

Moving your Organization to an API-First Approach

June 2021



Maximizing the APIs' value from strategy to operate



Digital Transformation is still highly depending on the capacity of the organizations to break down silos and overcome limitations of their legacy IT



90%

organizations face challenges caused by Data Silos



82%

organizations don't provide a connected user experience across all channels



60%

organizations claim challenges to introduce new technologies due to IT Infrastructure

Top 10 Biggest challenges to Digital Transformation

 **34%**

Legacy Infrastructure and Systems

 **30%**

Risk Mgmt, Compliance and/or Legal Implications

 **28%**

Resources and Budget Allocation

 **27%**

Migrating Legacy Code or Apps

 **27%**

Business and IT Alignment

 **26%**

Integrating Siloed Apps and Data

 **25%**

Time Constraints

 **22%**

Over-Reliance on Central IT

 **18%**

Company Culture and Mindset

 **14%**

Creating a Single View of Our Customers

APIs do represent already a **strategic enabler** in modern enterprises to build up connected experiences and unlock value from existing data

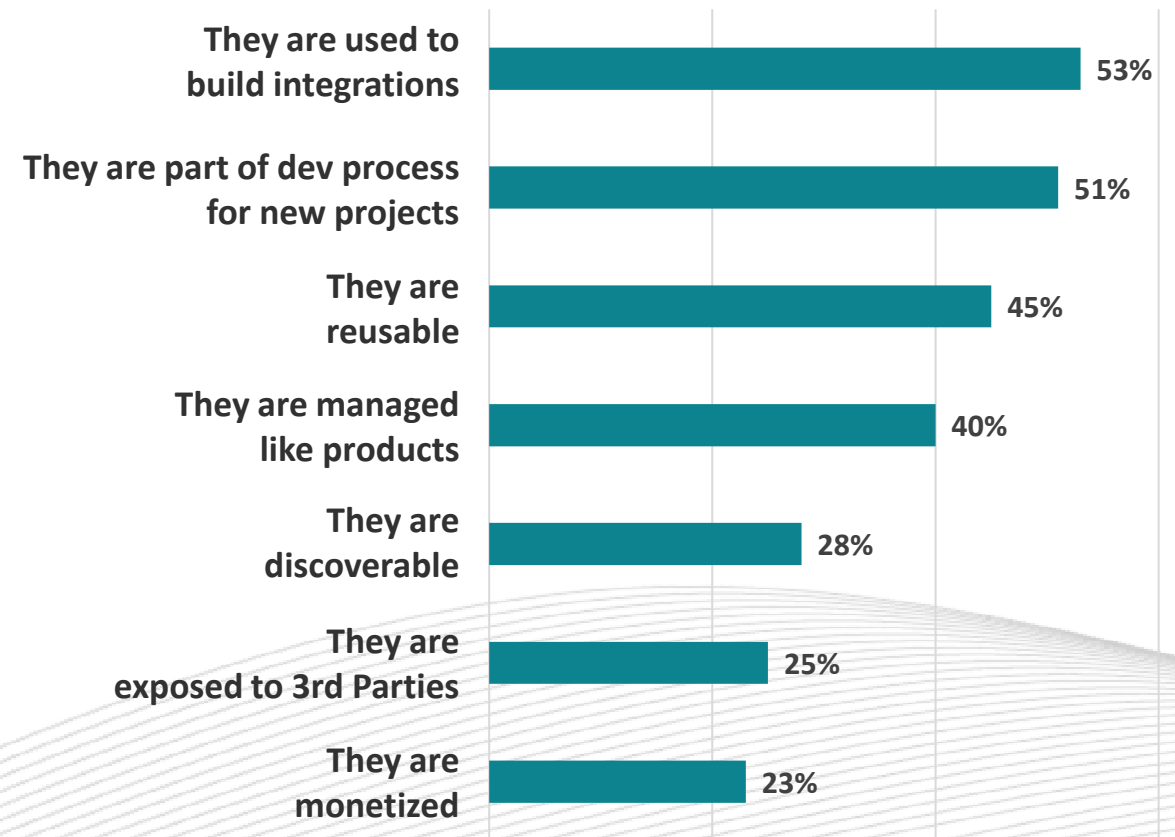


96%
organizations use APIs in
2021 – up from 80% in 2020

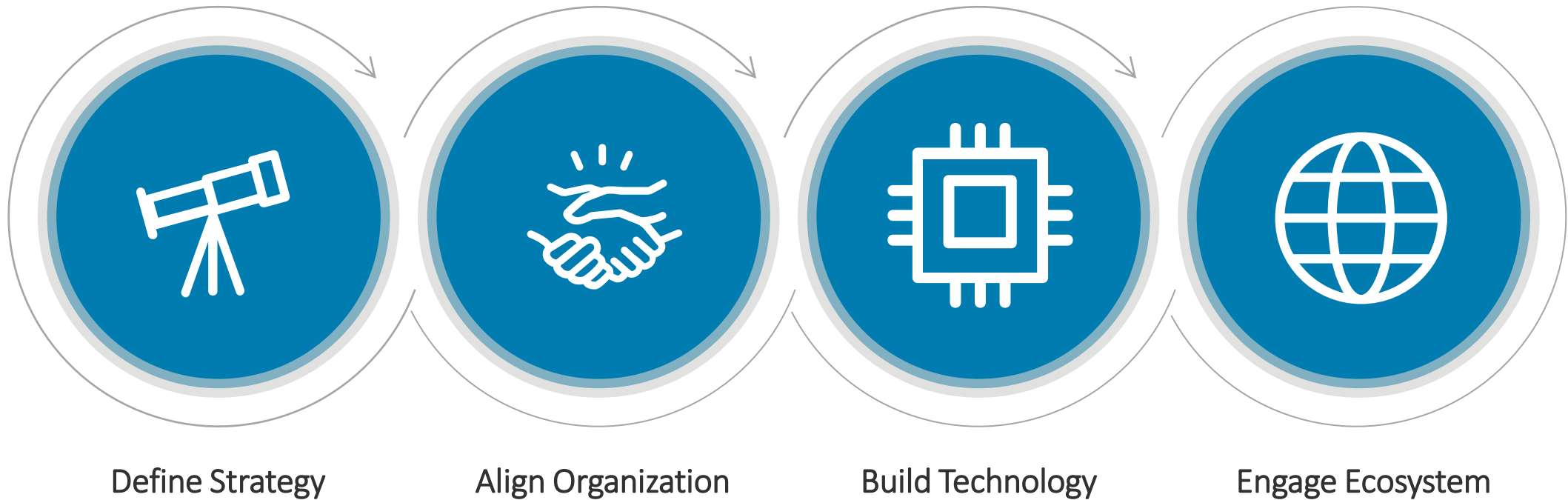


27%
of a company's revenue is
generated by APIs and related
implementations

Characteristics of APIs in the organizations



Starting a new API program – or nurturing an existing one requires organizations to invest on **4 main pillars**



An effective API Strategy, closely aligned with the Digital Strategy of your organization, improves level of success of API programs

69%

of organizations already have a top-down Integration and API Strategy

84%

of organizations consider API integration to be critical or very critical to the business strategy

Source: MuleSoft/Deloitte 2021 Connectivity Benchmark Report

What is your winning aspiration for your Digital Transformation?



ALIGN WITH BUSINESS GOALS

Understand current business capabilities, identify the business objectives and intended market positioning, and define the vision and principles that will guide the API program

Where will you play? What kind of positioning are you aiming to have in the marketplace?



UNDERSTAND THE ECOSYSTEM

Who will benefit from your APIs? Who are your customers, partners and developers? What capabilities should we have to support them?

How will you win? What capabilities and business models will be required to succeed?



DEFINE API VALUE PROPOSITION

Envision the experiences to offer to the ecosystem, identify potential API products and quantify benefits that will arise from having data and services exposed as APIs



DEFINE THE API BUSINESS MODEL

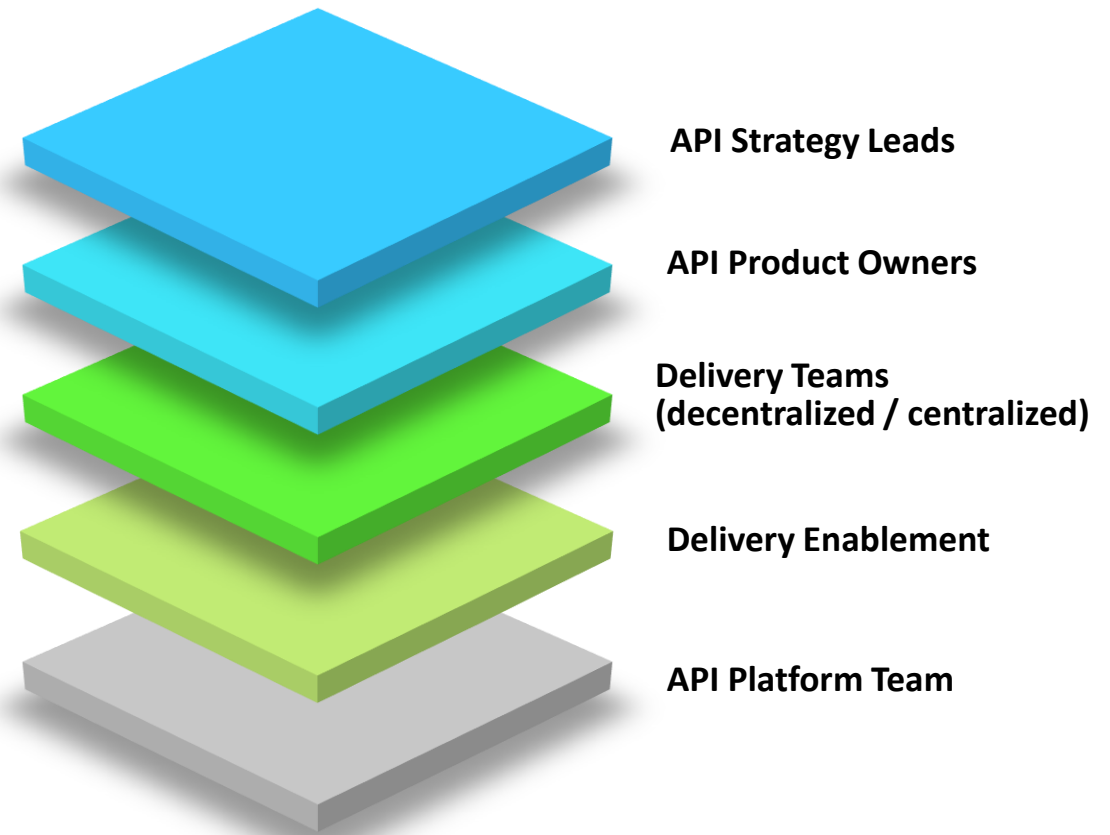
Understand how to generate revenue from APIs - directly or indirectly - and ensure API metrics are defined at different levels: revenue based, operational metrics and developer based

The entire organization should embrace APIs as a new vital product to enable digital transformation at speed and unlock its full potential to achieve a composable enterprise

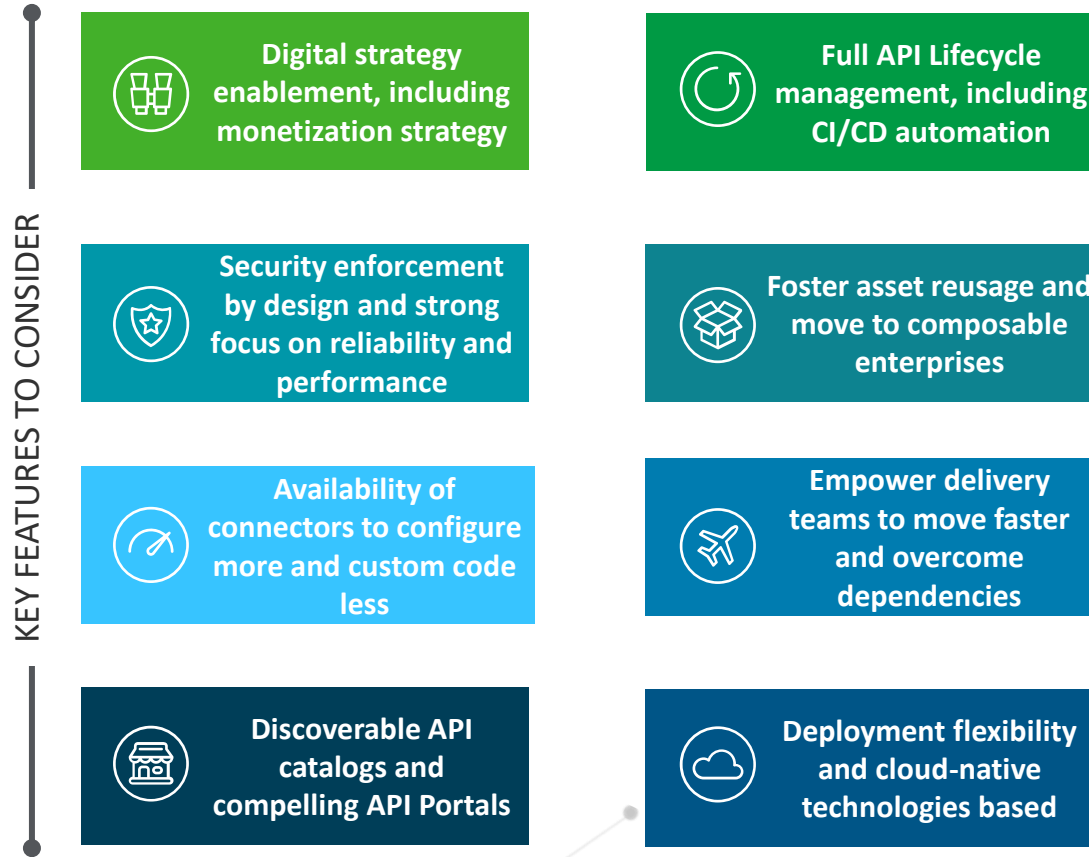
Independently of the API Strategy established in your organization - focusing on internal or external services - a governance and operating model should be clearly defined to ensure a:

- 1) vision is maintained for each API domain catalog;
- 2) the organization is ready to scale API adoption;
- 3) APIs are infused as part of the delivery methodology in-place.

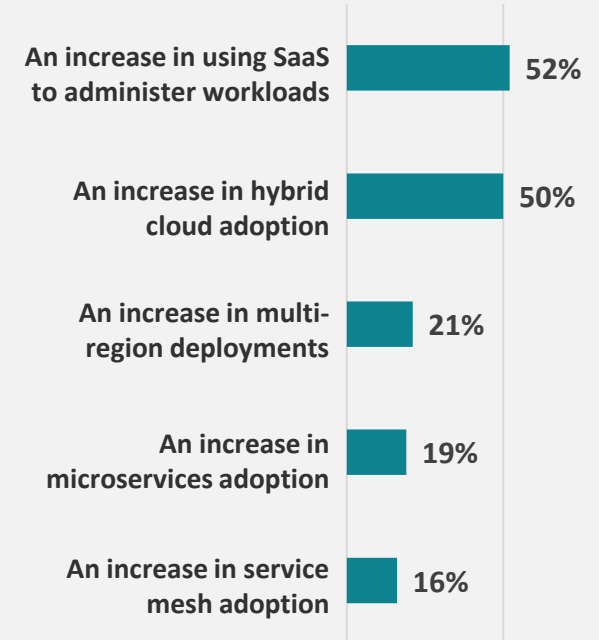
65% of organizations that provide public APIs will establish the API Product Owner role by 2021



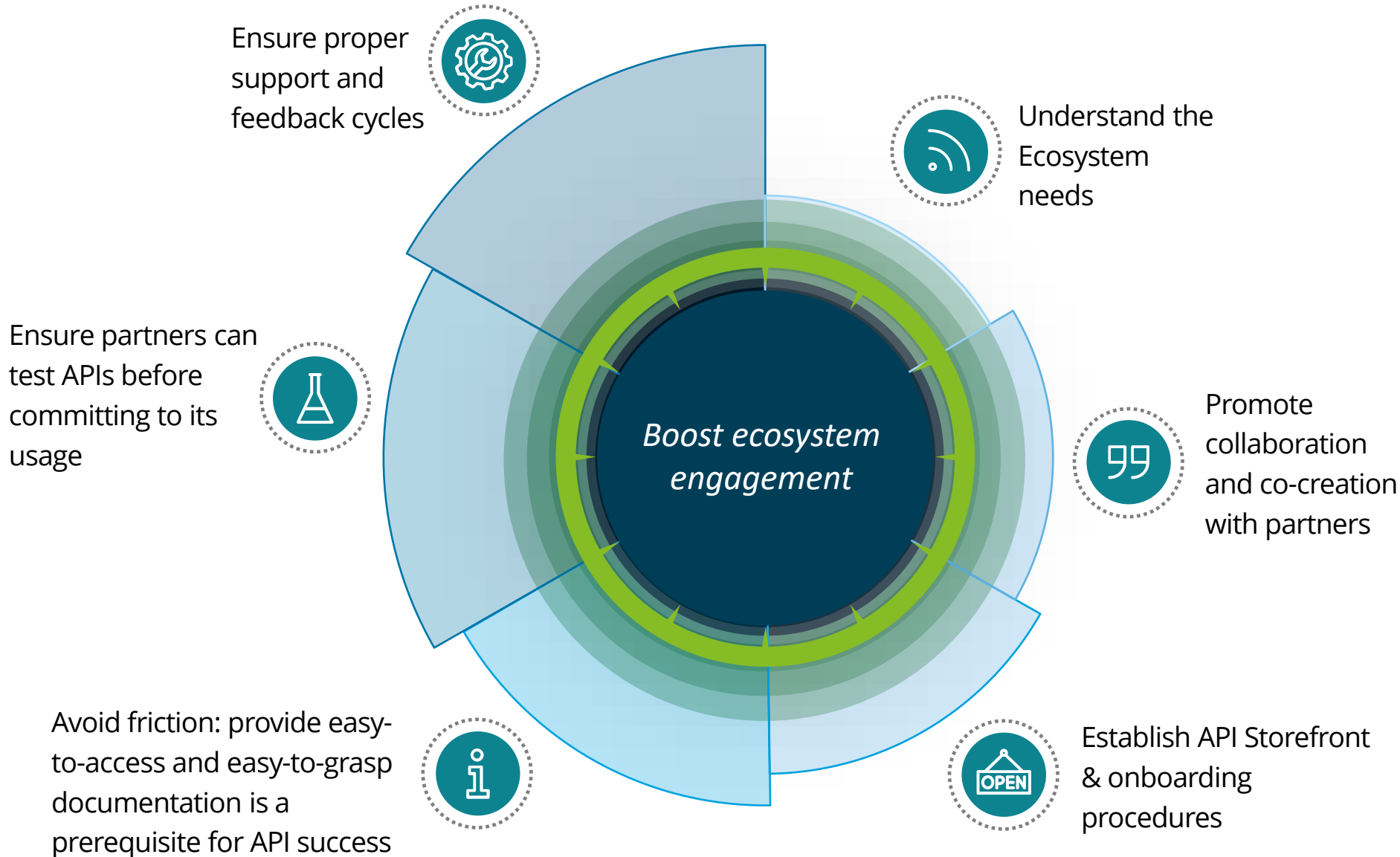
Establishing the right technology foundations is key to ensure your organization will not be slowed down when the time comes to scale API driven business models



Technology Adoption Focus in the Next 12 months



Closing the loop: you will only be successful if your API community thrives



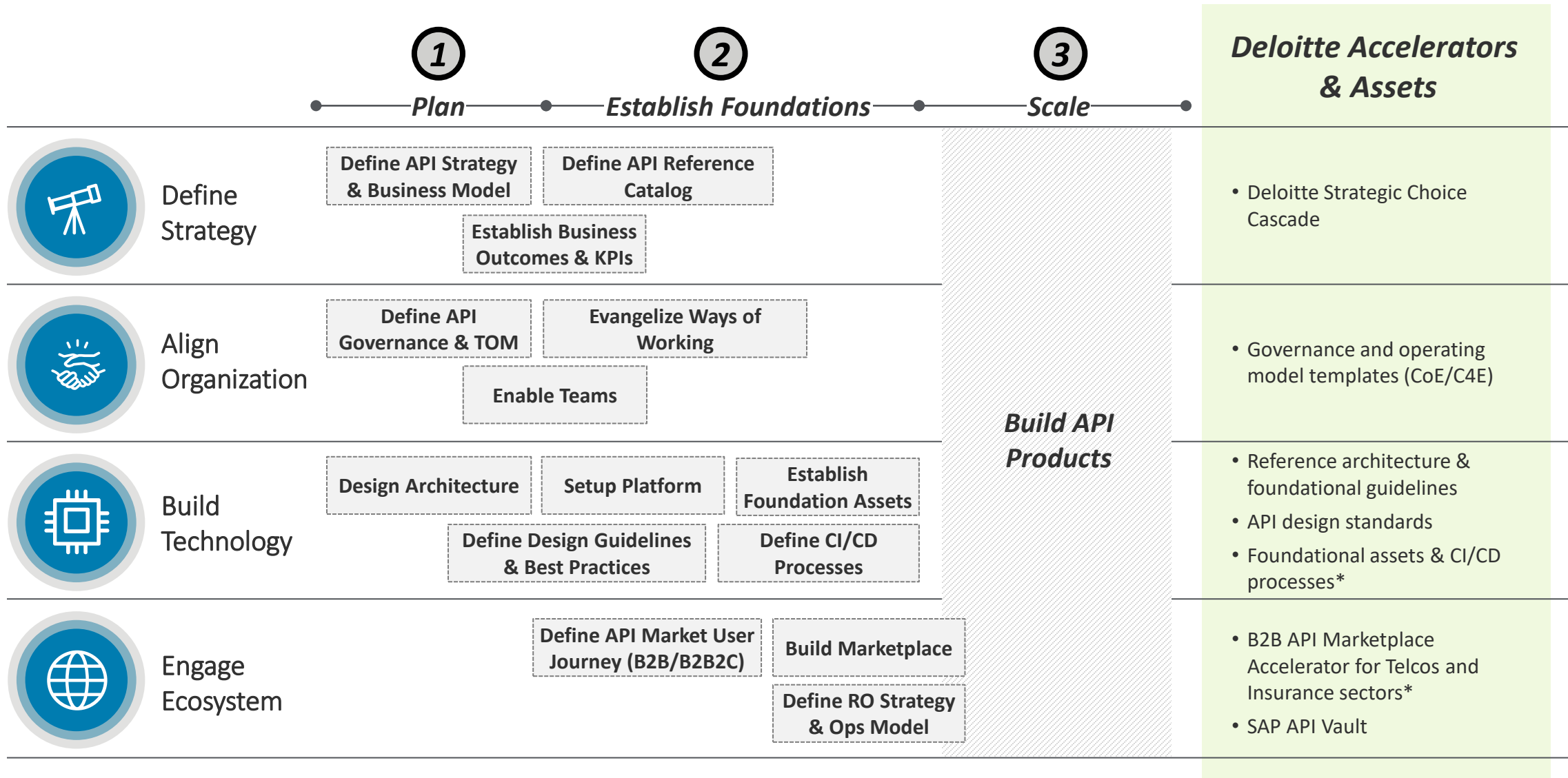
52%

of IT decision-makers consider that APIs accelerate innovation by enabling partners to leverage digital assets at scale

47%

of the top API initiatives is to create a developer ecosystem

Deloitte has an extended footprint helping organizations thrive in the API Economy



*MuleSoft specific accelerators



You can find more interesting figures about the state of connectivity in MuleSoft 2021 **Connectivity Benchmark Report**

<https://www.mulesoft.com/lp/reports/connectivity-benchmark>



01

02

03

04

05

**APIs and Connectivity:
What's the integration
architecture future?**



Digital forces are driving innovation in the Integration space

“

The reports of my death are grossly exaggerated

”

Mark Twain, 1987

Integration as the practice of connecting systems is ever evolving.

**Technologies may change
Paradigms may change
Standards may change**

The need to connect will keep on growing.

The 4 emerging forces driving Integration needs



Omni-Channel

Better Omni-Channel
Customer Experience and
Improved Service



Efficiency

Increasing Need for
Automation to Improve
Efficiency and Reduce Costs



Ecosystems

Ecosystems driving Extended
Value Propositions in B2B and
B2B2C models



New Revenue Streams

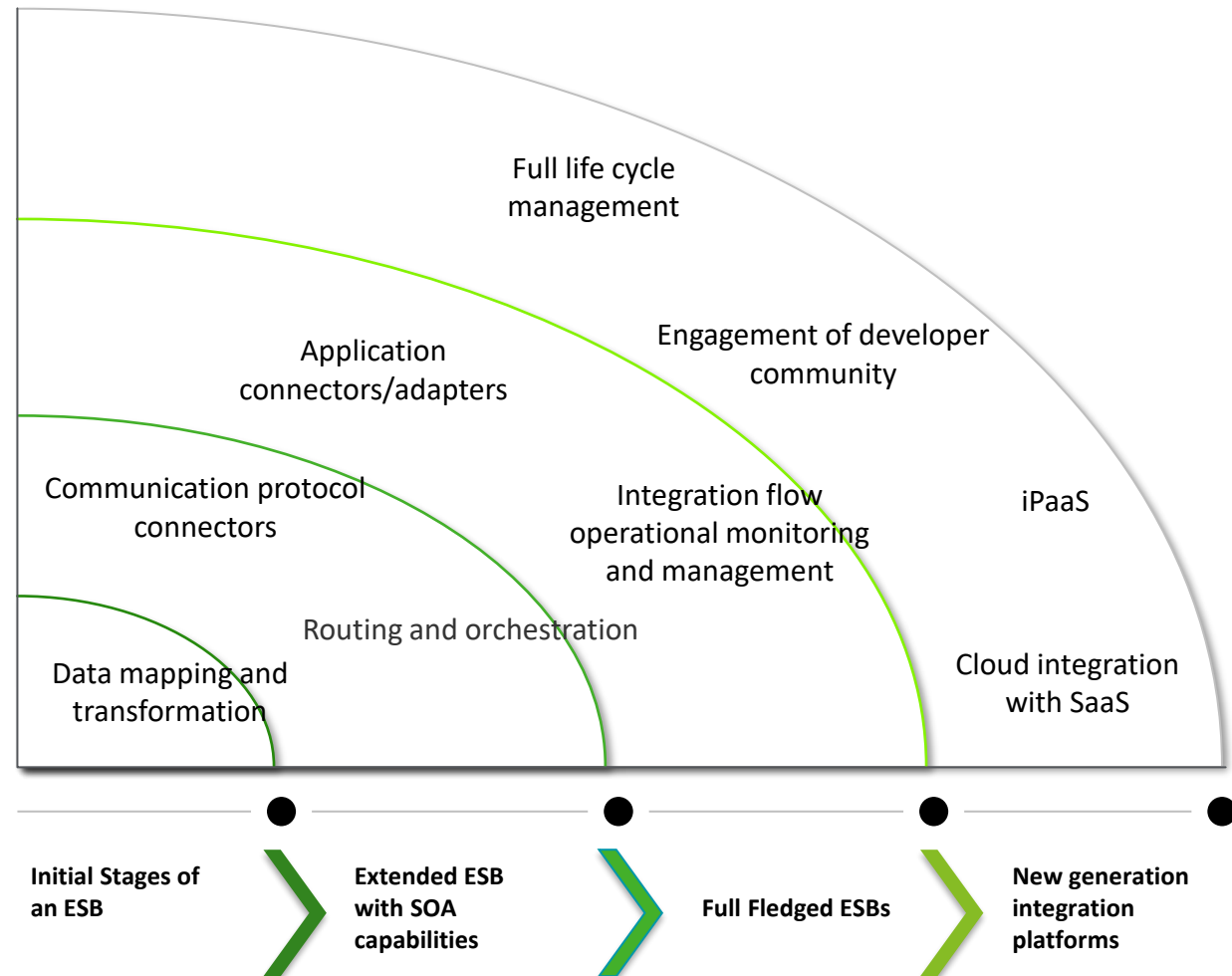
Unlock Value from existing
Assets to generate new
Revenue Streams

Integration is an evolving practice having started a long way since simple data mapping and transformations

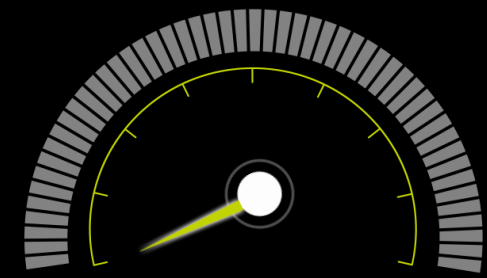
Organizations need comprehensive integration platforms to **manage full lifecycle**

The high number and diversity of integrations require **platforms to be agile and integrate easily** with diverse systems.

At the same time, the need to **control and manage** these integrations is crucial.



It's not just technology. More and more agility and speed in delivering Integration is impacting IT Operating Model changes



+ More Enablement

IT must transition from centralized design of complex solutions.

New targets:

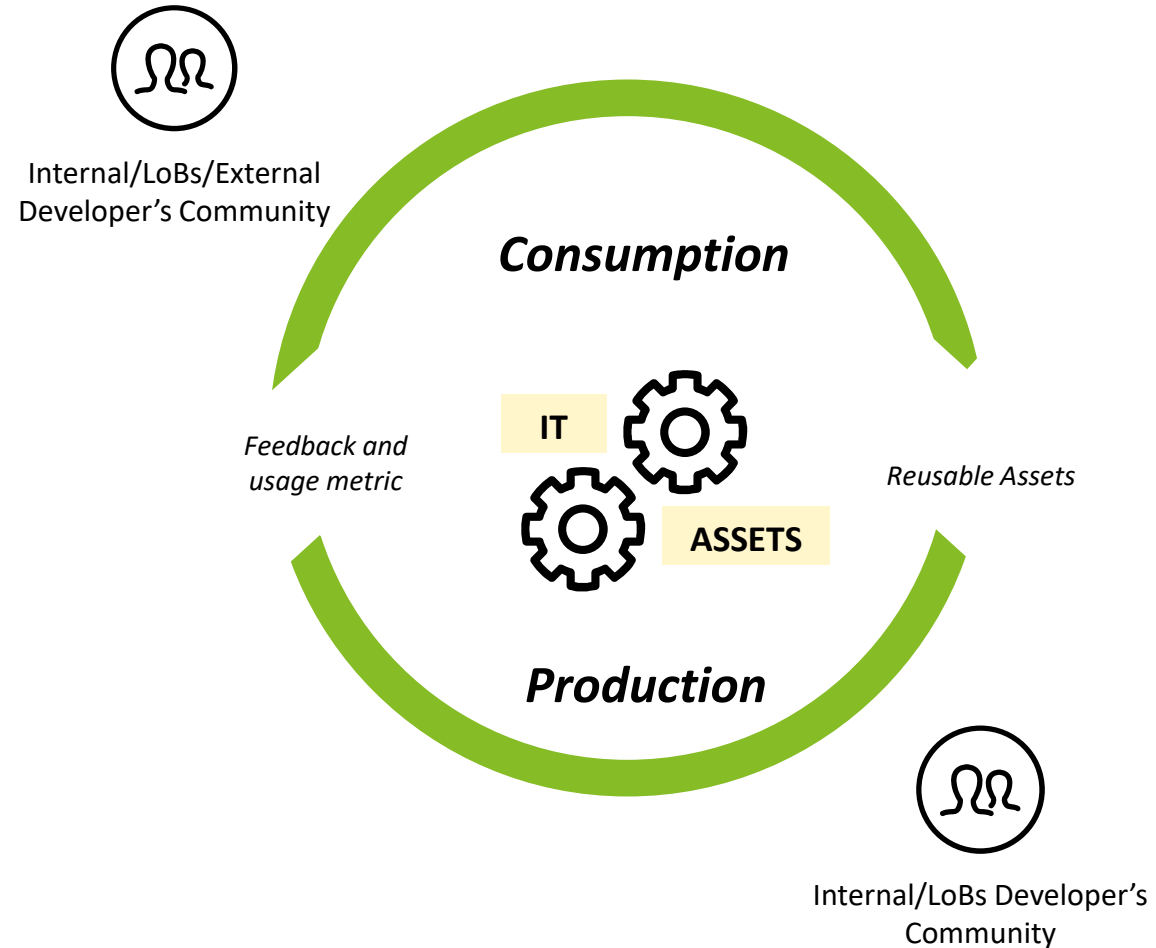
- Define ground rules to develop applications and provide the tools for developers to deliver
- Monitor assets (number of API consumers, API calls, etc)
- Monitor asset's quality (number of errors)
- Less upfront design time, more breakdown deliveries

- Less Centralized Delivery

Delivery teams design and build new integrations reusing existing assets as possible.

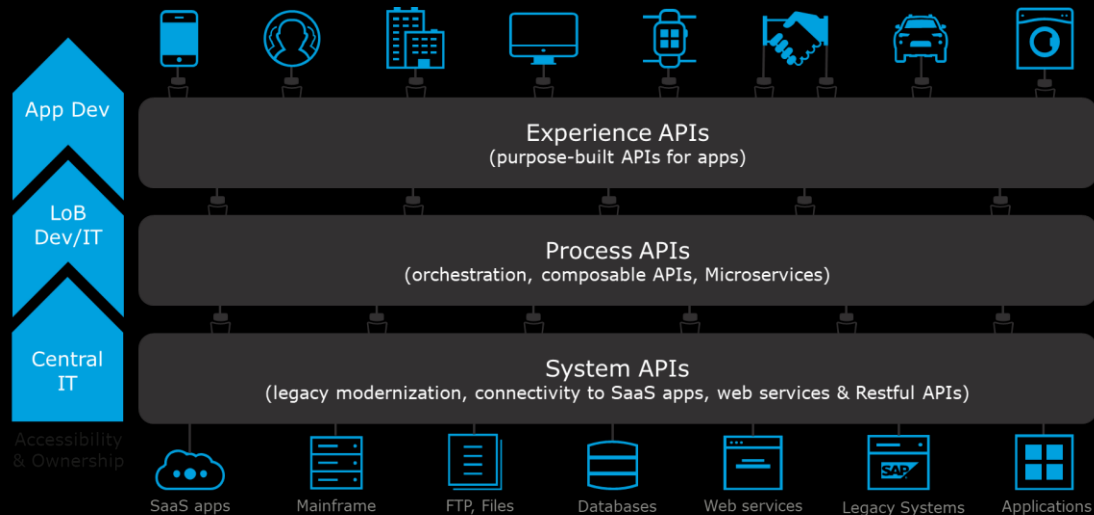
New targets:

- Create community culture - reuse existing assets
- Need to document APIs in a way that makes them attractive to other developers
- Design first principle



API-Led Connectivity is nowadays the cornerstone of a reusable, lego-like architecture to meet digital needs of the enterprise

API Led Connectivity



49



APIs can be categorized in four major categories, each of which targets a broad category of business opportunities:

- 1) **Internal** (“private”) APIs improve organizational agility, efficiency, and effectiveness;
- 2) **B2B** (“partner”) APIs optimize processes and relationships outside the organization;
- 3) **Open web** (“public”) APIs expand market reach through openness and innovation;
- 4) **Product APIs** increase product value by connecting to and expanding the ecosystem.



Forrester

The role of API Management in the Integration Landscape

- Enforce governance, common standards & security policies
- Foster consumption & community engagement
- Enable partner integration & API monetization

Event Stream Processing is a fundamental add-on to an all encompassing Integration architecture. **Not everything is real-time enabled.**

“ *Event Stream Processing is the capacity to perform near real-time analysis or calculations on event data that is being generated on a continuous flow ordered by time, the event stream.* ”

The role of Event Stream in the Integration Landscape

Promote highly scalable, highly resilient solutions based on a high level of decoupling

Transfer huge amounts of data in a near real time with limited impact on operational performance

Common Use Cases



Analytics

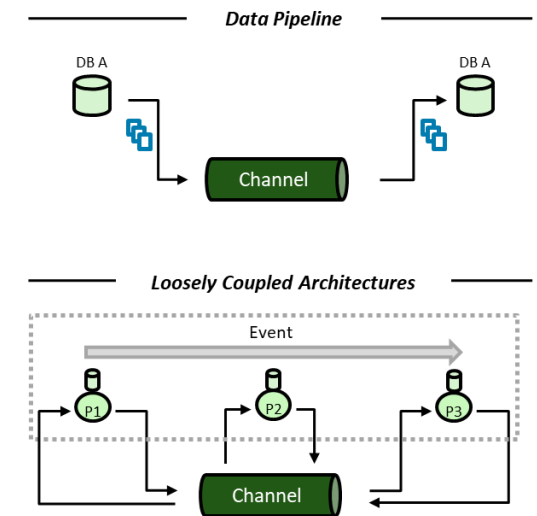
- Patterns detection
- Big data aggregation, filtering, cleansing
- Near Real time response to changes based on event data
- Near Real time dashboards, alerts, decision automation



Data Integration

- Near real time extraction and processing of data sources
- Data synchronization to offload data and processing power from legacy systems
- Master data synchronization
- Micro-services Orchestration
- Event Chain Processing (enrich event data with analytics data)
- CDC – Change Data Capture

Architecture models



What about Microservices?

Where do they fit in the Integration LandScape?

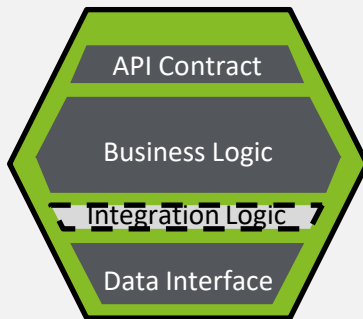
“

"Microservices" or "Microservices Architecture" describes a new software development practice meant to increase the speed and efficiency of developing and managing software solutions at scale

”

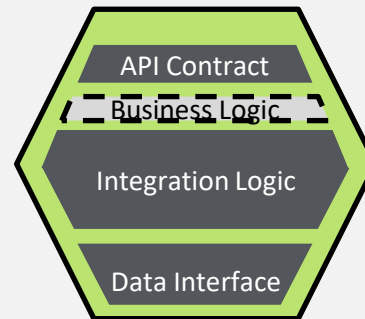
Microservices are not all equal

Business Logic Microservice



vs

Integration Logic Microservice



The role of Microservices in Integration

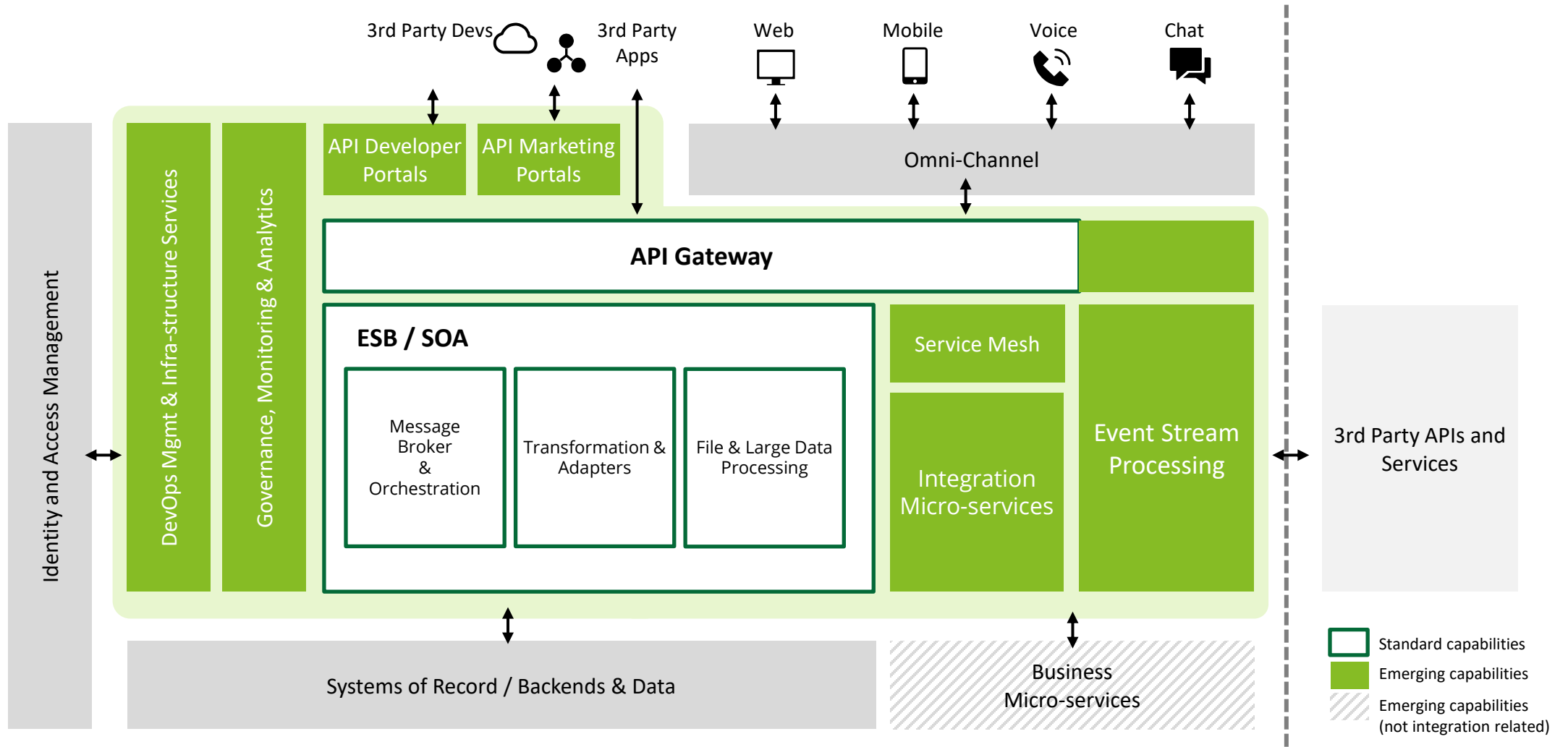
Enable new IT architectures of highly scalable & highly modular components

Technologically mirror an Agile *modus operandi*

Despite the rationale to build Integration Microservices should be challenged against the alternative option of using an Integration Platform OOB capabilities and accelerators to build integration flows (e.g. connectors, orchestration components) , times will come where Microservices will be the option to go.

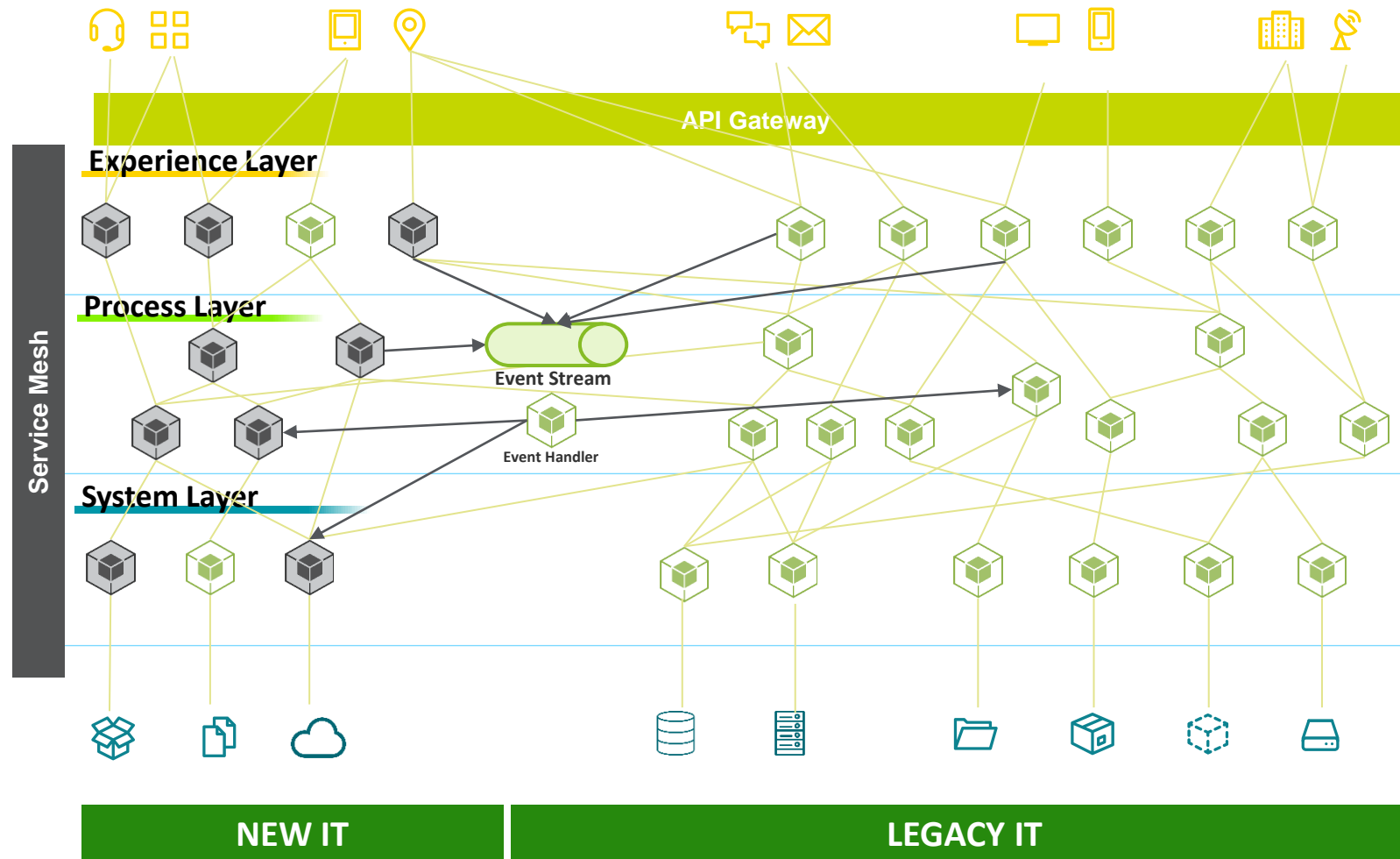
In these cases, it's highly recommended to centralize discovery, monitoring and security in the same platform that serves the remaining integrations flows.






This is Deloitte view on what a high-level architecture of future Integration Landscape looks like





How we view a Brown-Field Integration Architecture coming together

Complex business ecosystems tend to suffer from a lack of agility and reusability. To solve this issue, a multi-layered approach based on reusable logic blocks, be it APIs, Microservices or Events needs to come together, with very specific responsibilities depending on the layer in which they are introduced.



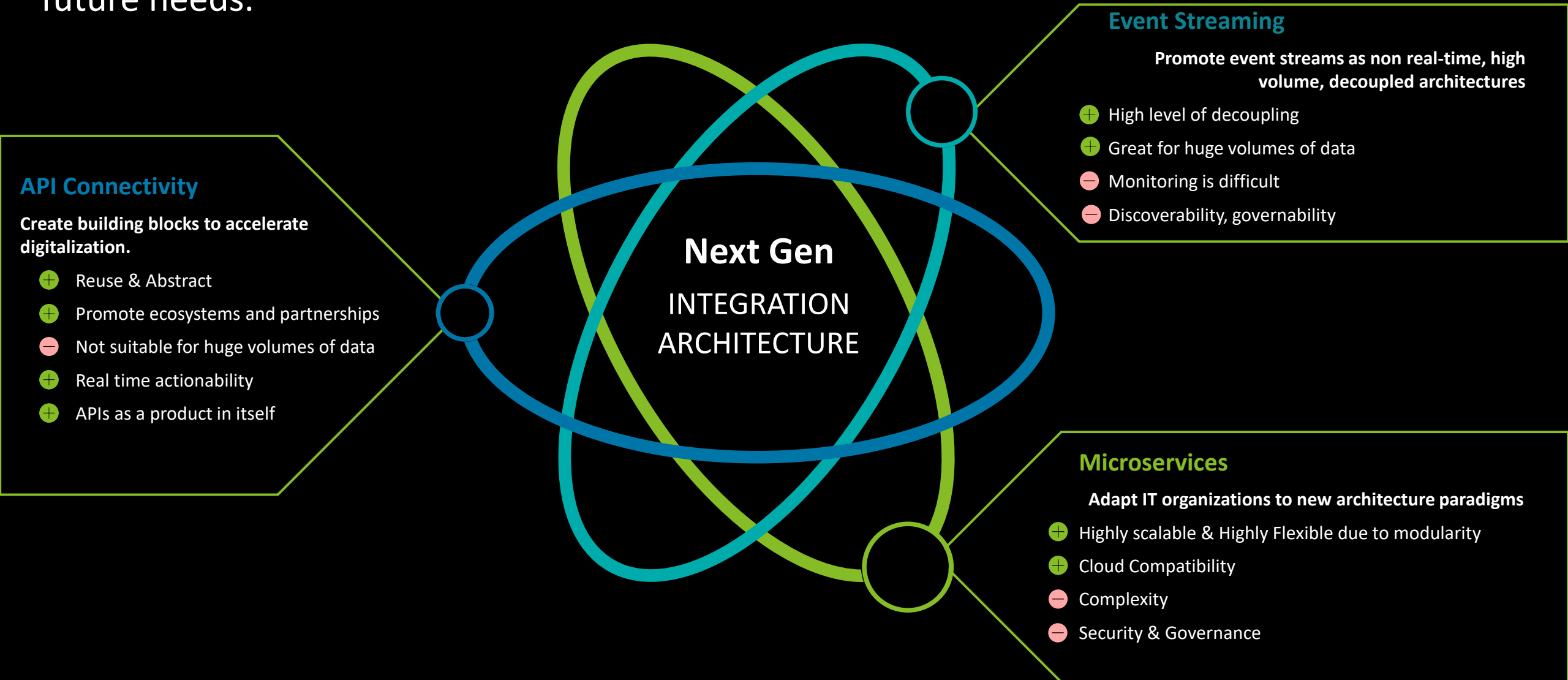
-  Anypoint API Manager
-  Anypoint Community Manager
-  Connectors Event Broker & Stream
-  Anypoint Service Mesh
-  Anypoint WebSockets Connector
- To be released

-  Anypoint DataGraph
-  AsyncAPI

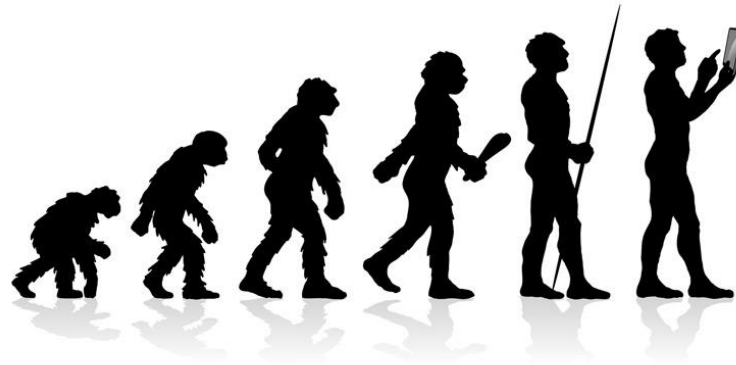
 Microservices  APIs

Integration practice is not a “one-size-fits-all” solution.

It needs to be tailored to each enterprise current and future needs.



Embracing Technology Darwinism is a necessity on enterprises that take innovation seriously

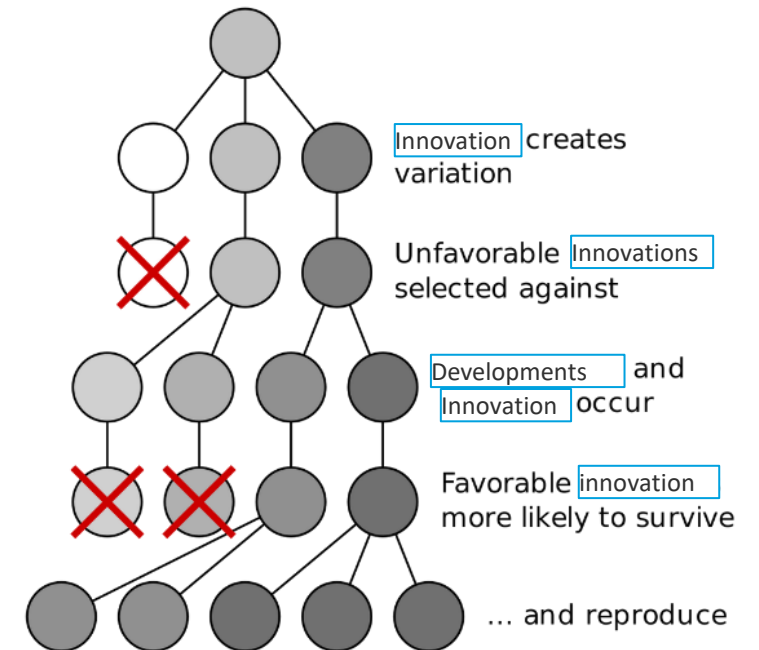
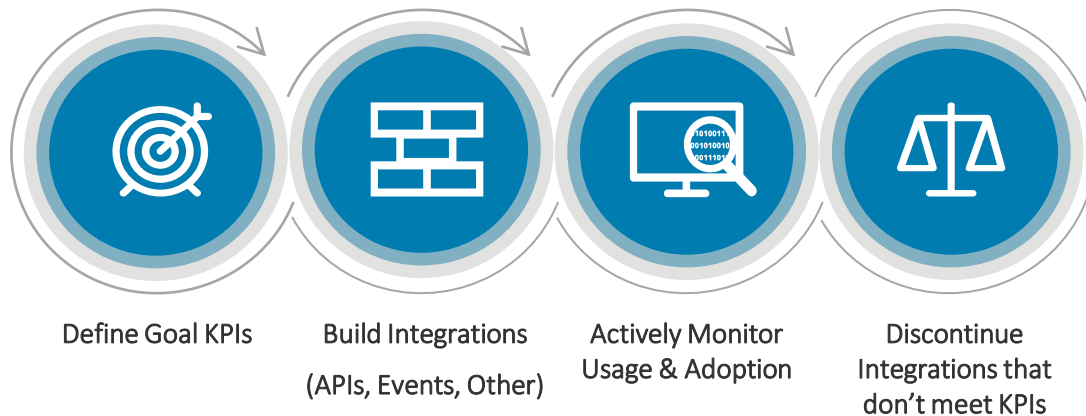


It is not the strongest of the species that survives, nor the most intelligent. It is the one that is the most adaptable to change.



Charles Darwin

Deloitte. believes that Integration with  MuleSoft is a key enabler of enterprises that are driving fast innovation while minimizing cost of failure





“Deloitte” refere-se a uma ou mais firmas membro e respetivas entidades relacionadas da rede global da Deloitte Touche Tohmatsu Limited (“DTTL”). A DTTL (também referida como “Deloitte Global”) nem cada uma das firmas membro são entidades legais separadas e independentes, que não se obrigam ou vinculam entre si relativamente a terceiros. A DTTL e cada firma membro da DTTL e entidades relacionadas são responsáveis pelos seus próprios atos e omissões e não das restantes. A DTTL não presta serviços a clientes. Para mais informação aceda a www.deloitte.com/pt/about.

A Deloitte é líder global na prestação de serviços de audit & assurance, consulting, financial advisory, risk advisory, tax e serviços relacionados. A nossa rede de firmas membro compreende mais de 150 países e territórios e presta serviços a quatro em cada cinco entidades listadas na Fortune Global 500®. Para conhecer o impacto positivo criado pelos aproximadamente 330.000 profissionais da Deloitte aceda a www.deloitte.com.

© 2021 Deloitte Technology, SA



IS 668746