

Going Hands-On with **IBM Bluemix** Integration Services

Interconnect Academy | February 23rd, 2016

Aditya Chinni

Lead – Miracle Innovation Labs
Miracle Software Systems, Inc.

Chanakya Lokam

Director Marketing and Innovation
Miracle Software Systems, Inc.

The Expert Team



Chanakya Lokam

Director Marketing and Innovation

clokam@miraclesoft.com

A Miracle University Graduate, a perfectionist and a design/technology enthusiast who travels every week!



Aditya Venkat Chinni

Lead – Miracle Innovation Labs

vchinni@miraclesoft.com

Also a Miracle University Graduate and a believer that Technology can change the world; Welcome the Bluemix Guru to the room!

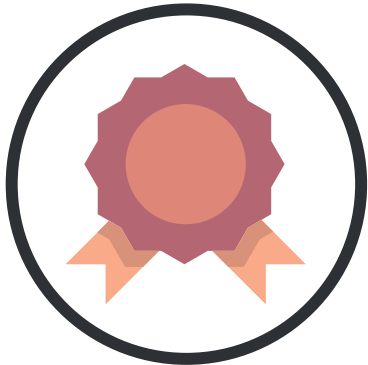
The **Miracle** Story



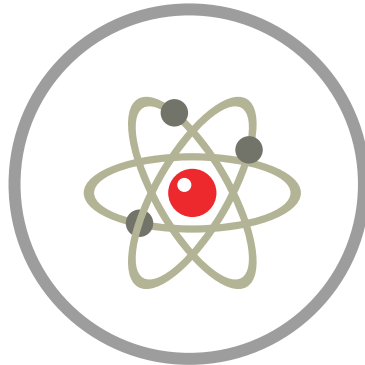
**Customer
Satisfaction**



**Affordable
Innovation**



**Quality and
Efficiency**



**Talent
Eco-System**

12
Global
Locations

15+
Technology
Partnerships

25+
Technology
Accelerators

20+
Years of
Expertise

500+
Certified
Professionals

85+
Fortune 1000
Customers

2000+
Employees
Globally

Empowering Change through Innovation

Our Teams leverage years of **real-time experience** and **applied research** to bring value-added and innovative services to **your disruptive IT initiatives**.

Cost Differentiation and Labor Savings alone are not enough for an enterprise to grow!!



MIRACLELABS
EMPOWERING CHANGE THROUGH INNOVATION

Completely **HANDS-ON** 😊

15 minutes of boredom followed by lots of
awesomeness!



**Focus on Digital
Technologies**



**2 Hours of
code for you 😊**



**Completely
Guided Labs**



**Innnnooooovation
all the way!**



Goals for the Day!

- ✓ **Create** and **Deploy** a Web Application on to IBM Bluemix
- ✓ **Create** and **Expose** a REST API using IBM API Management
- ✓ **Subscribe** and **Access** the public REST API using the Developer Portal
- ✓ **Consume** the REST API in your Node.js Application
- ✓ **Make sure that everybody has fun** 😊

Introducing the Technology

IBM Bluemix, API Economy and
More..

Digital Transformation



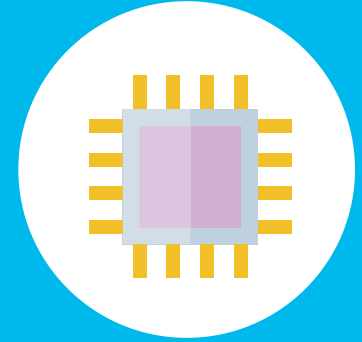
**2.5
Quintillion**
bytes of data will
be created daily



85%
of enterprises
Will use external
cloud services



**534
Billion USD**
will be made in
mobile transactions



**4.9
Billion**
connected things in
use today

75%

GET

POST

PUT

DELETE

API Economy

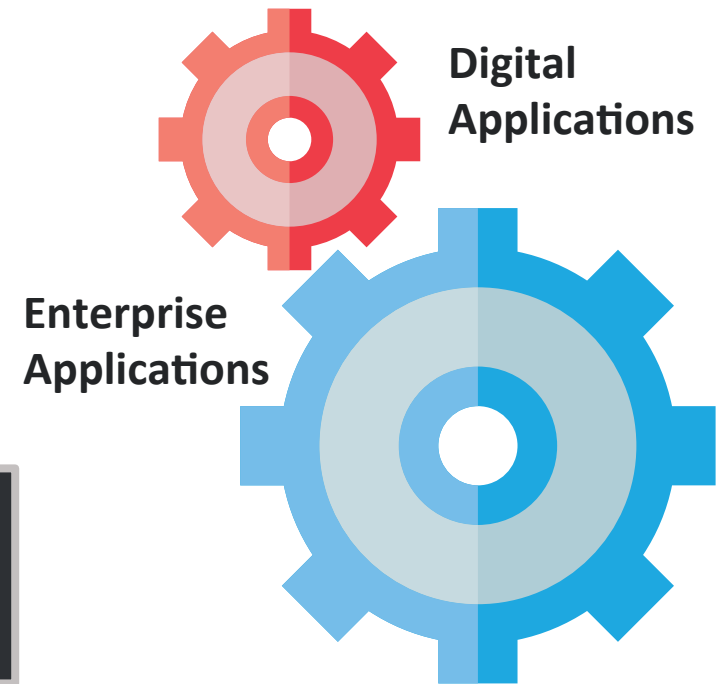
of Fortune 1000 companies will have public APIs

The World of 2-Speed IT

Today's Enterprise IT is divided into 2 different spheres of applications :

- **Digital Applications**
 - Rapid Change Cycles
 - Innovative Developers
 - DevOps and Agile Principles
- **Enterprise Applications**
 - Slow Change Life Cycles
 - Mission Critical Legacy Systems

Multi-Speed IT helps enterprises to make changes to systems at **varied speeds** independently, but helps to ensure that both systems are **aligned** at required points.



IBM Bluemix for Innovation



Rapidly bring new products and services to market at lower cost

Build your apps, your way

Use the most prominent compute technologies to power your app: Cloud Foundry, Docker, OpenStack.

Deploy and manage hybrid apps seamlessly

Get a seamless dev and management experience across a number of hybrid implementations options.



Balance agility with quality, security and governance.

Scale more than just instances

Development, monitoring, deployment, and logging tools allow the developer to run and manage the entire application.

Layered Security

IBM secures the platform and infrastructure and provides you with the tools to secure your apps.



Extend existing IT investments into cloud business and delivery models

Extend apps with services

A catalog of IBM, third party, and open source services allow the developer to stitch an application together quickly.

Flexible Pricing

Try compute options and services for free and, when you're ready, pay only for what you use. Pay as you go and subscription models offer choice and flexibility.

Do we really need Integration?

IBM Bluemix Integration Services

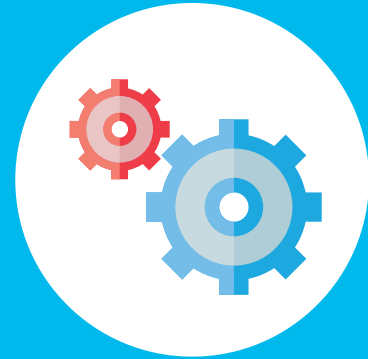
A Changing **Integration** Landscape



More **Endpoints** need **connecting** than ever before



Enterprises are creating new **heterogeneous** sources of data



2-Speed IT and Cloud = **Rapidly evolving** Integration needs

By 2015

Integration of data on Mobile devices will represent **20% of** integration spending

By 2016

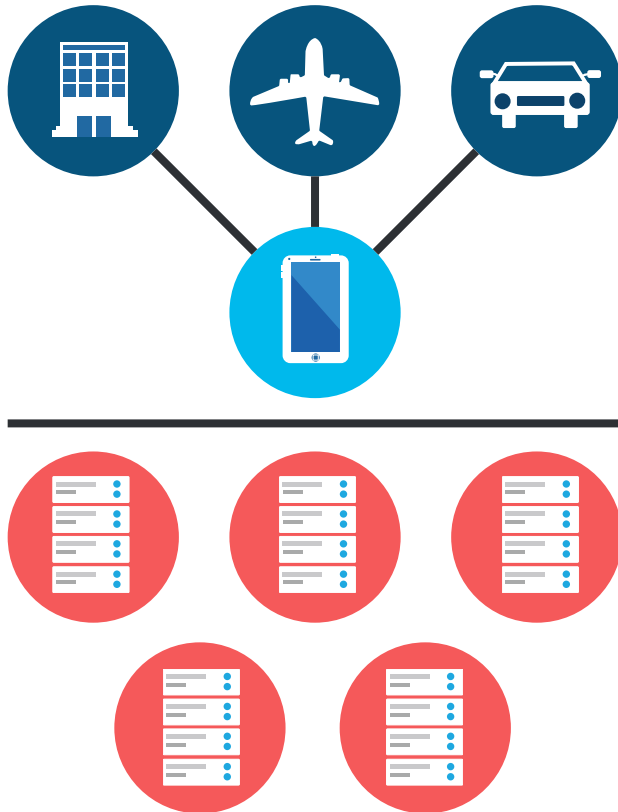
Midsize to large companies will spend **33% more** on Integration than in 2013

By 2017

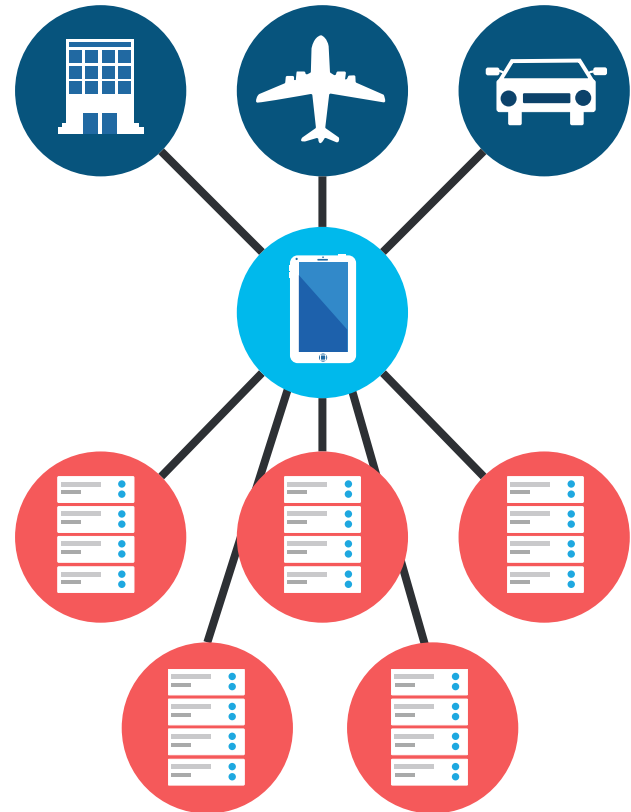
Over two-thirds of all new integration flows will extend **outside the** Enterprise Firewall

Not **Connected** = Not **Engaging**

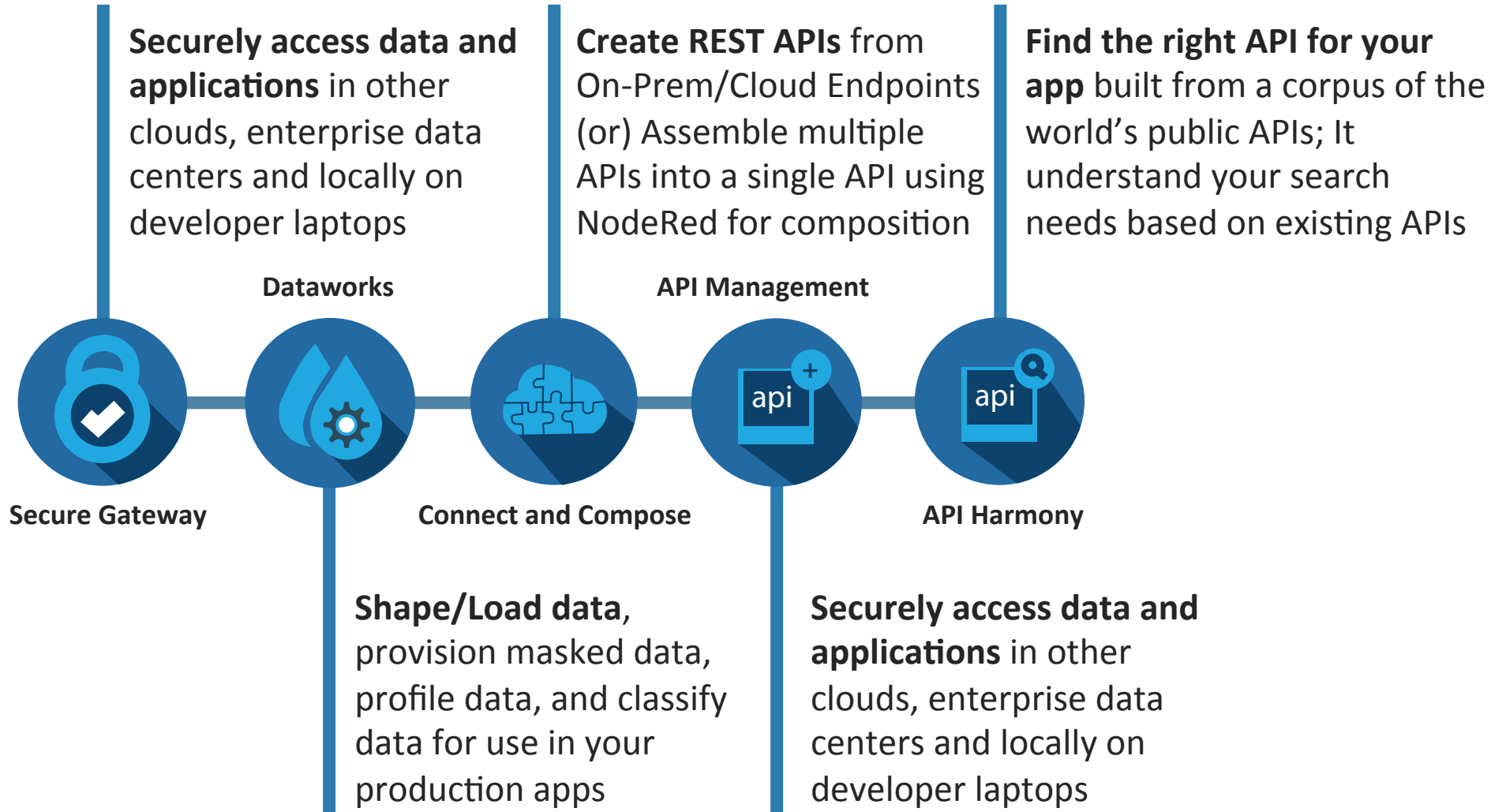
Unconnected



Connected



Bluemix Integration Services



Lets go **Hands-On** with IBM **Bluemix**

Follow Us and Let us know if you
need help 😊

#1 | Login to IBM Bluemix

www.bluemix.net

Create your organization and space for development



Rapidly bring new products and services to market at lower cost

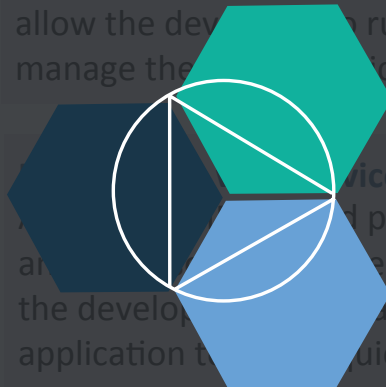


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#2 | Create and Publish the REST API

- Add the **API Management Service** to your dashboard
- Create the REST API in **API Manager**
- Create a **Developer Plan** to Publish and Stage the API
- **Add** the API to a plan, **Publish** the API and **Test** the API

<http://webservices.daehosting.com/services/TemperatureConversions.wso?WSDL>

JSON-SOAP-SOAP-JSON = Data Flow

JSON Request

```
{  
  "temp" : "35.55"  
}
```

SOAP Request

```
<soap:Envelope xmlns:soap="http://  
www.w3.org/2003/05/soap-envelope"  
  xmlns:tem="http://  
webservices.daehosting.com/  
temperature">  
  <soap:Header/>  
  <soap:Body>  
    <tem:FahrenheitToCelcius>  
      <tem:nFahrenheit>35</  
tem:nFahrenheit>  
    </tem:FahrenheitToCelcius>  
  </soap:Body>  
</soap:Envelope>
```

JSON-SOAP-SOAP-JSON = Data Flow

SOAP Response

```
<soap:Envelope xmlns:soap="http://  
www.w3.org/2003/05/soap-envelope">  
  <soap:Body>  
    <m:FahrenheitToCelciusResponse  
      xmlns:m=  
        http://webservices.daehosting.com/  
temperature>  
      <m:FahrenheitToCelciusResult>1.666666  
65</m:FahrenheitToCelciusResult>  
    </m:FahrenheitToCelciusResponse>  
  </soap:Body>  
</soap:Envelope>
```

JSON Response

```
{  
  "convertedtemp" : "35.55"  
}
```



Entities in API Manager

- **API Developer** creates, publishes and tests REST APIs
- An **Organization** consists of **Developers**, **Environments** and **Plans**
- **Plans** are staged in an **Environment** and consists of **APIs** and their respective **Operations**
- **Developers** can subscribe and access these APIs through the **Developer Portal** by requesting **API Keys**



Pieces of the **POST REST Call**

Service = https://api.apim.ibmcloud.com

Path = /clockamiraclesoftcom-dev/sb/v1/
tempConvert

Client ID = ?<your-client-id>

JSON Request = {"temp": "35.42"}

Your final URL will look something like this,

https://api.apim.ibmcloud.com/clockamiraclesoftcom-dev/sb/v1/tempConvert?<your-client-id>



#3 | Create the Consumer Application

- Create and Stage a **Node.js Application** in Bluemix
- Install **CloudFoundry** and Download the **Starter Code**
- Edit your code and create the **POST Call** to the API from your Application
- Deploy your application to the Cloud using **CF PUSH**
- **Test your application** 😊

Question and Answers Time!!

We're more than happy to help out

Reach Out! @Innovation

Give us a call @ **248-412-0425** (or) email us at innovation@miraclesoft.com



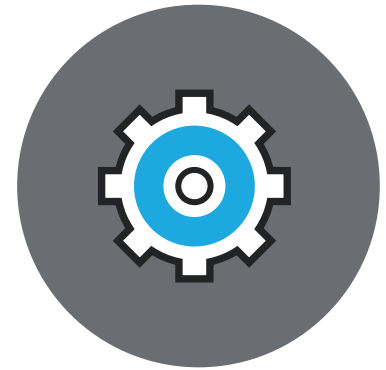
Enterprise Mobility
and NextGen Tech



DevOps, IoT and
Enterprise Cloud



Big Data and
Analytics



API Economy
and REST

Check out our work at miraclesoft.com/library

Thank You

Our teams are dedicated to innovating with IT and redefining solutions for customer excellence.

To learn more visit,
www.miraclesoft.com



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