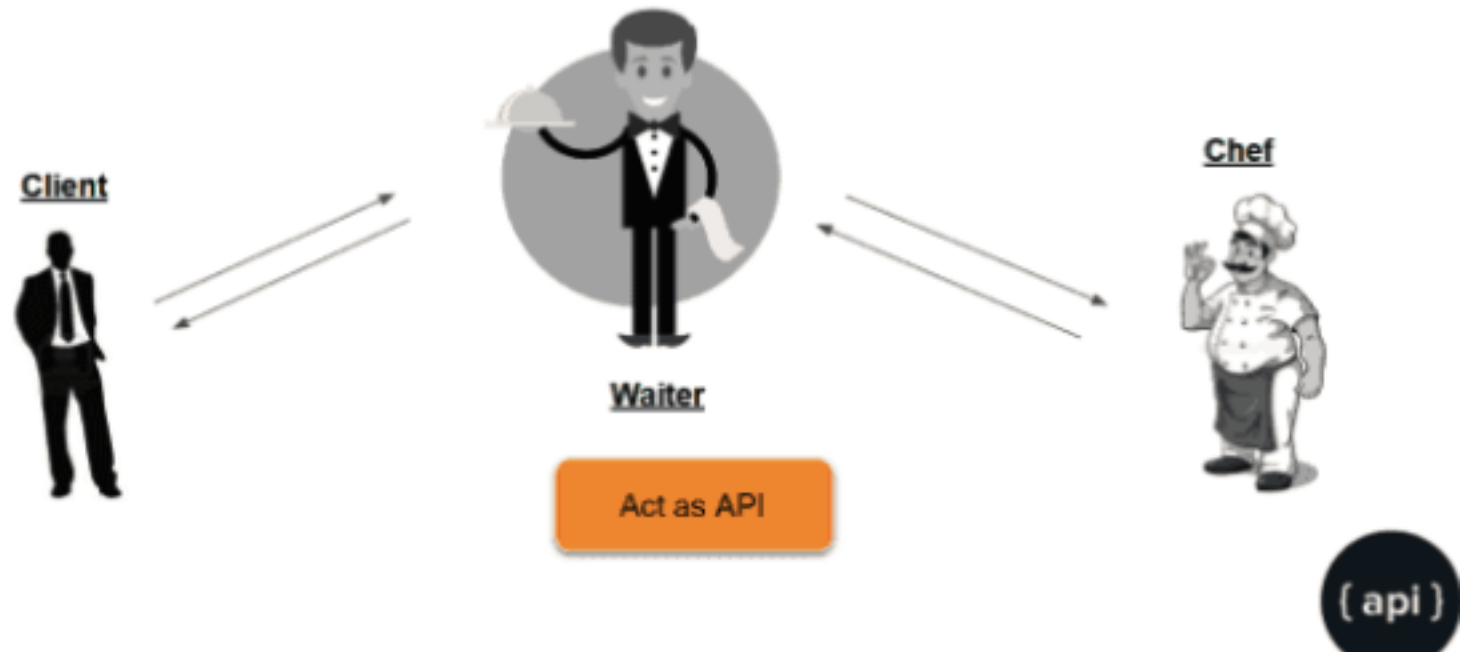# Lesson 7 – APIs and Microservices

## Topic 1 – Understanding APIs & microservices
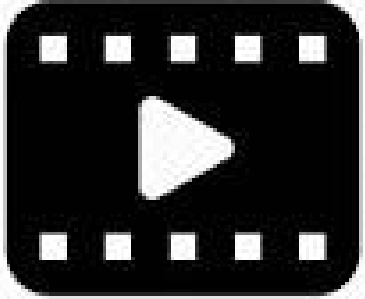
# What is an API?

*"An* **Application Programming Interface** *(API) is a set of functions, procedures, methods or classes used by computer programs to request services from the operating system, software libraries or any other service providers running on the computer" Wikipedia*

*"API  is its an interface between different software programs or service." Scrollsoft*
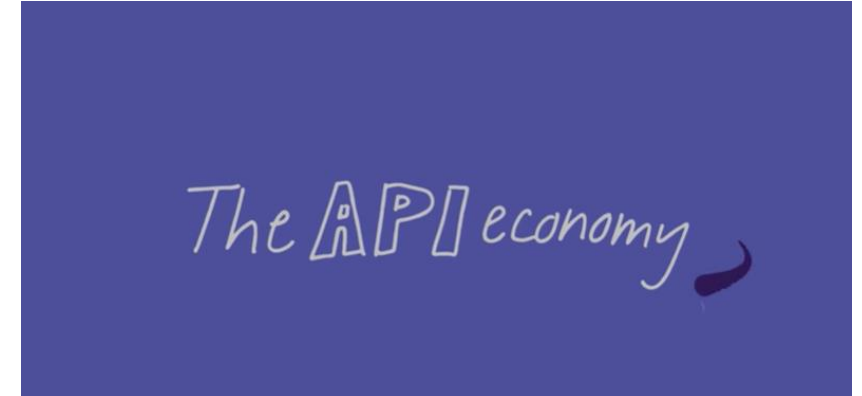
Source: Scrolltest API testing the definitive guide

# API Economy

**The API Economy**
**Martin Cassado A16Z**

**TDI viewing Tip**: History , definition and implications

Duration: 6 mins

Video link

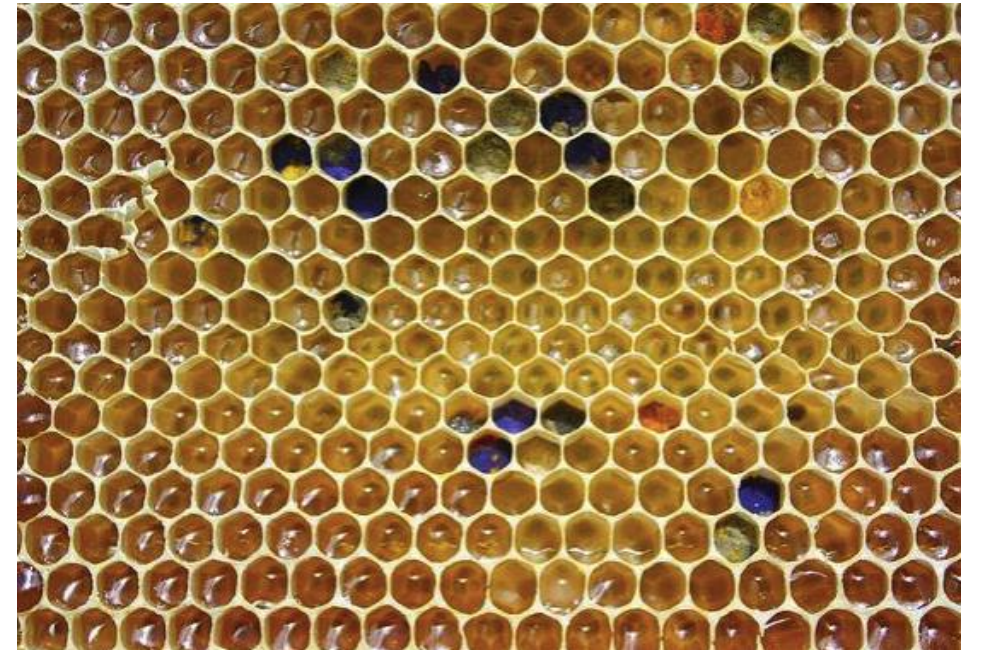## Possible discussion points  for Weekly Clinic / Things to think about

- Are APIs the key enabler for specialization in a digital economy?

- How far might this specialisation go?

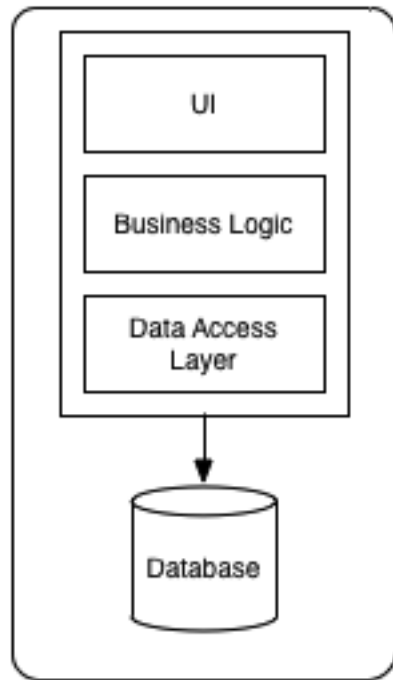- Who do you most admire among the new API led companies?

**Video Source** : A16z on YouTube

# What is a Microservice?

"**Microservices** are a method of developing software applications which are made up of independently deployable, modular services. Each **microservice** runs a unique process and communicates through a well-**defined**, lightweight mechanism, such as a container, to serve a **business** goal." *Kong Yang, Head Geek at SolarWinds*
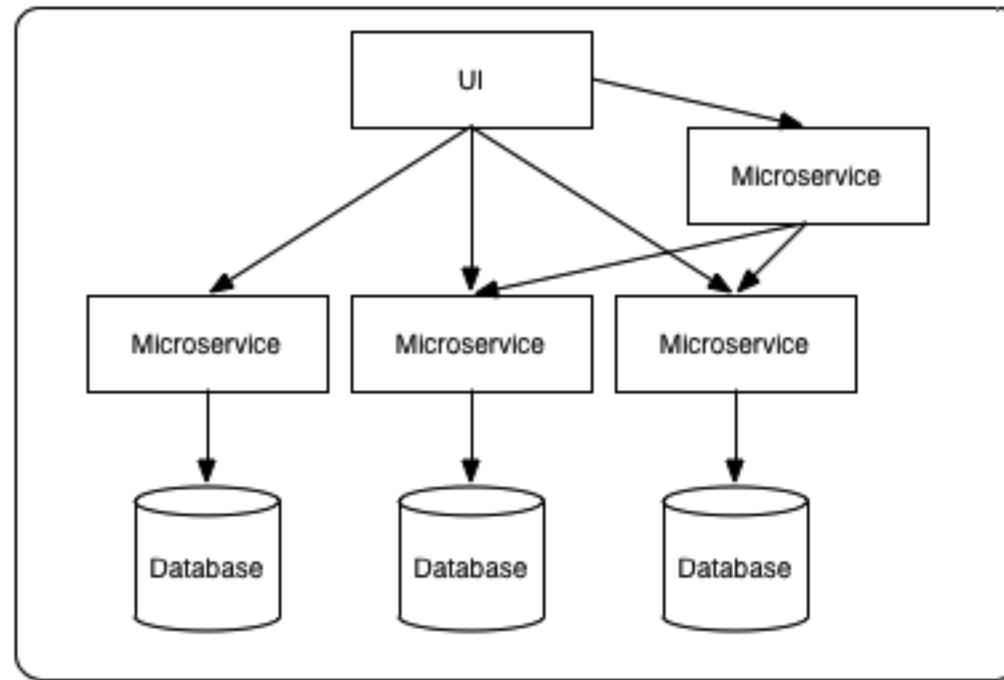
Been around since about 2011 . Netflix and Amazon early adopters

# What is a Microservice?



Monolithic vs MicroServices Architecture

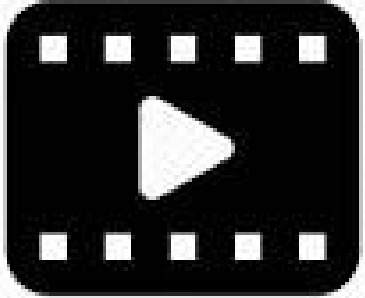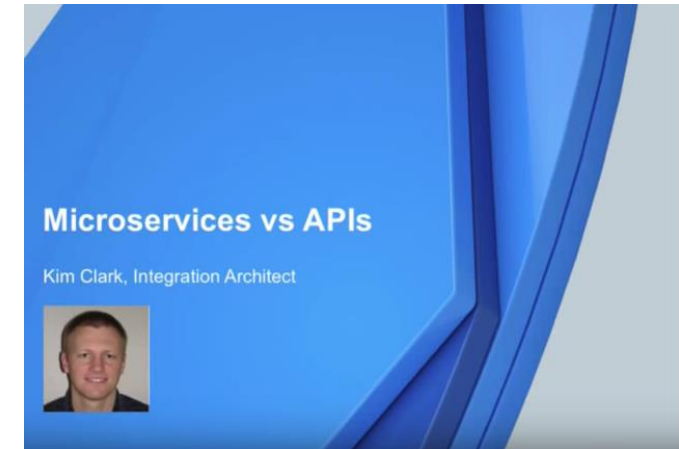"Unbundling IT"

# Microservices vs APIs

**Microservices vs APIs**

**Kim Clark , Information Architect, IBM**

**TDI viewing Tip: More technical explanation with focus on the differences between these two technologies**

Duration: 4 mins

Video link

Microservices vs APIs

Kim Clark, Integration Architect

**Possible discussion points  for Weekly Clinic / Things to think about**

- Does you company have a microservices architecture? If not how much of a competitive disadvantage may it be at?

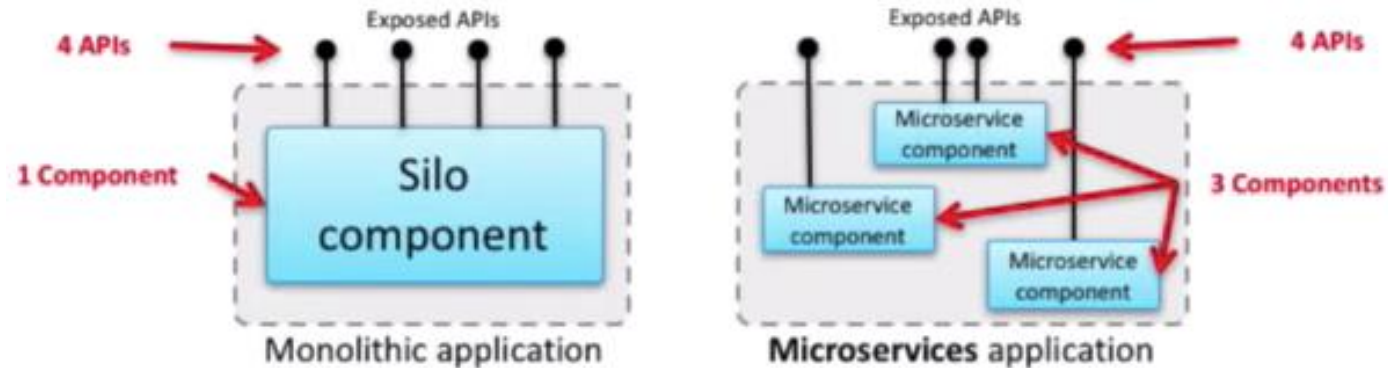**Video Source** : IBM Developer on YouTube

# Microservices vs API

API Arguably a component in Microservice architecture – the connector

Source: Edureka Microservices vs API

# What is a Microservice?



"microservices architecture" is really "*micro-component architecture*"

"micro" refers to the granularity of the *components*, not the granularity of the exposed interfaces

Exposed APIs — 4 APIs — 1 Component — Silo component — Monolithic application

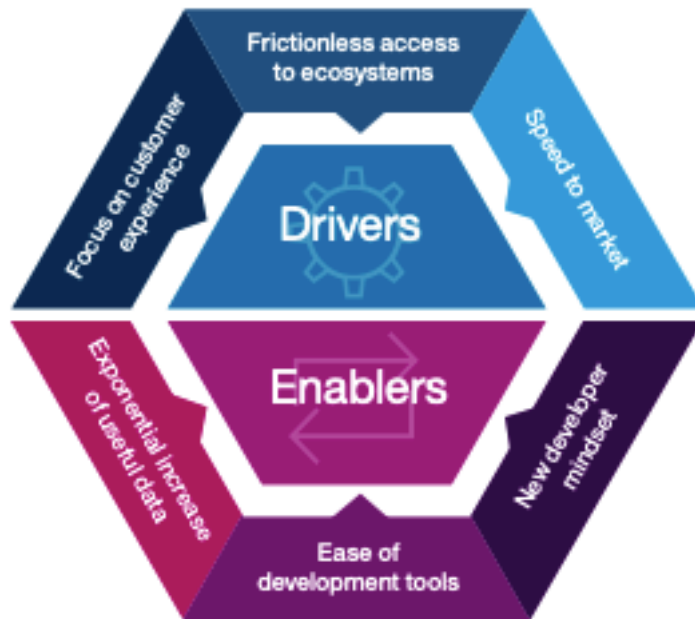Exposed APIs — 4 APIs — 3 Components — Microservice component — Microservices application

Choosing a microservices architecture to implement an application doesn't imply anything about the number of granularity of the APIs it will expose.

Source: IBM Developer on YouTube
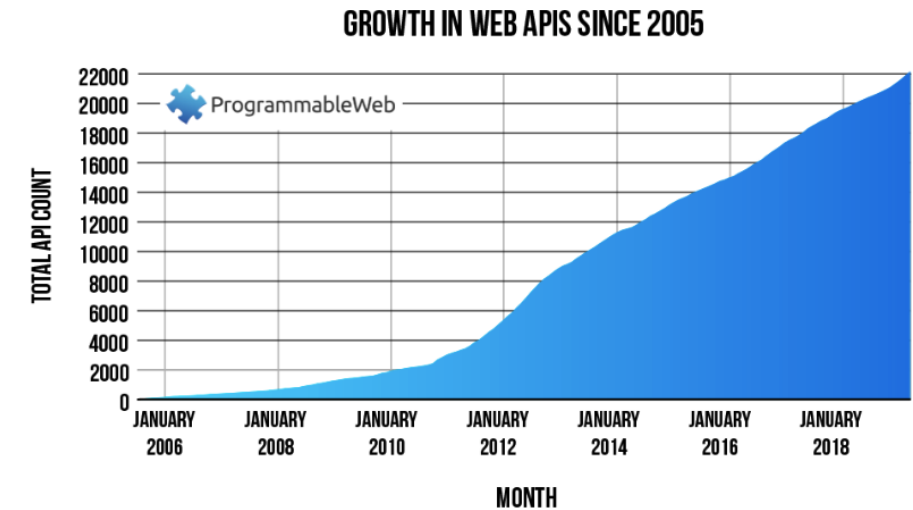
# How fast is Microservices adoption?



Figure 2
*API drivers and enablers*

Source: IBM Institute for Business Value analysis.
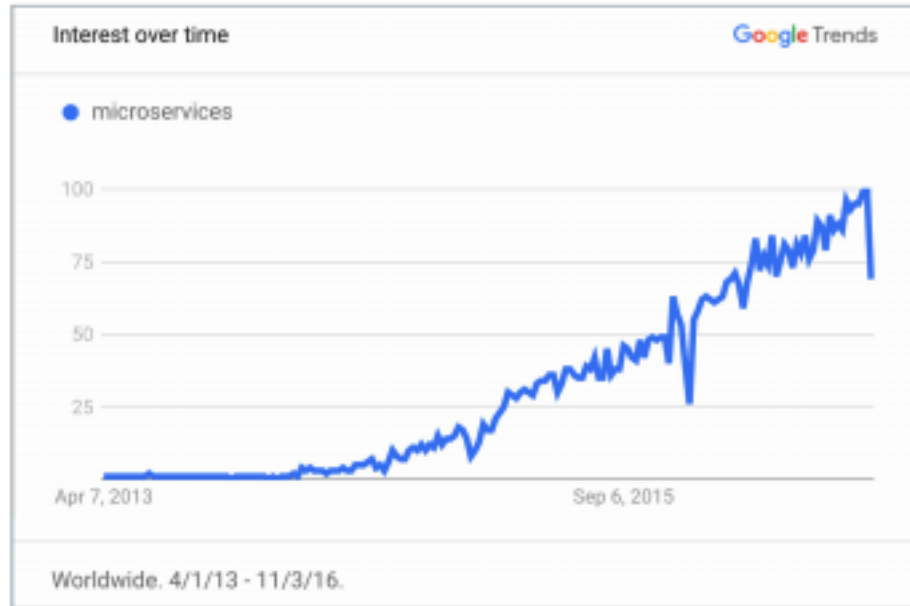
## API Directory growing fast



The growth over time of the ProgrammableWeb API directory to more than 22,000 entries

Source: Programmable web

# How fast is Microservices adoption?

**Trending on search**



Source: LeanIX Whitepaper on Microservices

**Microservices have become mainstream in the enterprise**

- 91% are using or have plans to use microservices - 60% have microservices in pilot or production
- 92% grew their number of microservices last year
- 86% expect microservices to be the default within five years

Source: Lightstep global microservices trends