



Strategies to build API Programs at Scale

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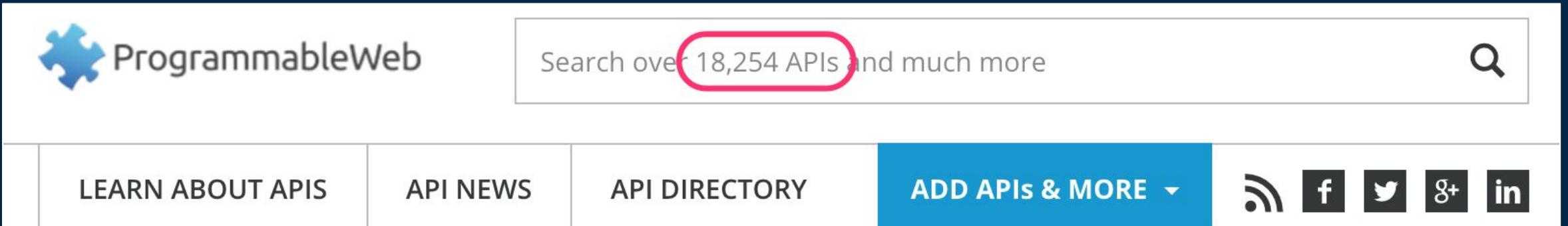
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Client Architect



What prior technology trends do API programs most closely resemble?

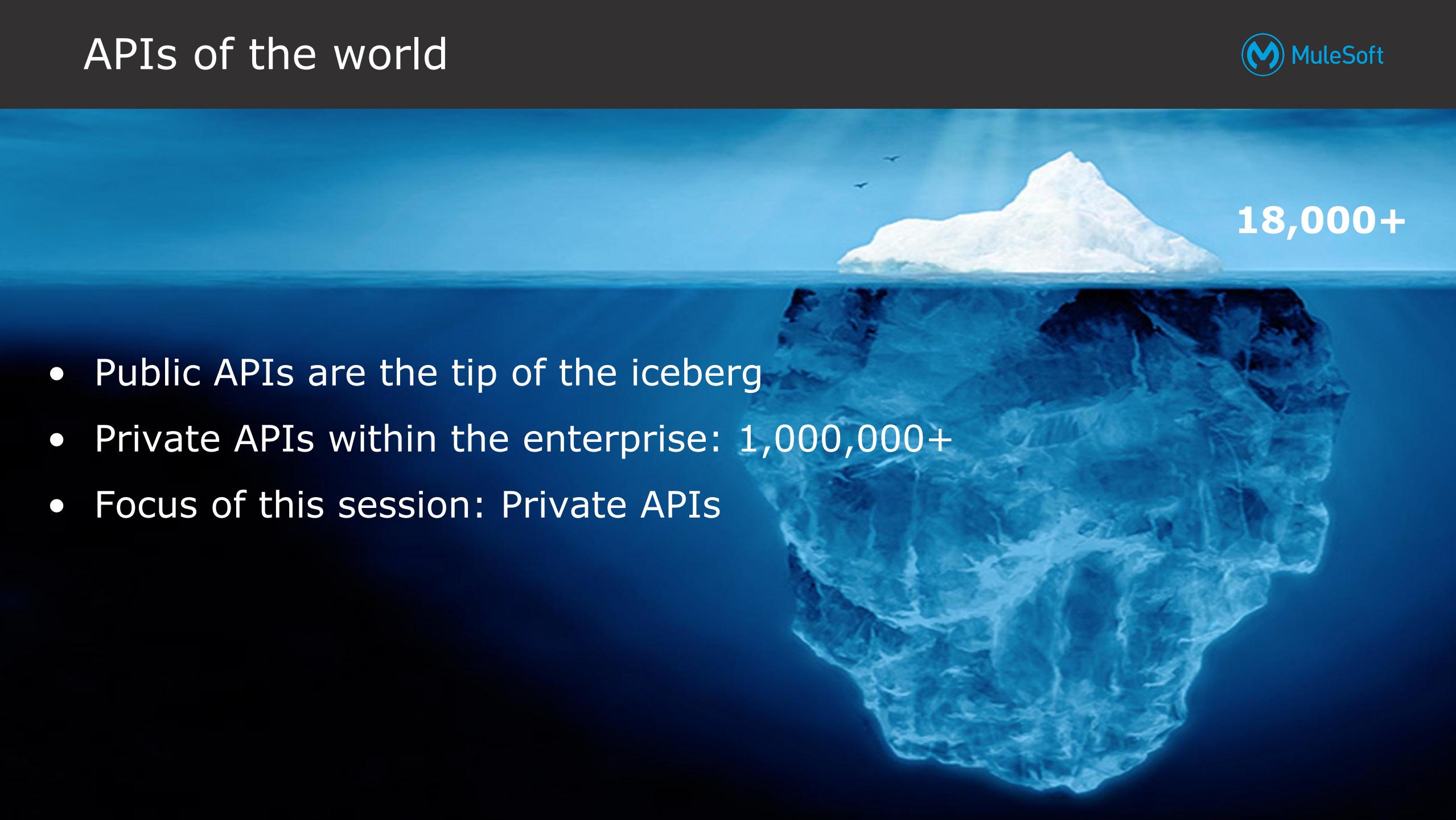
- EDI
- XML
- Web Services
- UML
- HTML
- Fake News

- Today: 18,000+ public, open APIs
- About the same number as “websites on the internet” when Amazon and Yahoo were born
- Trend on ProgrammableWeb shows growth is exponential



The screenshot shows the ProgrammableWeb homepage. At the top left is the logo, which consists of a blue puzzle piece icon followed by the text "ProgrammableWeb". To the right is a search bar containing the placeholder text "Search over 18,254 APIs and much more", with the number 18,254 highlighted by a red oval. On the far right of the search bar is a magnifying glass icon. Below the header, there is a navigation menu with four items: "LEARN ABOUT APIs", "API NEWS", "API DIRECTORY", and "ADD APIs & MORE". The "ADD APIs & MORE" button is highlighted with a blue background and white text. At the bottom right are social media sharing icons for Facebook, Twitter, Google+, and LinkedIn.

LEARN ABOUT APIs API NEWS API DIRECTORY ADD APIs & MORE 

A large iceberg is shown floating in a dark blue ocean. The top portion of the iceberg is white and visible above the waterline, while the vast majority of it is submerged below. Two small birds are flying above the ice.

18,000+

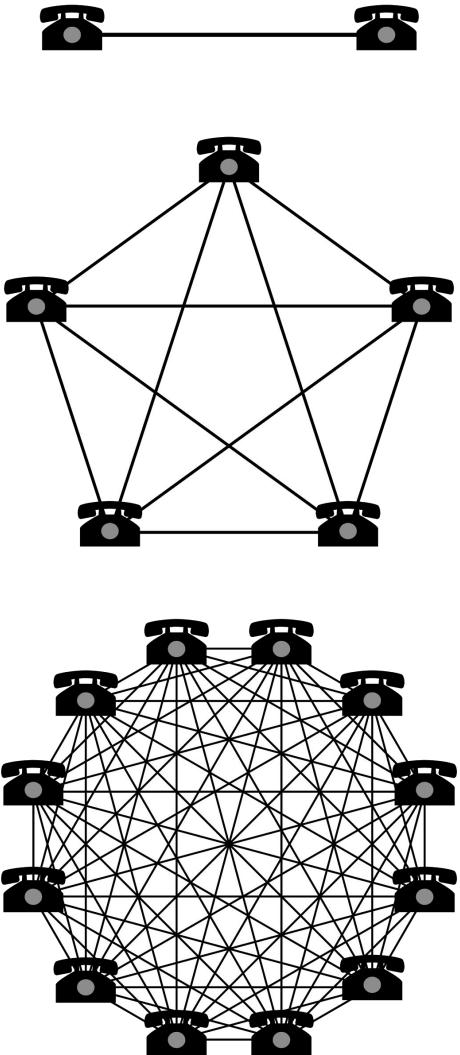
- Public APIs are the tip of the iceberg
- Private APIs within the enterprise: 1,000,000+
- Focus of this session: Private APIs

Metcalfe's Law

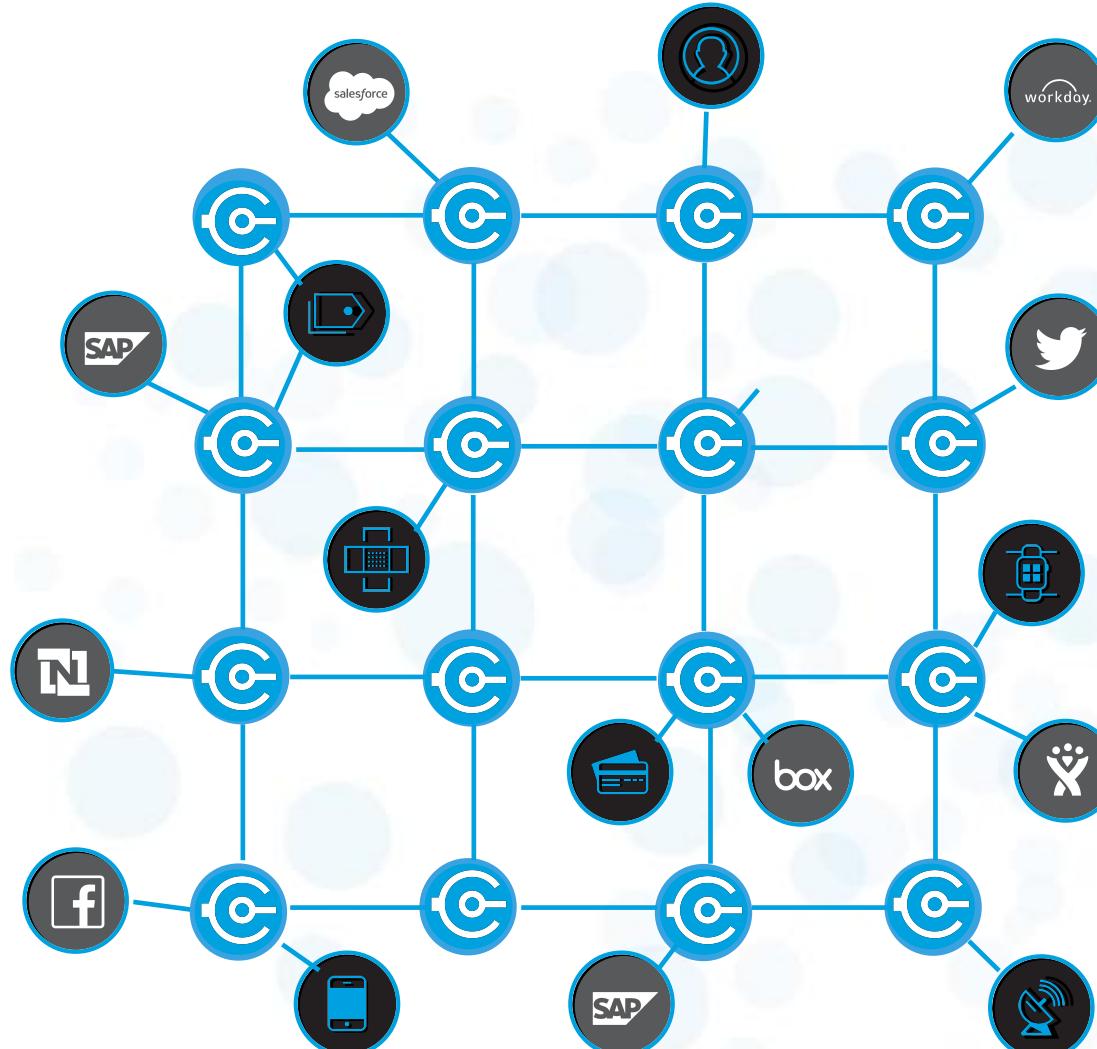
Every additional node in the network increases the value of the network exponentially



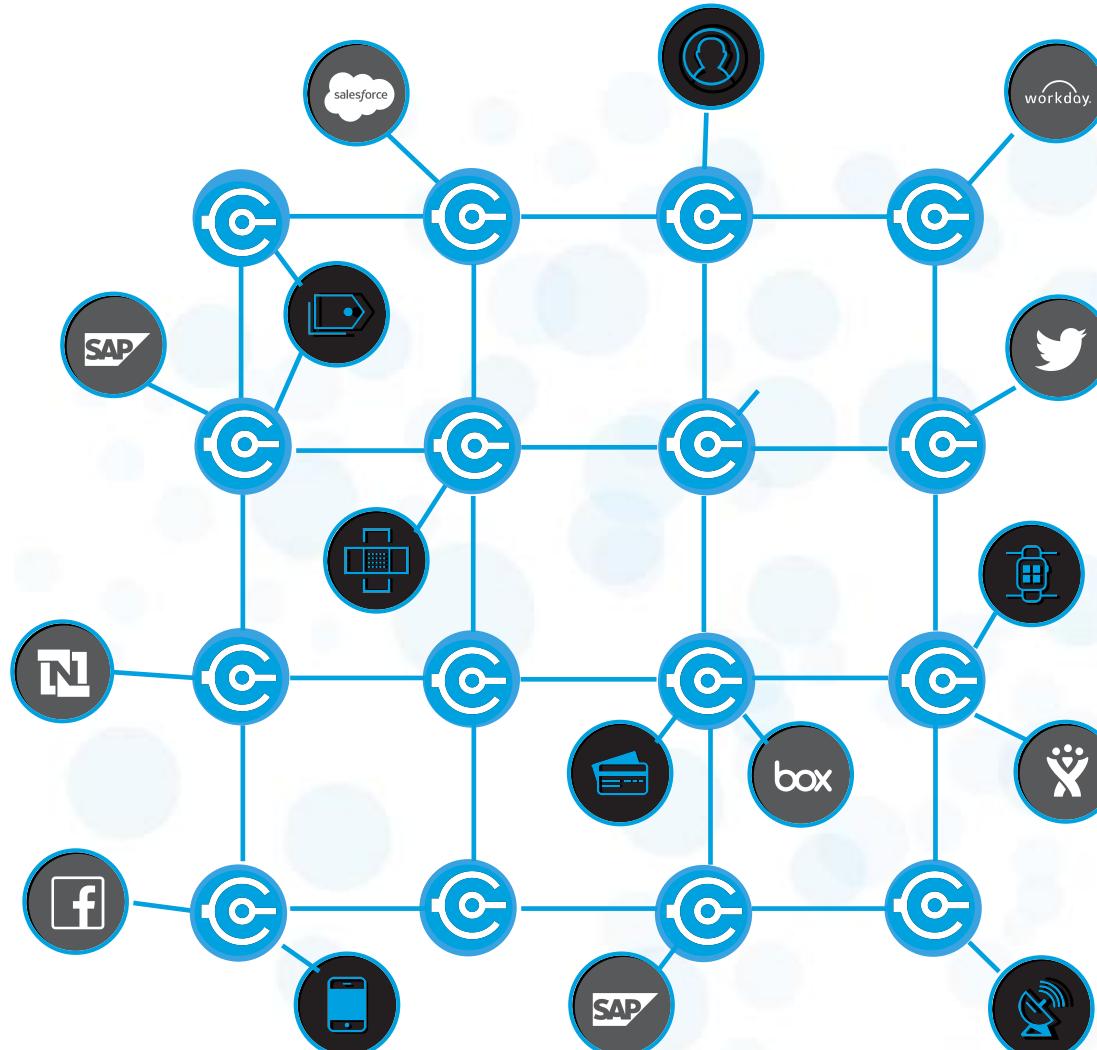
Image credit: pixabay.com



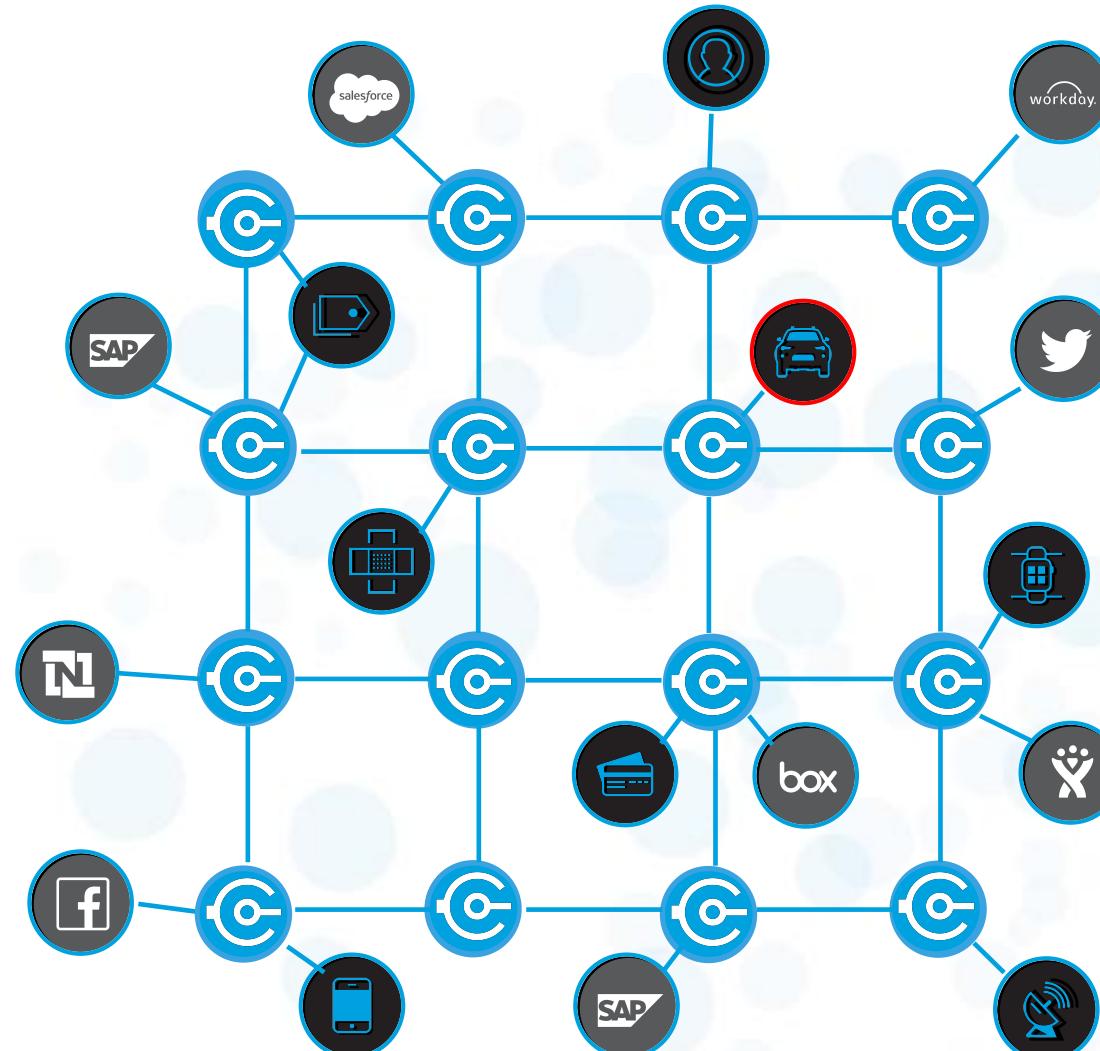
API network effect



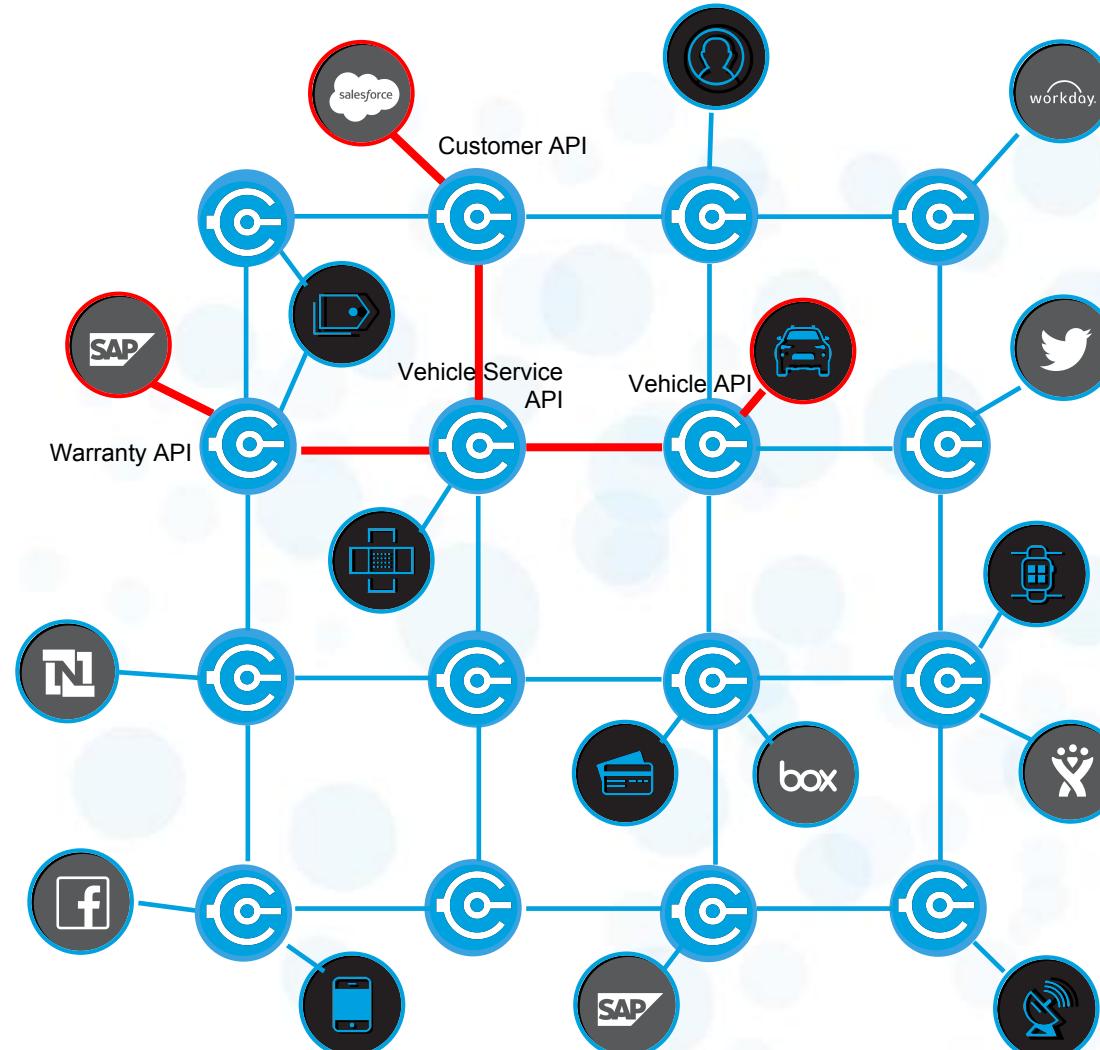
We call this an “Application Network”



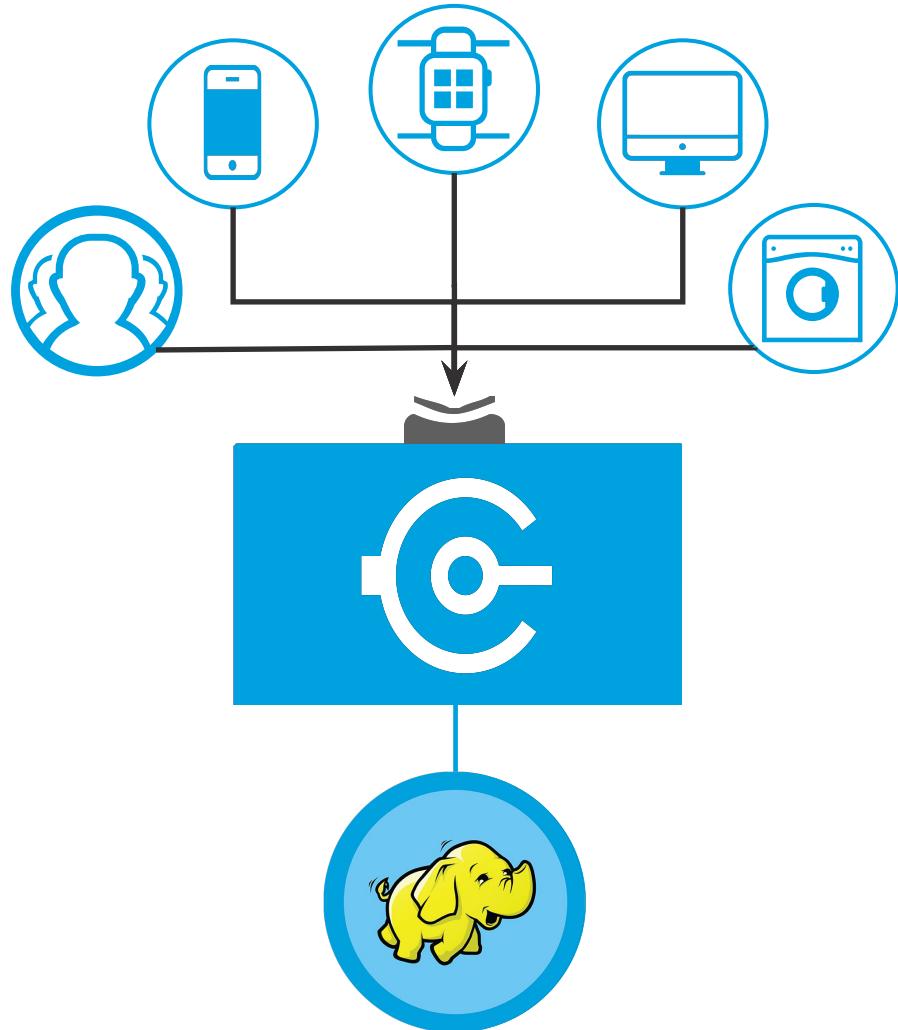
Plugging into the “Application Network”



Plugging into the “Application Network”

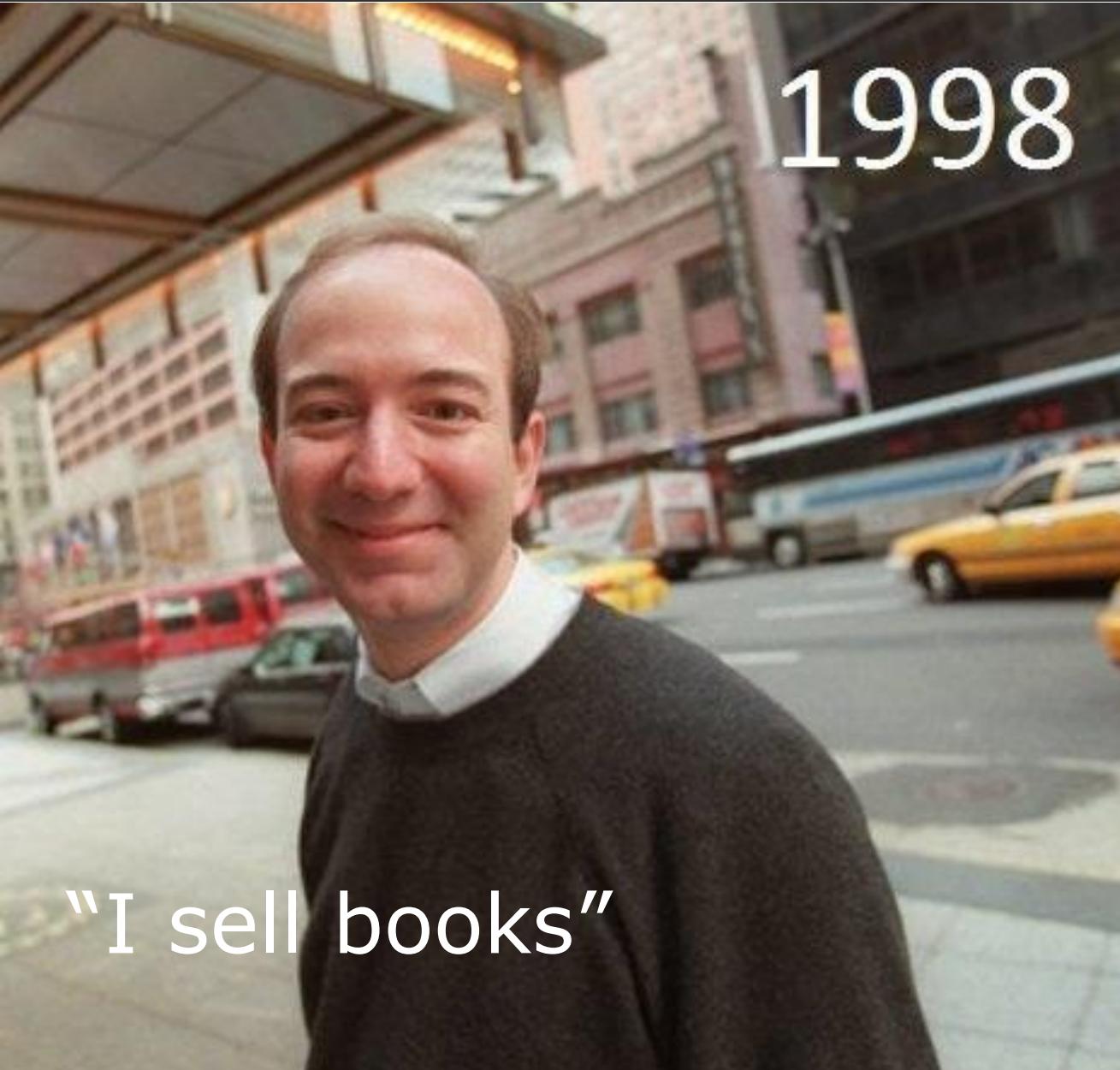


The building block for your Application Network



Not just a RESTful service

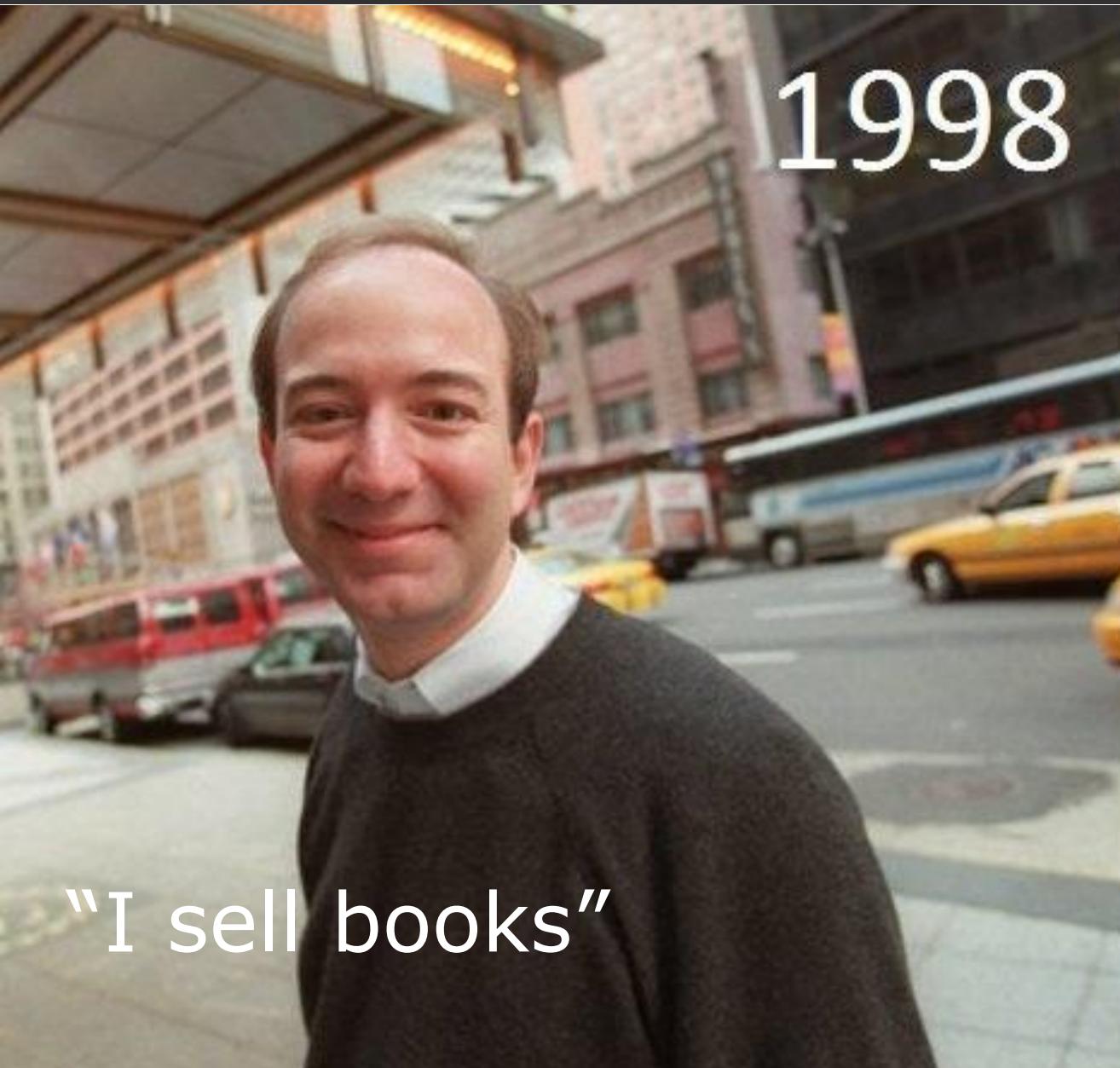
- Composable LEGO blocks for your enterprise
- Implementation & governance **in one**
- Built-in **security**
- **Scalability**
- Highly **performant**
- Easily Discoverable
- Accessible through **self-service**



Infamous Bezos Mandate

- All teams will henceforth expose their data and functionality through service interfaces.
- Teams must communicate with each other ONLY through these interfaces.
- All service interfaces, without exception, must be designed from the ground up to be externalizable.
- Anyone who doesn't do this will be fired.

Composable enterprises win!!



"I sell books"

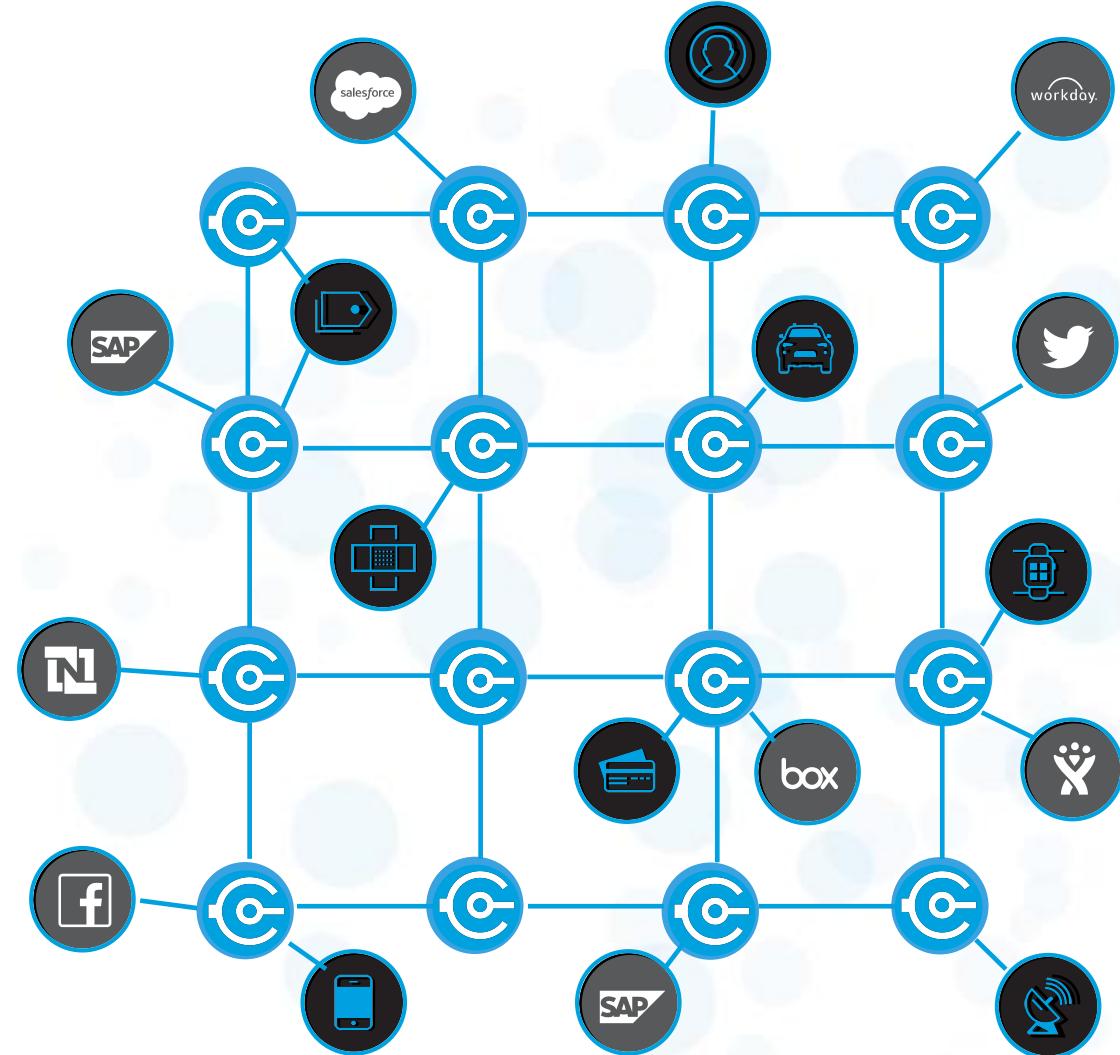


"I sell whatever the
**** I want"

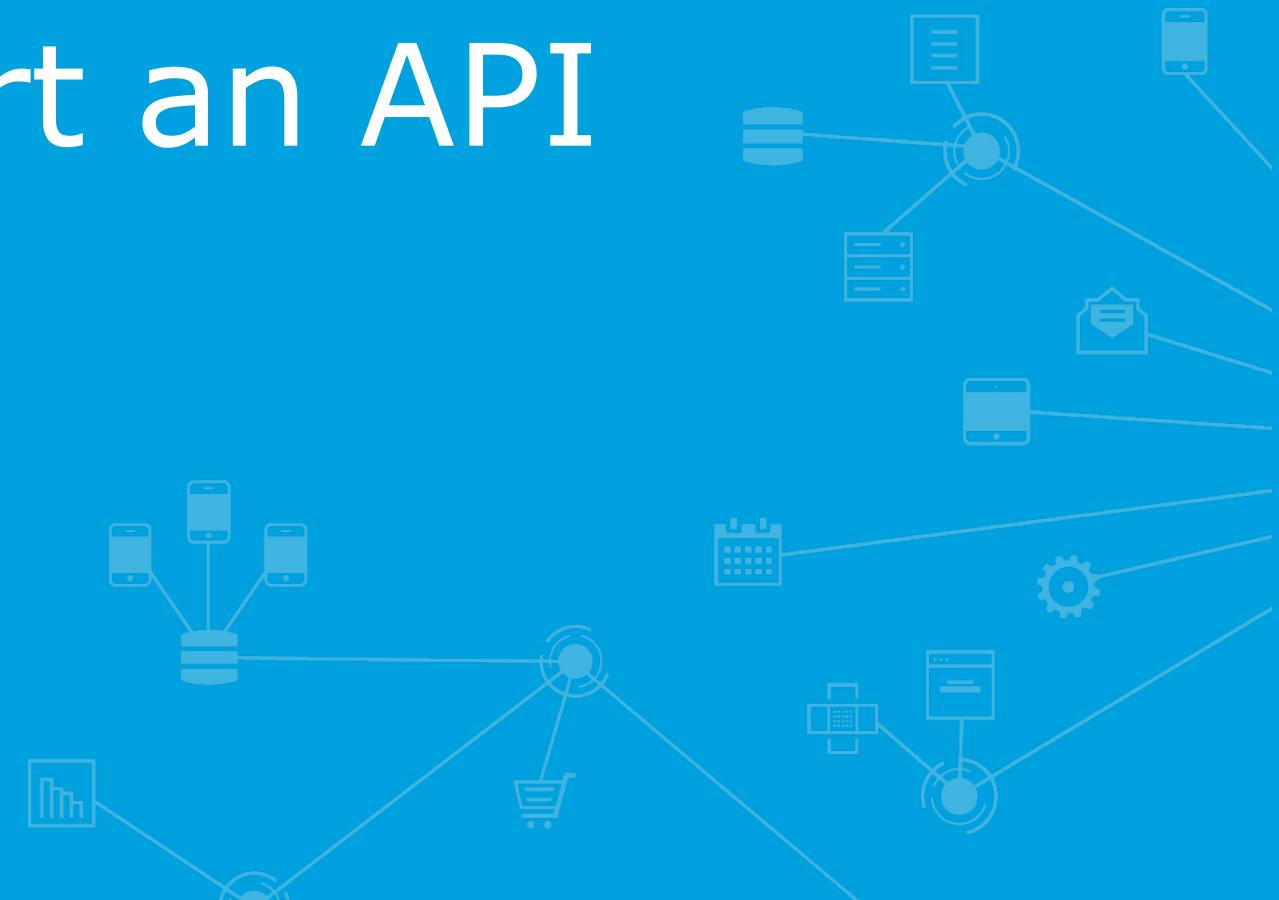
Building your own composable enterprise



- Legacy:
 - Reinventing to digital platform
 - Don't have luxury of starting from scratch
- Upstart:
 - Unmanageable with growth
- Need to have an **API Program** in place



How do you start an API program?



APPROACH 1: Accidental

- Starts out with an API for a project
- Soon many projects with many API
- A course correction is needed
- APIs are not consistent
- Program not aligned with business outcomes
- No immediate value realized
- Harder to get buy-in

APPROACH 2: APIs are like SOA

- Very heavy top down approach
- Heavy governance process applied
- Pure focus on canonical structures and schemas
- Trying to build APIs as a source of truth
- Value isn't realized fast enough
- Projects and API programs run in different speeds

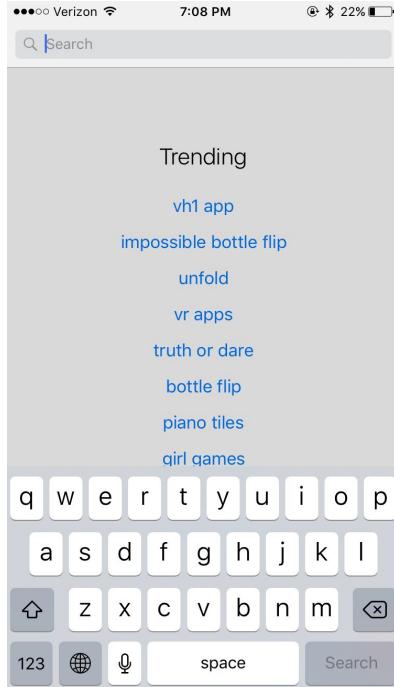
APPROACH 3 : Value driven APIs

- Focus on delivering value to your end users through apps
- Measuring value of the apps in alignment with your business outcomes
- Build APIs that are easy for apps to consume
- Realize value of the program faster

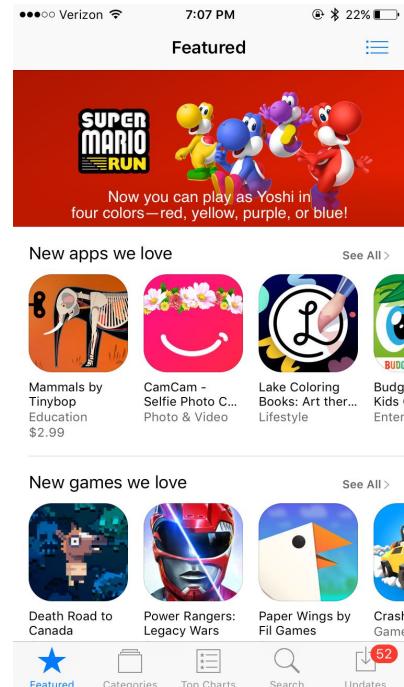
Scalable API Programs: Lessons learnt from the leaders



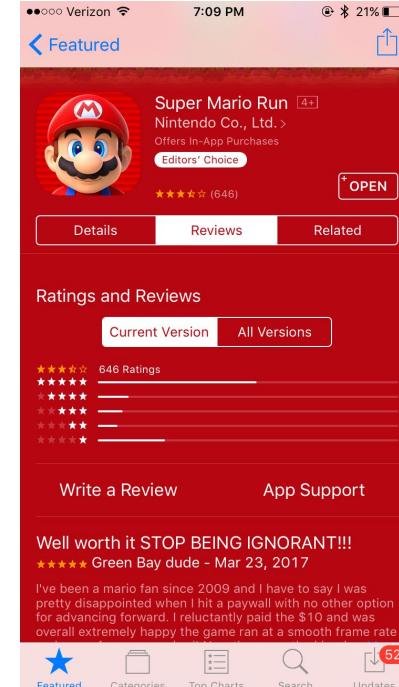
This is the experience we've come to expect



Easy to find



Secure & validated



Reviews & ratings



Download and use

Lesson 1: Make it engaging

- This is what they expect from apps. Same applies to APIs

Search Results for "Weather" 1-120 of 239 Sort By: Relevance

 Clear Day® - Weather HD Weather ★★★★★ 14 Ratings \$4.99	 Swackett® — a differen... Weather ★★★★★ 8 Ratings GET In-App Purchases	 Weather Live Free Weather ★★★★★ 541 Ratings GET	 Weather Dock: Accurat... Weather ★★★★★ 701 Ratings GET In-App Purchases
 Weather HD: Forecast, ... Weather ★★★★★ 260 Ratings GET In-App Purchases	 Weather Live Weather ★★★★★ 542 Ratings \$4.99	 Weather HD+: Forecast,... Weather ★★★★★ 63 Ratings \$3.99	 Living Earth - Desktop ... Utilities ★★★★★ 23 Ratings Editors' Choice \$6.99
 Weather HD Lite - by Cl... Weather ★★★★★ 74 Ratings GET	 Weather Dock: Accurat... Weather ★★★★★ 21 Ratings \$2.99	 Forecast Bar - Weather,... Weather \$9.99 In-App Purchases	 Weather Weather ★★★★★ 9 Ratings \$0.99
 swackett X — weather, ... Weather ★★★★★ 18 Ratings \$0.99 In-App Purchases	 WeatherBug - Weather ... Weather ★★★★★ 34 Ratings GET	 CARROT Weather - Talk... Weather ★★★★★ 19 Ratings Editors' Choice \$11.99	 Live Wallpaper HD+: de... Weather ★★★★★ 46 Ratings \$3.99

Lesson 2: Requires cultural shift

Search Results for "Weather" 1-120 of 239 Sort By: Relevance

In-App Purchases

“There is an App for that”

 Clear Day® - Weather HD Weather ★★★★★ 14 Ratings \$4.99 ▾	 Swackett® — a differen... Weather ★★★★★ 8 Ratings GET ▾	 Weather Live Free Weather ★★★★★ 541 Ratings GET ▾	 Weather Dock: Accurat... Weather ★★★★★ 701 Ratings GET ▾
 Weather HD: Forecast, ... Weather ★★★★★ 260 Ratings GET ▾	 Weather Live Weather ★★★★★ 542 Ratings \$4.99 ▾	 Weather HD+ - Forecast,... Weather ★★★★★ 63 Ratings \$4.99 ▾	 Living Earth - Desktop ... Utilities ★★★★★ 23 Ratings Editors' Choice \$6.99 ▾
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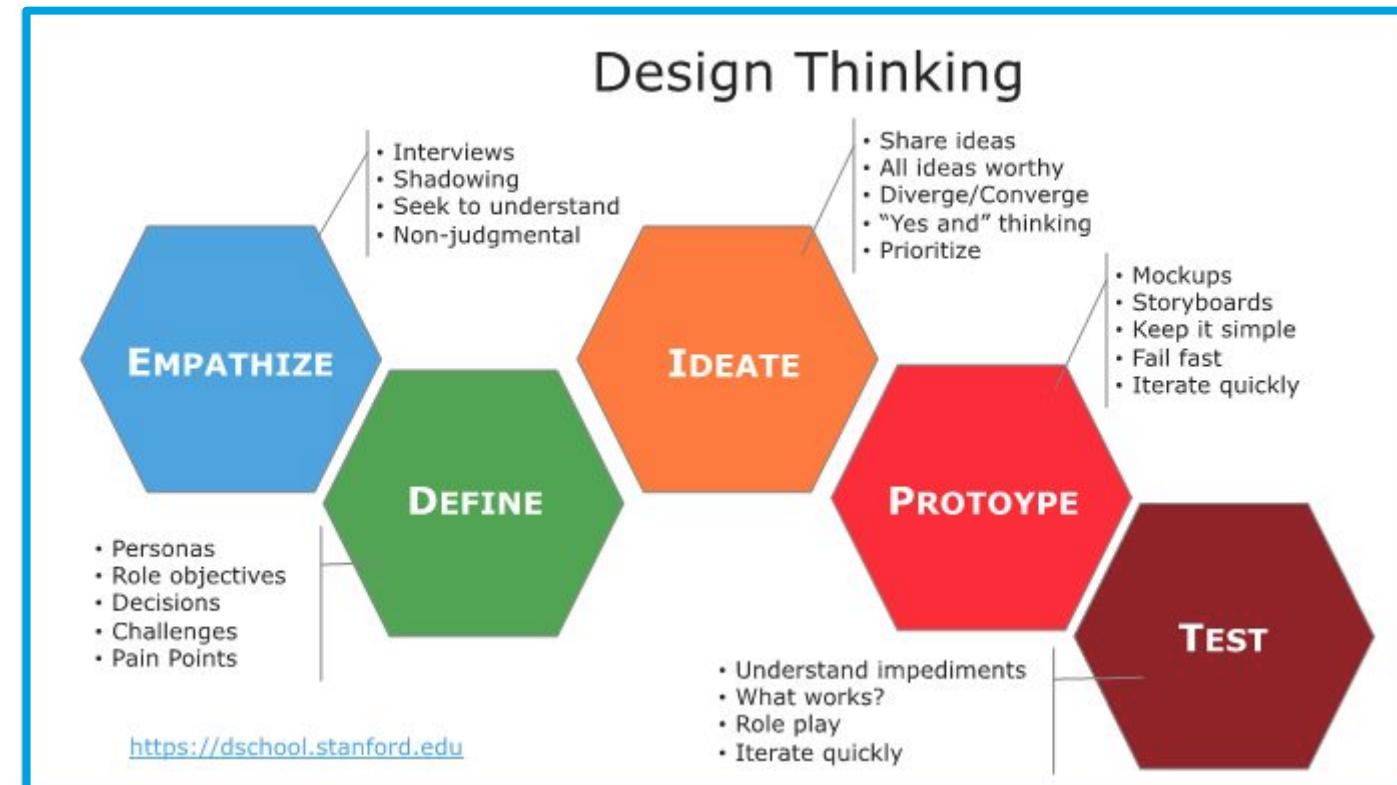
Lesson 2: Requires cultural shift

A screenshot of the MuleSoft Exchange interface. The top navigation bar includes 'Exchange' (with a gear icon), 'Corporate IT' (with a server icon), a search bar, and user icons. Below the navigation is a grid of 20 connector cards, each featuring a circular icon, the connector name, and a star rating. A large, diagonal watermark with the text "There is an API for that" is overlaid across the grid. A red 'X' is drawn over the word "App".

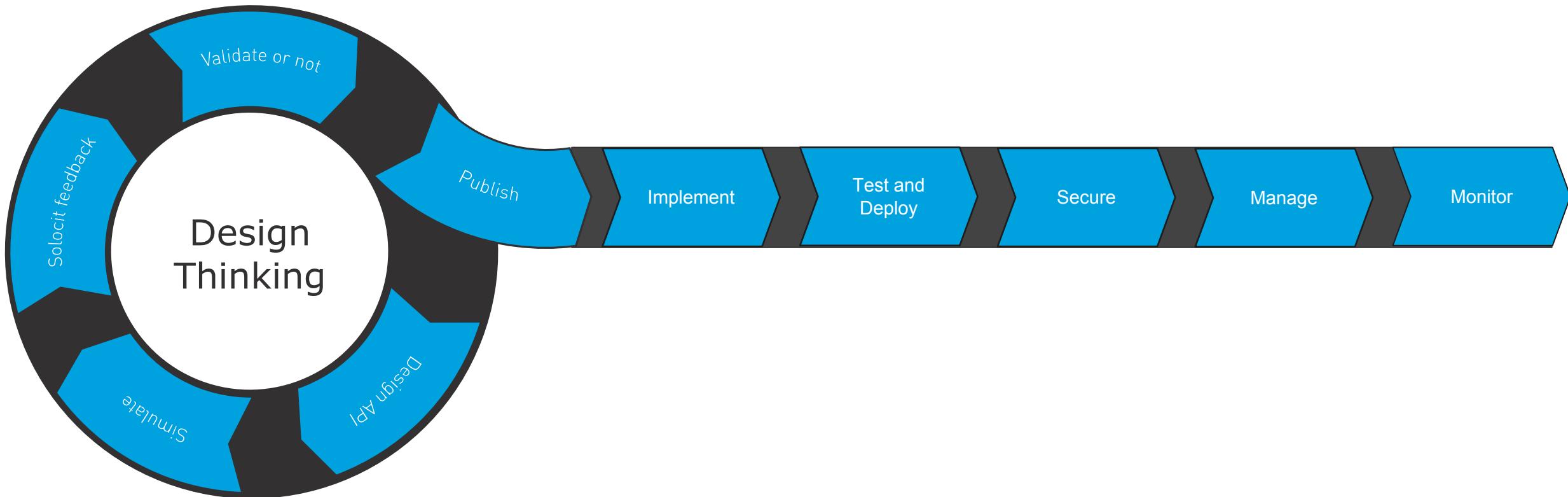
Connector	MuleSoft
Clarizen Connector	Clarizen
Janrain Connector	Janrain
Rialto Connector	Rialto
Apple Push Notifications Connector	Apple
Documentum Connector	Documentum
ServiceSource Connector	ServiceSource
Yammer Connector	Yammer
FreshBooks Connector	FreshBooks
GetSatisfaction Connector	GetSatisfaction
Kloudless Connector	Kloudless
OData Connector	OData
Drupal Connector	Drupal
Handshake Connector	Handshake
QuickBooks Desktop Connector	QuickBooks
QuickBooks Online Connector	QuickBooks
Paypal Connector	Paypal
Twitter Connector	Twitter
Anaplan Connector	Anaplan
Zendesk Connector	Zendesk

Lesson 3: Consumer is king

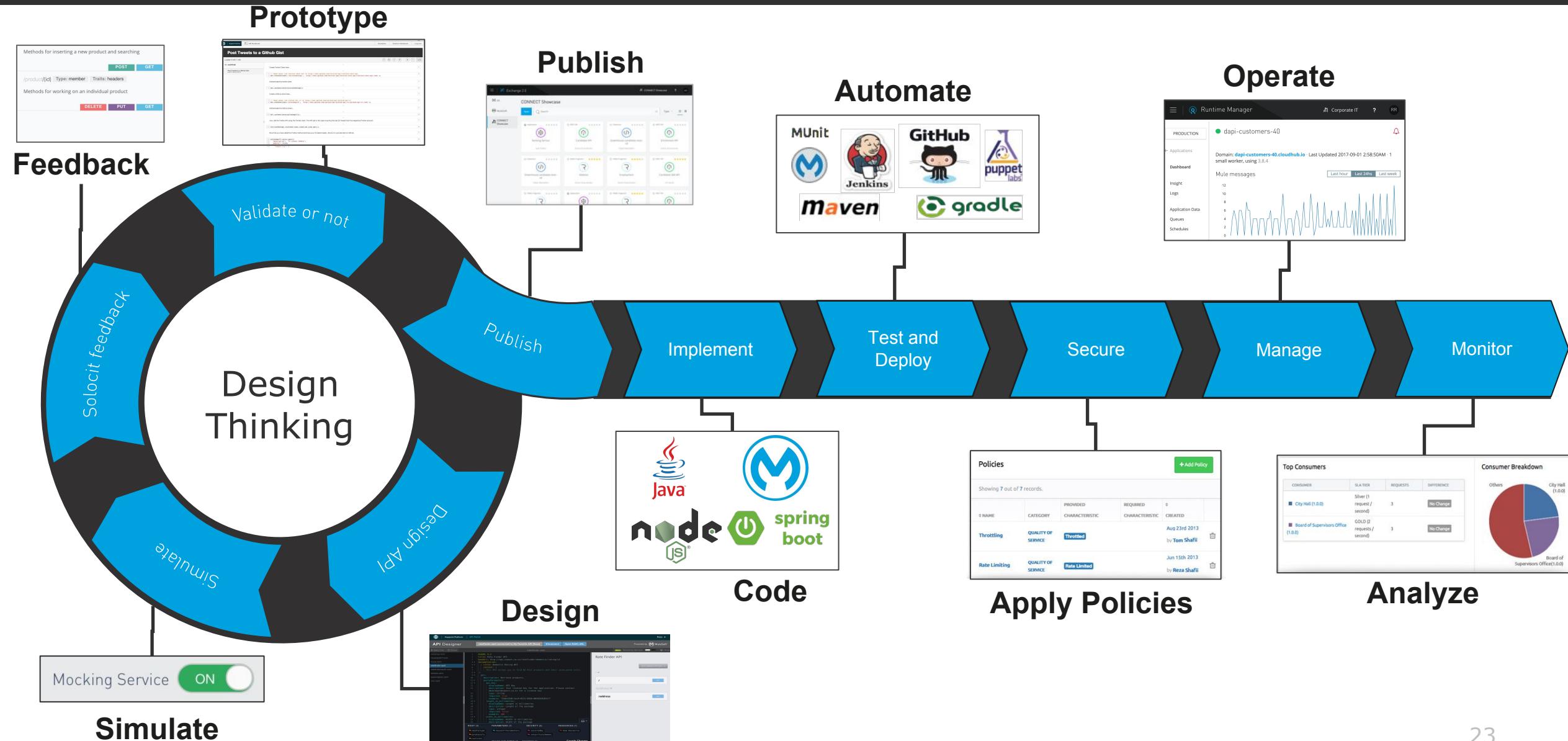
- Do everything with the API consumer experience in mind
- Highly adopted APIs have “delightful” experience
- Design-first vs Code-first
- Self Documenting
- Rich collaboration Portal
- API Explorer
- Developer Sandbox



Lesson 4: Treat your API like any other product



Lesson 4: Select an end-to-end lifecycle platform

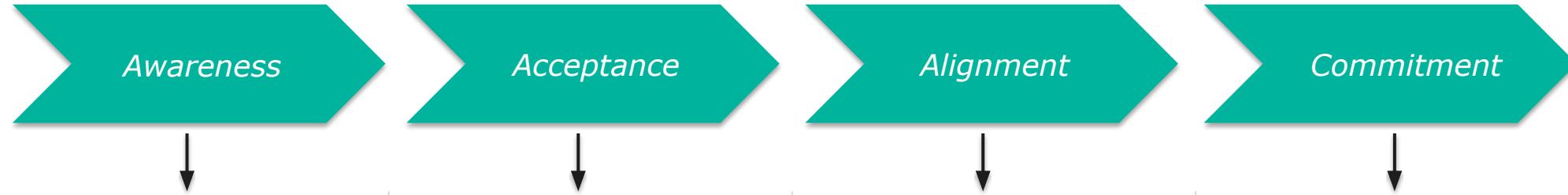


Lesson 5: IT must be a partner to business

- Most API initiatives are born in the business
 - API Product owner
 - Digital initiatives
 - Microservices architecture, etc
- But IT often sits on the data needed by the APIs
- IT has to be a strategic partner
- Be the 'governor' of the API marketplace



Lesson 5: IT must be a partner to business



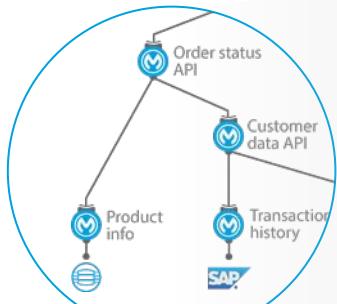
Definition :	Providing knowledge, Informing teams	Favorable response, limited resistance, internalization of the message	Appropriately supporting orgs, clear roles and responsibility	Buy in, ownership, accepted responsibility and accountability
Method:	Data, facts (numbers, graphs, charts), information (facts and data explained)	Increasing stakeholders, mobilizers, involvement in problem identification and resolution, rewards & recognition	Clear relationship between stakeholders, defined KPIs, SLA and metrics	Ongoing support and resources, feedback and responsive decision making

Lesson 6: Get an executive sponsor

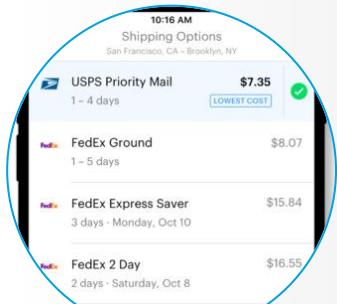
- Cultural shift comes top-down. Just like Bezos at Amazon
- Requires a visionary with responsibilities beyond immediate projects
- Sponsorship has to be a **program** that transcends **projects**
- Successful API initiatives are often ***driven by the CIO***



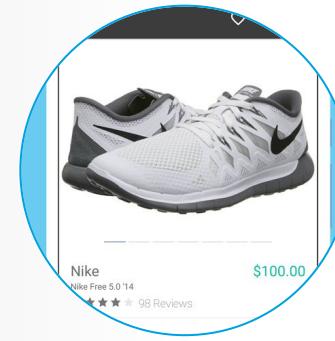
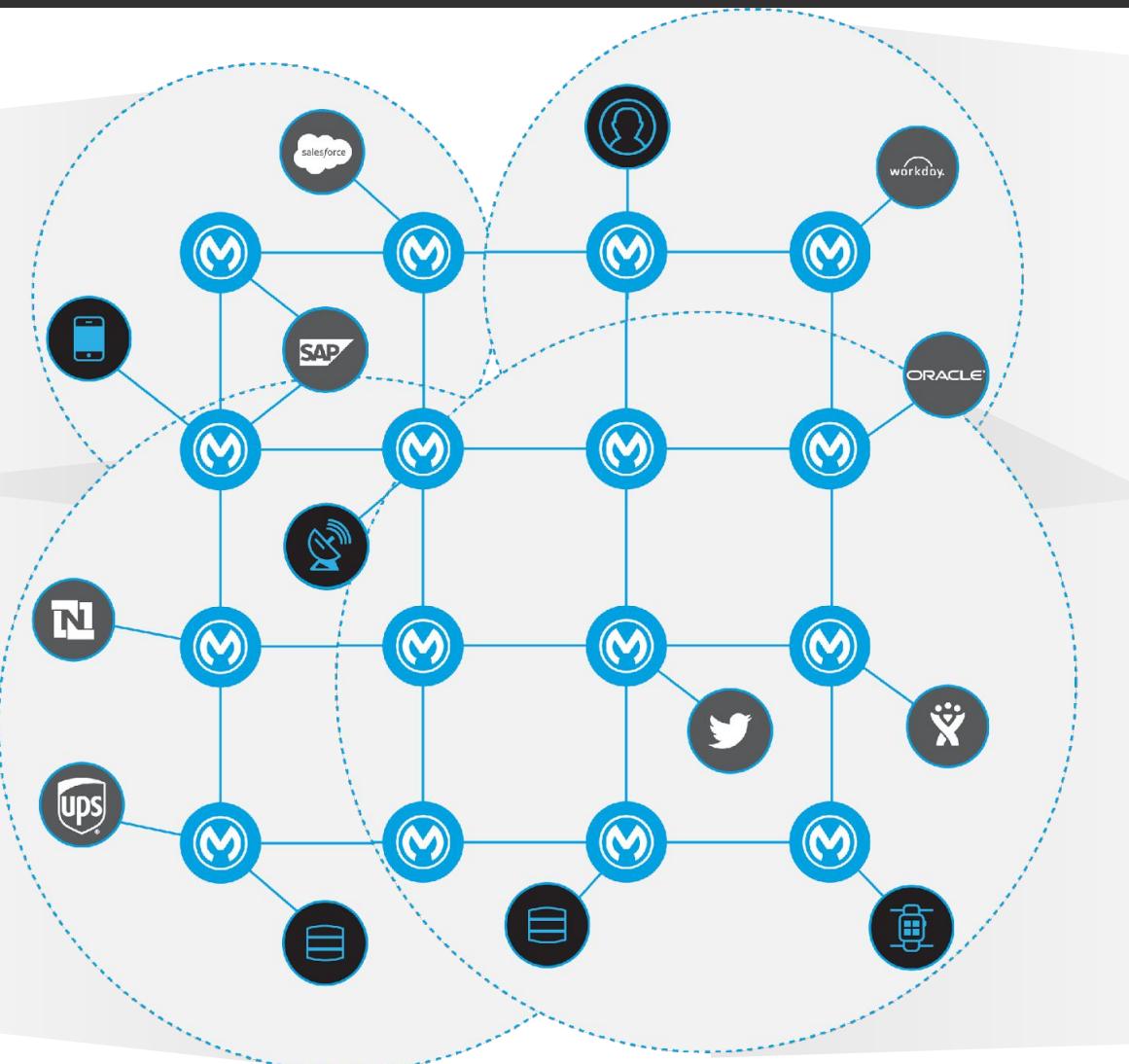
Lesson 7: It's a journey... one step at a time



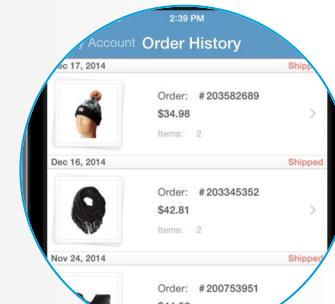
Mobile order app



Shipping & fulfillment



Web tracking



Customer experience

Lesson 8: Create a “Center for Enablement” (C4E)

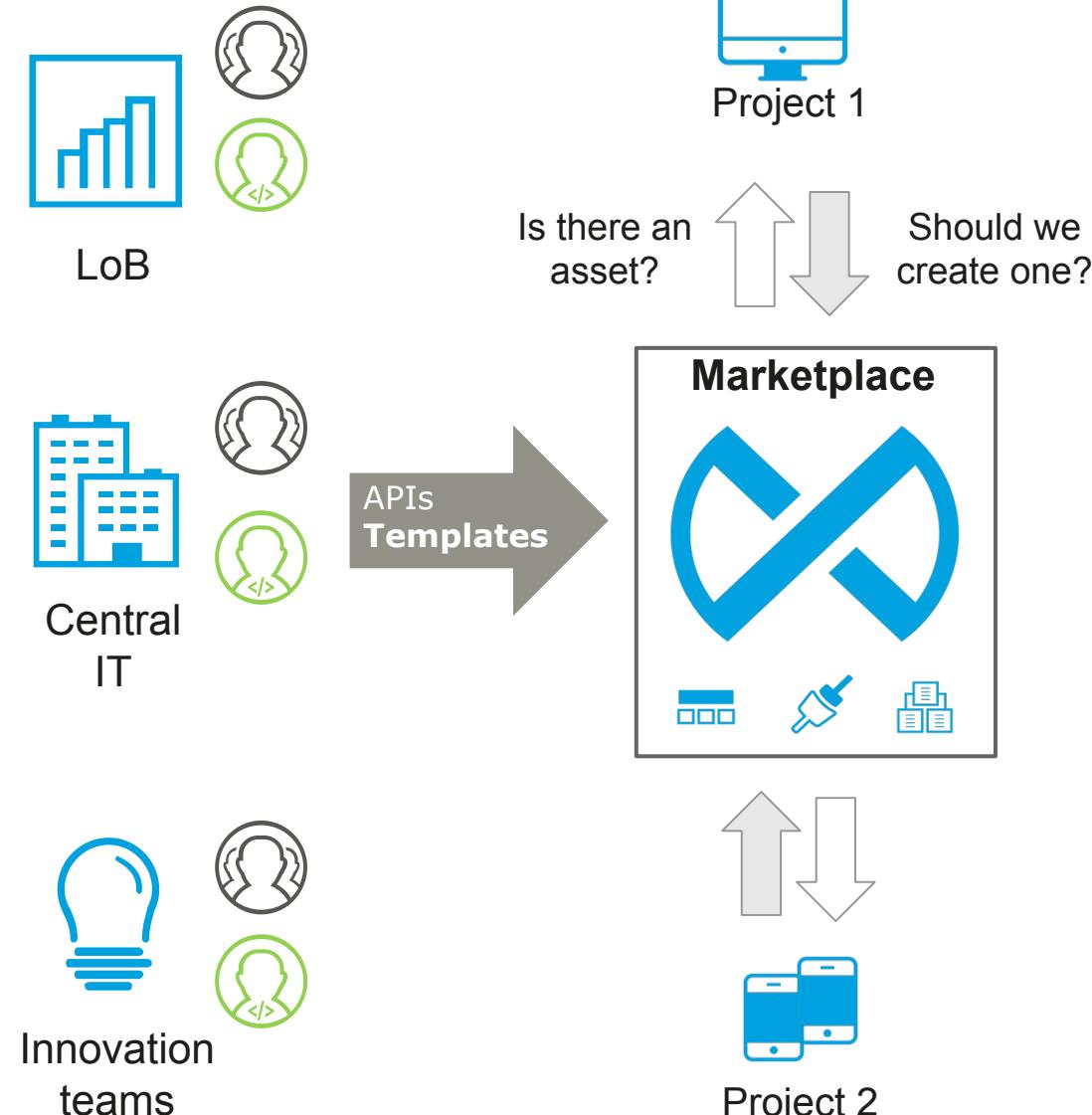


- **C4E**

- IT focus on enablement vs delivery
- Federating control to partners and lines of business
- Delegating implementation to lines of business
- Enabling self-service
- Proposing business strategies

- **Key phases to setup a C4E**

- Assess current capability
- Lay C4E foundation (roles & responsibility, core assets, frameworks, processes, etc)
- Scale C4E adoption (events, awareness, communication, new assets, etc)
- Review and refine



Lesson 9: Measure contextual KPIs and metrics

•Prioritize what you measure

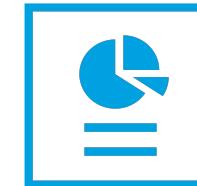
Developers

- Total developers
- Active developers
- Top developers
- Trending Apps



Business

- Direct revenue
- Indirect revenue
- Costs
- Margin



Community

- Interactions
- Collaboration
- QnA
- Social media

Support

- Tickets
- Issue severity
- Mean time to resolution
- First response time

Marketing

- Event metrics
- Dev portal funnel
- Registrations
- LTV
- Partnerships



Traffic

- Total calls
- Top methods
- Call chains
- Quota
- Violations

Service

- SLA
- Availability
- Performance
- Error rates
- Bugs, ERs

Quality

- Defects
- Error prone APIs
- Repair rate

Productivity and engagement

- Avg. time to deliver API
- Reusable assets published
- Projects using C4E assets
- No of developers working on C4E projects
- Asset downloads
- Channel types per API
- Time to first call
- Time to MVP
- Provisioned users per API

- Use contextual metrics based on personas

DevOps

- *Performance*
- *Availability*
- *Defects*
- *Traffic trends*
- *Faults per API*

**CMO**

- *Acquisition cost*
- *Demographics*
- *Traffic sources*
- *SEO/SEM metrics*
- *Social media metrics*
- *Event metrics*

**CFO**

- *Margin*
- *ROI*
- *Capex/Opex investment*
- *CLTV per developer*
- *Direct/Indirect revenue*

**Consumer**

- *Quota*
- *Service availability*
- *SLA*
- *Trends*
- *Billing*

**Producer**

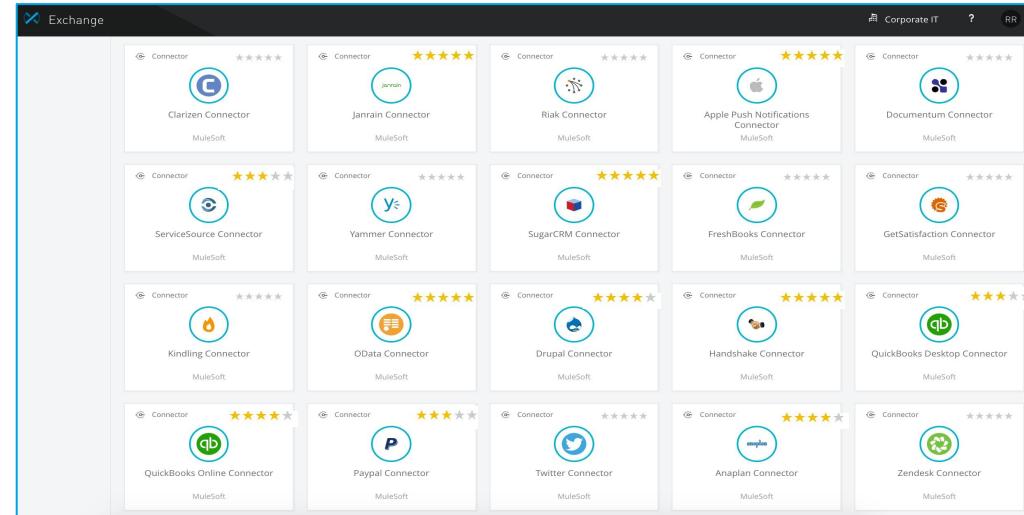
- *Quality metrics*
- *Usage metrics*
- *Productivity indicators*
- *Ratings*
- *Top contributors/badges*
- *Gamification*



Lesson 10: Finally, exercise your innovation engine



- Run hackathons, meetups etc
- APIs = Business focus vs tech focus
- Internal Hackathons
 - Employees across LoB's mashing up internal APIs with public APIs
- Public Hackathons
 - 3rd party developers, employees, partners
- Hit or miss
 - < 5% ideas could be a hit
- Have fun!
- Worst that can happen:
Everyone gets the value of APIs



The screenshot shows the ProgrammableWeb website, which is described as the "Largest API Directory on the Web". The top navigation bar includes links for "BECOME MEMBER", "LOGIN", "SEARCH over 18,340 APIs and much more" (with a search icon), "LEARN ABOUT APIs", "API NEWS", "API DIRECTORY", "ADD APIs & MORE", and social media icons for RSS, Facebook, Twitter, Google+, and LinkedIn.

The main content area features a search bar with the placeholder "Search Over 18,340 APIs" and a "SEARCH APIs" button. Below the search bar is a "Filter APIs" dropdown menu containing a list of categories such as 3D, Accessibility, Accounting, Accounts, Activity Streams, Actors, Addresses, Adoption, and more. There is also a checkbox option "Include Deprecated APIs".

A detailed description of the "Maps API" is shown, stating: "Maps API allow for the embedding of Google Maps services of outside developers, using a simple interface or a Flash interface. It is designed to work..." The entry includes columns for "Category" (Mapping) and "Submitted" (12.05.2005).

Thank You!

Visit the MuleSoft booth:

- End-to-end API lifecycle demo in one unified platform
- Producer-Consumer culture in action
- Learn to build out your Application network
- Get pragmatic advice from API experts
- Get Swag

