MuleSoft®

CIO GUIDE TO

UNIVERSAL API MANAGEMENT

The next evolution of full lifecycle API management

Contents

Executive summary

On average, modern enterprises use up to 500 APIs. These APIs come in many different forms, specifications, and serve unique functions across heterogeneous environments and diverse architectures within a large enterprise.

As APIs sprawl across the technology estate, IT runs into challenges related to discovering, managing, and protecting all of the organization's APIs. This API sprawl prevents the business from reaching its vision of agility and composability since it limits how fast its teams can build new capabilities and customer experiences.

The CIO is in charge of making this shift. To enable agility and composability, CIOs must adopt universal API management to realize the full value of their existing technology infrastructure.

01.

Imperative to accelerate digital transformation

A snapshot comparing the way enterprises operate today and how they operated before the pandemic would show two nearly unrecognizable images. Seemingly overnight, businesses shifted to fully remote workplaces, digital customer experiences, and implemented extra safety precautions – both physical and digital.

Digital processes aren't new, but the pandemic forced many businesses to shift from digital-first operations to digital-by-default. As a result, businesses had to rapidly accelerate their digital transformation strategies.

Amid this shift, business leaders are looking to the CIO to drive radical change in the post-pandemic world. They must rise to meet the challenges posed by this digital imperative and transform the business. But many CIOs have been slow to deliver on this due to constraints from their current fragmented infrastructure.

Composability bridges the gap between the siloed, current state of the enterprise to the fast-moving, agile vision its leaders strive toward. It breaks down monoliths into building blocks that can quickly be composed together to deliver new innovations from existing components.

However, organizations often impede their own composability with complex ecosystems – many having architectures built for specific use cases on diverse technologies, disparate platforms, and environments.

CIOs can not afford to rip and replace their entire infrastructure to achieve this agile, composable future; the only way to achieve it from their current state is a universal approach to managing their infrastructure.

88%
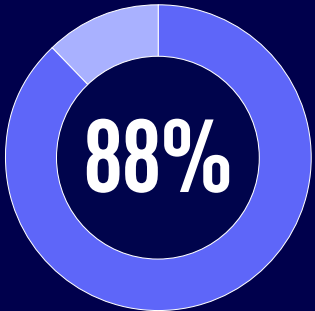
OF CUSTOMERS EXPECT COMPANIES TO
ACCELERATE DIGITAL INITIATIVES DUE TO COVID-19

$7M

ORGANIZATIONS COULD LOSE NEARLY $7 MILLION
IF THEY FAIL TO SUCCESSFULLY COMPLETE
DIGITAL TRANSFORMATION INITIATIVES

The widening gap preventing transformation

Leading consumer brands are setting the bar for the types of seamless, digital, and integrated experiences customers now expect. Many enterprises struggle to deliver similar experiences for their customers because they operate in silos and have fragmented technology stacks.

Business units within large enterprises tend to operate independently, working on different use cases with different objectives. Eventually, every unit is operating in a heterogeneous environment with disparate technology stacks. For example, the banking, lending, and insurance divisions of a large financial institution might offer similar

customer experiences, but each division might adopt entirely different solutions to bring them to life.

As enterprises give each business unit ownership over their own technological needs – creating a siloed digital ecosystem for each – the organization falls short in providing services that require an information exchange across different technology stacks.
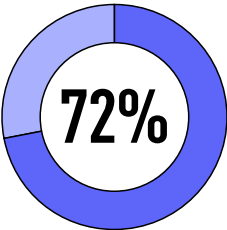
72% OF CUSTOMER INTERACTIONS ARE NOW DIGITAL
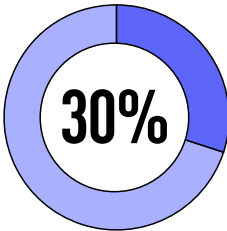
30% OF ORGANIZATIONS PROVIDE COMPLETELY CONNECTED USER EXPERIENCES ACROSS ALL CHANNELS
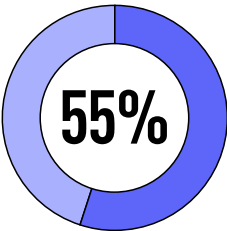
55% OF ORGANIZATIONS SAY IT'S DIFFICULT TO INTEGRATE USER EXPERIENCES

SOURCE: MULESOFT 2022 CONNECTIVITY BENCHMARK REPORT

Bridging the transformation gap with universality

Over the coming years, the composable enterprise is expected to mature – meaning that businesses will seek out new opportunities to enhance their composability, and thus, increase their agility.

Enterprises are expected to follow the innovative lead of consumer markets by composing their processes into packaged business capabilities to respond to customer needs faster. CIOs today must use technology to drive business value, deliver seamless customer experiences, and act as the change agents behind this transformation.

As CIOs enforce this across the enterprise, IT teams must harness the full value of their heterogeneous environments, disparate architectures, and multiple gateways without changing the entire infrastructure. This means that each element within the ecosystem must be manageable, governable, observable, and discoverable via a single, universal control plane.

Organizations have shifted from using APIs for integration to using them to drive composability. However, enterprises need universality to truly achieve this at scale. Universality enables organizations to compose, connect, and control its ecosystem – regardless of the technology, architecture, or environment. When applied to API management, universality advances the organization's journey toward composability.
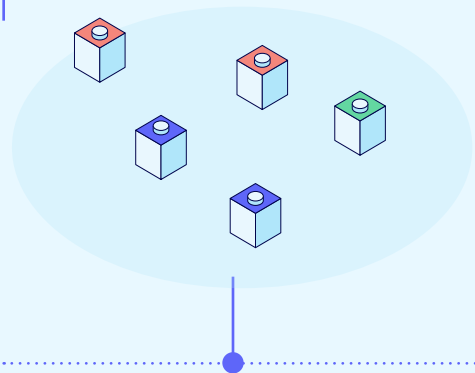
Going digital is not an option; it is the only way forward.
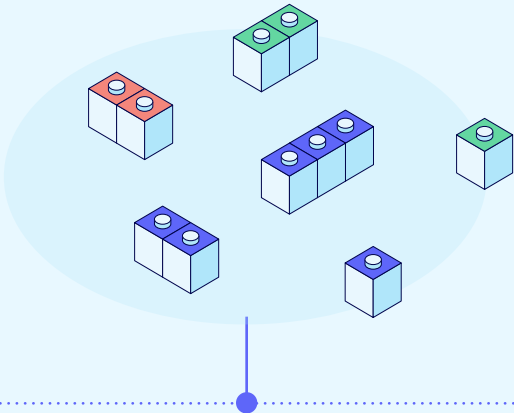
YANNA WINTER, CIO OF GENERALI

Universality unlocks the composable vision of today and as the enterprise evolves

01. DECOMPOSING MONOLITHIC STRUCTURES

Over the last ten years, large enterprises were tasked with breaking down their monolithic architectures into decentralized, composable services.

## 02. UNIQUE AND INDEPENDENT JOURNEYS TO COMPOSABILITY

Since business units operate independently, they often choose different technology stacks to meet their needs. This creates heterogeneous environments and diverse architectures that make it hard to connect enterprise-wide services.

03. SILOED SPRAWL OF APIs
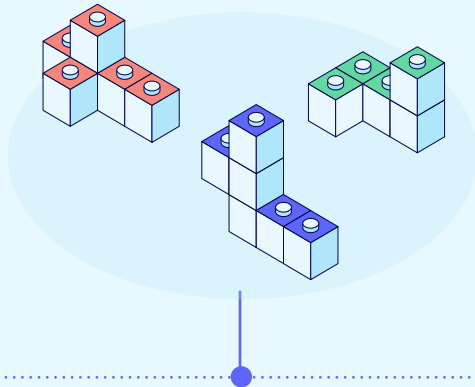
Each business unit has its own application network which creates a sprawl of APIs, preventing the enterprise from composing new capabilities quickly and from implementing security policies consistently.

04. BUILD AND DEPLOY ANYWHERE WITH UNIVERSAL API MANAGEMENT
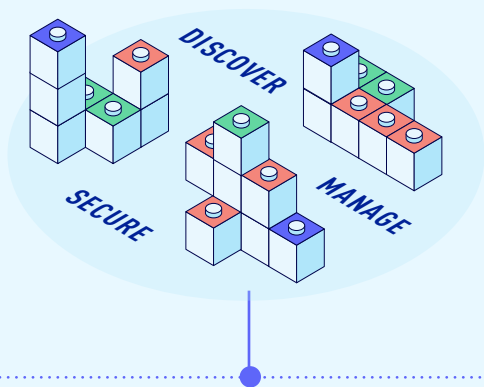
Enterprises today require universal discovery, manageability, and security across their services — no matter where they're built, which architecture they're implemented in, or the environment in which they're hosted.

02.

What is universal API management?

Universal API management is the ability to open the scope of full lifecycle management capabilities – management, governance, observability, and discoverability – to APIs built and deployed anywhere. It's the next evolution of API management that offers a more open, flexible, and scalable approach.

To achieve this, organizations should ensure their technology stack can:

WORK WITH ANY API

With microservices, enterprises are augmenting their RESTful APIs with protocols like AsyncAPI, GraphQL, and gRPC. Universal API management enables organizations to work with any API – regardless of its origin or protocol.
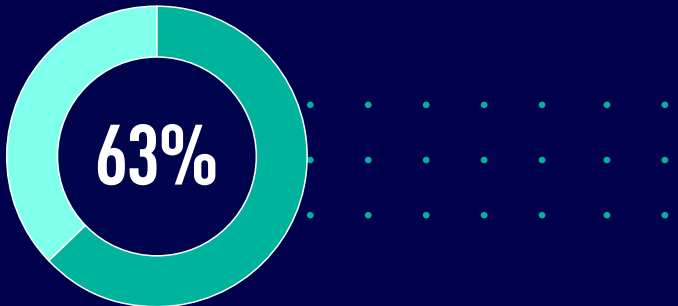
IMPLEMENT ANY ARCHITECTURE

There are a variety of architectures – from monolithic applications to microservices. With universal API management, organizations can work with any architectural pattern by securing all of its services – no matter the size.

3x

API-LED CONNECTIVITY CAN RESULT IN 3X FASTER PROJECT DELIVERY

OPERATE IN ANY CLOUD

Universal API management makes it so the APIs along with their governance, observability, and discoverability capabilities can operate independently from the platform's hybrid, cloud, or hosting environment.

ENGAGE ANY AUDIENCE

With universal API management, enterprises have a central repository for their APIs, allowing internal and external audiences to gain value from them, improve customer experiences, and foster partnerships and business models.

63%

ON AVERAGE, THERE IS A 63% REDUCTION IN MAINTENANCE COSTS

How universality enables the composable business

In a heterogenous technology stack, universal API management allows CIOs to meet all of their business priorities – enabling a digital ecosystem, securing the organization's data, enhancing business agility, and future-proofing the technology stack.
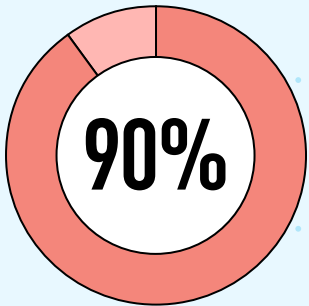
Enabling a digital ecosystem

An organization's digital ecosystem is a full realization of its technology stack, encompassing its data, cloud, networks, interfaces, and more. The CIO must create a holistic strategy that keeps the organization's technology and data operating effectively while leaving it open to future innovations in the cloud. They must ensure that teams across the organization can easily access and process its data to drive business outcomes; this includes ensuring the ecosystem can operate with any cloud technologies to add transformative value in data management.

Many enterprises today – even several Fortune 500 companies – still lack a central catalog for all of their enterprise APIs.
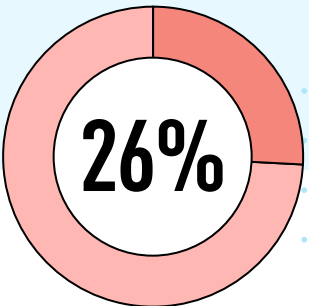
Organizations need a single source of truth that offers universal discovery for all of their APIs to efficiently operate their multi/hybrid cloud environments.

90%

OF ORGANIZATIONS NOW HAVE A
CLEAR INTEGRATION AND API STRATEGY

26%

OF ORGANIZATIONS REQUIRE ALL PROJECTS
TO ABIDE BY A COMPANY-WIDE API
INTEGRATION STRATEGY

Learn how to create a thriving digital ecosystem. Download whitepaper.

Secure the organization's data

Malicious actors can prey on enterprises targeting API endpoints by finding gaps in their software and services. Up to 75% of credential abuse attacks target APIs, which makes having a sprawl of separately and inconsistently managed APIs across the enterprise a dangerous risk.

Security is often seen as a necessary evil, but CIOs must treat security as an enabler for growth. For this to happen, security and compliance measures must be consistently coded within each component of the ecosystem from the start.

While IT ensures that the composable foundation of the enterprise is secure, teams across the organization have the tools to innovate and automate without putting the organization at risk. This ensures that security is baked into every process and product lifecycle.

To avoid becoming the next headline about a data breach, enterprises need visibility of their APIs to secure them at scale. Universal API management provides a single control plane to universally and scalably apply security and compliance policies across every API in the enterprise. By deploying gateways to these APIs, enterprises can protect every node in their architecture and improve the reliability and usability of their APIs with analytics.

75%

OF CREDENTIAL ABUSE
ATTACKS TARGET APIS

Protect your organization with API security best practices. Download whitepaper.
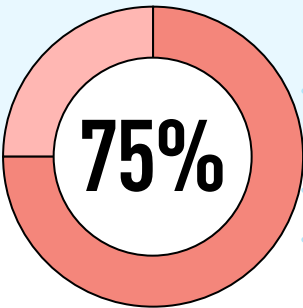
Enhancing business agility

Business agility determines how quickly an organization adjusts to shifts in the market – whether it be in response to a threat or to capitalize on an opportunity. Agile organizations achieve speed at scale, can easily remove bottlenecks, deliver capabilities ahead of market pace, and are industry leaders as a result.

Agility is achieved when every team in an organization can work in the environment or architecture of their choice – all while

IT centrally manages a universal control plane to discover, govern, and secure the organization's packaged business capabilities and APIs. This single control plane helps architects and IT leaders reduce operational complexity.

Alongside these architects and IT leaders, developers are among the most important stakeholders within the digital ecosystem – meaning it's crucial to create the right conditions for them to drive digital delivery.

By putting developers at the center of the business strategy and enabling them with easy-to-use tools and CI/CD techniques to work with a universal control plane, organizations democratize agility and innovation across the enterprise.

Teams no longer have to do duplicative, manual work and our internal processes are now much faster than ever before — leaving more time for innovation.

OLIVIER VANSTEELANDT, CIO, AXA LUXEMBOURG

Protect your organization with API security best practices. Download whitepaper.
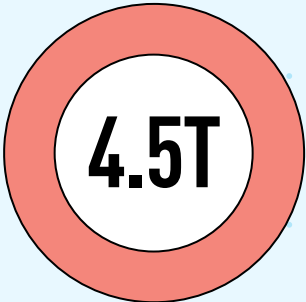
Future-proofing

Future-proofing enables an organization and its technology to adapt to rapidly changing market needs. CIOs must ensure that any new technology they invest in will be long-lasting, to prevent ripping and replacing it later.

Composing your enterprise with the building blocks of universal API management on an open, flexible, and scalable platform makes this a reality. It allows the orga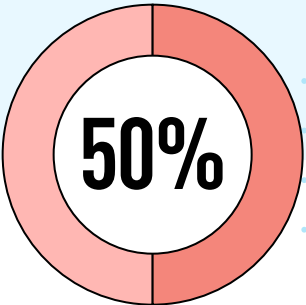nization's existing technology to be compatible with future innovations, while ensuring that previous investments remain intact. This assures CIOs that their technology stack will deliver long-term value to the business without missing out on any cutting-edge innovations.

4.5T

$4.5 TRILLION — PROJECTED GLOBAL IT SPENDING IN 2022

50%

FASTER DELIVERY TIMES FOR IT LEADERS THAT REDUCE TECHNICAL DEBT

Learn the 4 trends every IT leader needs to know to empower the enterprise. Download report.

Introducing universal API management **on Anypoint Platform**

MuleSoft's Anypoint Platform is the leader in universal API management with the ability to open the scope of full lifecycle management capabilities to APIs built anywhere, deployed anywhere.

MuleSoft's flexible platform for all APIs, anywhere.

Universal API management on Anypoint Platform is a set of product capabilities that empowers enterprises to manage the full lifecycle of their APIs – built for any purpose and across any language, API gateway, or environment.

ACCELERATE APPLICATION DELIVERY

Compose services using any API across the enterprise – built by any team, on any platform.

API DESIGN CENTER
Build APIs for any purpose

ANYPOINT EXCHANGE
Reuse APIs built anywhere

API EXPERIENCE HUB
Publish APIs to any audience

IMPLEMENT ANY ARCHITECTURE

Manage and secure any service at scale – from monolith to microservice.

FLEX GATEWAY
Secure any service or microservice

API MANAGER
Manage users and services in one place

API GOVERNANCE
Operationalize API governance

OPERATE IN ANY ENVIRONMENT

Deploy and monitor your services across any cloud or environment with a consistent experience.

MULE RUNTIME SERVICES
Deploy to any environment

ANYPOINT MONITORING
Monitor your operations consistently

ANYPOINT SECURITY
Apply advanced security automatically

MuleSoft