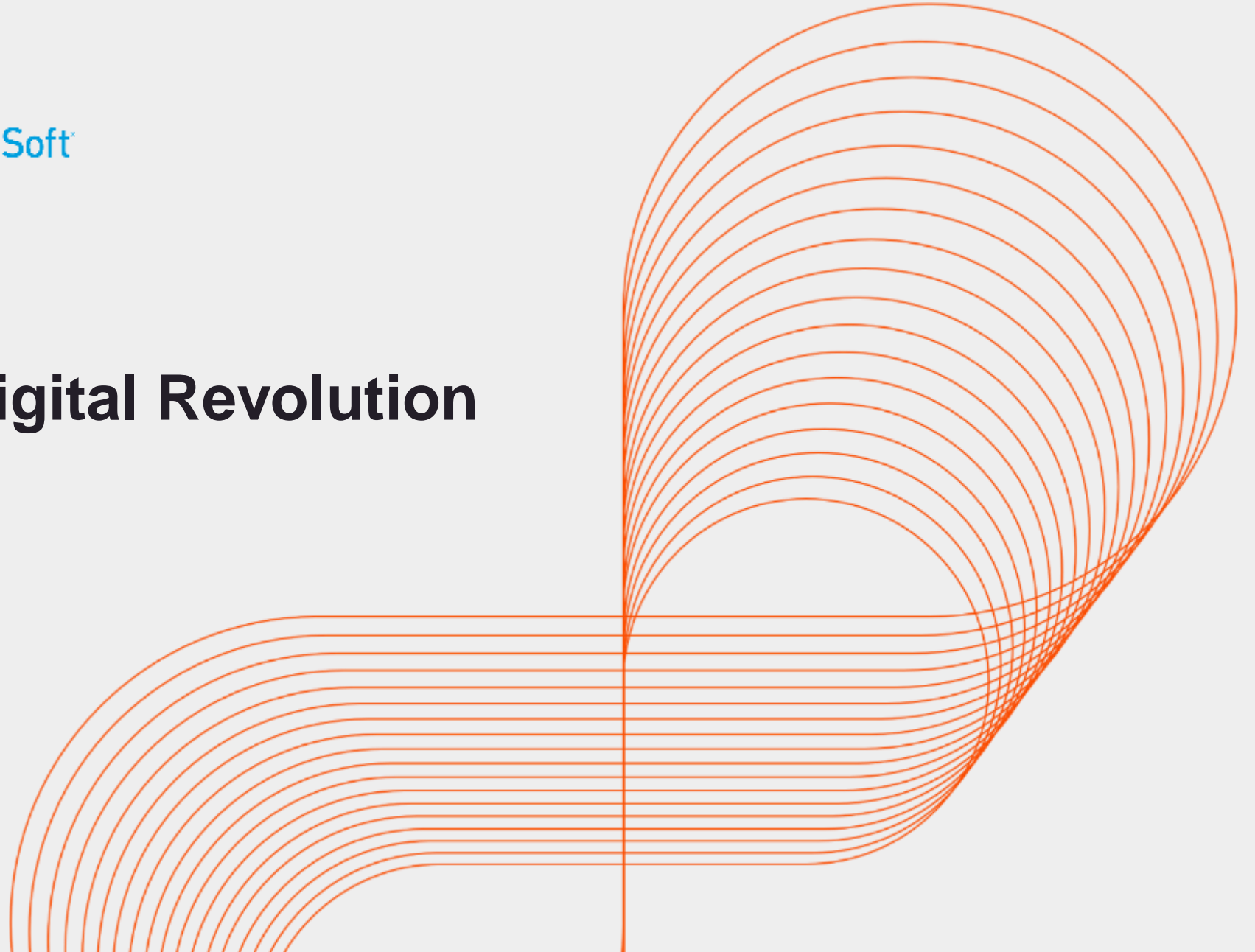




API Economy The Second Digital Revolution

Empowered by MuleSoft



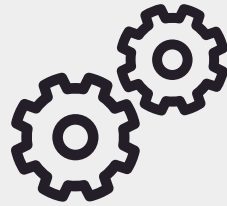
- 1. API Economy: Persistent's POV**
- 2. Where Does MuleSoft Fit?**
- 3. Why Persistent?**
- 4. Case Studies**
- 5. Demo: Live Action**
- 6. Sell Together**

4th Industrial Revolution: API Economy



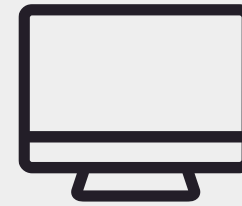
Mechanization,
Water Power, Steam Power
Human Driven

1700s



Mass Production,
Assembly Line, Electricity
Tool Driven

1800s



Computer and Automation
**Program and
Application Driven**

1900s



API Economy
**Data/Information
Driven**

Today -> Future

API Economy

A decorative orange line graphic that starts as a horizontal line from the left edge, crosses the title, and then curves upwards and to the right, forming a large, open loop that occupies the upper right portion of the slide.

We have seen World Wide Web as First Digital Revolution.
API Economy is next big thing already.

Driving Forces for API Economy

API Economy is next big thing and following are key driving forces:

Demand

(Evolving Technologies, Rise of Internet and Devices)

Resources

(Data)

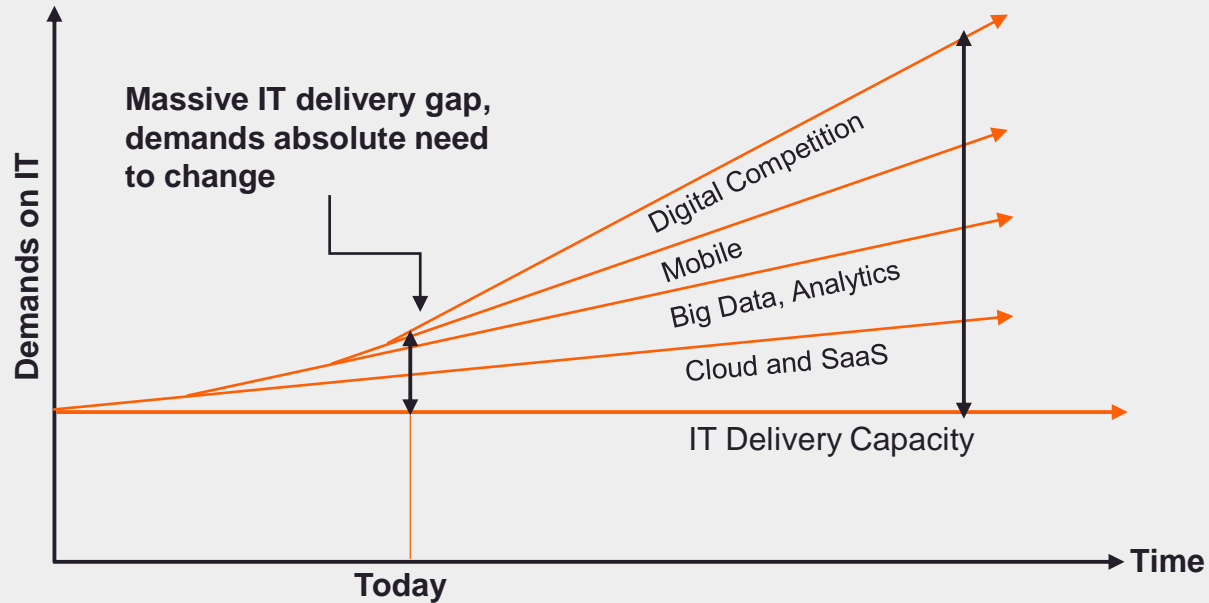
Innovation

(Web as a Platform)

Adaptation

(Social Network, Mobile Apps, IoT, Rise of Machine Learning)

Demand: IT Needs a Makeover

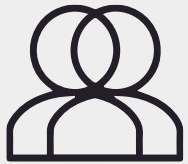


IT is looking for an innovative platform, which can:

1. Enable them creating reusable assets for accessing data and resources
2. Enable the business to self-serve and deliver more
3. Enable them to leverage existing application and data to deliver changing demands of the world

Demand: Growing Internet Userbase

Usage of internet is growing 20% year-on-year. Users are adapting different channels with the rise of devices. Percentage of users with desktops and laptops shrinking, users are more inclined towards tablets, mobiles and other devices.



**Total
Population**

7.593 Billion

Urbanization

55%



**Internet
Users**

4.021 Billion

Penetration

53%

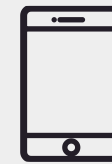


**Active Social
Media Users**

3.196 Billion

Penetration

42%



**Unique
Mobile Users**

5.135 Billion

Penetration

68%



**Active Mobile
Social Media Users**

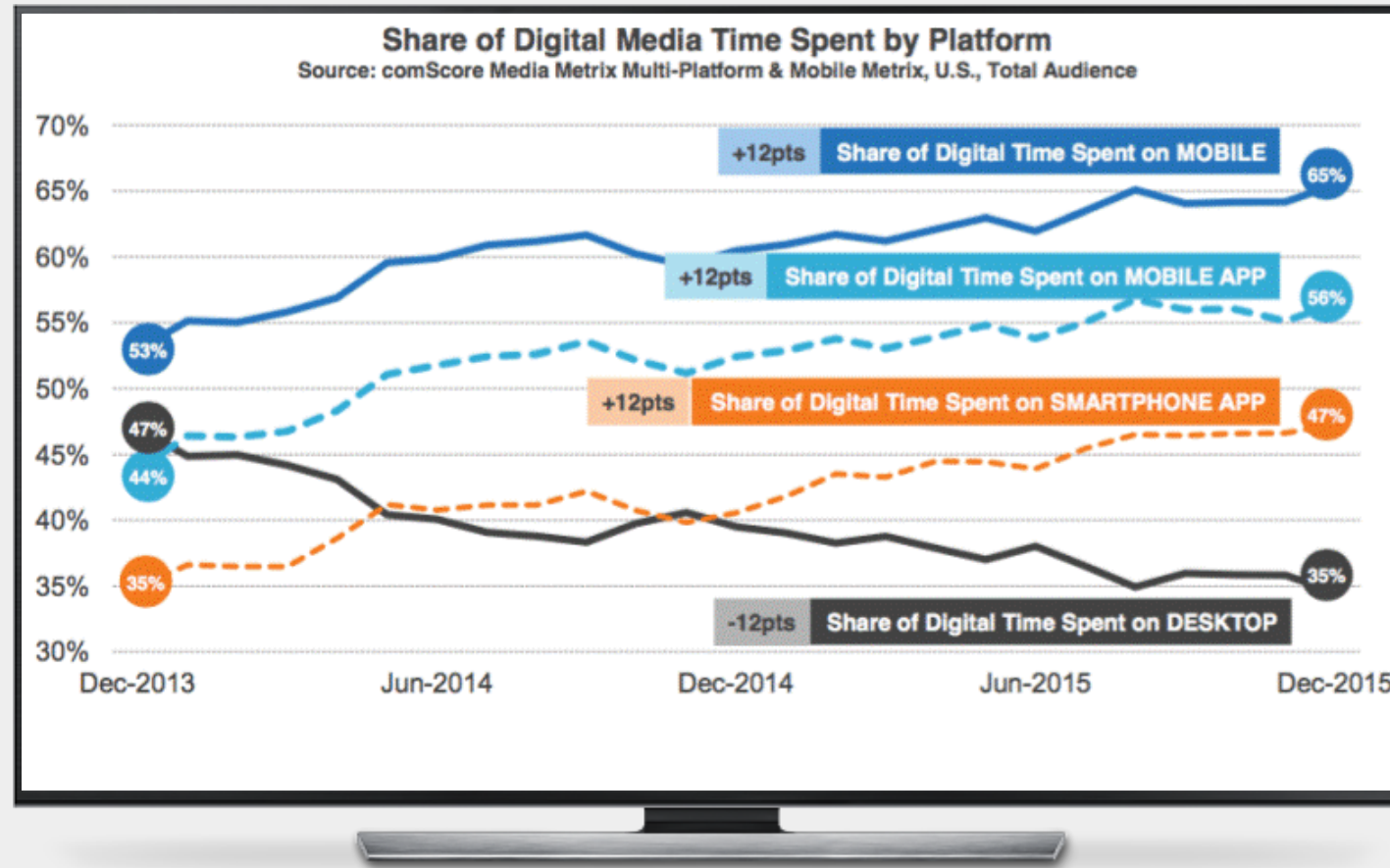
2.958 Billion

Penetration

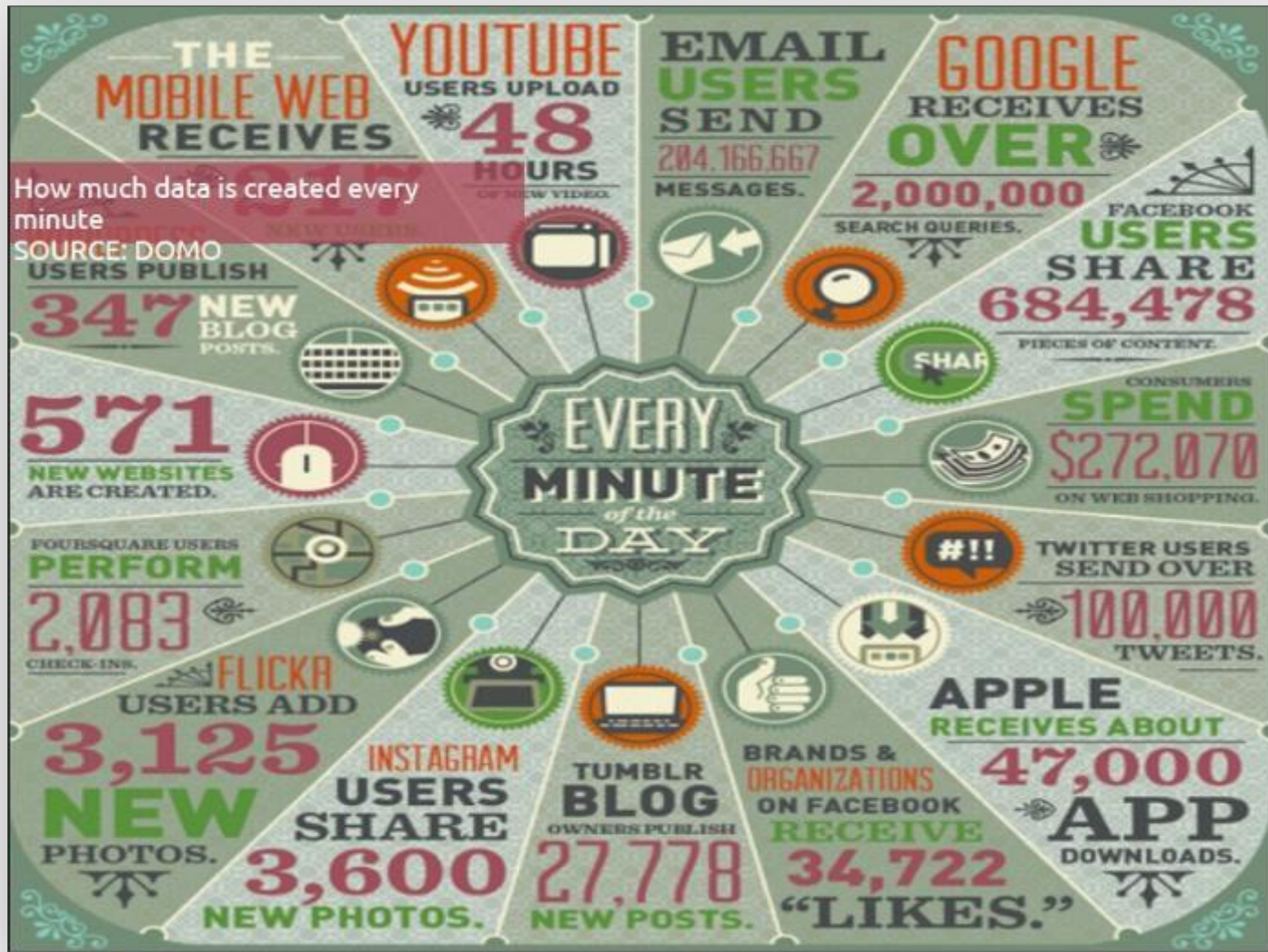
39%

Demand: Rise of Devices

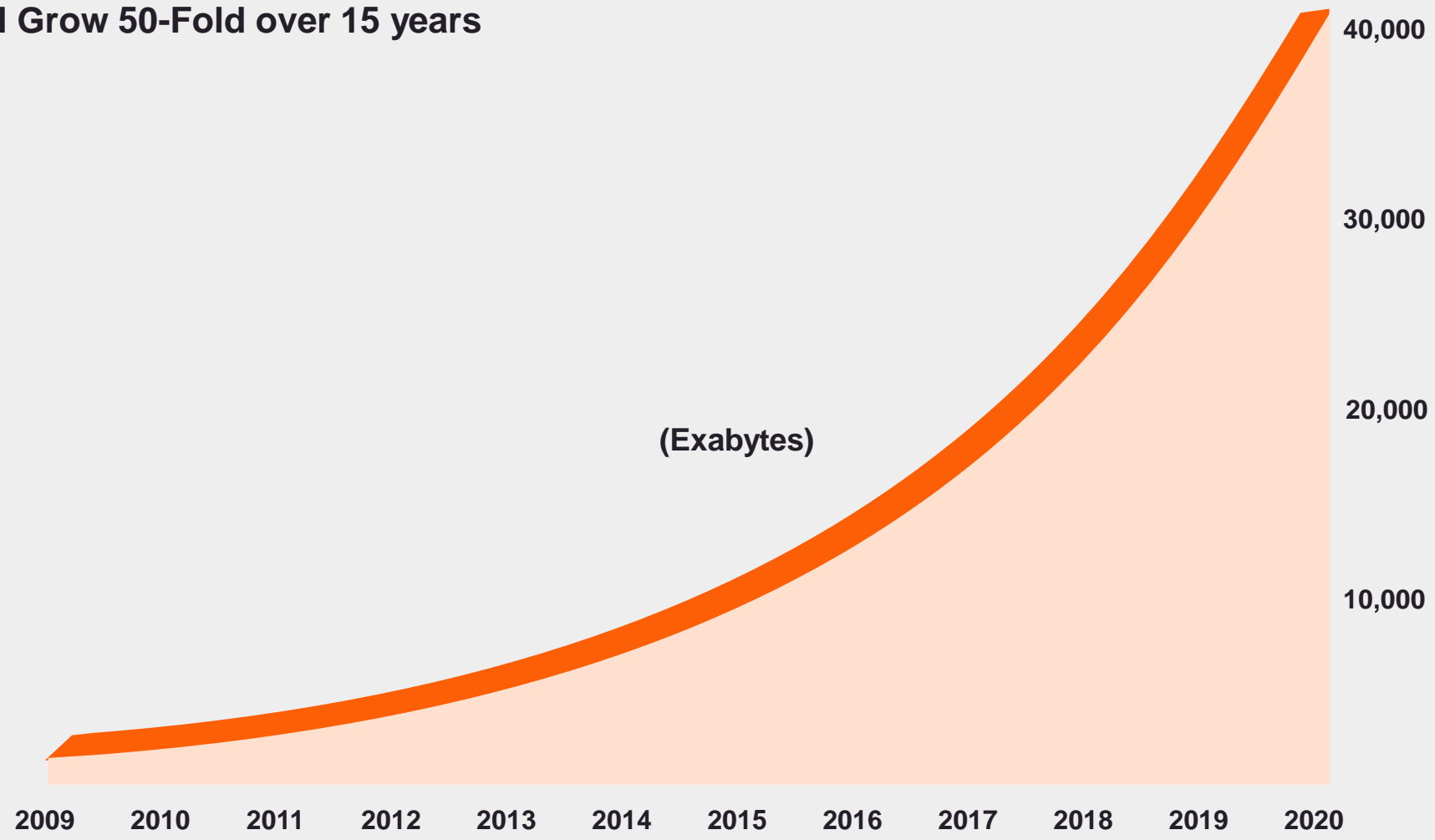
Rise of devices is changing digital media consumption patterns. This require agility within the application so that it can support fast changing markets and rising devices.



Resource: Data is the Resource Currency of Second Digital Revolution

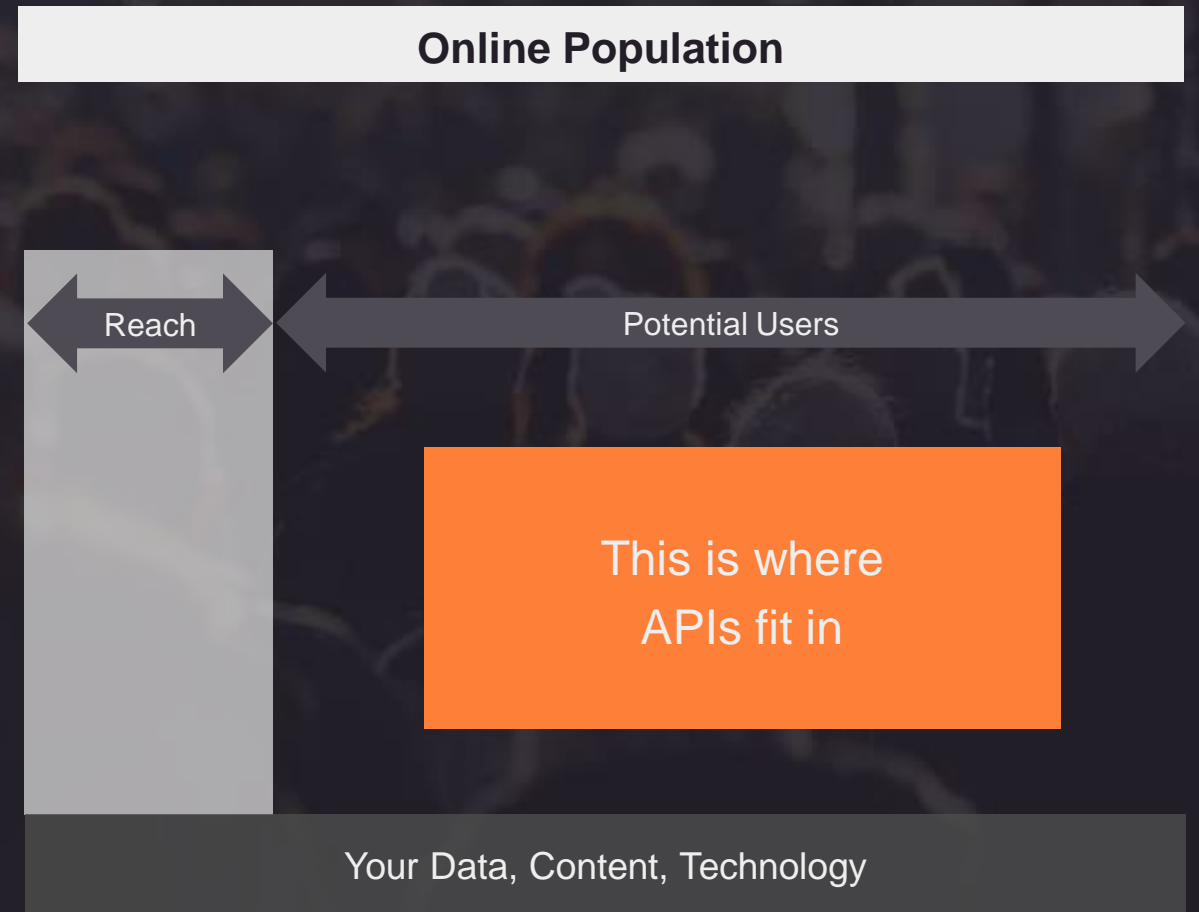


Data Volume will Grow 50-Fold over 15 years



Innovation and Adaption

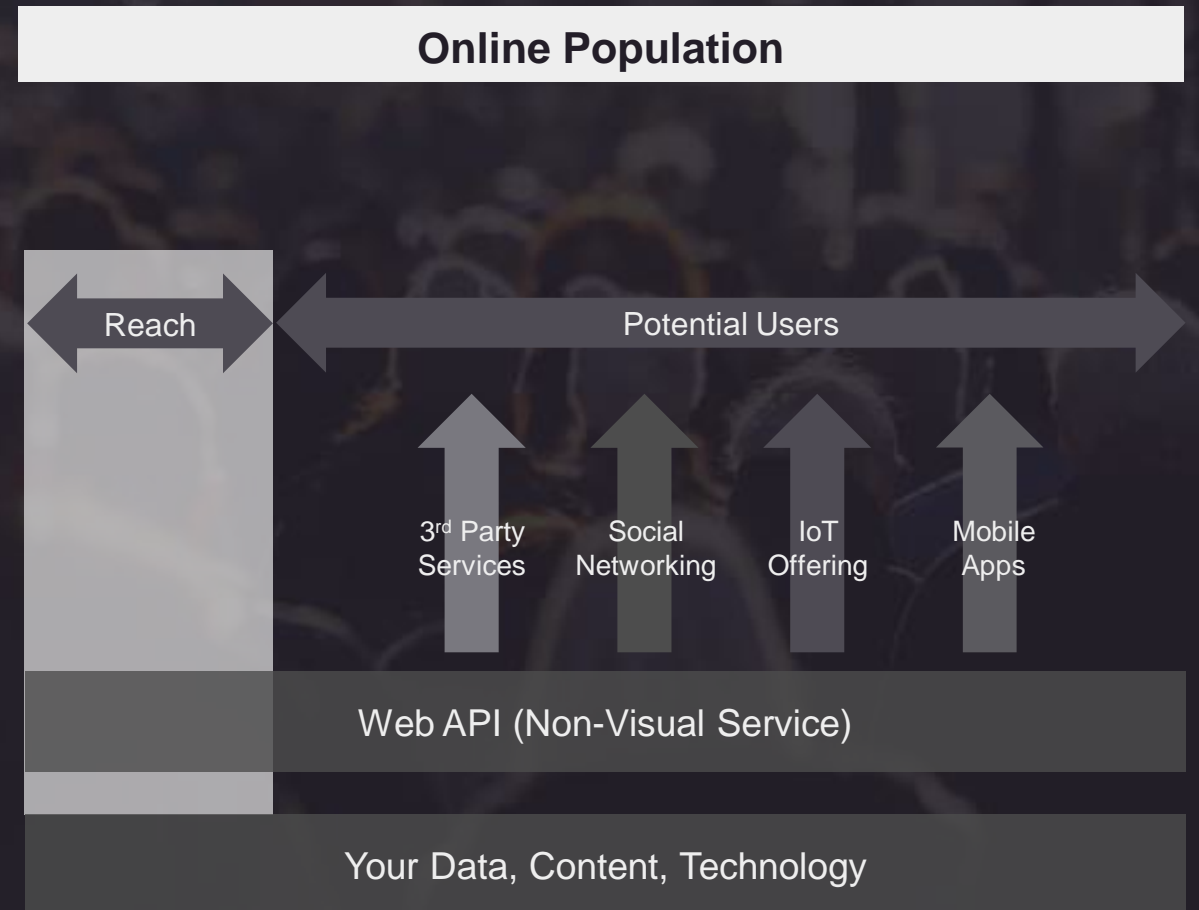
- Your data/service/app is reaching to limited userbase
- Rise of devices changes the expectations of users
- Application needs to keep meeting ever increasing demands of devices
- If you are offering services to other applications, they will expect you to meet the demands, which is constantly changing with rise of devices



Innovation and Adaption

- APIs are the new business currency to engage with partners and customers
- APIs allow IT organizations to extend their data/technology/content to more third party services more easily
- Third parties or other organizations in your company can reuse your APIs to build/connect their Apps/systems to your systems and the data you provide.
- Enable mobile apps from your data
- Engage users on social platforms

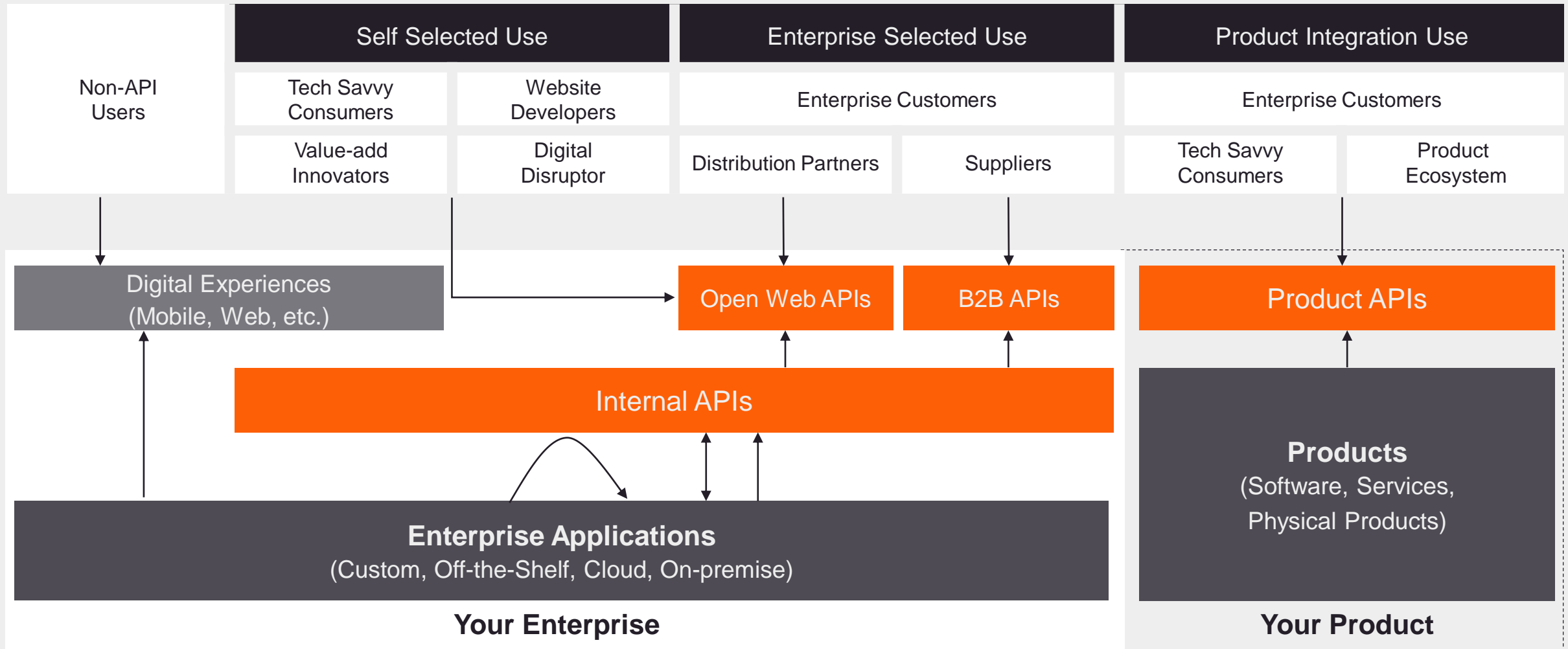
Customer demands are changing, with good API strategy, this can be addressed faster



Where does MuleSoft Fit?

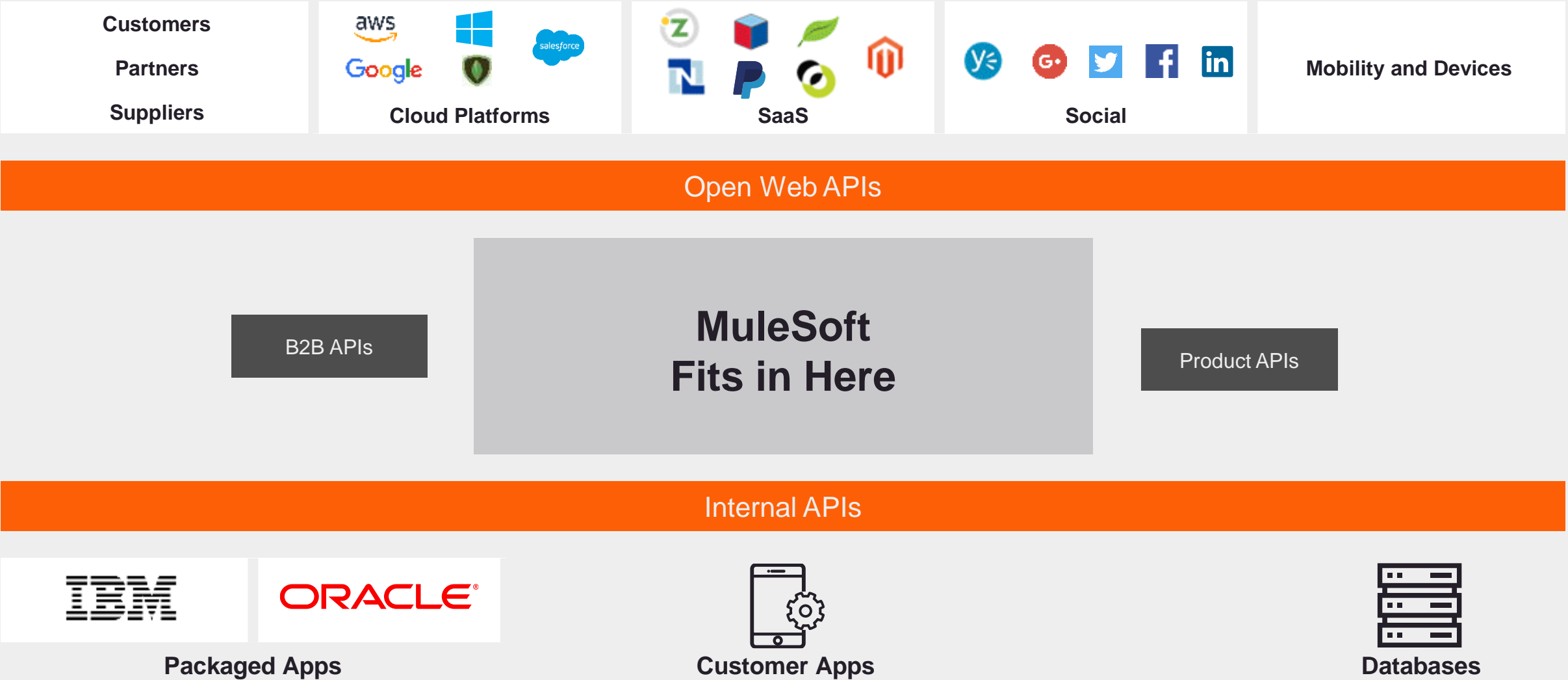


API Model in New Enterprise

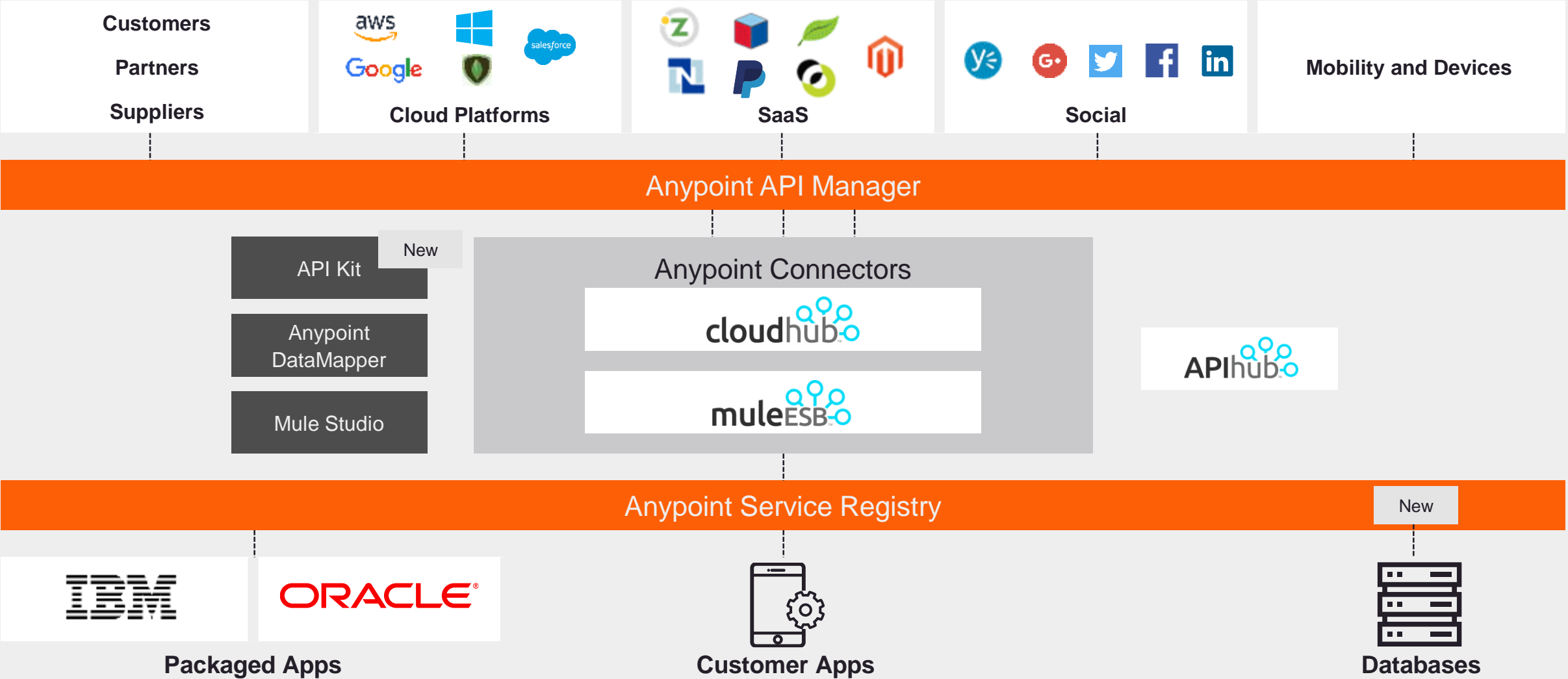


Source: Forrester, Establish your API Design, June 2013

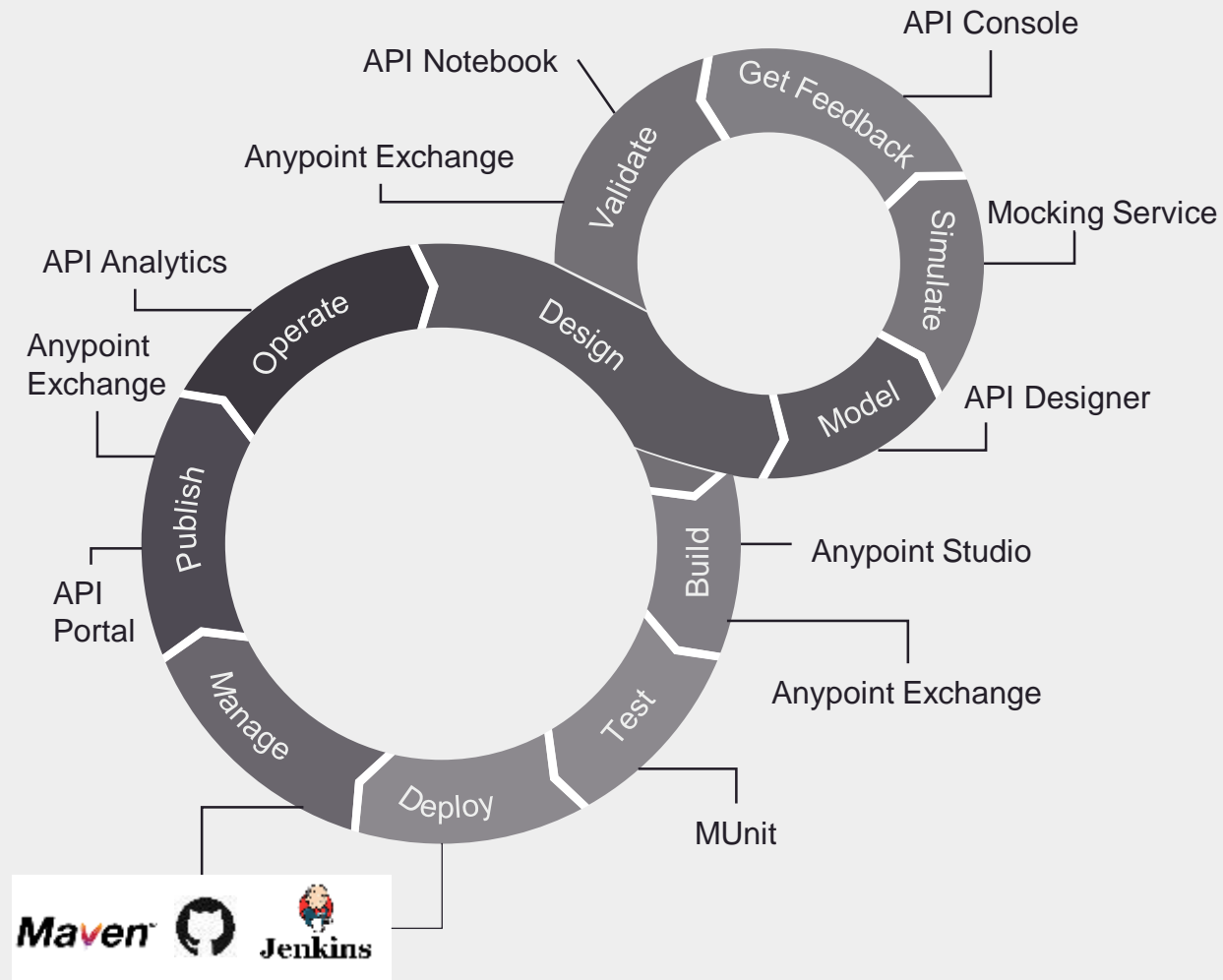
API Model in New Enterprise



MuleSoft Empowers API Economy



MuleSoft's End-to-End API Lifecycle



API Lifecycle

- Design and Model — API Designer
- Simulate — Mocking Service
- Get Feedback — API Console
- Validate — API Notebook & Anypoint Exchange
- Build — Anypoint Studio
- Test — Anypoint Exchange and MUnit
- Deploy and Manage — Maven, Jenkins and GitHub
- Publish — API Portal, Anypoint Exchange
- Operate — API Analytics and Policies (API Manager)

API-led Connectivity

Traditionally APIs were only used for internal purposes, but nowadays enterprises are leveraging them externally too.

- Eg. Uber is using Google Maps API to calculate the estimated pickup time, fare, and travel time to the destination
- McDonalds is using API's to drive their delivery services and also to help determine guest capacity at their restaurants

API-led connectivity is the answer to transforming business decisions into actual product offerings, before your competitors do. In essence, API-led connectivity is a methodical way to connect data to applications through reusable and purposeful APIs

These APIs are developed to play a specific role – unlocking data from **systems**, composing data into **processes**, or delivering an **experience**

An API-led connectivity approach to delivering IT projects ensures you are not only on time and budget with your first projects, but you have **built the reusable assets that will save your company time and money**, created an infrastructure which is **designed for change, built in visibility, compliance and governance and**, most importantly, met the **needs of the business**, which is long-term sustained agility

API-led Connectivity

The APIs used in an API-led approach to connectivity fall into three categories:

System APIs

These usually **access the core systems of record** and provide a means of insulating the user from the complexity or any changes to the underlying systems. Once built, many users, can access data without any need to learn the underlying systems and can reuse these APIs in multiple projects

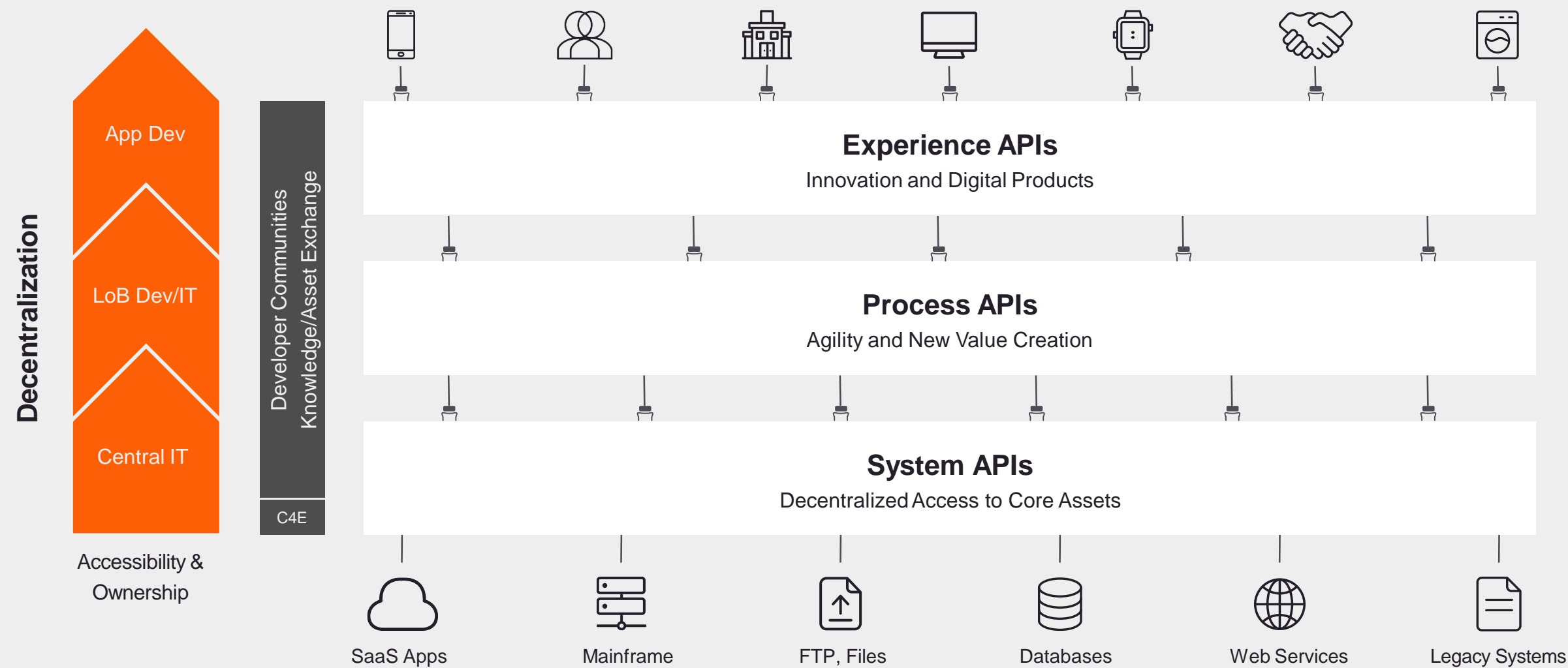
Process APIs

These APIs **interact with & shape data** within a single system or across systems and are created here **without a dependence on the source systems** from which that data originates, **as well as the target channels** through which that data is delivered

Experience APIs

Experience APIs are the means by which **data can be reconfigured** so that it is most **easily consumed by its intended audience**. An Experience API is usually created with API-first design principles where the API is designed for the specific user experience in mind

API-led Connectivity (contd.)



MuleSoft Anypoint Connectors

Ability to connect to any endpoint with prebuilt connectors as well as build custom reusable connectors with SDK Anypoint Connector Dev Kit. Listed below are a few of the prebuilt connectors:

IBM AS/400	MongoDB	Workday
Salesforce	X12 EDI	SAP Hybris
Amazon S3	Microsoft SharePoint	Microsoft Azure Storage
Temenos T24	Einstein Analytics	BMC Remedy
SAP	Twilio	Marketo
Amazon SQS	Amazon SNS	Marketing Cloud
Oracle E-Business Suite	HL7	Google DoubleClick
Netsuite	Zuora	ServiceNow

MuleSoft Anypoint Platform Value to Customer

- Unlock legacy systems, rapidly connect legacy assets to SaaS technologies, and **reduce integration costs** without disrupting existing business processes
- Increase developer productivity and **shrink development times** through open technologies that promote **reusability, modularity and collaboration**
- **Reduce time to resolution** by managing all resources from a single pane of glass
- Increase innovation and value creation across the enterprise through tools that enable **faster development, testing, and implementation of APIs**
- Increase agility with a **flexible architecture** that evolves as your business does
- Create **happier customers** and competitive advantages by delivering services and experiences

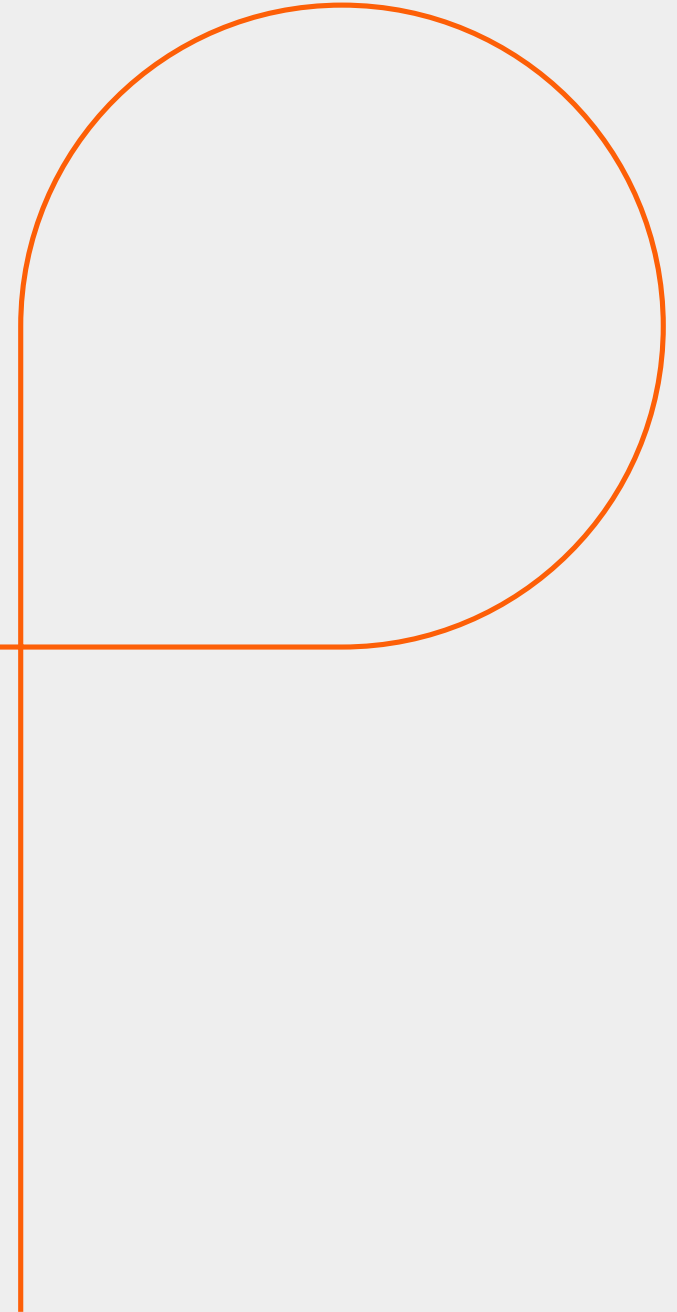
Comparison: Enterprise iPaaS Solutions

Product Features	MuleSoft	Dell Boomi	Informatica	SnapLogic	Jitterbit	Talend	TIBCO
Communication Protocol	4.6	4.4	4.2	4.3	4.5	4.5	4
Application Connectors	4.5	4.4	4.3	4.2	4.5	4.3	4.5
Data Formats	4.8	4.5	4.4	4.2	4.5	4.3	4.5
Data Standards	4.4	4.4	4.3	3.7	4.5	5	4
Data Mapping and Transformation	4.4	4.4	4.4	4	4.5	5	4
Data Quality	4.2	4.4	4.1	4	4	4.5	5
Routing and Orchestration	4.4	4.4	4.1	4	4	4.8	4
Integration Flow and Lifecycle Mgmt. Tools	4.2	4.2	4.1	4.2	3	4.3	4
Integration Flow Operational Monitoring and Management	3.9	4.3	4.1	4.2	3	4	4
Full Lifecycle API Management	4.3	4.1	4	3.5	3.5	4	4.5

Source: <https://www.gartner.com/reviews/market/enterprise-integration-platform-as-a-service/compare/Dell-Boomi-vs-mulesoft-vs-informatica-vs-snaplogic-vs-jitterbit-vs-talend-vs-tibco>

Why Persistent?

Persistent MuleSoft Capabilities Overview



50+
Engagements

MuleSoft Practice Overview

Highly-Skilled Team
MuleSoft Certified
Consultants

20+
Integration
Specialists

**Message
Formats**
HL7, X12, etc.

Industry Solutions & Accelerators

HLS | Banking and Financial Services |
Manufacturing | Retail

Compliances

Data Privacy Regulations | PCI DSS | HIPPA

Global Delivery
North America, EU,
APAC & Australia

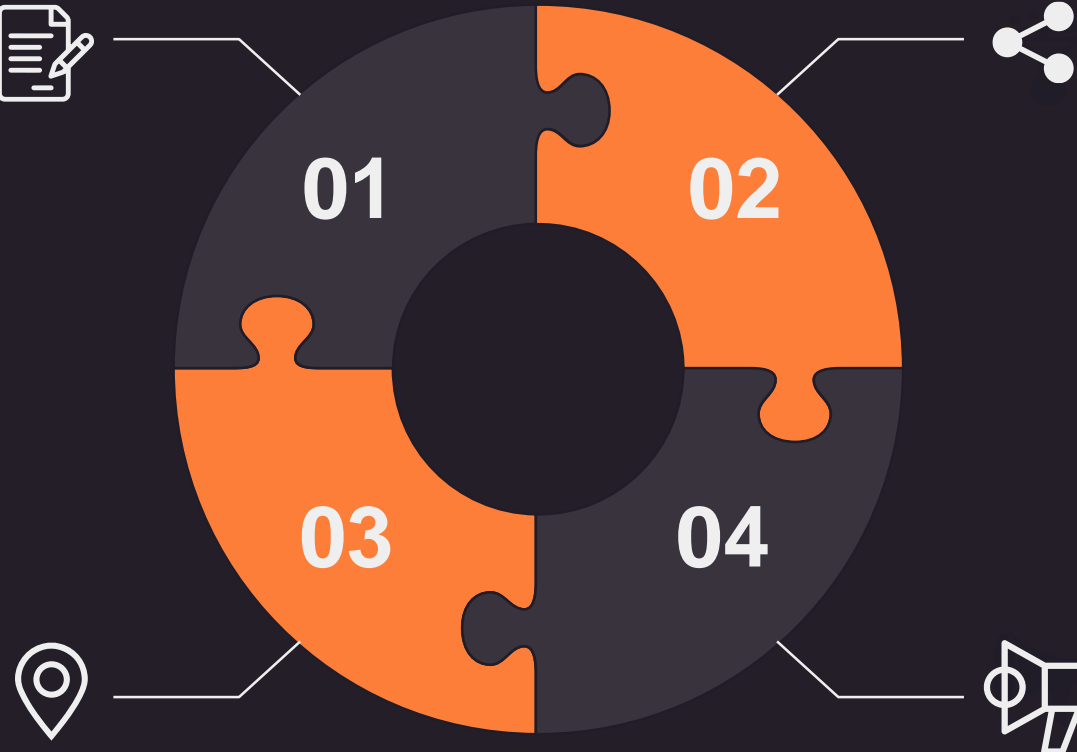
Global Footprint



Persistent — MuleSoft Partnership Highlights

Why?

- Pre-defined enterprise solution use cases: APIs, IoT, Mobile, SaaS Integrations, Salesforce Integration, Microsoft Integration, SAP Integration
- Pre-built connectors and Solution Accelerators



What?

- To build **application network of apps**, data and devices with **API-led connectivity**
- **Exchange for prebuilt reusable assets**, shared publicly or privately within the enterprise
- Enterprise-grade security, scalability, reliability and high availability



Where?

- To speed-up integration use cases using pre-built connectors
- When there is a need to take up a bottom-up approach to digital transformation (by building application network first)
- When you see use cases for API, IoT, Integration, EA-enablement, ESB



Who?

Industry Focus

- Healthcare
- Life Sciences
- Manufacturing/ Industrial
- Banking & Financial Services



Persistent — MuleSoft Partnership Highlights

1. Why?

- Pre-defined enterprise solution use cases – APIs, IoT, Mobile, SaaS Integrations, Salesforce Integration, Microsoft Integration, SAP Integration
- Pre-built connectors and Solution Accelerators

2. What?

- To build **application network of apps**, data and devices with **API-led connectivity**
- **Exchange for prebuilt reusable assets**, shared publicly or privately within the enterprise
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3. Where?

- To speed-up integration use cases using pre-built connectors
- When there is a need to take up a bottom-up approach to digital transformation (by building application network first)
- When you see use cases for API, IoT, Integration, EA-enablement, ESB

4. Who?

Industry Focus

- Healthcare
- Life Sciences
- Manufacturing/ Industrial
- Banking & Financial Services

Legacy Modernization

- 5X faster connection using prebuilt connectors¹
- Lower maintenance cost²
- Deliver digital initiative 4X faster³
- Strategies to move to cloud

Mobile

- Digital Experience 4X faster¹
- Shorter Release Cycles²
- High performance with uptime³

Omnichannel

- 3X faster Omnichannel development
- Drive Consumption, consistency and reuse of digital assets
- Increase opportunity for revenue growth

eCommerce

- Launch an eCommerce platform 2.5X faster¹
- Scale 4X faster across your brands and regions²
- Ensure High performance and uptime

Data Synchronisation

- Data Sync across the organization
- Scale your process across application with uniform channel of integration
- Transform and enrich your data to connect disparate protocols, message formats etc.

IoT

- Seamless Connectivity for IoT¹
- Speed of Delivery²
- Future-proof your IoT integrations³

Healthcare Case Studies

A decorative graphic consisting of a horizontal orange line that extends across the width of the slide. From the right end of this line, a vertical orange line descends. A large orange circle is positioned in the upper right quadrant, with its bottom edge tangent to the horizontal line and its left edge tangent to the vertical line.

Transformation of Care Management System

Company Overview: A leading healthcare organization in USA which gets high number of international referrals

Key Imperatives

Inhouse legacy systems 'Utopia' for tracking prospect, patients and embassy referrals was not able to keep up with the business needs. The major challenges was:

- Legacy system was not able to sync with disparate systems such as Excel, Emails and other databases
- Slow load time
- Not compatible with mobile
- Heavy maintenance
- Inability to collaborate with embassy referrals and other high-profile patients
- Payment process was not fully secured, therefore not compliant with the regulations

Solutions

- Persistent worked with client to define and adopt API strategy with MuleSoft to accelerate IT delivery
- Unlocked key functionality of legacy system with APIs, which enabled central IT to empower the business to self-serve and develop their own technology solutions
- APIs was at core to provide 360-degree view of clinical, demographic and other patient data
- Rich user interface with Mobile compatible features for care co-ordination, thus giving patients more control over their own care
- Highly secured API with MuleSoft security policies enabled safe integration with payment gateway and other systems such as Epic, Skedulo, InContact, Drawloop, Ringlead etc.
- LiveAgent provides 24x7 support for embassies

Business Benefits

- 5X reduction in turn around time for domestic and international patient assessments
- Significant reduction in operational cost and overall maintenance of the system
- Initiative such as SSO, audit tracking, reports and dashboard was easily implemented with 5X faster speed
- Able to adhere to compliances and regulations
- Business is ready and agile to deliver new digital initiative based on legacy system and data
- API led Connectivity increases re-use and enable variety of experiences

Use Cases

- Legacy Modernization
- Mobile

Technology Used: MuleSoft Anypoint Platform | Service Cloud | Community Cloud | Rest Webservices | Bootstrap

Diabetes Intervention & Population Health

Company Overview: A leading healthcare organization in USA which provide prevention and health promotion to align action for health.

Key Imperatives

The client wanted a platform which can help them:

- \\ Real time integration between various disparate systems such as Twilio, Healthwise, Livongo cloud etc.
- \\ Extensible data integration, which can keep data in sync between various Salesforce org that they may have
- \\ High volume data migration from their current systems to new system
- \\ Extension of processes across applications (Salesforce, Livongo Cloud, Healthwise)

Solutions

- \\ Persistent work with client to design the processes within salesforce and across the applications
- \\ Worked on data synchronization strategies, which included transformations across disparate data formats and protocols
- \\ Important patient health information and alert was captured from Livongo cloud and published to all the interested subscribers including salesforce
- \\ Exposed Education contents from *Healthwise*, which is further used in Salesforce. While doing this, API-led connectivity of MuleSoft is used to generate right experience for the channels accessing contents
- \\ Compliance and security was achieved with the help of MuleSoft security policies

Business Benefits

- \\ High volume data integration achieved with 3X speed
- \\ Jeopardy management was offloaded from source and destination systems, where retries, resubmits was handled to deal with transient errors and data errors
- \\ All systems where sharing uniform platform, which makes it easy to maintain and extend the overall solution
- \\ Solution was future ready for omnichannel support, Health content can be fetched from various disparate sources
- \\ Master data management issues reduced significantly

Use Cases

- \\ Data Synchronization

Technology Used: MuleSoft Anypoint Platform | Service Cloud

Patient Relationship Management

Company Overview: Leading cancer research hospital in southern California.

Key Imperatives

Client have a legacy patient onboarding platform, which evolved over a period of time and contains key functionality and data. The main objectives were:

- \ Integrate Patient onboarding system with Salesforce
- \ Data Synchronization between existing systems and new initiatives.
- \ Automate manual processes using integration platform

Solutions

- \ Using the Persistent Patient Relationship Management solution we delivered the following key capabilities
 - \ Patient on-boarding integrated with Salesforce.com Contact Center
 - \ Care coordination around the plan of care focused on goals, tasks, alerts and checklists integrated with risk assessment and patient data integrated with existing EDW using MuleSoft
 - \ Family and patient portals during and post care period including patient education, communication and goals and task management
- \ Leverage Salesforce1's platform to extend the value down stream into Care Coordination of the new call center
- \ Enabled highly coordinated workflow through goal tracking, checklists and alerts supported by coordinator, patient and physician portals

Business Benefits

- \ Coordinated, Collaborative Workflow and Alerts
- \ Early warning to reduce cascading effects across patients
- \ Reduction of manual entries and document review time
- \ Improved revenues and cash collection
- \ Salesforce1 (which is mobile platform supported by Salesforce) was able to leverage content from other systems with the help of API exposed using MuleSoft.

Use Cases

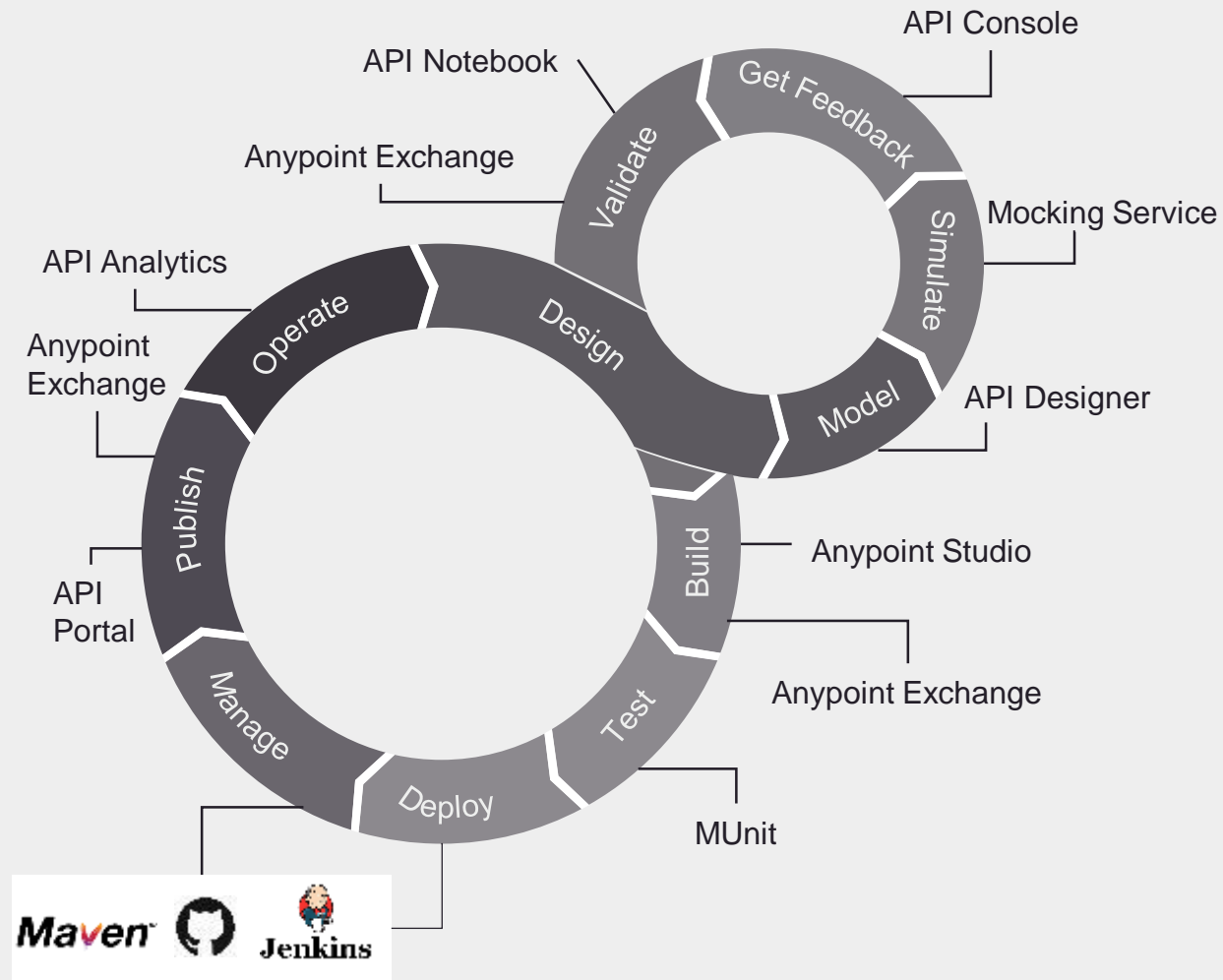
- \ Data Synchronization
- \ Mobile

Technology Used: Salesforce Platform | Service Cloud | Rest Webservices | MuleSoft ESB | SVN, Jira

Demo: Action Live



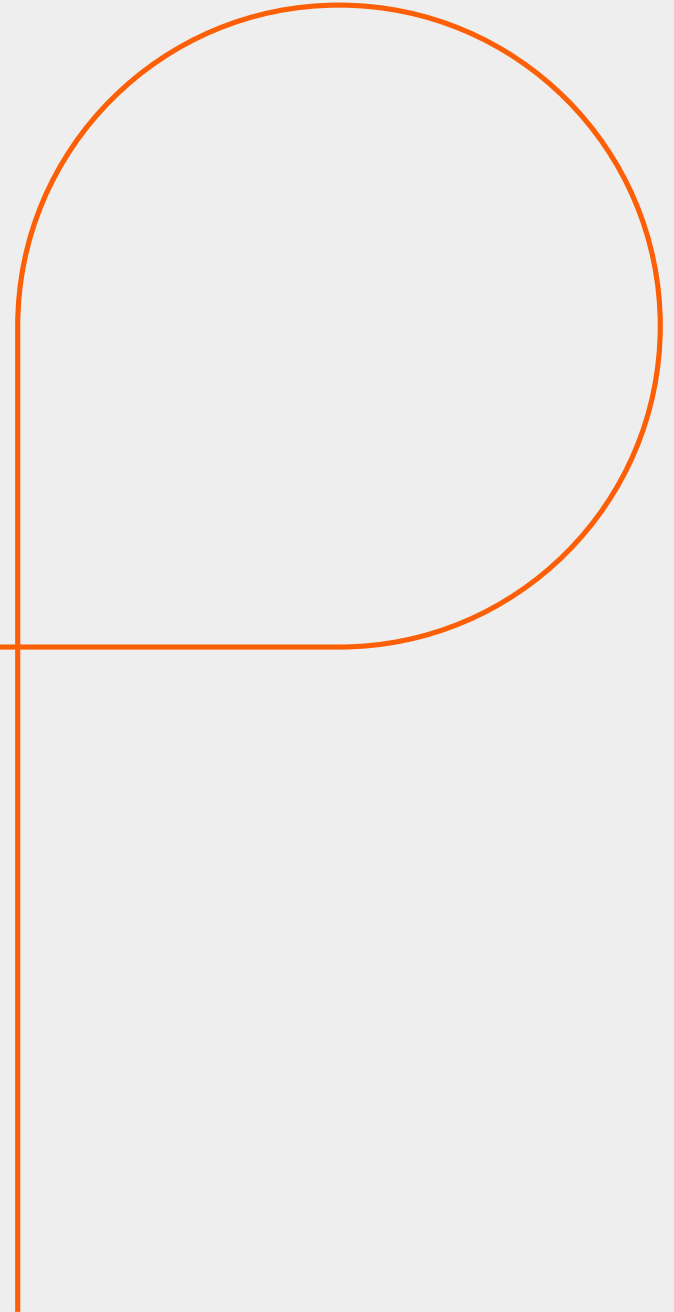
Flight Search MuleSoft API: Demo



Flight Search API Lifecycle

- Design and Model — API Designer
- Simulate — Mocking Service
- Get Feedback — API Console
- Validate — API Notebook & Anypoint Exchange
- Build — Anypoint Studio
- Test — Anypoint Exchange and MUnit
- Deploy and Manage — Maven, Jenkins and GitHub
- Publish — API Portal, Anypoint Exchange
- Operate — API Analytics and Policies (API Manager)

Sell Together



Let's Team Up for MuleSoft

**Focused Verticals:
BFSI, HC&LS, Retail
& Manufacturing**

**Persistent Sales
Velocity Team**

Joint Campaigns

Events & Meetups

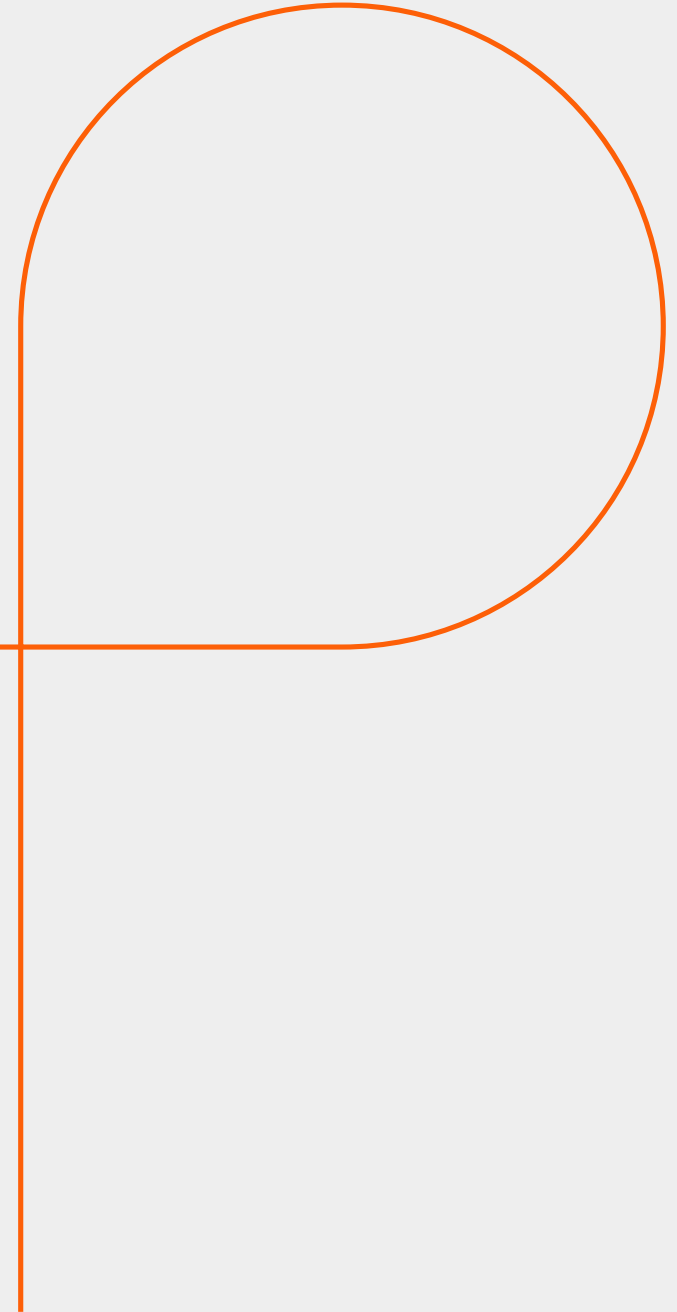
Account Planning

POCs & DEMOs

**Certified Experts
Team**

**Presales & RFPs
Support**

Other Case Studies



Order-to-Cash System for a Leading Billing Service Provider

Company Overview: Client operates an integrated platform of commercial software and systems as a hosted service to provide order-to-cash billing services hosted in the cloud for cable, broadband, satellite, telecommunication, and utility operators.

Key Imperatives

- \ Client wanted to develop an Order Entry System on Force.com
- \ Key Requirements were:
 - \ Enabling Sales representatives to manage Accounts, Product Catalogs, Plans/Services and Contacts/Users for all verticals
 - \ Integration with backend systems (like billing, WFM, credit check and provisioning systems)
 - \ Implementing a portal for end consumers to manage their accounts
 - \ Integrating with payment gateway for payment related functionalities

Solutions

- \ Persistent worked with LOB application owners such as WFM, BPM, Provisioning Systems, Billing Systems to develop APIs and application network
- \ All systems were integrated with common integration platform aka MuleSoft
- \ Security for all API was managed by MuleSoft using appropriate policies
- \ Compliance requirement was managed using MuleSoft security Policies, which was making sure who will get sensitive information, encryption etc.

Business Benefits

- \ Increase in access to market by providing Order-to-Cash System on Cloud
- \ Enabling end customers with additional payment services
- \ Integration with disparate systems and provide a unified view for using and managing the systems
- \ Centralize Compliance and security management is future ready and new regulation, changes etc. can be easily incorporated.

Use Cases

- \ Data Integration
- \ Customer 360 Degree View

Technology Used: Salesforce Platform | Java, Rest Webservices, ESB, JPA | Workpoint BPM, jBilling, Active Mqueue | MuleSoft as ESB | Jenkins for Test and Build Automation | SVN, Jira, SharePoint

Consulting Services for an Educational Institution

Company Overview: An education institution offering arts, sciences, professional and graduate programs in education and business administration.

Project Overview

Requirements

- \\ The client wanted Remedyforce onboarding for Service Request Management Module
- \\ Integration between Remedyforce (RF) and Microsoft Service Center Configuration Manager (SCCM)
- \\ Billing support customization to create a task when an incident is created in Remedyforce
- \\ Training on Global search functionality and reporting in Remedyforce

Solutions

- \\ Scheduled and conducted product mentoring sessions for the customer with the rich experience of Persistent on the Remedyforce application
- \\ Delivered solution using Pentaho data migration tool in achieving integration between Remedyforce and SCCM
- \\ Developed and delivered solution through customisation for automatically creating a task when an incident is created in Remedyforce

Business Benefits

- \\ Automation of the process of managing the Configuration Items (CIs) between Remedyforce and SCCM significantly reduced manual work to insert/update CIs in multiple systems
- \\ Alleviated manual intervention from the users in manual creation of tasks by automating the process of creating tasks when an incident is created in Remedyforce
- \\ Product mentoring sessions and documentation greatly helped the customer's Salesforce Administrators to perform the configurations in the Remedyforce application

Technology Used: Remedyforce Application Built on Force.com Platform | Pentaho Data Migration Tool

Sales Cloud for US Based Marketing Conglomerate

Company Overview: Manages entire portfolio of media products and services that are designed to support marketing strategies.

Project Overview

Requirements

- \ Rescue of half implemented project – Earlier Vendor was discontinued after 60% of implementation
- \ End-to-End Sales Process Implementation
- \ Integration with existing Legacy systems
- \ Need of retiring existing Siebel based CRM system & Data Migration

Solutions

- \ Accounts & Contact Management
 - \ Management of more than 25,000 accounts
 - \ Supports 3 different types of Accounts
- \ Opportunity Life Cycle Management
 - \ Caters to 8 different types of opportunities & corresponding business process
 - \ Governs end-to-end opportunity lifecycle
 - \ Migrated more than 100,000 opportunities
- \ Staff & Account Transfers
 - \ Automated Revenue/Commission calculations and Portfolio allocations resulting post to Staff & Account transfers
- \ Accounting Calendar
 - \ Customized financial accounting calendar

Business Benefits

- \ Provides 360-degree perspective of Sales organization & process
- \ More than 300 users distributed in 6 levels of hierarchy
- \ Covers operations for 8 regions in USA
- \ Supports N level hierarchy management
- \ Automated allocation and approval process
- \ Automated revenue calculation
- \ Integrated with multiple legacy systems through MuleSoft

Technology Used: Salesforce platform (Sales Cloud, Community Portal) | VF and Apex for Custom Reports | MuleSoft for Integration with Legacy Systems | Pentaho for Legacy Data Migration

CRM for US Based Solution Integrator & Networking Company

Company Overview: A global solutions integrator in unified communications, network integration, data center & virtualization and enterprise applications domain.

Project Overview

Requirements

- \ The client wanted a CRM platform for multi-geography implementation with capability to handle region specific processes
- \ The existing system allowed the client's senior management to get involved only in the later stages of the sales cycle. Hence the process of getting approval became manual and time consuming

Solutions

- \ Persistent team implemented Salesforce CRM with multicurrency feature. Region specific processes and management view
- \ Provided visibility to management early in sales cycle through Opportunity team and alerts features
- \ Opportunity workflow and Approvals was implemented to streamline the sales process
- \ Integrated with SAP to streamline order processing and invoicing
- \ Implemented chatter and opportunity team features allowing client to adopt team selling approach

Business Benefits

- \ Standardized CRM process for client's sales team
- \ Region specific and Global view to management
- \ Automated Opportunity approvals helped in timely response on deals
- \ Integrated ERP and CRM solution as one single product available to the client

Technology Used: : Salesforce Platform (Sales Cloud – Region Based, Community Portal) | Multicurrency, Custom Approvals and Collaboration using Chatter | MuleSoft for Integration with SAP using REST

Some MuleSoft Integrations for HLS Engagements

#	Source System	Target System	Integration Mechanism	Data Type	Integration Objective
1	AllScript/MS SQL Server	Salesforce	MuleSoft — Anypoint Connector	PHI — diagnosis, surgery, radiotherapy, chemotherapy, care plan, etc.	Create Care team based on PHI extracted from AllScript.
2	Emdeon	Salesforce	MuleSoft — X12/EDI Connectors	X12 data format for querying member claims info, claim submission, claims status check, rejection advise, etc.	<ul style="list-style-type: none">• Base data for Clinical Practice Management System for behavioral health on SFDC• This involved accepting insurance details and validation of benefits, submission of claims, and checking claims status info from Emdeon• EDI 835/837/277 exchange from Emdeon using MuleSoft X12 connectors
3	SQL Server	Salesforce	MuleSoft — CloudHub	PHI Data — Demographic, clinical data — A1C	Real time integration with patient's demographic and A1C data hosted on HIPAA compliant server to support “120 second intervention” initiative for Population Health Management of A1C patients/members.



Thank you!

Reach out to our MuleSoft Experts [here](#).

