this case, is both a) the monetary cost associated with the hours saved (platform benefit) and b) the value of achieving the associated outcome, for example, one month earlier and in a different fiscal year (e.g. one month's revenue in 2019 instead of 2020).

or:

2. They redeploy the saved hours into other integration or technology projects. Rather than speed up the delivery of the overall business objective (as in point 1), they use them to add extra features. The benefit in this instance is received by increasing the size of the end business outcomes value. To extend the example used in point 1, the value is not pulling in the revenue one month earlier, but increasing the revenue due to better features or functions.

Other platform benefits, such as those that sit on the risk category (including increased security, scalability, reliability, and availability), can be reconciled against outcomes too. They don't necessarily free up hours for redeployment, but they do contribute to reducing revenue loss, for example, or regulatory fines.

So although different, platform benefits and business outcomes are ultimately connected, and we will demonstrate in the next section how one impacts the other. Each can be used to inform business cases, convince non-technical stakeholders, and motivate entire IT organizations to build projects of the highest quality. Let's look at an example of how MuleSoft's customers bring these concepts together in the following case study.

Case study: $1B U.S. manufacturing company

Background

A $1 billion U.S. manufacturing company had been a MuleSoft customer for two years. The CIO wanted to obtain board approval for additional investment in Anypoint Platform. She requested that the enterprise IT team put together an analysis of the value achieved with MuleSoft to date and the value that could be achieved going forward.

The IT team engaged MuleSoft to help with this analysis. Together, MuleSoft and the customer interviewed key stakeholders and held workshops to uncover a number of qualitative and quantitative data points. They used the framework outlined in this whitepaper: first calculating platform benefits, and then creating a series of business outcomes trees. They put these two elements together in an executive presentation and presented back to executives from IT and the business. Here are the results:

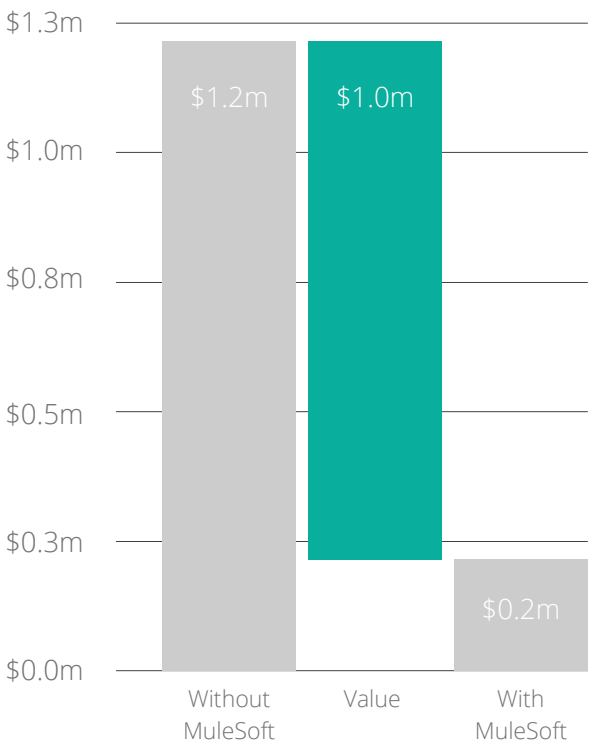
Platform benefits

The analysis identified over $1 million in value achieved to date attributed to leveraging Anypoint Platform and adopting an API-led integration approach, and a further conservative estimate of $16 million in value projected over the next five years. The platform benefits that predominantly drove these savings were:

1. Fewer hours spent on development. This benefit was a result of asset reuse and efficiencies gained through the development phase of the software development life cycle (SDLC). Examples of efficiency drivers include easy-to-use Anypoint Platform UI and MUnit autotesting.

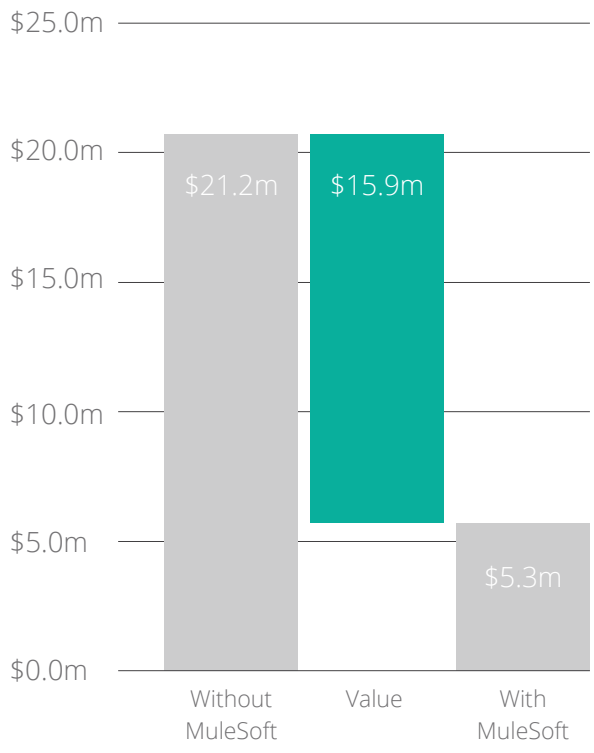
2. Fewer hours spent on maintenance. This benefit was due to asset reuse and efficiencies when maintaining integrations on an ongoing basis. Examples of efficiency drivers include end-to-end monitoring capabilities in Anypoint Platform and standardized skill set.

Value realized: $1m



- Value estimated is sourced from improved integration/API development speed and reduced integration/API maintenance effort
- 21 reusable APIs, 31 other reusable integration assets developed
- 74 instances of reuse thus far
- 32% SDLC efficiencies achieved
- 64% maintenance effort reduction achieved

5-year value opportunity: $16m



- Value estimated is sourced from improved integration/API development speed and reduced Integration/API maintenance effort to be achieved over the next 5 years
- Long-run reuse rate of 40% projected
- Growth in SDLC efficiencies to 63%
- 64% maintenance effort reduction projected in long run

Business outcomes

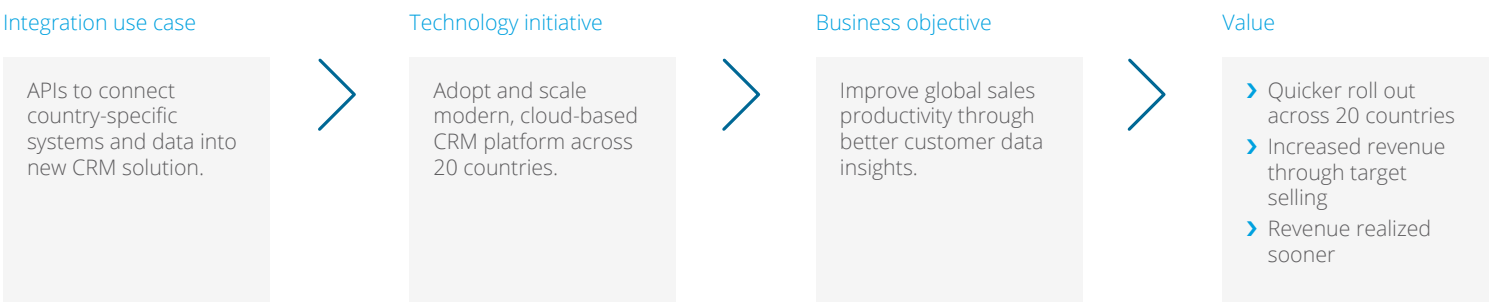
The analysis showed the customer had built 52 reusable integration assets — including APIs, patterns, templates, and frameworks — on Anypoint Platform. These assets drove a number of core technology initiatives linked to board level business objectives.

Example: Business outcomes realized to date

Integration use case	Technology initiative	Business objective	Value
3PL APIs to exchange order data with third-party logistics providers.	Automate order management process	Improve operational efficiency (lower order management costs).	› 80% faster initiative completion › Cost reductions realized sooner

Going forward, the U.S. manufacturer plans to build an additional 400 APIs to scale its order management process globally, drive sales productivity, and build a scalable IT foundation to support aggressive global expansion. This aligns to and impacts its business outcomes as follows:

Example: Business outcomes going forward



As a result of the findings of both the value realized and the value opportunities going forward, the enterprise IT team was able to provide the CIO with the data she needed to secure the additional investment in Anypoint Platform. Using the framework described in this whitepaper, she was able to clearly show board members:

1. **Context and alignment (business outcomes):** Where integration using MuleSoft fits into the organization's strategic objectives. Through the business outcomes framework, the CIO demonstrated the value these integrations have enabled and will enable going forward.
2. **Direct monetary impact (platform benefits):** How delivering these integrations using MuleSoft instead of an alternative has benefited, and will continue to benefit, the company going forward. Using the platform benefits framework, the CIO showcased monetary benefits that could be weighed against investment costs to show the return on investment (ROI) to date and the return in the future on the budget she was asking for.
3. **Structure for measuring value going forward:** The CIO was able to reassure the board that the success of their investment would continue to be tracked using a proven framework. This would be done regularly and socialized among executive peers and employees alike to keep all aligned, motivated, and ensured that integration keeps serving as a key driver of business value.

05 Getting started

Many enterprises face a pivotal moment in time. Not only is it difficult to scale integrations across the tremendous number of systems, applications, and devices required to run their businesses, but IT leaders are facing pressure from the business to deliver more integration projects each year with minimal increases in budget and resource capacity.

However, the value of integration is much more than that. Integration is a powerful strategy for organizations to drive operational efficiencies and top-line growth. It can save costs, speed up project delivery time, and unlock completely new revenue streams.

In order for IT leaders to articulate the value of their teams' integration work, they must first translate their impact into measures that the business cares about. Based on insights from more than 1,600 customers, MuleSoft developed this framework to help IT measure and articulate the value of integration.

Our industry experts bridge the gap between MuleSoft's platform and your specific business outcomes. Contact Catalyst Mobilize to understand and communicate the value that integration and APIs can deliver for your business.

About MuleSoft

MuleSoft, a Salesforce company

MuleSoft's mission is to help organizations change and innovate faster by making it easy to connect the world's applications, data, and devices. With its API-led approach to connectivity, MuleSoft's market-leading Anypoint Platform™ empowers over 1,600 organizations in approximately 60 countries to build application networks. By unlocking data across the enterprise with application networks, organizations can easily deliver new revenue channels, increase operational efficiency, and create differentiated customer experiences.

For more information, visit **mulesoft.com**