

IBM Watson

# Bluemix Introduction

## Overview of IBM Cloud Platform

Federico Accetta  
April 04, 2017

IBM



## Who's Federico?



### Federico Accetta

Watson Architect

[federico\\_accetta@it.ibm.com](mailto:federico_accetta@it.ibm.com)

[@AccettaFede](#) on Twitter

Age: IBM Research and Helsinki University of Technology in Finland for an experimental tool for diagnosis of brain malfunctions (epilepsy, stroke and deafness)

Anzianità lavorativa: la stessa età del [Brain Chip IBM](#)

High School and University Career:

- Liceo Scientifico
  - ✓ Il mio primo incontro con l'informatica: **Il nome del programma, P.N.!**
- Laurea magistrale in Fisica @ [UniMiB](#)
  - ✓ 2011: **Applicazione di laser ad impulsi ultracorti per moduli di Cu(In,Ga)Se<sub>2</sub>**
  - ✓ 2013: **Tesi presso Laboratorio MDM IMM-CNR, Rilevazione di difetti interfacciali su dispositivi C-MOS**
  - ✓ 2013: **Pubblicazione relativa al lavoro di tesi**
  - ✓ 2014: **Internship presso STMicroelectronic**

Actual Role: IBM Watson Solutions

# Agenda





# Overview

Digital disruption

Disruption is upon us.

The biggest taxi company  
owns no cars.



The largest accommodation company  
owns no real estate.

Alibaba

The largest retailer  
carries no inventory.

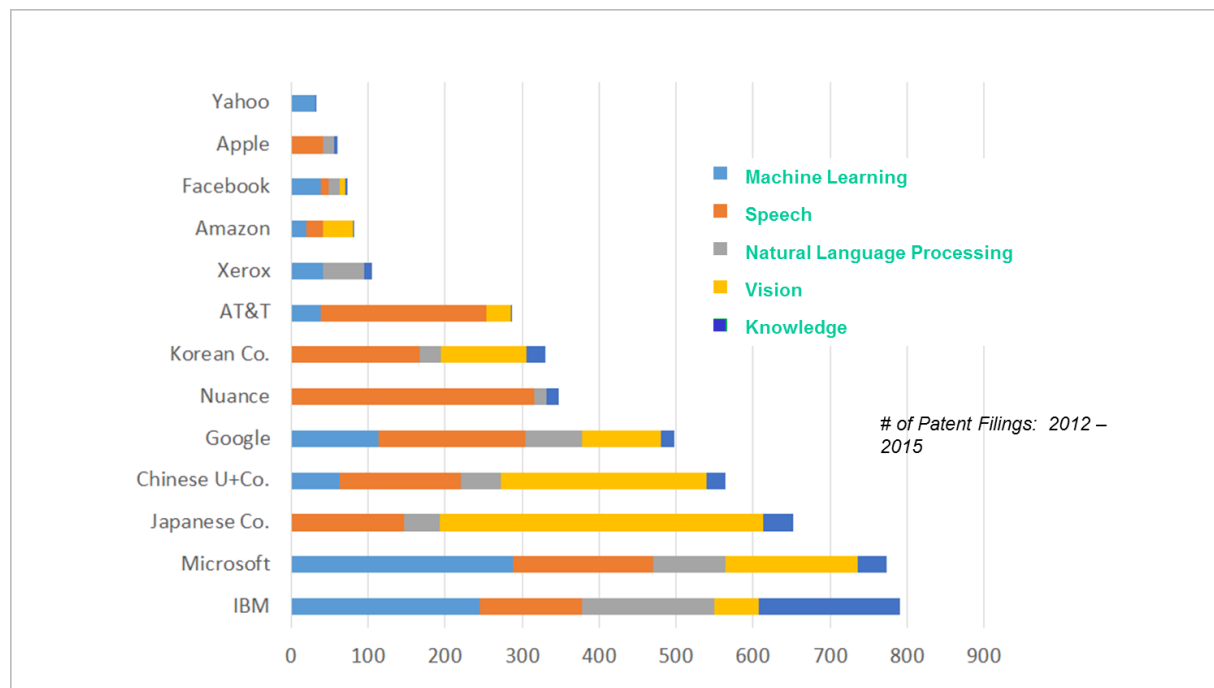
facebook

The biggest media company  
owns no content.

Artificial Intelligence patents have more than tripled in 10 years.

The screenshot shows the ZDNet website interface. At the top, there is a navigation bar with the ZDNet logo, a search icon, a 'MENU' button, a user profile icon, and a hamburger menu icon. To the right of the navigation bar, the text 'POPULAR SCIENCE' is visible. Below the navigation bar, there is a dark blue banner with the text 'ZDNet SPECIAL FEATURE' and a downward arrow. The main content area features a large article with the headline 'When robots eliminate jobs, humans will find better things to do'. Below the headline is a sub-headline 'GADGETS BARBIE LEARNS TO CHAT USING ARTIFICIAL INTELLIGENCE' and a sub-headline 'SAY HELLO TO HELLO BARBIE'. To the right of the main article is an image of a Barbie doll with blonde hair and sunglasses. Below the main article is a smaller image of a robot head.

Companies are stacking up their Cognitive IP portfolio.



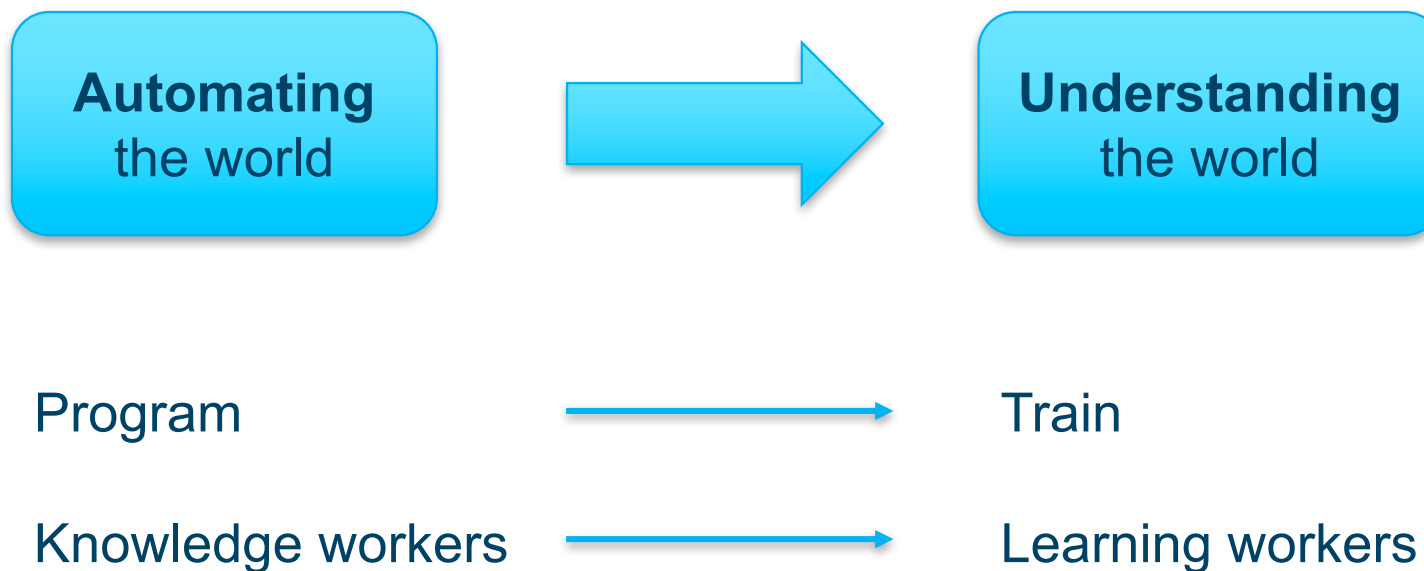
# What's behind?

Digital business and digital intelligence





# Main Technology Shift





# WISDOM

Digitalization

*Automating*

**BIG DATA**

Information

Mobile

Data Science

Knowledge

Analytics

**DATA**

Social

Cloud Computing

*Understanding*

Technology is not only supporting every kind of private and public organizations, it is becoming part of them.



# Big Data

Technological Factors

A vast amount of untapped data could have a great impact on our health - yet it exists outside medical systems.

60%  
Exogenous Factors

30%  
Genomics Factors

10%  
Clinical Factors



1100 Terabytes  
Generated per lifetime

Volume, Variety, Velocity, Veracity  
Educational records, Employment  
Status, Social Security Accounts,  
Mental Health Records, Caseworker  
Files, Fitbits, Home Monitoring  
Systems, and more...

6 Terabytes  
Per lifetime

0.4 Terabytes  
Per lifetime

Electronic Medical / Health Records,  
Physician Management Systems,  
Claims Systems and more...

A large iceberg floats in a blue ocean under a cloudy sky. The top part of the iceberg is visible above the water, while the much larger bottom part is submerged. The text is overlaid on the image.

# Big Data metaphor 1

## “Untouched” Data

>80% Unstructured Data

+ External Data

+ Stream of Data

Enterprise Data

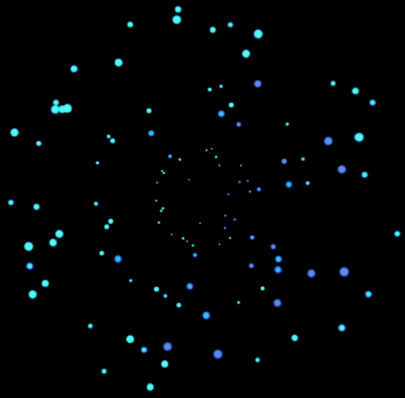
Machine Data

People Data



# Wisdom and Cognitive Systems

Data



Analytics

Information



Cognitive

Knowledge

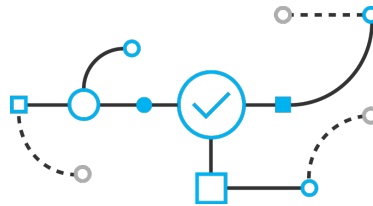


# Three capabilities differentiate cognitive systems from traditional programmed computing systems...



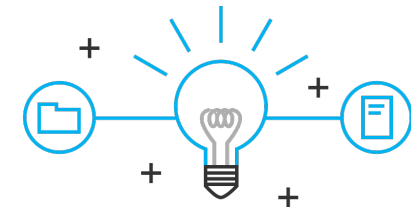
## Understanding

Cognitive systems understand like humans do.



## Reasoning

They reason. They understand underlying ideas and concepts. They form hypothesis. They infer and extract concepts.



## Learning

They never stop learning getting more valuable with time. Advancing with each new piece of information, interaction, and outcome. They develop “expertise”.

.... allowing them to interact with humans.





1997

DeepBlue uses a hard-coded objective function written by a human coupled with High Performance Computing

$10^{40}$



2016

AlphaGO uses self-trained net to evaluate positions and moves on 30M historical games

$10^{170}$

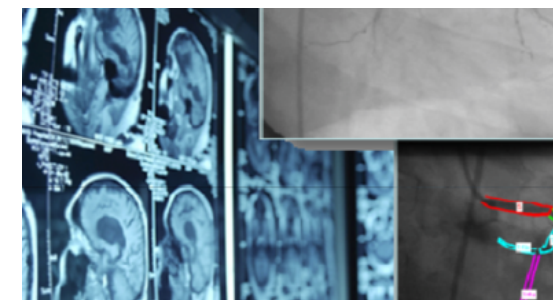
# COMPUTING & MATH

## IBM Watson – Jeopardy!



2011

# SEMANTICS



2015

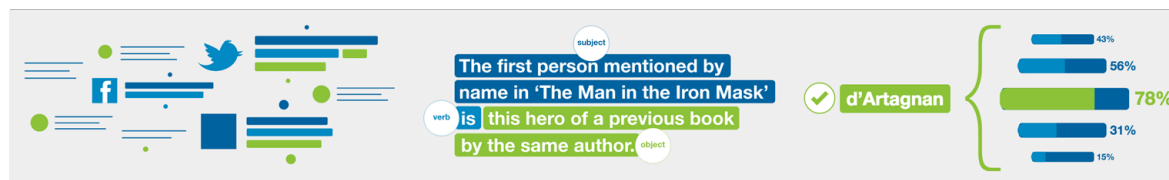
# WISDOM

# What's Watson?

IBM Watson is a cognitive technology that processes information more like a human than a computer.

**80% of all data today is unstructured and invisible:** news articles, research reports, social media posts, enterprise system data...

## How Watson reveals insights?



Analyzes unstructured data

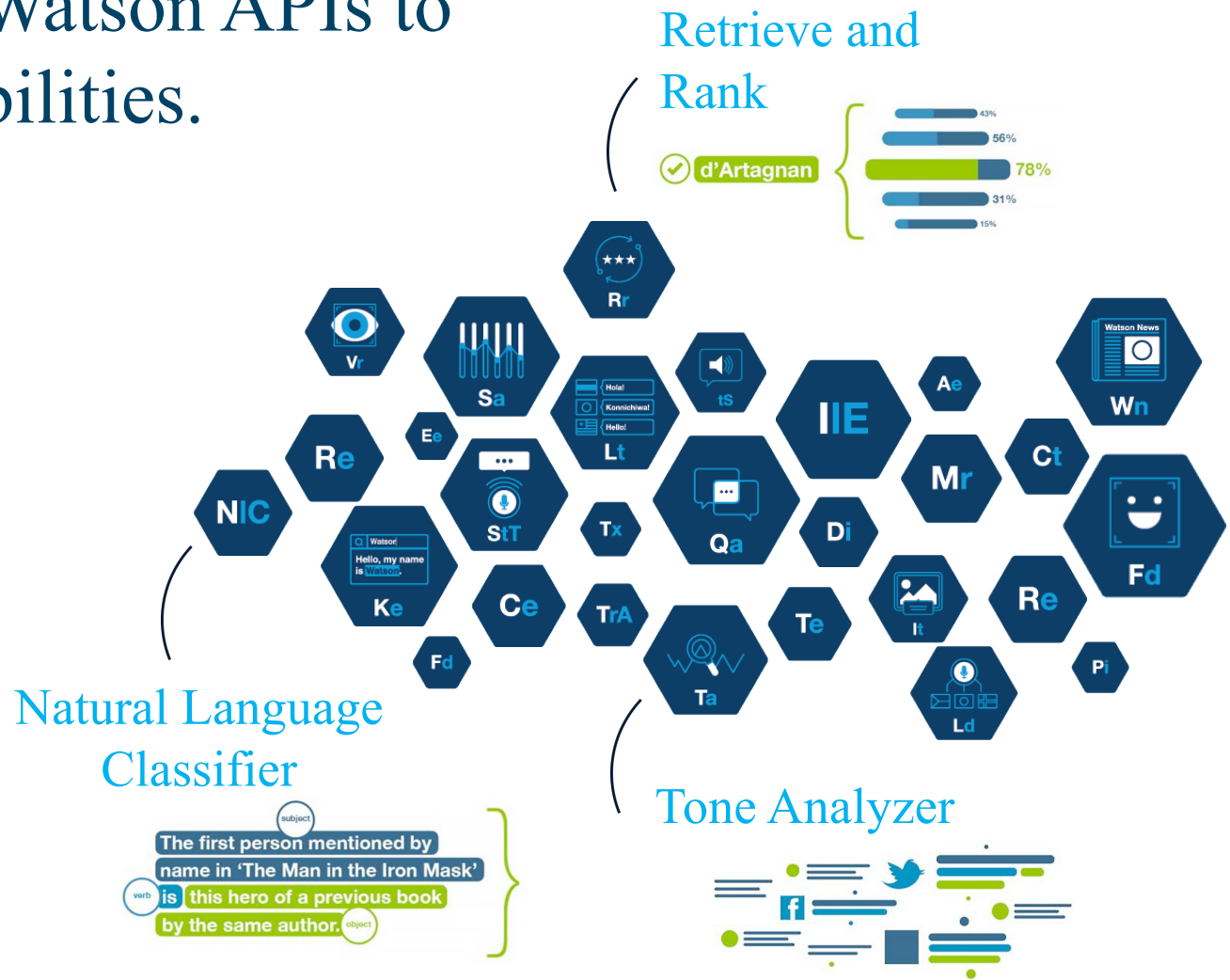
Understands complex questions

Presents answers and solutions

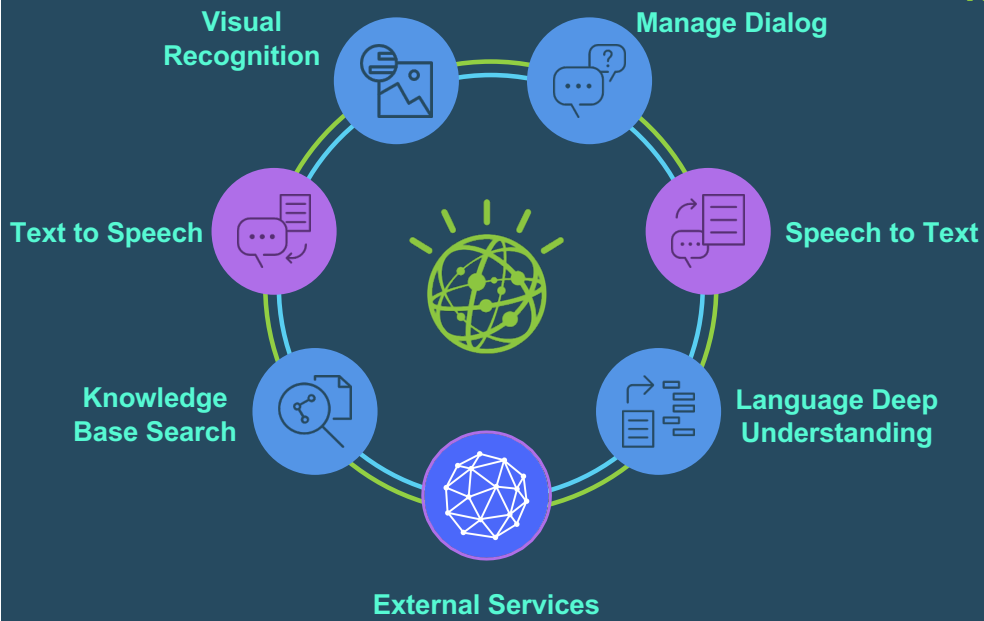
# ...and then leverage Watson APIs to apply cognitive capabilities.

## 50 underlying technologies

- |                         |                             |
|-------------------------|-----------------------------|
| Entity Extraction       | Natural Language Classifier |
| Sentiment Analysis      | Personality insights        |
| Emotion Analysis (Beta) | Relationship Extraction     |
| Keyword Extraction      | Retrieve and Rank           |
| Concept Tagging         | Tone Analyzer               |
| Taxonomy Classification | Emotive Speech to Text      |
| Author Extraction       | Text to Speech              |
| Language Detection      | Face Detection              |
| Text Extraction         | Image Link Extraction       |
| Microformats Parsing    | Image Tagging               |
| Feed Detection          | Text Detection              |
| Linked Data Support     | Visual Insights             |
| Concept Expansion       | Visual Recognition          |
| Concept Insights        | AlchemyData News            |
| Dialog                  | Tradeoff Analytics          |
| Document Conversion     |                             |
| Language Translation    |                             |



# Ecosystem



Records

Analytics

Security

Devices

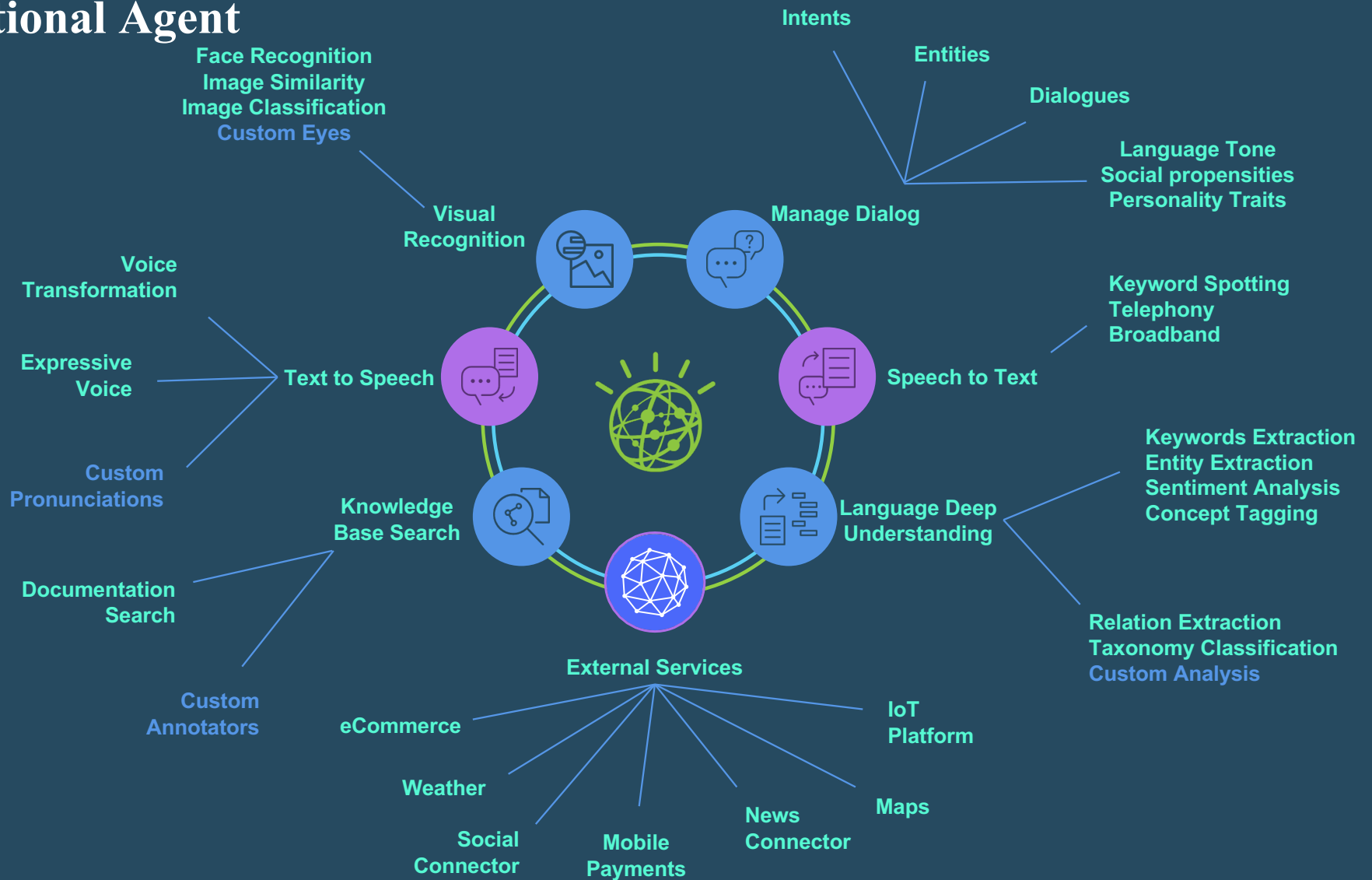
Contact Center

Social

Gamification

Mobile

# Conversational Agent





# IBM Bluemix Platform

Stephen O'Grady

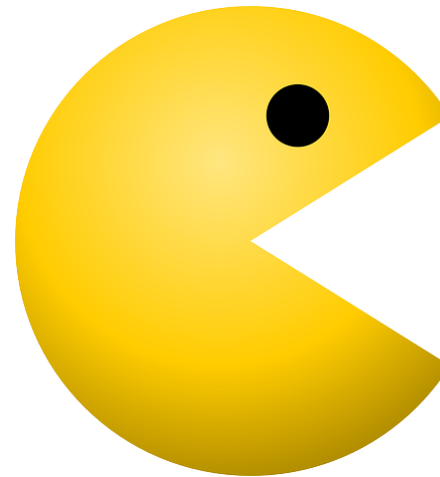
# The New Kingmakers

How **Developers** Conquered the World



O'REILLY\*

## Software is eating the world



Developers can conquer the world when standing on the shoulders of operations giants

# The app revolution

Fundamentally changing the way we interact with technology.

## Apps are everywhere

The quantity and usefulness of web and mobile apps has led to an “**app revolution**” among consumers and businesses alike.

## Experience matters

Customers and employees now expect a **delightful** and **seamless** experience across all interactions with a business.

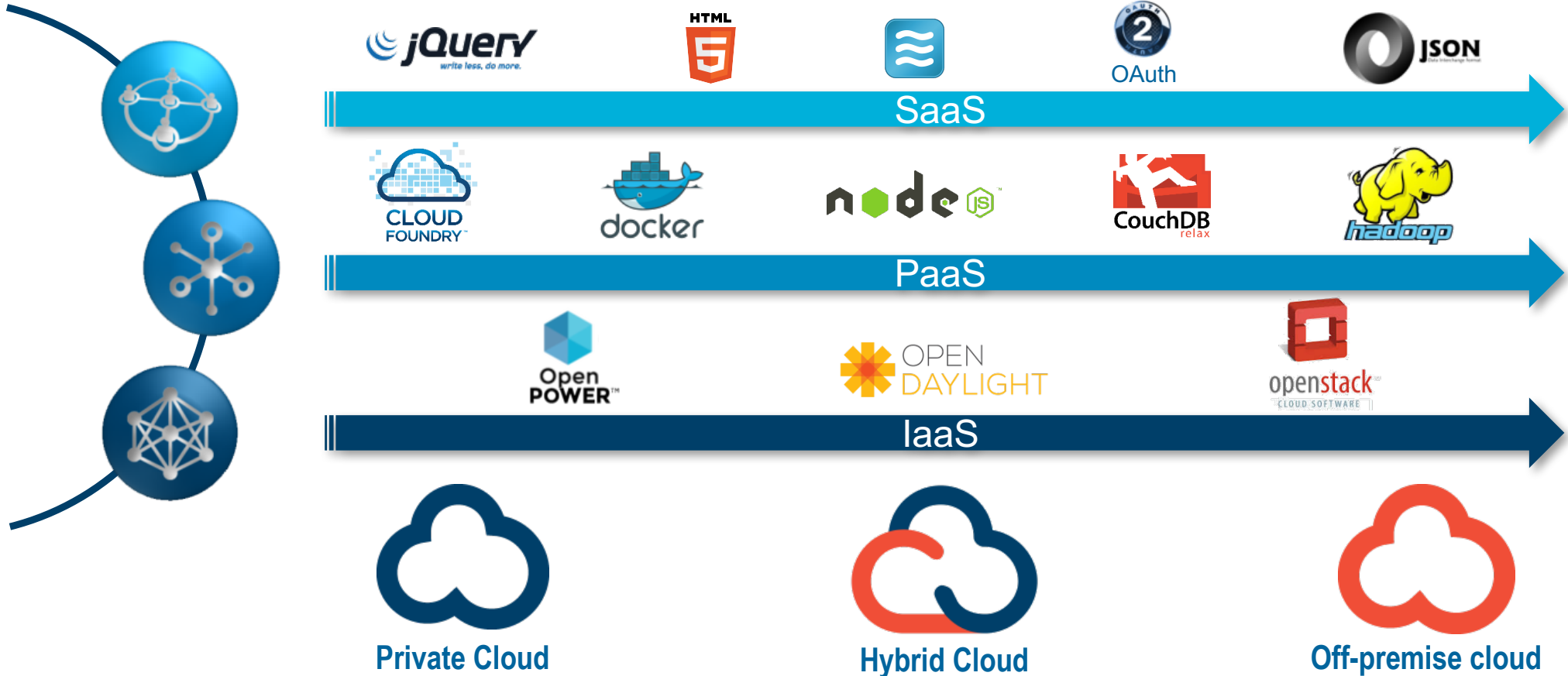
## Cloud makes it possible

Apps today can be stitched together quickly with pre-built assets. Cloud makes the **API economy** possible.



# IBM Cloud is Open By Design

Open technology lynchpins maximize the effectiveness of Cloud investments



# Introducing: IBM Bluemix

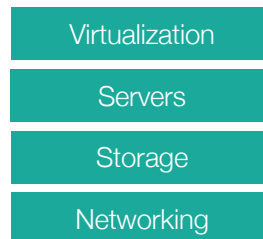
**Bluemix is a hybrid platform that harnesses the power of the Cloud to transform business.**

**Bringing together infrastructure and platform services, Bluemix offers a rich and continuously expanding ecosystem of IBM and 3<sup>rd</sup> party services to support the accelerating pace of business.**

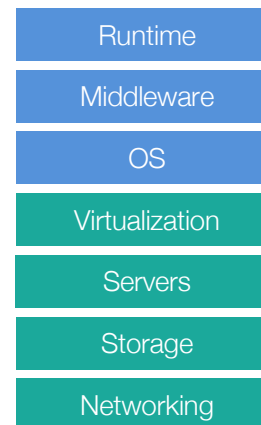
# IBM Bluemix: The Digital Innovation Platform



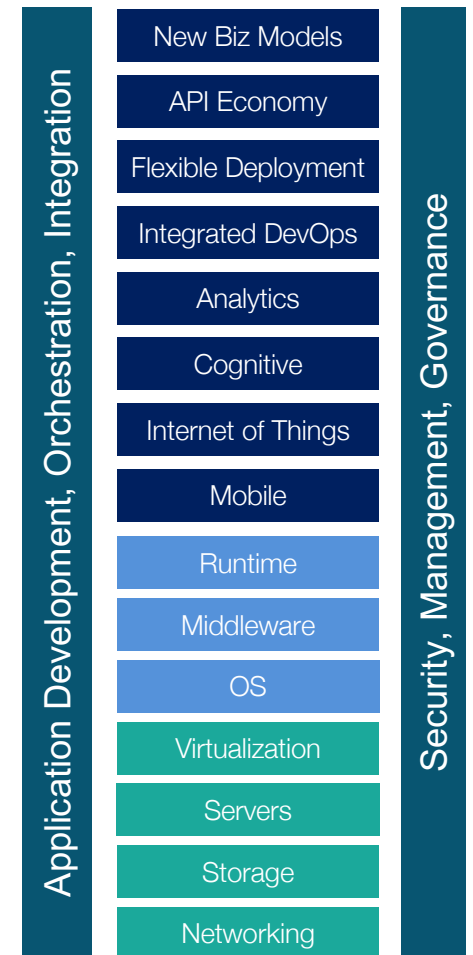
## Infrastructure as a Service



## Platform as a Service



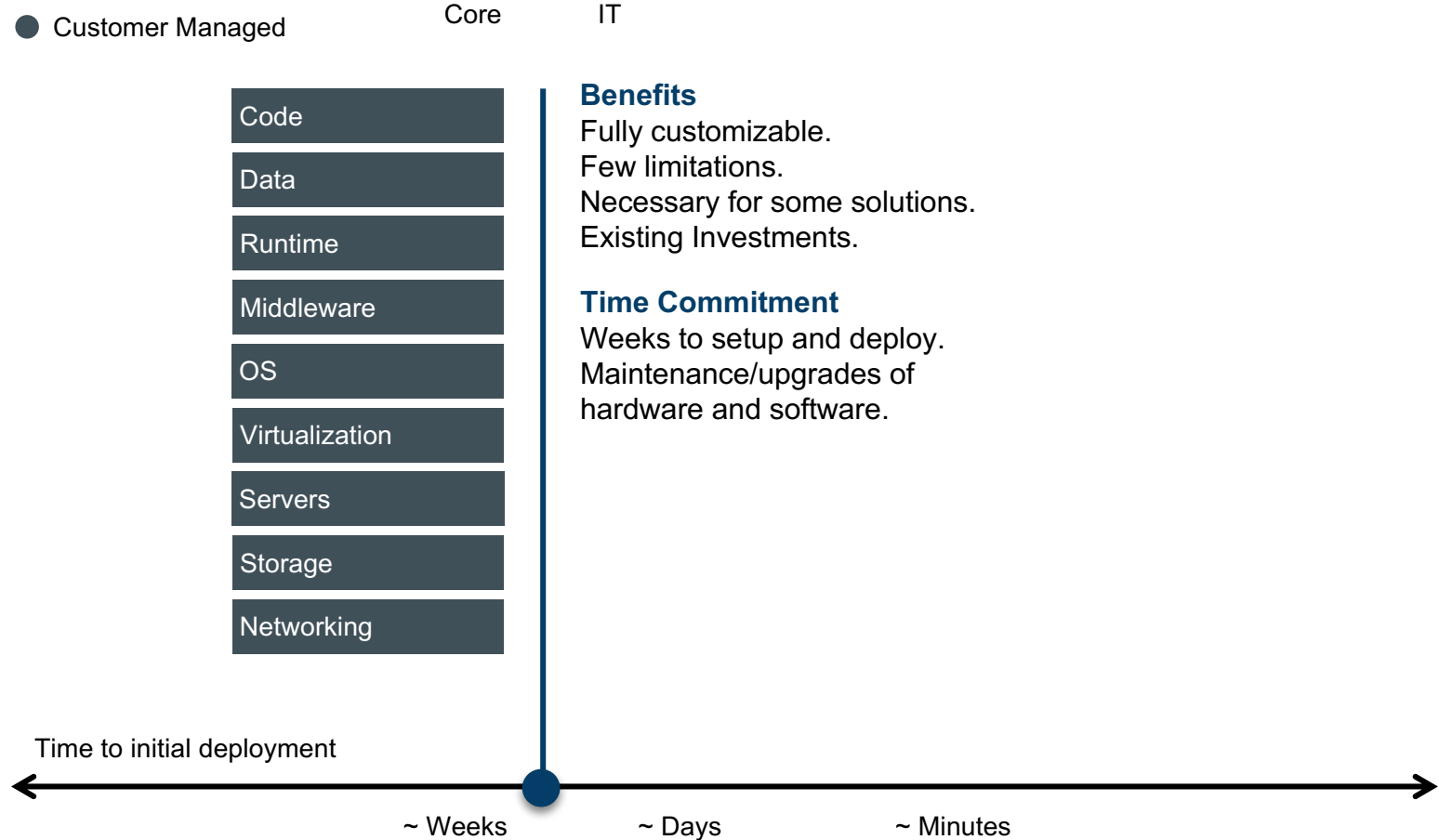
## IBM Bluemix



# Timing is critical...

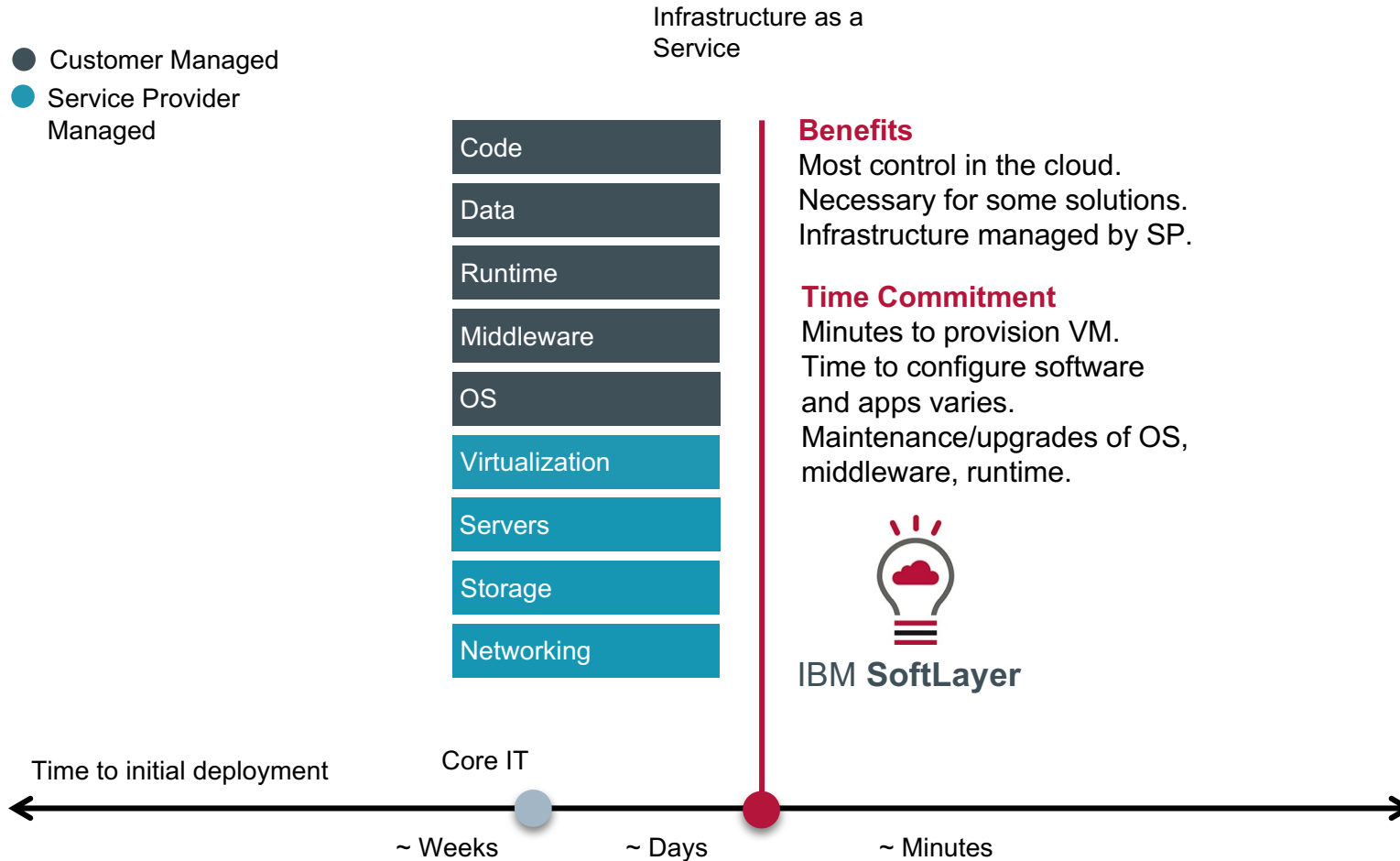


Today's apps must keep up with the speed of the app revolution.



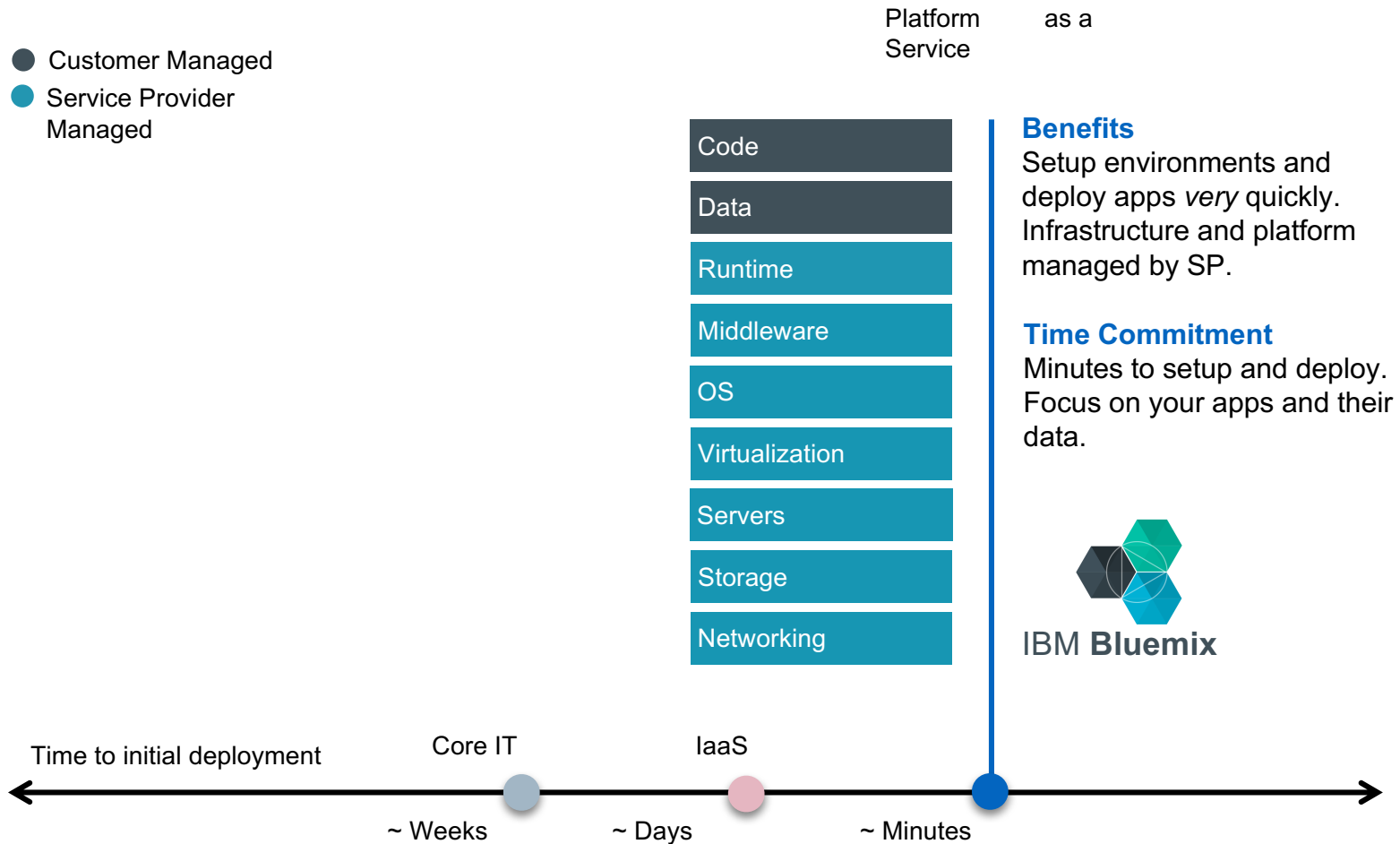
# Timing is critical...

Today's apps must keep up with the speed of the app revolution.



# Timing is critical...

Today's apps must keep up with the speed of the app revolution.



# A Full Spectrum of Compute from Bare Metal to Event Driven

Build your apps, your way.

*Use a combination of the most prominent open-source compute technologies to power your apps. Then, let Bluemix handle the rest.*

## OpenWhisk

Event-driven apps, deployed in a serverless environment.



## Instant Runtimes

App-centric runtime environments based on Cloud Foundry.



## IBM Containers

Portable and consistent delivery of your app without having to manage an OS.



## Virtual Machines

Get the most flexibility and control over your environment with VMs.



POWERED

## Bare Metal

For the ultimate performance and scale



POWERED

← Ease of getting started

Full stack Control →




IBM Bluemix

# Create, Deploy, Manage

Your applications in the cloud

GET STARTED FREE

 Build modern apps that thrive on data

Tap into services such as mobile, Watson and Internet of Things to build apps that will exceed and define the next wave of user expectations

 Easily & securely leverage your existing APIs, services and data

Move forward with real impact by leveraging the systems and processes your business runs on today

 Foster a culture of continuous innovation & delivery

Use cloud services as a way to unleash the creativity within your company





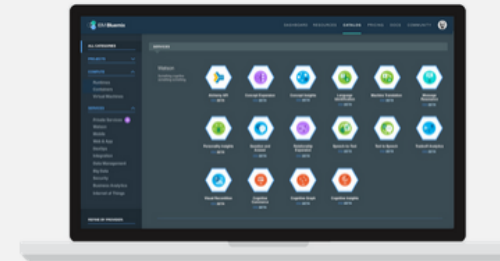
## Build & Run Apps

Use powerful, open-source technologies to power your apps. Let Bluemix handle the rest.



## Use Services & APIs

Choose IBM, third-party, and community services to extend the functionality of your apps.



**Operate**  
Continuous monitoring



**Plan**  
Continuous business and release planning



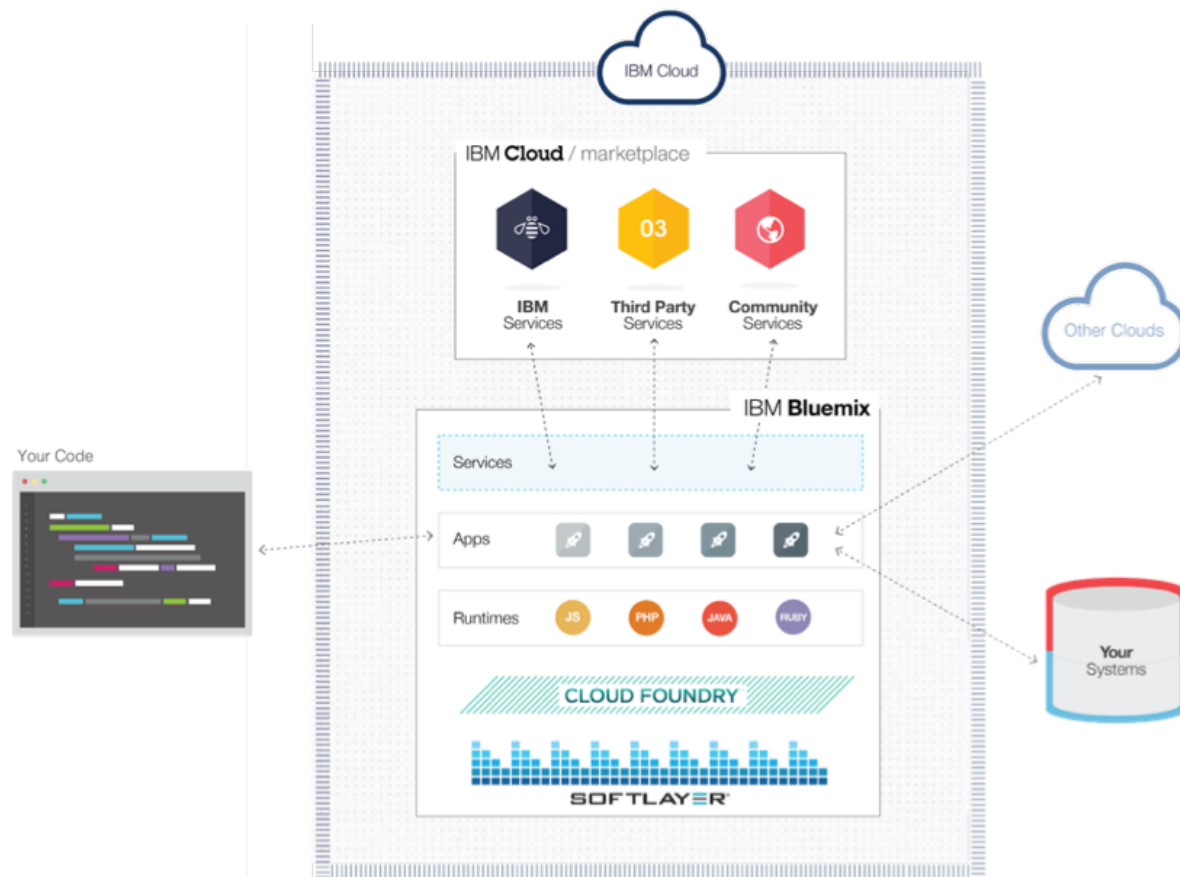
**Deploy**  
Continuous release and deployment



**Dev & Test**  
Collaborative development and continuous testing

# How does Bluemix work?

Bluemix **embraces** Cloud Foundry as an **open source Platform** as a Service and **extends** it with IBM, third party, and community built services.



# Why are developers using Bluemix?

To **rapidly** bring products and services to market at **lower cost**



Go from zero to running code in a matter of minutes.

To **continuously deliver** new functionality to their applications



Automate the development and delivery of many applications.

To extend **existing investments** in IT infrastructure



Extend existing investments by connecting securely to on-premise infrastructure.



# Broad range of IBM & 3rd Party Services

- Starters
  - Boilerplates
- Compute
  - Runtimes
  - Containers
- Services
  - Watson
  - Mobile
  - DevOps
  - Web and Application
  - Integration
  - Data & Analytics
  - Security
  - Business Analytics
  - Internet of Things
- Provider
  - Beta
  - My Org

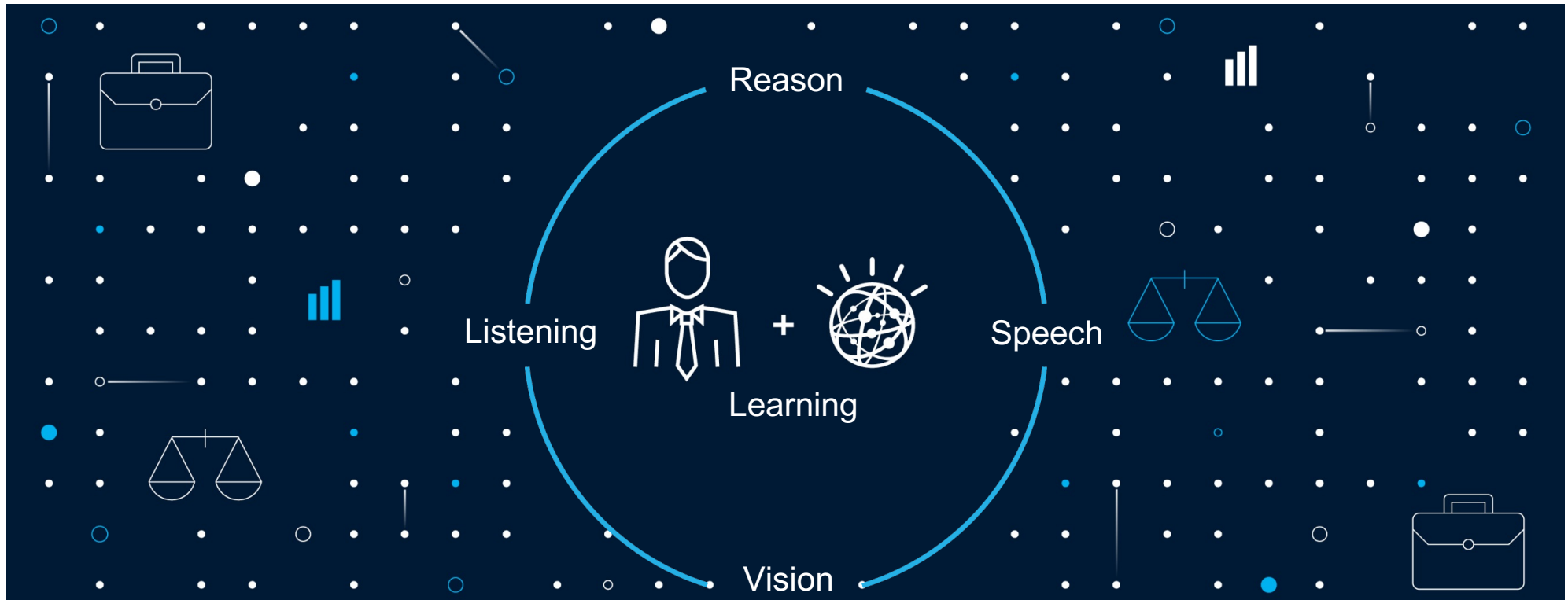
The screenshot shows the IBM Bluemix Catalog interface. The top navigation bar includes 'DASHBOARD', 'SOLUTIONS', 'CATALOG', 'PRICING', 'DOCS', and 'COMMUNITY'. The main content area is organized into several categories:

- Web and Application:** Application Server on Cloud (IBM BETA), Business Rules (IBM), Data Cache (IBM), Message Hub (IBM BETA), MQ Light (IBM), Session Cache (IBM).
- Integration:** API Management (IBM), Cloud Integration (IBM), Secure Gateway (IBM).
- Data & Analytics:** Apache Spark (IBM BETA), Cloudbant NoSQL DB (IBM), dashDB (IBM), DataWorks (IBM), DB2 on Cloud (IBM), Elasticsearch by Compose (IBM).
- Other Services:** Workflow (IBM), Workload Scheduler (IBM), CloudAMQP (Third Party), bxrxr Community, IBM SoftLayer Queue Service Community, Uptime Community, Geospatial Analytics (IBM), IBM Insights for Twitter (IBM), MongoDB by Compose (IBM), Object Storage (IBM BETA), Object Storage (v2) (IBM BETA), PostgreSQL by Compose (IBM), Predictive Modeling (IBM BETA), Redis by Compose (IBM), SQL Database (IBM), Streaming Analytics (IBM BETA), Time Series Database (IBM), ClearDB MySQL Database (Third Party).



# Watson on Bluemix

Watson is creating a new partnership between people and computers that **enhances, scales and accelerates** human expertise



IBM Watson services available on Bluemix are the building blocks for developers to create the next generation of cognitive applications to transform the way businesses engage with their customers, discover, innovate and make decisions

**...build with Watson**

All Categories

Boilerplates

Compute

Network

Storage

Data & Analytics

Watson >

Integrate

DevOps

Security

Application Services

Mobile

Internet of Things



### AlchemyAPI

An AlchemyAPI service that analyzes your unstructured text and image content

IBM



### Concept Expansion

Maps euphemisms or colloquial terms to more commonly understood phrases

IBM Beta



### Concept Insights

Explore the concepts behind your input, identifying associations beyond traditional

IBM



### Dialog

Enable your application to use natural language to converse with users

IBM



### Document Conversion

Converts a HTML, PDF, or Microsoft Word™ document into a normalized HTML, plain text

IBM



### Language Translation

Translate text from one language to another for specific domains.

IBM



### Natural Language Classifier

Natural Language Classifier performs natural language classification on question texts.

IBM



### Personality Insights

The Watson Personality Insights derives insights from transactional and social media

IBM



### Relationship Extraction

Intelligently finds relationships between sentences components (nouns, verbs, sub)

IBM Beta



### Retrieve and Rank

Add machine learning enhanced search capabilities to your application

IBM



### Speech To Text

Low-latency, streaming transcription

IBM



### Text to Speech

Synthesizes natural-sounding speech from text.

IBM



### Tone Analyzer

It helps people detect, understand and revise the language tones of emotions, social

IBM Beta



### Tradeoff Analytics

Helps make better choices under multiple conflicting goals. Combines smart visualiza

IBM



### Visual Recognition

Analyzes the visual content of images and videos to understand their content without

IBM Beta



# IBM Academic Initiative OnTheHub portal



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Cloud

Commerce

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IoT

Mobile

Security

Power Systems

z Systems

Watson

Additional Resources

Cloud Access

Courses

Bluemix

Blueworks Live

Power Systems Academic Cloud

z Systems Academic Cloud

## IBM Bluemix Promo Code - 12 Month Trial



Manufacturer: IBM Academic Initiative

Delivery Type: Custom Delivery

Available to: IBM Staff

Free

[Add to Cart](#)

[Are you eligible?](#)

Description

[Are you eligible?](#)





Demonstration  
Only

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[Sign In](#) | [Register](#)



[Faculty/Staff](#)   [Students](#)

## Verification

To order products on this WebStore, you must be affiliated with an organization that is authorized to use this WebStore.

How would you like to register?

- With an organization-issued email address (e.g. a ".edu" or ".ac.uk" address)**
- By activating an account that has already been created for you
- With a registration code
- By submitting proof of your academic affiliation (e.g. a student ID or report card) via upload or fax.

Please allow two business days for your proof to be verified after you submit it. Some orders may be placed on hold until this verification is complete.

[Continue](#)

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Demonstration  
Only

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Product Search



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## Account Verification > Verify Email Address

### Organization-Issued Email Address\*

A confirmation email will be sent to the address you provide from 'noreply@kivuto.com'. Please ensure that your email is configured to allow messages from the domains 'kivuto.com' and 'onthehub.com'. Check your Spam folder if the email does not arrive within a few minutes.

Insert your  
academic e-  
mail address

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[Faculty/Staff](#)

[Students](#)

## Account Registration

**First Name\***

**Last Name\***

**Username\***

**Email Address\***

Complete w  
your data

Your email address will act as your username. You will use it to sign in to the WebStore.

**Choose a Password\***

**Confirm Password\***

Password must be at least six characters long.

## Proof of Eligibility

**Your Organization\***

IBM (Staff) ▼

**Organization-Issued Email Address\***

**Group of which you are a member\***

Your Organization\*

Organization-Issued Email Address\*

Group of which you are a member\*

You will be liable for the full price of any products you have ordered if you are unable to supply proof of your eligibility upon request

- Receive email communications from OnTheHub, powered by Kivuto Solutions Inc., including information about promotions and new releases. You can unsubscribe at any time. For further details and contact information, please refer to the [Privacy Policy](#).
- Please keep me informed of products, services, and information specifically related to this offer. (Required for program consideration)



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Hello, [speschiera@it.ibm.com](mailto:speschiera@it.ibm.com)



[Orders & Downloads](#)

[Account Information](#)

**Eligibility**

[Change Password](#)

Thank you for registering.

Your account is currently pending verification. Some orders may be placed on hold until this verification is complete. See details below.

## Eligibility

You are a member of (or have requested membership in) the following groups:

Organization:

User Groups:

Verification Method:

Organization-issued email address

Status:

**Unverified** (Expires: 2018-02-15)

An email has been sent to [speschiera@it.ibm.com](#) with the subject **"Email address confirmation"** to confirm the email address. Please follow the instructions in the email. If you do not receive it within an hour, please ensure your email program is configured to allow emails from **kivuto.com**. Click below and we will resend the confirmation email.

[Resend Confirmation Email](#)

[Request Additional Eligibility](#)

Go to your mail

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**Email Address Confirmation**  
**IBM Academic Initiative (Staff)**

To: Silvia Peschiera1

Please respond to noreply

15/02/2017 12:54

[Show Details](#)



**Demonstration  
Only**

IBM Academic Initiative created this IBM Staff WebStore to support those employees working with the academic audience further. This store catalog mirrors our IBM Academic Initiative store that the academic audience will access with their valid school credentials at [ibm.onthehub.com](http://ibm.onthehub.com). Click on the Faculty/Staff tab to see offerings available for Faculty. Click on the Student tab to see the offerings available for Students.

This email is to confirm the email address that you supplied. Please click the link below to complete the verification of your email address:

<http://ibmstaff.onthehub.com/d.ashx?s=srsnmcxfrm>

If you are redirected to your organization's internal sign-in page, you will need to sign in using the credentials provided by your organization.



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Product Search



Faculty/Staff

Students

**Cloud**

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[Data & Analytics](#)

[IoT](#)

[Mobile](#)

[Security](#)

[Power Systems](#)

[z Systems](#)

[Watson](#)

[Additional Resources](#)

**Cloud Access**

[Courses](#)

**Bluemix**

[Blueworks Live](#)

[Power Systems Academic Cloud](#)

[z Systems Academic Cloud](#)

## IBM Bluemix Promo Code - 12 Month Trial



Manufacturer: IBM Academic Initiative

Delivery Type: Custom Delivery

Available to: IBM Staff

Free

Add to Cart

[Are you eligible?](#)

Description

Are you eligible?



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Product Search



Faculty/Staff

Students

Cloud

Cloud Access

Bluemix

IBM Blue

## Added to your shopping cart



[View Full Cart](#)



IBM Bluemix Promo Code - 12 Month Trial - Cloud Access

Quantity

1

Price

Free

[Back to Shopping](#)

[✓ Check Out](#)

IBM Bluemix

Description

Are you eligible?

Are you eligible?



1 Messages

2 Order

3 Receipt

## Product

### This message applies to:

IBM Bluemix Promo Code - 12 Month Trial - Cloud Access

## Academic Initiative Program Agreement

You can also view this agreement in [Greek](#), [Indonesian](#), [Polish](#), and [Czech](#).

The purpose of this IBM Academic Initiative agreement ("Agreement") is to make available certain software, resources, cloud services for educational and non-commercial research only to qualifying students, employees or contractors with educational institutions, or learning providers. As an authorized representative, you accept the terms of this Agreement by completing the registration process at <http://ibm.biz/ibmonhub2>.

This Agreement and any IBM license agreements or any other agreements under which Eligible Resources are made available are the complete agreement between you and IBM regarding the use of those Eligible Resources. This Agreement replaces any prior oral or written communications between you and IBM regarding this offering. If there is a conflict between any of the terms of other applicable licenses and agreements and those of this Agreement, the terms of this Agreement prevail to the extent that the terms conflict.

### 1. Definitions

**Institution:** an accredited publicly- or privately-funded educational institution approved by IBM to participate in this offering. Qualifications for approval are listed at the following web site: <https://developer.ibm.com/academic/docs/usage-questions/>

**Registered Educator:** a member of an Institution's teaching or research staff who has registered, with the authorization of their Institution, to participate in this offering.

**Registered Student:** a student of an Institution who has the authorization of their Institution to participate in this offering.

**Educational Materials:** The term "Educational Materials" means educational material that IBM or a third party on behalf of IBM may make commercially available. Educational Materials may be tutorials, instructor guides, student guides, lab guides, lab exercises, slide decks, sample tests, syllabi, workbooks, charts, white papers,

Decline

Accept



Demonstration  
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Hello, [speschiera@it.ibm.com](mailto:speschiera@it.ibm.com) |

① Messages

② Order

③ Receipt

## Faculty Survey

### Product

**This message applies to:**

IBM Bluemix Promo Code - 12 Month Trial - Cloud Access

Please answer the following questions to complete the check out process

**In which college/department do you teach? (select one that most closely aligns)\***

**What is the name of your course(s)? Please include course number.\* (for multiple courses separate each name with a comma)\***

**Which topic most closely relates to your course content?\* (you can only select one)\***

**At which URL(s) can we verify that your course(s) will be offered? (for example, your school's course catalog url. for multiple courses separate each url with a comma.)\***

Continue

Complete with  
your data



Demonstration  
Only

[Home](#) | [Help](#) | [English](#)

Hello, [speschiera@it.ibm.com](mailto:speschiera@it.ibm.com)



1 Messages

2 Order

3 Receipt

## Items



IBM Bluemix Promo Code - 12 Month Trial - Cloud Access

**Amount**

Free

**Subtotal:** Free

**Taxes:** --

**Total:** Free

## Contact Information Fields marked with an asterisk (\*) are required

**First Name\***

Silvia

**Last Name\***

Peschiera

**Email\***

[speschiera@it.ibm.com](mailto:speschiera@it.ibm.com)

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[Proceed With Order](#)

## Order Summary

**Order Date:** 2017-02-15 7:08 AM  
Eastern Standard Time

**Order Number:** 100528691632

## Order Information

**Name:** Silvia Peschiera

**Email:** speschiera@it.ibm.com

## Items



IBM Bluemix Promo Code - 12 Month Trial - Cloud Access

**Amount**  
Free

**Notes:**

Thank you for requesting extended trial access to IBM Bluemix, a single platform in the cloud that will enable you to develop your own solutions using a wide range of IBM services and APIs, including big data, analytics, Internet of Things (IoT), Watson, mobile, security and more.. To take advantage of this special cloud offer\*, redeem the unique promotion code provided during checkout:

- 1) [Register](#) for an IBM Bluemix trial account, if you haven't already. (Don't forget, to complete the registration process you must respond to the click/accept text or email from id@bluemix.net)
- 2) [Login](#) to your Bluemix dashboard. Click on Account in the upper right corner and then on Account Type in the left navigation.
- 3) Enter the promo code from checkout. Click apply.

After you successfully apply the code, refresh the page to see the extension reflected in the calendar icon.

Learn more about how to use [IBM Bluemix](#) in your course work by using the [on-line documentation](#) and [community resources](#). We hope you'll find value in using the many APIs and services available on IBM Bluemix as you complete your learning projects.

Sincerely,

IBM Academic Initiative

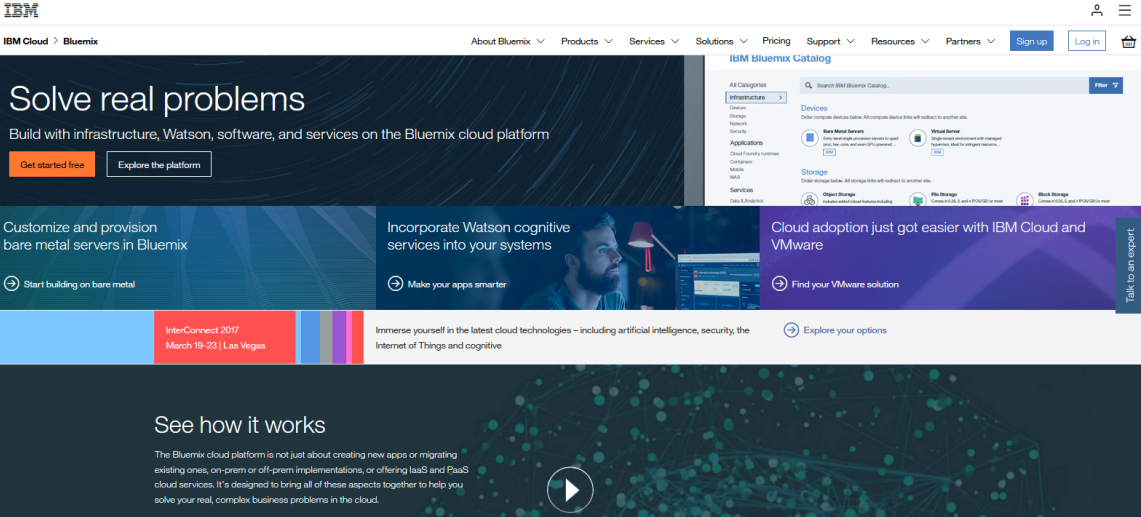
\*Terms of the offer: This offer is non-transferable. The code can only be used once and must be redeemed within 10 months of receipt.

**Promo Code:** 8C286739-11EE-126F-B0EB-3E7D4308C13E

Messages:

- [Academic Initiative Program Agreement](#)
- [Faculty Survey](#)

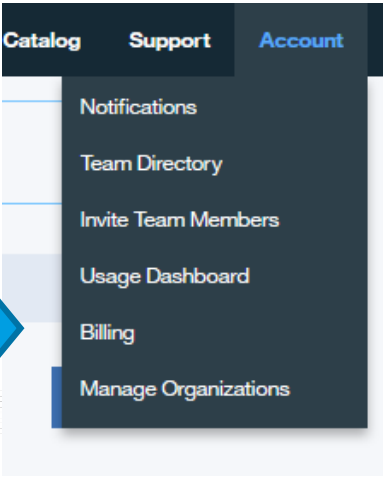
# Apply the Promo Code In Bluemix



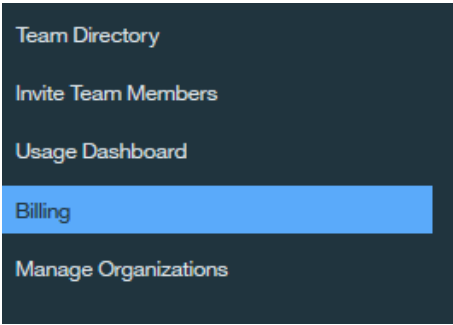
**STEP ONE**

Billing

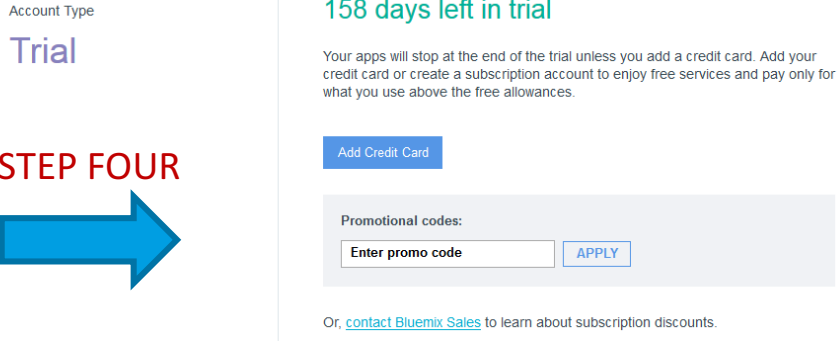
**STEP TWO**



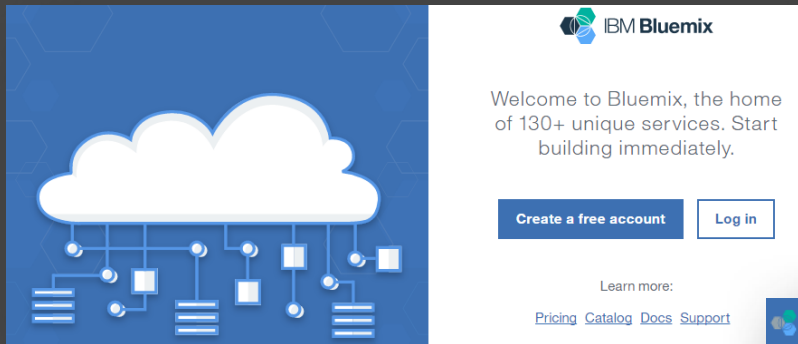
**STEP THREE**



**STEP FOUR**



# Create a free account



<https://console.ng.bluemix.net>

- **Region:** you can choose where run your applications. If you don't have particular needs you can choose what you want;
- **Organization:** identify your account with an organization name;
- **Space:** work space for a specific project of work;

IBM Bluemix

Sign up for an IBMid and create your Bluemix account  
**Try Bluemix free for 30 days**

**Start building immediately.**  
Your trial doesn't require a credit card. All you need to do is sign up and start building.

**Production app? No problem.**  
We give you 2GB of runtime and container memory free for 30 days, plus access to provision up to 10 services.

**We're here to help.**  
Your trial comes with free help desk support. Ask us anything along the way.

Already have a Bluemix account? [Log in](#)

Email\*

First Name\*

Last Name\*

Company

Country or Region\*

# Bluemix dashboard

117 Trial Days Remaining | ALESSANDRO GUERRERA'S Acc... | US South : alessandro\_g...ra@it.ibm.com : Demo

IBM Bluemix Apps | Catalog | Support | Manage

Search Items

All Apps (1) [Create App](#)

**Cloud Foundry Apps** 10.625 GB/16 GB Used

NAME	ROUTE	INSTANCES	RUNNING	STATE	ACTIONS
PersonalityDemo	<a href="#">PersonalityDemo.mybluemix.net</a>	1	1	Running	

All Services (2) [Create Service](#)

**Services** 66/80 Used

NAME	SERVICE OFFERING	PLAN	ACTIONS
Context Mapping-hp	Context Mapping	Free	
PersonalityDemo-personality_insights	Personality Insights	Tiered	

User dashboard that shows an overview of all user applications and services for a specific Space and Organization, inside a specific Region.

- **Apps:** all user applications for the specific Space (Demo);
- **Services:** services added to the private space from the **Catalog**;
- **Actions:** you can **Run, Stop, Restart, Rename & Delete** your app;

# Bluemix Services and Catalog

The screenshot displays the Bluemix Services Catalog interface. On the left, a navigation menu lists categories: Infrastructure (Compute, Storage, Network, Security), Apps (Boilerplates, Cloud Foundry Apps, Containers, OpenWhisk, Mobile), and Services (Data & Analytics, Watson, Internet of Things, APIs, Network, Storage, Security). The 'Watson' service is highlighted. The main content area shows a grid of 12 services, each with an icon, title, description, and provider (IBM). The 'AlchemyAPI' service is marked as 'Deprecated'.

Service Name	Description	Provider
AlchemyAPI	An AlchemyAPI service that analyzes your	IBM (Deprecated)
Conversation	Add a natural language interface	IBM
Discovery	Add a cognitive search and content	IBM
Document Conversion	Converts a HTML, PDF, or Microsoft	IBM
Language Translator	Translate text from one language to	IBM
Natural Language Classifier	Natural Language Classifier performs	IBM
Natural Language Understanding	Analyze text to extract meta-data	IBM
Personality Insights	The Watson Personality Insights	IBM
Retrieve and Rank	Add machine learning enhanced	IBM
Speech to Text	Low-latency, streaming	IBM
Text to Speech	Synthesizes natural-sounding speech	IBM
Tone Analyzer	Tone Analyzer uses linguistic analysis t	IBM

- Service catalog that implement specific functionalities;
- Every service can be deployed in your space and integrated into your application;
- Every service exposes documented functionalities that can be called through API calls;



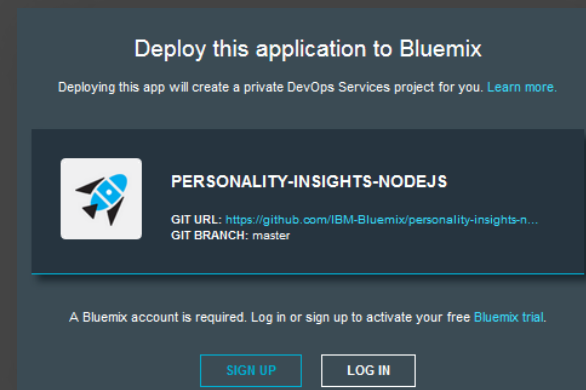
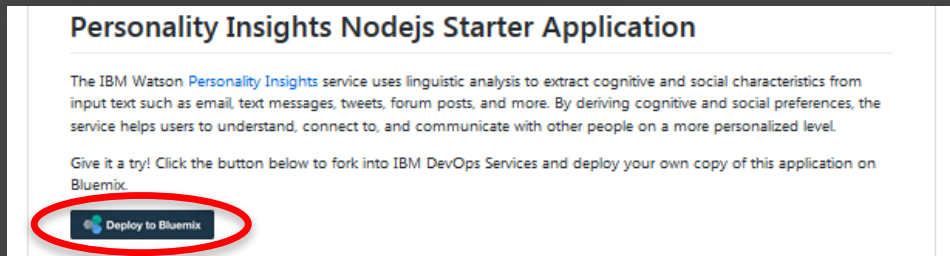
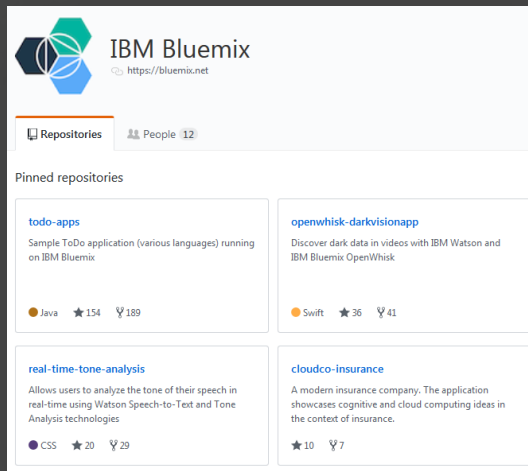
**Bluemix** can be **used**  
by everyone, .....everywhere

# CREATE YOUR FIRST APPLICATION

# Deploy a sample application




<https://github.com/IBM-Bluemix>

- Set of sample applications with different programming languages;
- Clicking on a project you can access to the public code;
- You can **Deploy** a sample app directly from this page;



# Run your application in your browser


Cloud Foundry Apps 10.625 GB/16 GB Used

NAME	ROUTE	STATE	ACTIONS
PersonalityDemo	<a href="http://PersonalityDemo.mybluemix.net">PersonalityDemo.mybluemix.net</a>	● Running	  

Run the application that you just deployed in your space;

Your application is running in your Space with your services;

You are free to create you app from scratch or using boilerplates, published into the catalog;



## Personality Insights

The IBM Watson Personality Insights service uses linguistic analytics to extract a spectrum of cognitive and social characteristics from the text data that a person generates through blogs, tweets, forum posts, and more.

**Resources:**

- [API Reference](#)
- [Documentation](#)
- [Fork on Github](#)
- [Fork and Deploy on Bluemix](#)

### Input Text

We need a minimum of 3500 words and ideally 6000 words or more to compute statistically significant results. See [the science behind the service](#).

Ideally, the text should contain words we use in every day life relating to personal experiences, thoughts and responses. See [usage guidance](#) for details.

**Choose Language:**  English  Spanish

Mr. Vice President, my old colleague from Massachusetts and your new Speaker, John McCormack, Members of the 87th Congress, ladies and gentlemen:

This week we begin anew our joint and separate efforts to build the American future. But, sadly, we build without a man who linked a long past with the present and looked strongly to the future. "Mister Sam" Rayburn is gone. Neither this House nor the Nation is the same without him.

Members of the Congress, the Constitution makes us not rivals for power but partners for progress. We are all trustees for the American people, custodians of the American heritage. It is my task to report the State of the Union—to improve it is the task of us all.

In the past year, I have traveled not only across our own land but to other lands—to the

8437 words



# IBM **Bluemix Demos** **& Services**

## Website

<https://www.ibm.com/watson/developercloud/>

### Build with Watson

Enable cognitive computing features in your app using IBM Watson's Language, Vision, Speech and Data APIs.

[Start free in Bluemix](#)

[See the services](#)

# Bluemix Catalog

<https://www.ibm.com/watson/developercloud/services-catalog.html>

## Watson Services

Take your first step into the cognitive era with our variety of smart services.

**LANGUAGE**

**SPEECH**

**VISION**

**DATA INSIGHTS**

---

## Starter Kits

<https://www.ibm.com/watson/developercloud/starter-kits.html>

### Starter Kits

Get a jumpstart building your cognitive app with code examples that combine multiple services for common use cases.



# Looking for Answers?

developerWorks Q&A

<https://developer.ibm.com/answers/>



## Stackoverflow

<http://stackoverflow.com/questions/tagged/ibm-bluemix>



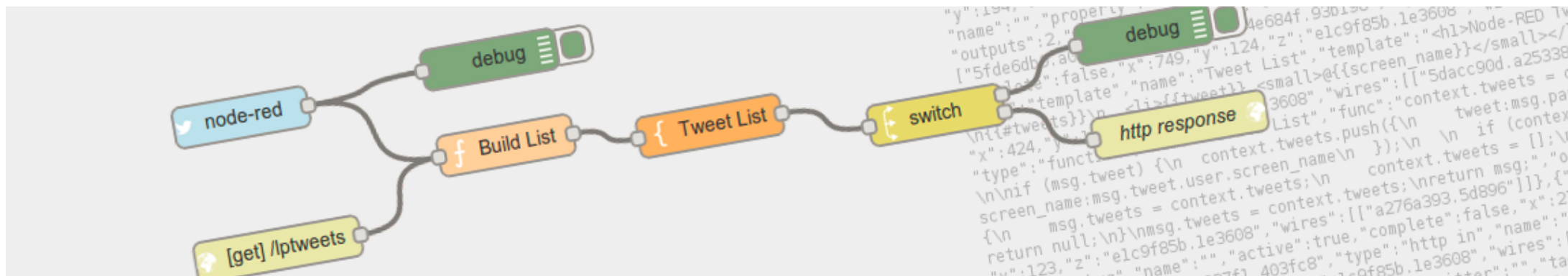
---

## Test API Options

- cURL (<https://curl.haxx.se/>)
- Watson API Explorer (<https://watson-api-explorer.mybluemix.net/>)
- Your own application (NodeJS, JAVA, Node-RED, ...)
- HTTP Request Tools (browser plugins, online tools, ...)

# Nodered

<https://flows.nodered.org/>



## Visual Coding Tool

Very basic coding knowledge required

Ready-to-use **Nodes** and **Flows**

Direct **Integration** with Bluemix Services

## Node-RED Library

Find new nodes, share your flows and see what other people have done with Node-RED.

  
 flows  nodes 1385 things

Sort by:  recent  
 downloads



# IBM Bluemix Demos & Services

## Conversation

### What is it?

Enable applications to use natural language to automatically respond to user questions.

Can track and store user profile information to learn more about end users, guide them through processes based on their situation, or pass their information to a back-end system.



### How does it work?

Provides a comprehensive, technology platform for managing conversations between virtual agents and users

### Example Use Cases


- Help desk
- Tech support


### Demo:


<https://www.thenorthface.com/xps>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/conversation/index.html>

 I'm Watson! I can help you order a pizza. What size?

 Great! Can I get a medium?

 Perfect. What toppings are you in the mood for today?

## Natural language classifier

### What is it?

Interpret and classify natural language with confidence.

### How does it work?

The service interprets the intent behind text and returns a corresponding classification with associated confidence levels.

### Example Use Cases

The service is tuned and tailored to short text (1000 characters or less)

Classify SMS text as personal, work or promotional

Classify tweets into a set of classes (events, news, opinions)

### Demo:

<http://natural-language-classifier-demo.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/natural-language-classifier/index.html>



## Visual Recognition

### What is it?

Allows users to understand the contents of an image or video frame, answering the question “What is in this image?”

### How does it work?

Submit the image and the service returns scores for relevant classifiers representing things such as objects, events and settings.

### Example Use Cases

- Need to figure out what is contained in many images

### Demo:

<http://visual-recognition-demo.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/visual-recognition/index.html>



SATURN

## Retrieve and Rank



### What is it?

Helps users find the most relevant information for their query by using a combination of search and machine learning algorithms.

### How does it work?

Developers load their data into the service, train a machine learning model based on known relevant results, then leverage this model to provide improved results to their end users based on their questions or queries.

### Example Use Cases

- A technician who is going onsite and requires help troubleshooting a problem

### Demo:

<http://retrieve-and-rank-demo.mybluemix.net/rnr-demo/dist/#/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/retrieve-rank/>



## Document Conversion

### What is it?

Converts a single HTML, PDF or Word document into a normalized HTML, plain text or set of JSON.

It is commonly used in synergy with Retrieve&Rank to create the answer units from the documents uploaded.



### Demo:

<https://document-conversion-demo.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/document-conversion/>

## Natural Language Understanding

### What is it?

Natural Language Understanding uses natural language processing technology and machine learning algorithms to extract semantic meta-data from content, such as information on people, places, companies, topics, facts, relationships, authors, and languages.



### Example Use Cases

Extract people, places, companies and other entities mentioned in a news article or text

### Demo:

<https://natural-language-understanding-demo.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/natural-language-understanding/>

## Discovery

### What is it?

Discovery makes it possible to rapidly build cognitive, cloud-based exploration applications that unlock actionable insights hidden in unstructured data — including proprietary data, as well as public and third-party data

### How does it work?

- Crawl, convert, enrich and normalize data.
- Securely explore your proprietary content as well as free and licensed public content.
- Apply additional enrichments such as concepts, relations, and sentiment through natural language processing

### Demo:

<https://discovery-news-demo.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/discovery/index.html>



## Discovery News

### News collector

Discovery provides news and blog content enriched with natural language processing to allow for highly targeted search and trend analysis.

This indexed dataset is pre-enriched with the following cognitive insights: Keyword Extraction, Entity Extraction, Concept Tagging, Relation Extraction, Sentiment Analysis, and Taxonomy Classification

You can query the world's news sources and blogs like a database.

### How it works

Discovery indexes 300.000 English language news and blog articles every day with historical search available for the past 60 days.

### Demo:

<http://news-explorer.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/discovery/index.html>



## Speech to Text

### What is it?

Converts the human voice into the written word.

### How does it work?

Uses machine intelligence to combine information about grammar and language structure.

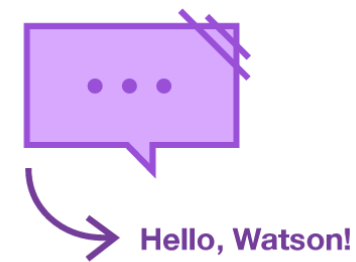
The transcription of incoming audio is continuously sent back to the client with minimal delay.

### Demo:

<https://speech-to-text-demo.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/speech-to-text/>



## Text to Speech

### What is it?

Generates an audio file that has a verbal representation of the input text – complete with appropriate cadence and intonation, and, in the future, the ability to customize the pronunciation of specific words.

### Example Use Cases

- Enable a new interaction paradigm for mobile apps.
- Assistance tools for the vision-impaired.
- Read texts / emails aloud.
- Critical building block for enable “Speech-to-Speech Translation”

### Demo:

<http://text-to-speech-demo.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/text-to-speech/>



What can I do for you today?



## Audio Analysis

### Demo

[https://audio-analysis-application-starter-kit.mybluemix.net/?cm\\_mc\\_uid=98092255825414573411651&cm\\_mc\\_sid\\_5020000=1457344882](https://audio-analysis-application-starter-kit.mybluemix.net/?cm_mc_uid=98092255825414573411651&cm_mc_sid_5020000=1457344882)

### How it works

This application uses the IBM Watson Concept Insights service coupled with the Speech to Text service in order to provide analysis of the concepts that appear in Youtube videos

#### How the analysis works



1. Video plays and audio is analyzed



2. Audio is transcribed



3. Concepts are gathered



4. Concepts are ranked based on confidence



5. Recommendations are given based on top concepts

## Tradeoff Analytics

### What is it?

Helps users make better choices to best meet multiple conflicting goals.

Provides a comprehensive, technology platform for managing conversations between virtual agents and users

### How does it work?

The service uses a mathematical filtering technique called “Pareto Optimization”, that enables user to explore tradeoffs when considering multiple criteria for a single decision.

### Example Use Cases

- Can help bank analysts to select the best investment strategy
- Can help consumers purchase the product that best matches their preferences

### Demo:

<http://tradeoff-analytics-demo.mybluemix.net/>

<https://tradeoff-analytics-v2-demo.mybluemix.net/#cars>

<http://nests.mybluemix.net/#map>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/tradeoff-analytics/>





## Personality Insights

### What is it?

Improved understanding of people's preferences to help engage users on their own terms

### How does it work?

The IBM Watson Personality Insights service uses linguistic analytics to extract cognitive and social characteristics, including Big Five, Values, and Needs, from communications that the user makes available, such as email, text messages, tweets, forum posts, and more. By deriving cognitive and social preferences, the service helps users to understand, connect to, and communicate with other people on a more personalized level.

### Use Cases

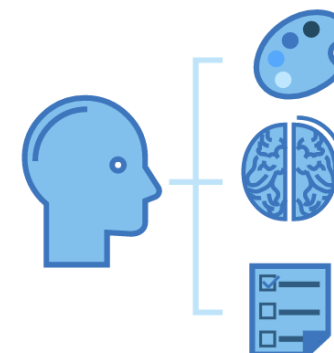
The service can analyze text based on a customer's twitter stream to help a travel agency decide between leading with a budget or luxury trip offer

### Demo:

<https://nyc-school-finder.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/personality-insights/>



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## Brand Personality App

Company Insights built with:

- IBM Watson Personality Insights
- Alchemy Language
- Alchemy Data
- News Twitter

<http://company-insights.mybluemix.net/>

# Tone Analyzer

## How it works

It detects three types of tones, including emotions (negative emotions, cheerfulness, anger), social propensities (open, agreeable and conscientious) and writing styles (analytical, confident and tentative)



## Use cases

- Analyzing email messages, presentations before sending them
- Examining how readers might perceive your blog posts
- Help understand the potential impact of the word choice in any other text-based communication



## Demo

<https://tone-analyzer-demo.mybluemix.net/>

## Documentation:

<https://www.ibm.com/watson/developercloud/doc/tone-analyzer/index.html>

## Insights for Twitter



Use IBM Insights for Twitter to incorporate Twitter search results into your Bluemix applications.

The service provides sentiment and other enrichments for multiple languages, based on deep natural language processing algorithms from IBM Social Media Analytics. Real-time processing of Twitter data streams is fully supported; configurable through a rich set of query parameters and keywords. Insights for Twitter includes RESTful APIs that allow you to customize your searches and returns Tweets and enrichments in JSON format.

### Demo:

<https://tweetsentimentanalysis.mybluemix.net/>

### Documentation:

[https://console.ng.bluemix.net/docs/services/Twitter/index.html#insights\\_twitter\\_overview](https://console.ng.bluemix.net/docs/services/Twitter/index.html#insights_twitter_overview)

## Language Translation

### What is it?

Translate and publish content in multiple languages.

### How does it work?

The service provides domain-specific translation utilizing Statistical Machine Translation techniques.

### Demo:

<http://language-translation-demo.mybluemix.net/>

### Documentation:

<https://www.ibm.com/watson/developercloud/doc/language-translator/index.html>



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# References

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## References

### Website:

<https://www.ibm.com/cloud-computing/bluemix/>  
<http://www.ibm.com/smarterplanet/us/en/ibmwatson/developercloud/>  
<http://www.alchemyapi.com/>

### Bluemix Console:

<https://console.ng.bluemix.net/>

### Documentation:

<http://www.ibm.com/smarterplanet/us/en/ibmwatson/developercloud/doc>  
<http://www.alchemyapi.com/api>

### Watson Sample Apps on Github:

<https://github.com/watson-developer-cloud>

### Watson Starter Kits:

<https://www.ibm.com/watson/developercloud/starter-kits.html>

### Twitter: [@IBMWatson](https://twitter.com/IBMWatson)

### Stackoverflow:

<http://stackoverflow.com/tags/ibm-watson/info>

### Watson Community:

<https://developer.ibm.com/watson/>

---

# Thanks for your attention! Questions?

Federico Accetta

[federico\\_accetta@it.ibm.com](mailto:federico_accetta@it.ibm.com)