

Unleash Business Innovation with Next Generation Cloud

Moe Abdula, VP IBM SmartCloud Foundation



What is driving IT demand ?



Advanced predictive analytics



Explosion of mobile devices



Cyber security



Real-time sensor data



Infrastructure optimization



Growth of social media



Business Innovation



Cloud is emerging as a growth engine for business and transforming how both IT and line-of-business executives consider and consume IT



80%

of new IT investments will directly involve LOB executives by 2016



70% of IT budgets are spent on operations and maintenance



CFOs

authorized 26% of all IT investments during the past year.

6 out of 10

organizations overspend on IT without improving IT services



CxOs will control more IT buying decisions in 2017 than the CIO



However, such a transformation requires a different approach and a new type of system



Systems of Record

Secure Data
Dynamic Infrastructure
On-demand Self-service



Systems of Engagement

Knowledge Sharing
Engagement Models
Anywhere, Anytime



Optimize

our IT infrastructure, data and processes

Innovate

how we engage, make decisions and work



A new type of system that transforms and integrates across the solution stack



Business Process as a Service

Enabling business transformation

Business Process Solutions

Application

Application

Application

Application

Application



Software as a Service

Marketplace of high value consumable business applications

External Ecosystem

Industry

Collaboration

Human Resources

Big Data & Analytics

Commerce

Marketing



Platform as a Service

Composable and integrated application development platform

Built using open standards

Development

Big Data & Analytics

Security

Integration

Mobile

Social

Traditional Workloads



Infrastructure as a Service

Enterprise class, optimized infrastructure

Built using open standards

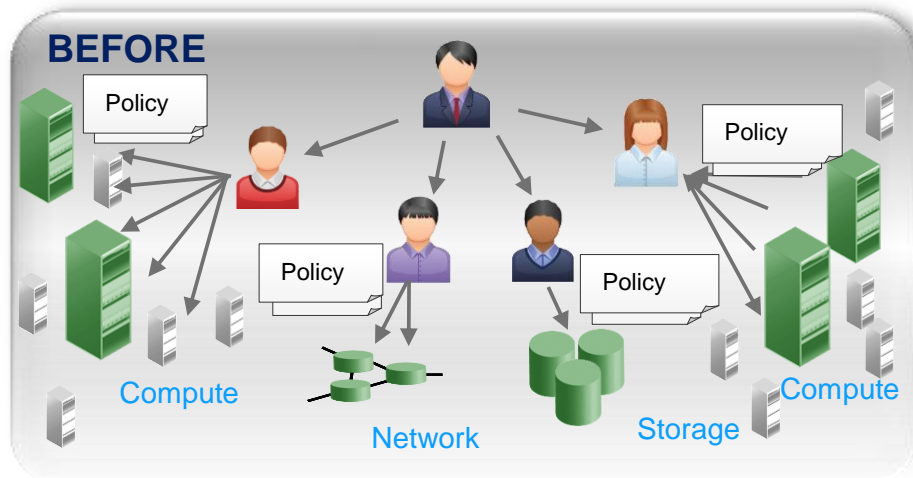
Compute

Storage

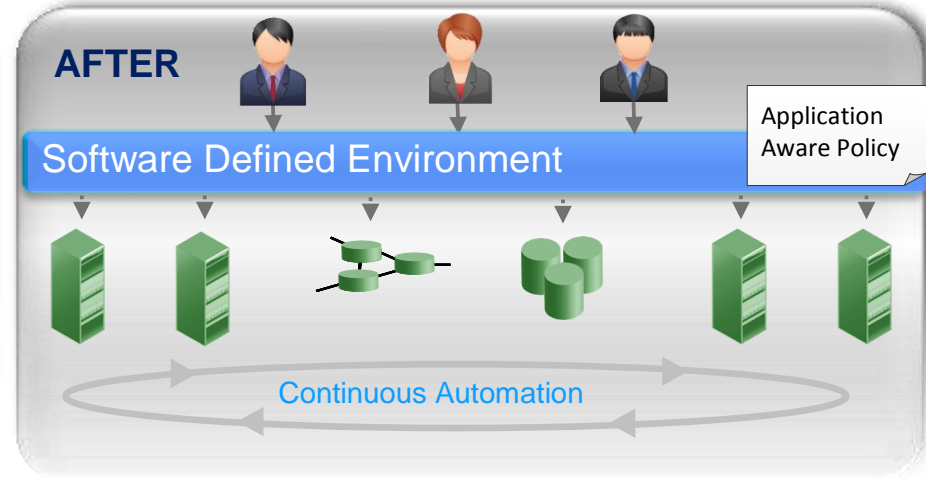
Networking



To transform infrastructure and improve business execution velocity, enterprise are embracing Software Defined Environments



IT operating in non-integrated and isolated environments



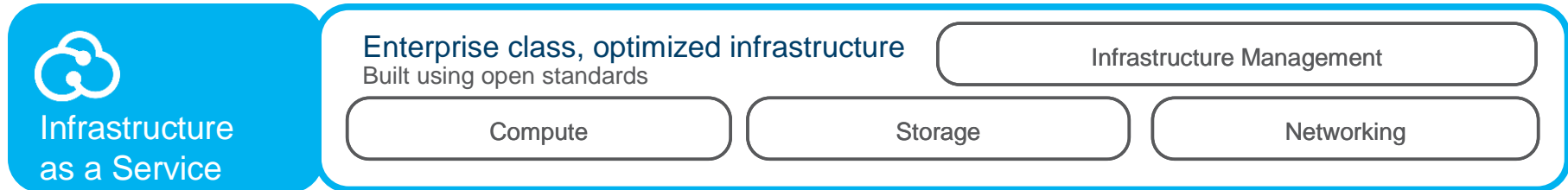
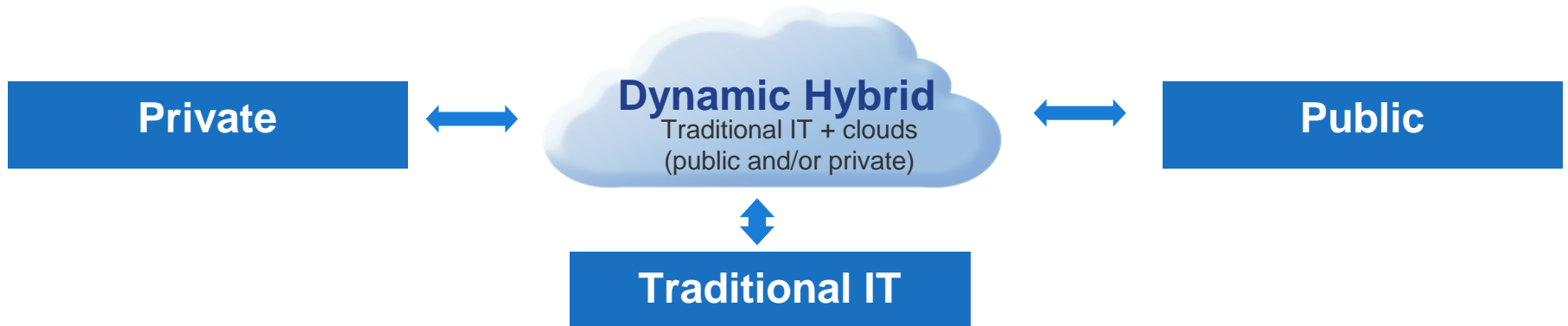
Up to 3x productivity improvement based on integrated management

Other Benefits include:

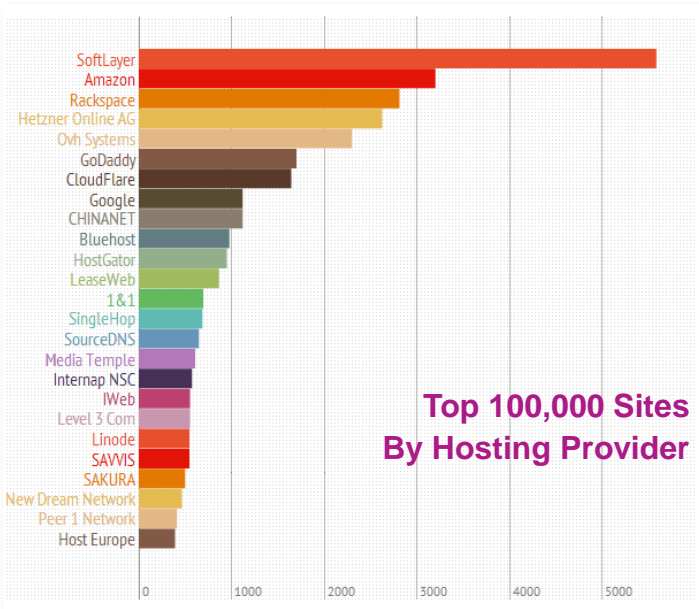
- Increased innovation through effective utilization of IT resources
- Adaptive approaches to infrastructure automation
- Policy based infrastructure deployment



Software Defined Environments are key enabler for a dynamic hybrid model



Softlayers – A global cloud hosting leader, what have we learned ?



Customers 21,000 in 140 countries

Devices 100,000

Employees 685

Data centers 13

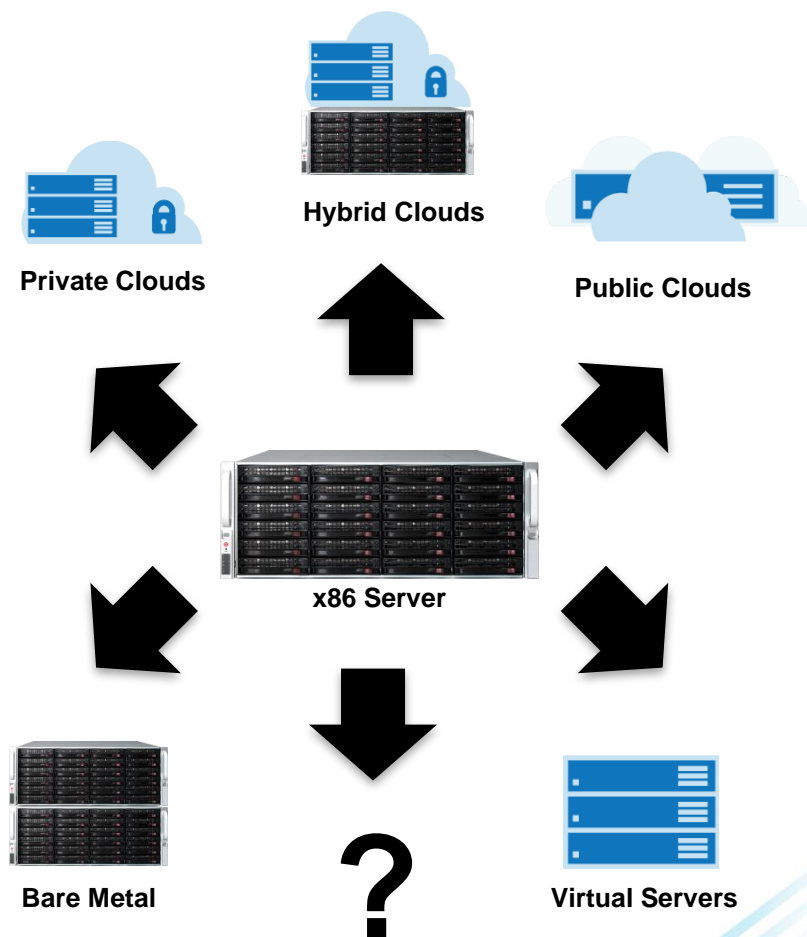
Network PoPs 17



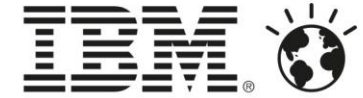
Standardized, modular infrastructure

One Platform to Serve a Broad Range of Customer Requirements

- Highly flexible architecture
- One platform for public cloud servers, private clouds, bare metal servers
- Complete integration
- Unified systems management & API
- Build hybrid, distributed, high-performance architectures and manage from a single pane of glass
- Pay by the hour or the month for a truly variable IT operations model



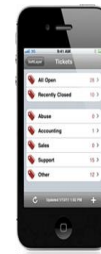
Automation and management at the heart of every delivered service. Complete control by the client as a design point



- Improves customer control, reduces error, increases flexibility
- SoftLayer API provides 1,600 function calls to over 200 services
- Supports REST, SOAP & XML-RPC interfaces
- Enables full auto-scaling implementations
- Comprehensive documentation, libraries and support

Functions include:

- Automatic server deployment & provisioning
- Reboots & reloads
- Hardware configuration
- DNS, Network, Storage
- Security scans & monitoring

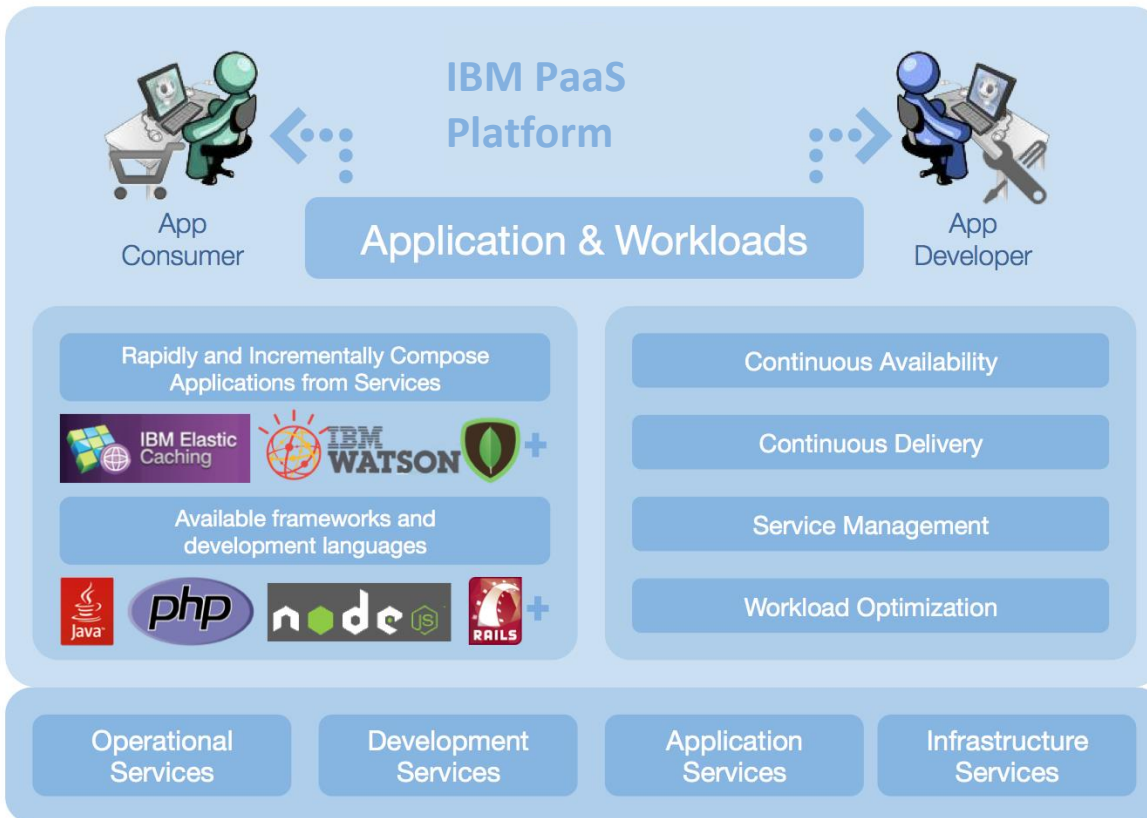


Controls include:

- Mobile and Web-based management portals
- Purchase, provision, deploy & manage infrastructure
- Access to services, tools, automation & tutorials
- Secure access via VPN to management network
- Two-factor authentication to Web portal



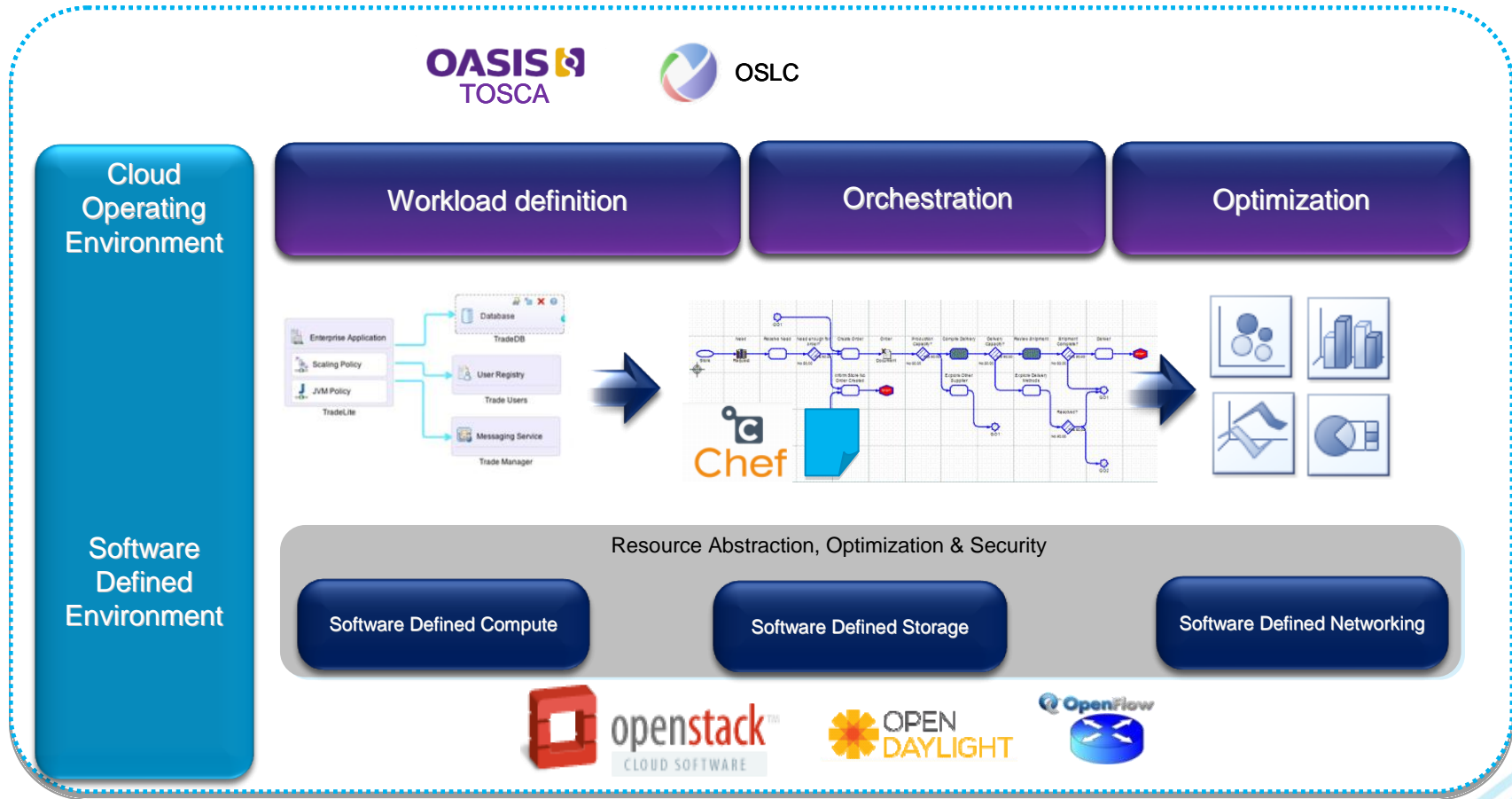
Platform as a service approaches are evolving to address new class of applications



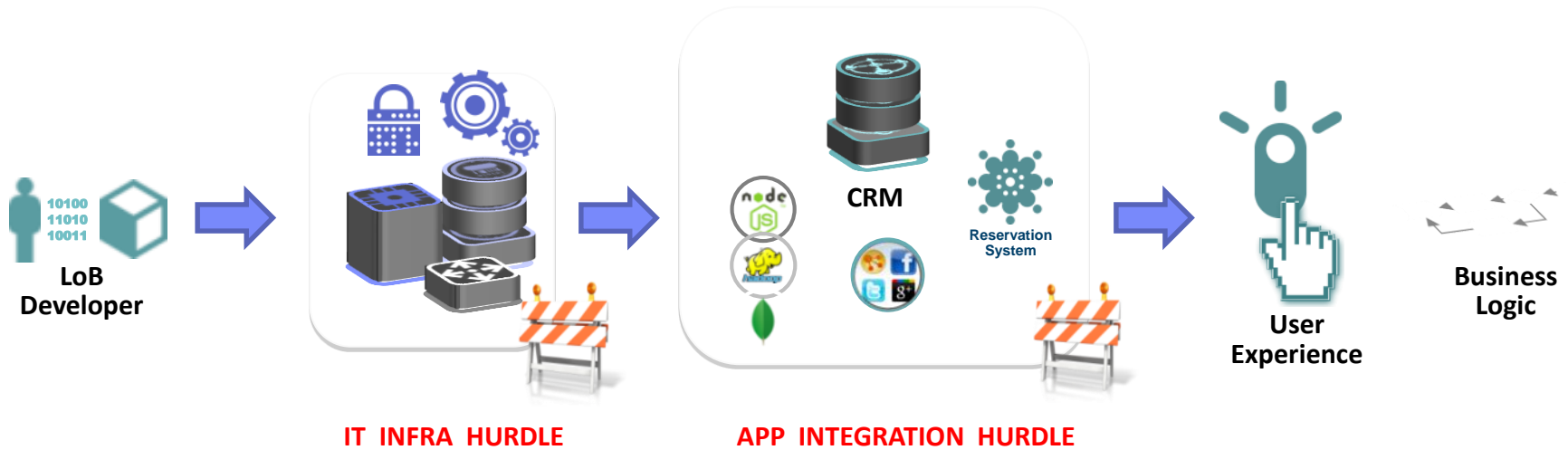
- Increased Business Agility and Speed
- Reduced Cost of Application Development
- Based on Open Standards
- Integrated Dev/Ops



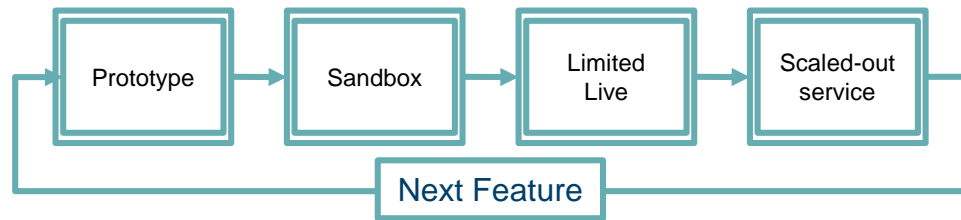
Definition and management approaches are also evolving to enable participation of classical applications in an optimized cloud environment



It's not only the way development is consuming these services but it is also the way they are delivered is changing



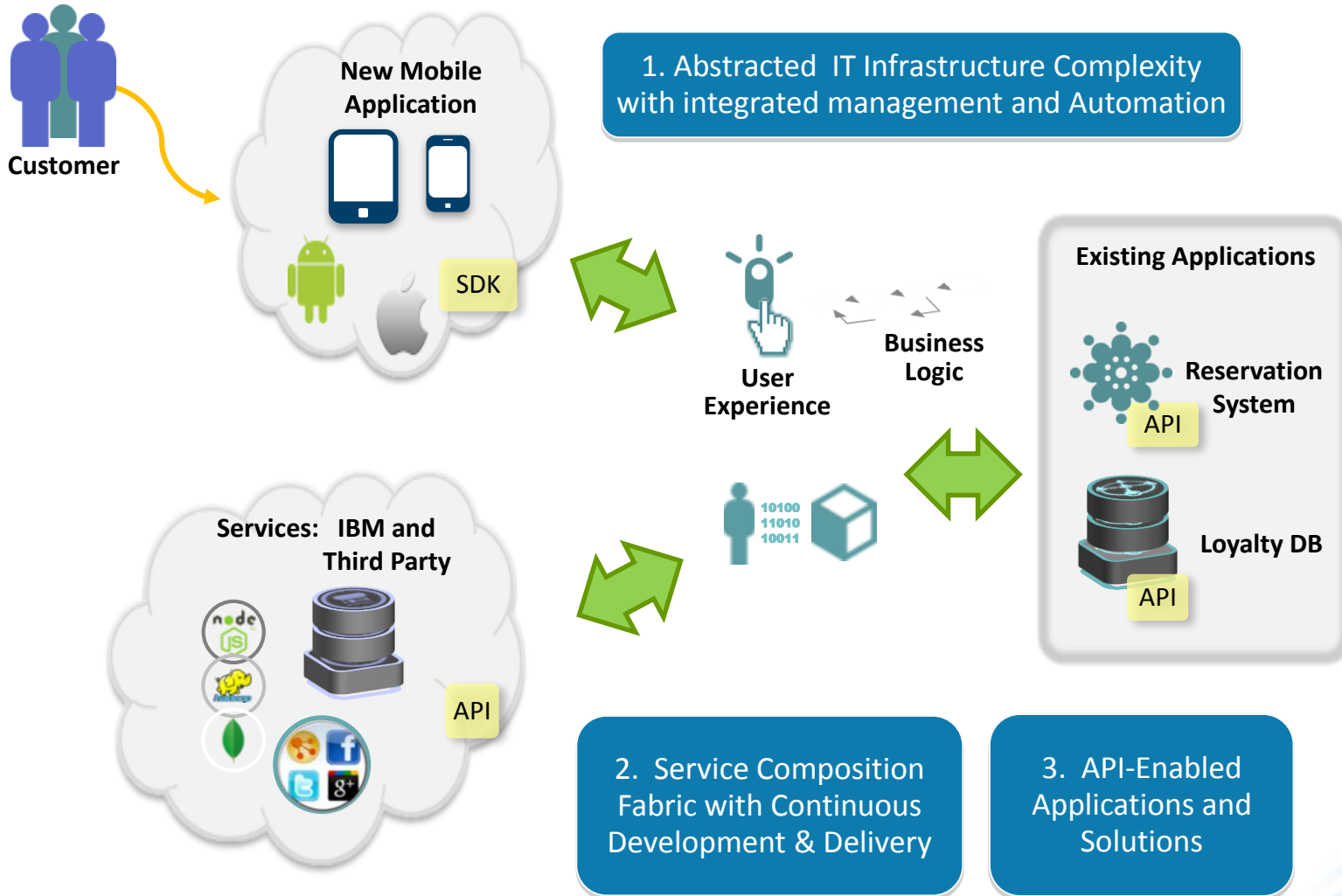
**REPEAT
Through
Application
Lifecycle**



~~GET TO MARKET FAST~~ ~~CONTINUOUSLY ITERATE & TEST~~ ~~AGILITY TO SCALE UP & DOWN~~



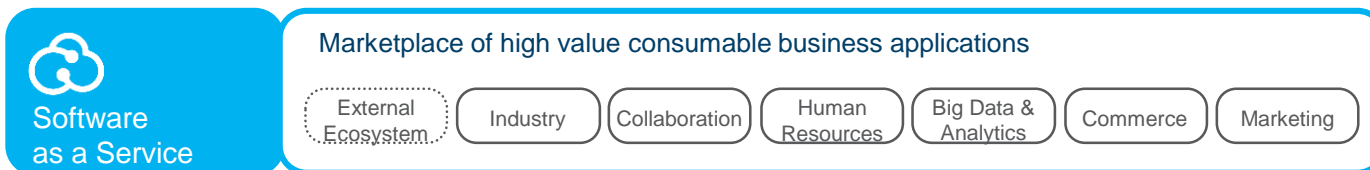
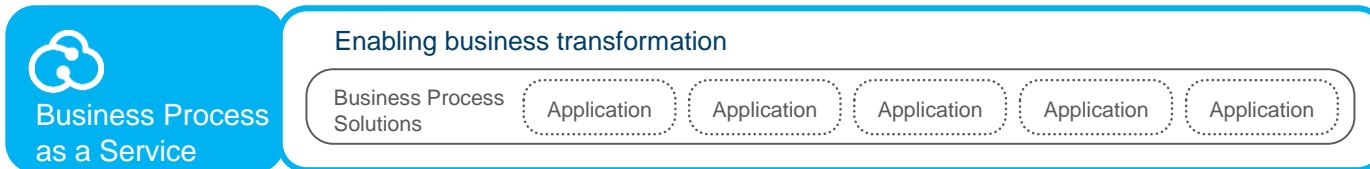
Collaborative DevOps is the new delivery model for platform as a service



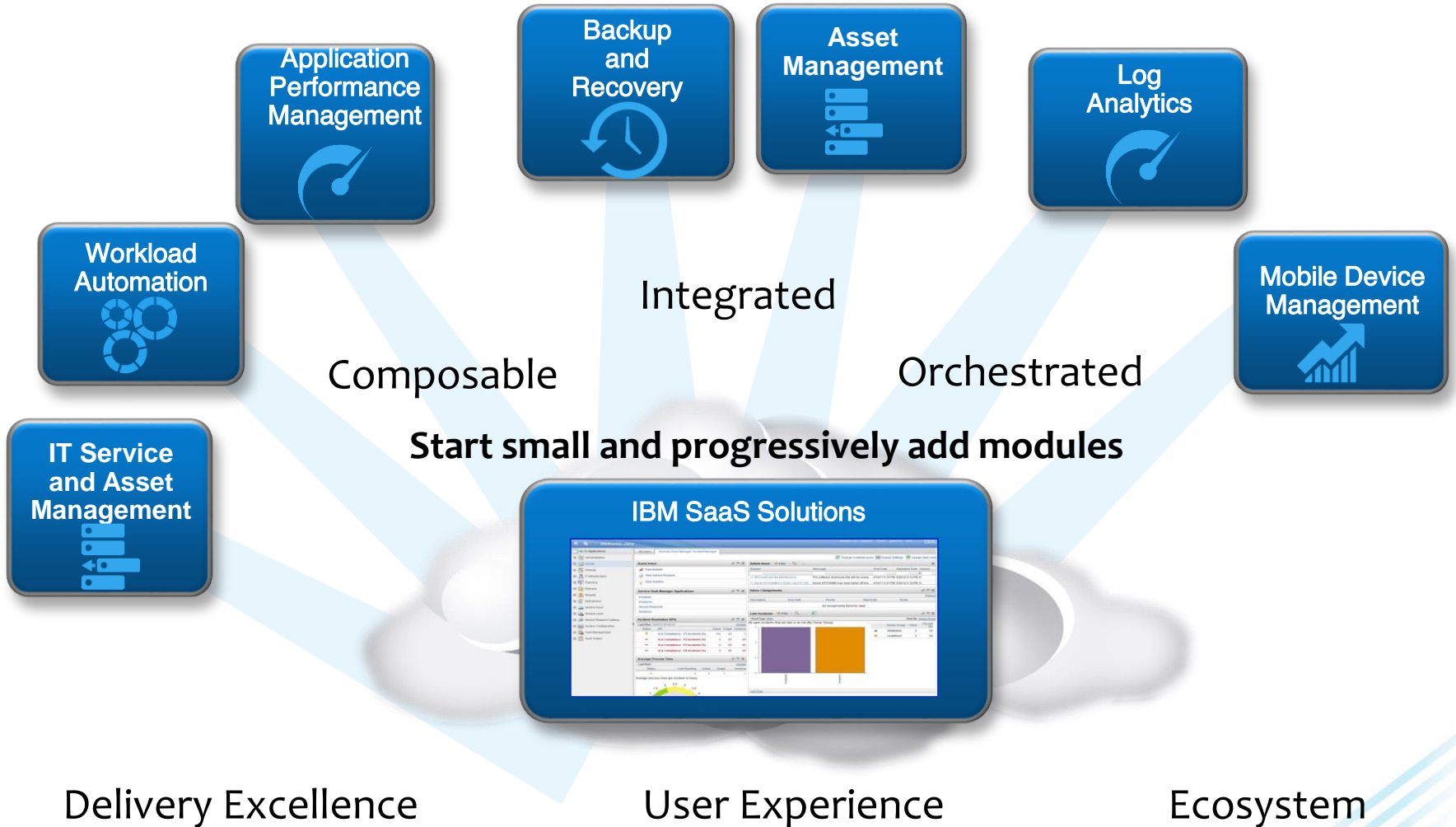
Business Process and Software as a service solutions are offering business access to best of breed capabilities



Marketing	Procurement & Supply Chain	Sales & Commerce	Human Resources	Service & Support	Legal & Finance	City Operations
Customer Analytics	Spend Analysis	B2B Collaboration	Talent Management	Customer Experience	Contract Management	Transportation Planning
Campaign Management	eProcurement	eCommerce	Learning	Customer Advisor	Risk Analysis	Water Management
Enterprise Collaboration / Social Business						



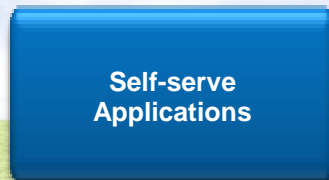
IT and operations are also leveraging best of breed as-a-service solutions



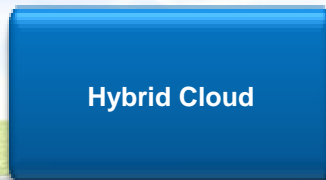
Delivering your enterprise as-a-service realizing a new collaboration and engagement model with your clients and partners



Turnkey Value



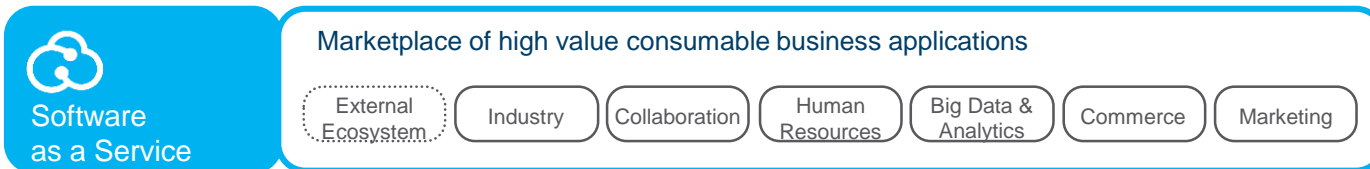
Total Solutions



Composability



Ecosystem



Over thousands of cloud engagements, IBM has learned about the power of transformation



Delivering this type of a system requires a new approach .. An open cloud approach



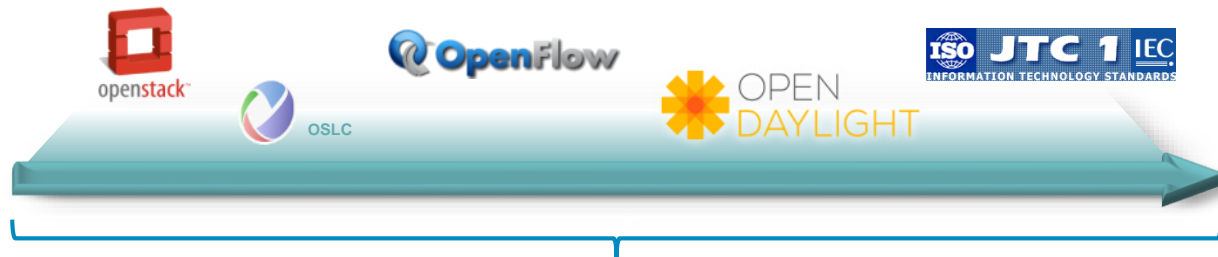

Infrastructure
as a Service




Platform
as a Service



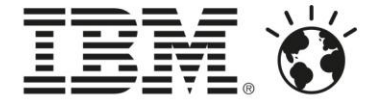

Software
as a Service



Open technologies are building the open cloud architecture



IBM Cloud Solution – enabling a flexible consumption and innovation delivery models



IBM Cloud

IBM's end-to-end cloud portfolio

Think It.

Strategize how to use cloud to drive savings and revenue growth.

Build It.

Build and run your private or hybrid cloud.

Tap into It.

Utilize cloud services delivered from IBM's SmartCloud

Restless reinvention

Analytics everywhere

A dynamic hybrid cloud strategy



IBM Cloud is your growth engine for a Smarter Enterprise



IBM Cloud

IBM's end-to-end cloud portfolio

Think It.

- 37,000 experts with deep industry knowledge
- \$6+ billion in cloud-related acquisitions since 2007
- 80% of Fortune 100 companies use IBM cloud capabilities

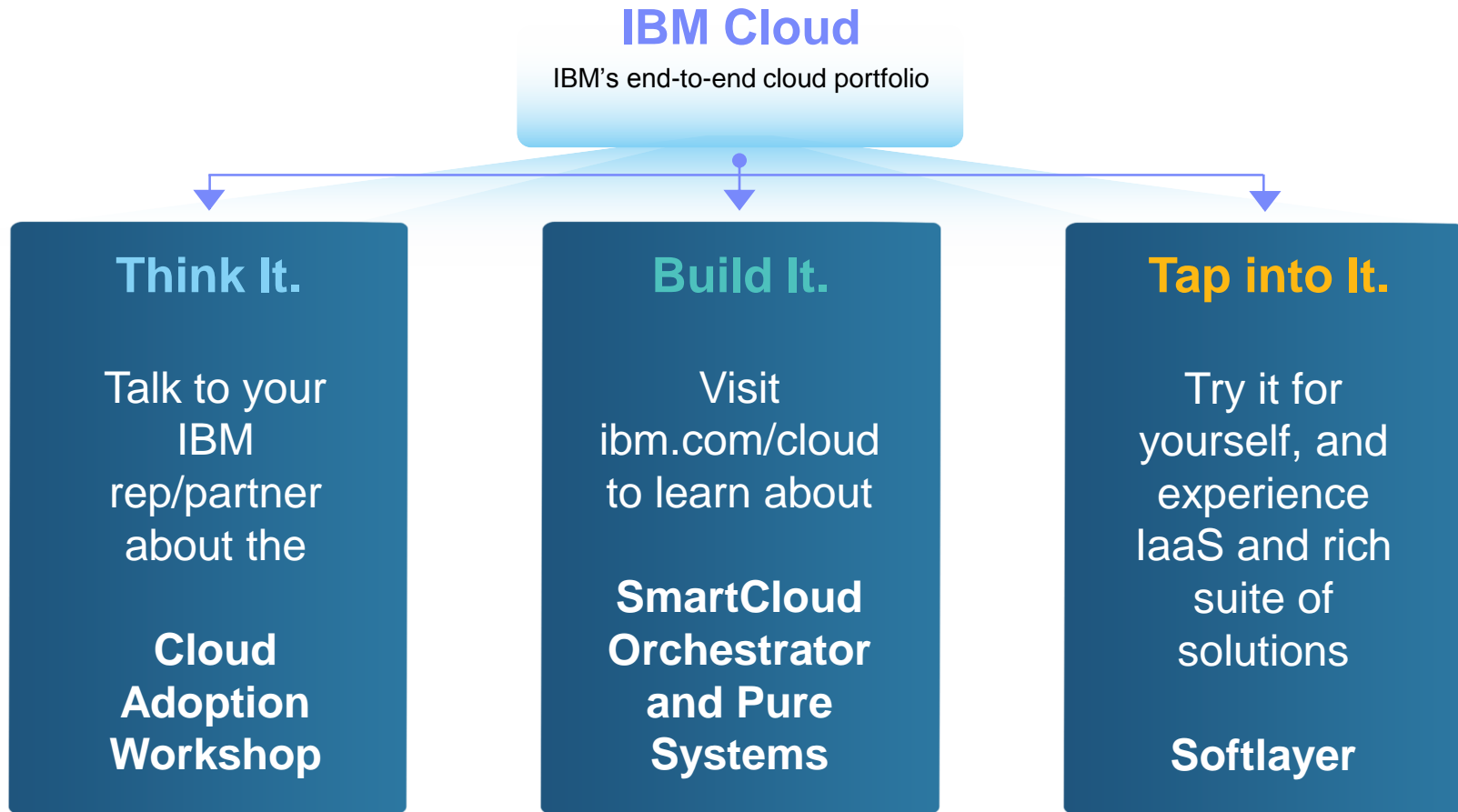
Build It.

- #1 in EMA Radar™ for Private Cloud Platforms
- #1 in annual world-wide server revenue
- OpenStack founder
- 50% reduction in IBM's IT labor cost with Dev / Test Cloud

Tap into It.

- More than 21,000 SoftLayer clients in 140 countries
- SoftLayer is up to 10X faster than other cloud providers
- More than 100 cloud SaaS solutions





Thank You!



BlueMix

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BlueMix

Welcome, davidb@us.ibm.com!

You've previously created at least one application. You can continue to use **BlueMix** to manage your existing applications, create new applications, and add services to applications.

[Manage apps](#) [Create app](#) [Add service](#) [Learn more](#)

The diagram illustrates the BlueMix architecture through a cloud-shaped funnel. At the base is **Infrastructure Services** (CAPACITY), which includes Compute, Storage & Network, and Clustering & Elasticity. Above this is **Operation Services** (CONTROL), including Logging, Monitoring, and Security. The top layer is **Application Services** (CONSUME), which includes Persistence, Messaging & Workflow, and Scripting & Programming Languages. To the right, a list of capabilities is shown: enabling rapid application composition, continuous delivery, continuous availability, fit-for-purpose programming, embeddable manageability, and workload optimization.

Services You Might Like

- identity** (★★★★★)
- notify** (★★★★★)
- w3sso** (★★★★★)

Twitter

#ibmcloud

- Darryl Taft** (@darryltaft) 3m: IBM Launches Cloud-Based Digital Loan Processing App: bit.ly/1cm4RKf #IBMCloud
- Cloud Expo** (@CloudExpo) 5h: Flashback: @IBM opening keynote at #CloudExpo New York. #IBMCloud #Cloud #CloudComputing #Virtualization #BigData SDN pic.twitter.com/s3wySqSDH1

BlueMix

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Applications


Choose an application to create.

All Applications

- Application Frameworks
- Application Categories


Application Frameworks

IBM Worklight provides an open, comprehensive and advanced mobile application platform for smartphones and tablets.

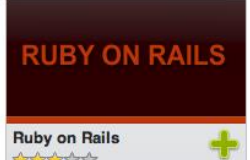


WorkLight ★★★★★

All Applications




WorkLight ★★★★★




RUBY ON RAILS

Ruby on Rails ★★★★★




node.js

Node.js ★★★★★



Sinatra ★★★★★




Twitter

#ibmcloud

Darryl Taft @darryltaft 4m
IBM Launches Cloud-Based Digital Loan Processing App: bit.ly/1cM4RKf #IBMCloud

IBMCloud @IBMcloud 5m
Meet our executives: Rodney Smith, Angel Diaz, and Dave Lindquist before they come to speak about Cloud at your event. Here are their mugs so that you can pick them out of a lineup!



SYSCONtv @SYSCONtv 5h
[video] @IBM's Danny Sabbah #CloudExpo NY opening keynote ▶ bit.ly/1dUktQe #IBM #IBMCloud #Cloud #CloudComputing #BigData

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Applications

Choose an application to create.


Search applications

All Applications

- Application Frameworks
- Application Categories


Application Frameworks

IBM Worklight provides an open, comprehensive and advanced mobile application platform for smartphones and tablets.



WorkLight ★★★★★

All Applications



WorkLight ★★★★★

RUBY ON RAILS


Ruby on Rails ★★★★★

Event-driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data-intensive real-time applications.

Node.js ★★★★★

Sinatra

Sinatra ★★★★★




Twitter

#ibmcloud

Darryl Taft @darryltaft 4m
IBM Launches Cloud-Based Digital Loan Processing App: bit.ly/1cM4RKf #IBMCloud

Cloud Expo @CloudExpo 5h
Flashback: @IBM opening keynote at #CloudExpo New York. #IBMCloud #Cloud #CloudComputing #Virtualization #BigData SDN pic.twitter.com/s3wySqSDH1 t1 Retweeted by Jeremy Geelan



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Applications

Choose an application to create.

All Applications

- Application Frameworks
- Application Categories

Create application

Template: Node.js

Application name:

Domain(s): .w3.ibm.com

Description:

IBM Worklight provides an open, comprehensive and advanced mobile application platform for smartphones and tablets.

Sinatra

node.js

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IBM Launches Cloud-Based Digital Loan Processing App: bit.ly/1cM4RKf #IBMCloud

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Services


Choose a service to add to an application.

All Services

- Business Services
- Foundation Services

DIY BigData Analytics Streaming

Storm is a free and open source distributed realtime computation system.




Storm

Big Data Streaming Analytics

Apache Storm
★★★★★

All Services



WorkLight

IBM

WorkLight
★★★★★

Rabbit MQ


RabbitMQ
★★★★★

mongoDB

MongoDB
★★★★★

redis

Redis
★★★★★



Storm


Big Data Streaming

Twitter

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IBM SocialCRM

JazzHub iboy | sentiment > Track and Plan Code David Barnes dW

Activities Root / iboy | sentiment / node.code Tools

Save Push Check in Line 13 : Col 1

```
1
2 var mongodb = require('mongodb');
3 var https = require('https');
4
5 var express = require('express');
6 var app = express();
7
8 if(process.env.VCAP_SERVICES){
9   var env = JSON.parse(process.env.VCAP_SERVICES);
10  var mongo = env['mongodb-1.8'][0]['credentials'];
11 }
12 else{
13   var mongo = {"hostname":"localhost","port":27017,"username":"","password":"","name":"","db":"db"}
14 }
15
16 var generate_mongo_url = function(obj){
17   obj.hostname = (obj.hostname || 'localhost');
18   obj.port = (obj.port || 27017);
19   obj.db = (obj.db || 'test');
20
21   if(obj.username && obj.password){
22     return "mongodb://" + obj.username + ":" + obj.password + "@" + obj.hostname + ":" + obj.port + "/" + obj.db;
23   }
24   else{
25     return "mongodb://" + obj.hostname + ":" + obj.port + "/" + obj.db;
26   }
27 }
28 var mongourl = generate_mongo_url(mongo);
29 var connection = null;
30 var collection = null;
31 var mongodb = require('mongodb');
32
33 mongodb.connect(mongourl, function(err, conn) {
34   connection = conn;
35   if (err) {
36     console.log(err);
37   } else {
38     conn.createCollection("test", function(err, coll){
39       collection = coll;
40       if (err) {
41         console.log(err);
42       }
43     });
44   }
45 });
46
47 app.get('/', function(req, res) {
48   res.set('Content-Type', 'text/html');
49   var cnt = req.param("count") ? parseInt(req.param("count")) : 10;
50   if (collection) {
51     var options = { "hostname": "stream.twitter.com",
```

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COGNOS

Cognos Business Analytics

DIY Big Data Analytics

File System

FileSystem

Social Analytics

ET Social Analytics

Hadoop

IBM WATSON

Watson

Blob Storage

SPSS Server Analytics

DB2 Universal Database


PostgreSQL

PostgreSQL

The image shows a web browser window displaying the IBM BlueMix dashboard. The dashboard features a grid of service tiles. Each tile includes a logo, a service name, a star rating, and a green plus sign icon. The services shown are: Cognos Business Analytics, DIY Big Data Analytics, File System, FileSystem, ET Social Analytics (highlighted with a red box), Hadoop, IBM Watson, Watson, Blob Storage, SPSS Server Analytics, DB2 Universal Database, and PostgreSQL. The top navigation bar includes links for Home, Applications, Services, My Stuff, Dashboard, and Account. The user's name and a logout link are visible in the top right corner.

Requirements for transforming infrastructure towards a utility based, flexible, dynamic fabric



- 
- A background image of a server room with rows of server racks and a bright light source at the end of the aisle, creating a perspective effect.
- From monolithic applications ▶ to **dynamic services**
 - From static infrastructure ▶ to **cloud** services
 - From programmed systems ▶ to **learning** systems
 - From structured data at rest ▶ to unstructured **data in motion**
 - From stable well-defined workloads ▶ to unpredictable **workloads**
 - From standard devices ▶ to a variety of **devices**
 - From proprietary standards ▶ to **open** innovation
 - From corporate-owned IT ▶ to infrastructure **as-a-service**

