



IBM Bluemix, the digital innovation platform

Linux day 2015, Torino

Greta Boffi, IBM Cloud EcoD



Cloud Service Models

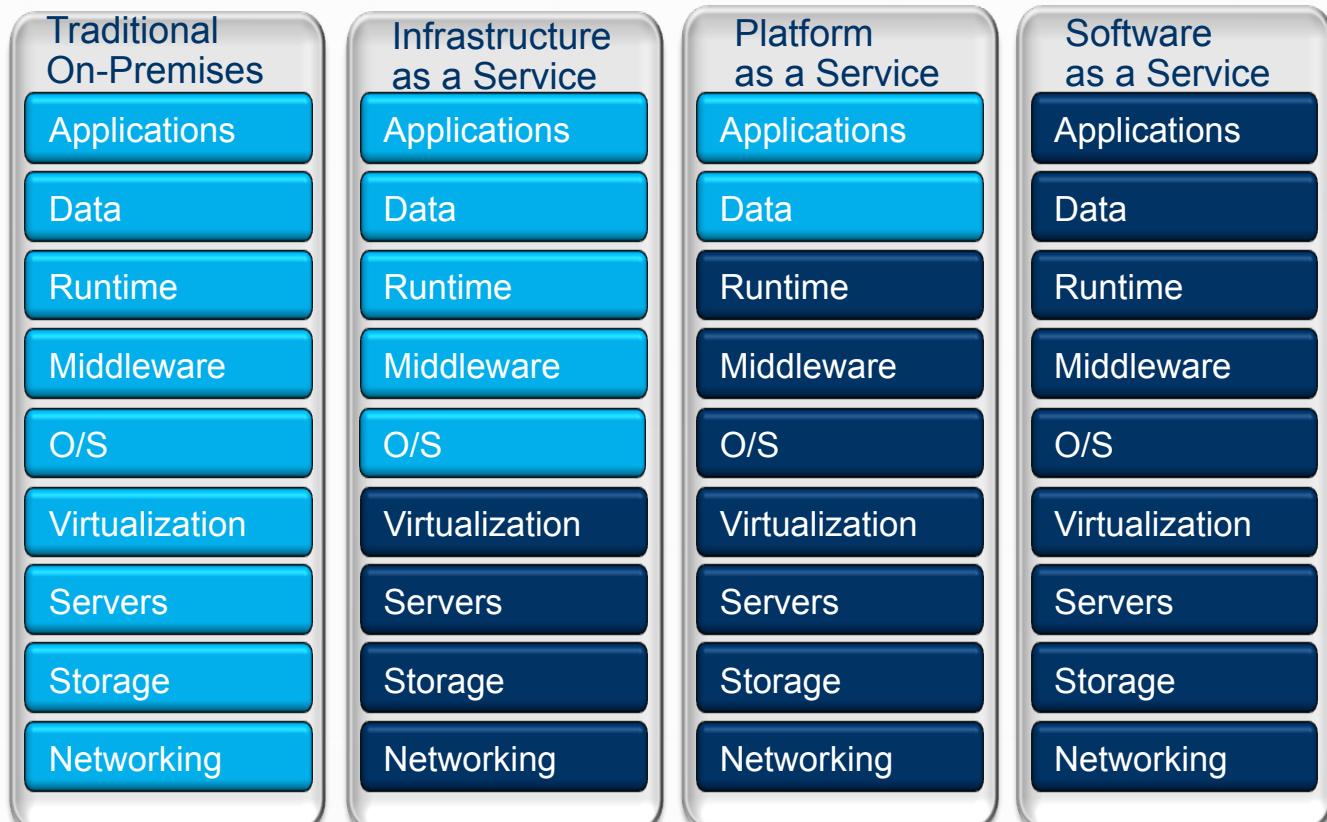


SOFTLAYER®
an IBM Company

IBM SaaS

Bluemix eliminates / dramatically simplifies various tasks:

- OS patching
- OS security hardening
- Deployment
- Load-balancing
- Scaling
- Health management



■ Client Manages

■ Vendor Manages in Cloud

ibm.biz/Bluemix2015

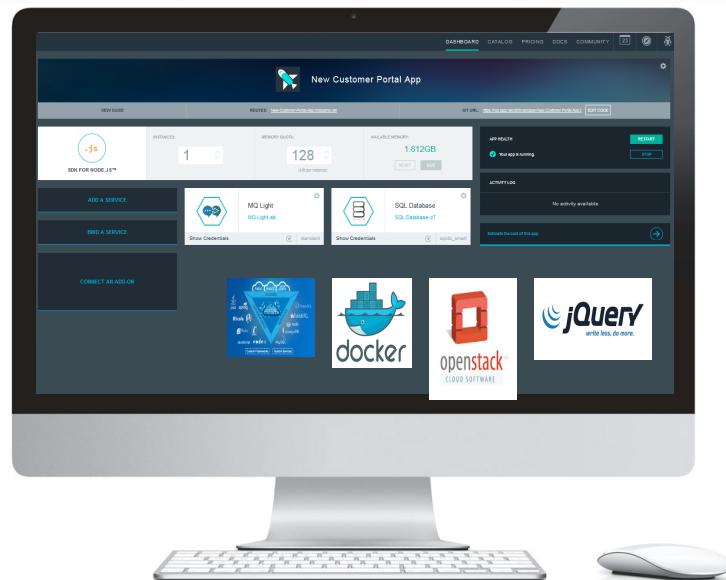


Bluemix: IBM's Cloud Platform

Build, run, scale, manage, integrate & secure applications in the cloud

Developer experience

- Rapidly deploy and scale applications in any language.
- Compose applications quickly with useful APIs and services and avoid tedious backend config.
- Realize fast time-to-value with simplicity, flexibility and clear documentation.



Built on a foundation of open technology.

Enterprise capability

- Securely integrate with existing on-prem data and systems.
- Choose from flexible deployment models.
- Manage the full application lifecycle with DevOps.
- Develop and deploy on a platform built on a foundation of open technology.

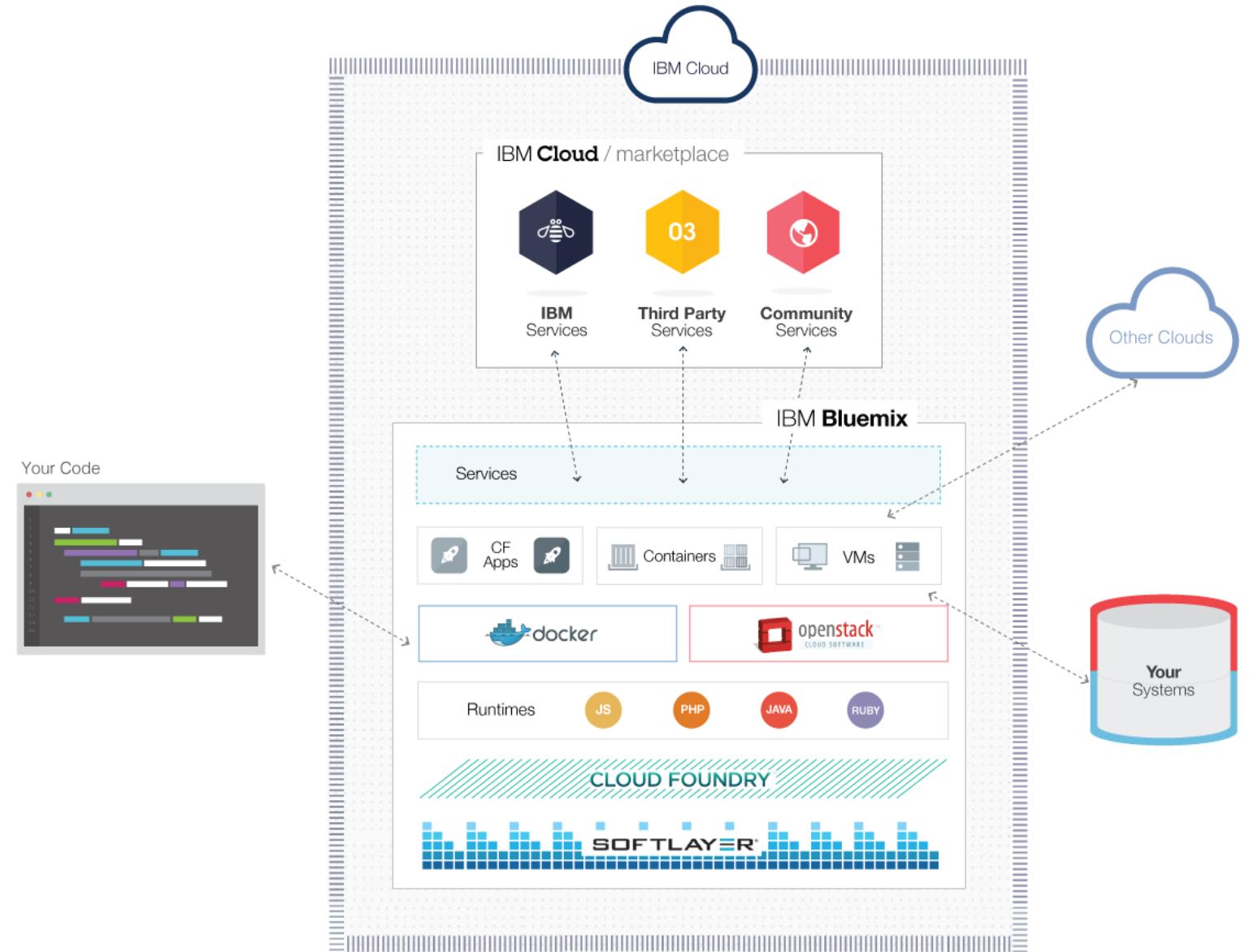
Bluemix service categories

- DevOps
- Big Data
- Mobile
- Watson
- Business Analytics
- Database
- Web and application
- Security
- Internet of Things
- Cloud Integration
- API management & Integration

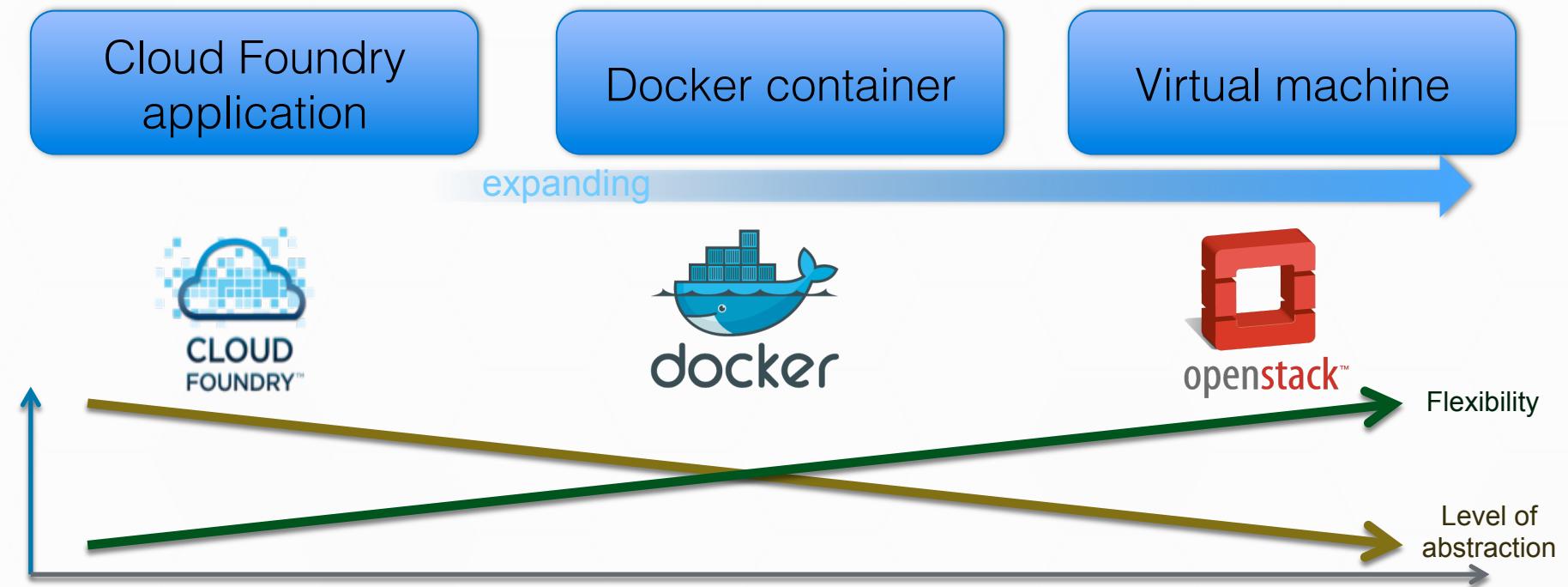
ibm.biz/Bluemix2015



Bluemix structure



Bluemix offers different compute models to “run your code”



Consistent experience:

- Common service binding and consumption model
 - Common user ID and permissions model
 - Ability to hook into common routing layer

ibm.biz/Bluemix2015



The Bluemix tour

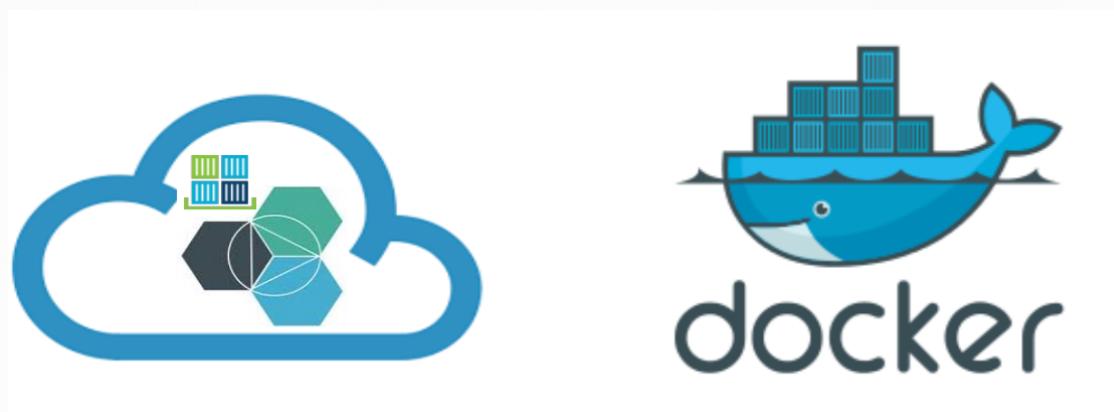
Demo of the Bluemix interface

ibm.biz/Bluemix2015



Containers in cloud environments

- Virtual software objects include all the elements that an application needs to run
- Each container includes just the application and its dependencies
- Containers run as an isolated process on the host operating system
- You get the benefits of resource isolation and allocation
- Because containers are portable and efficient, you can build applications quickly

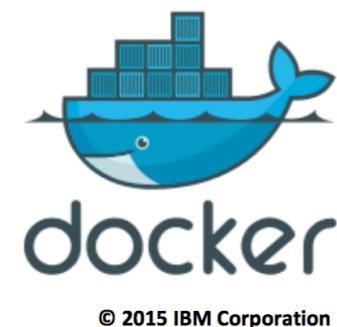
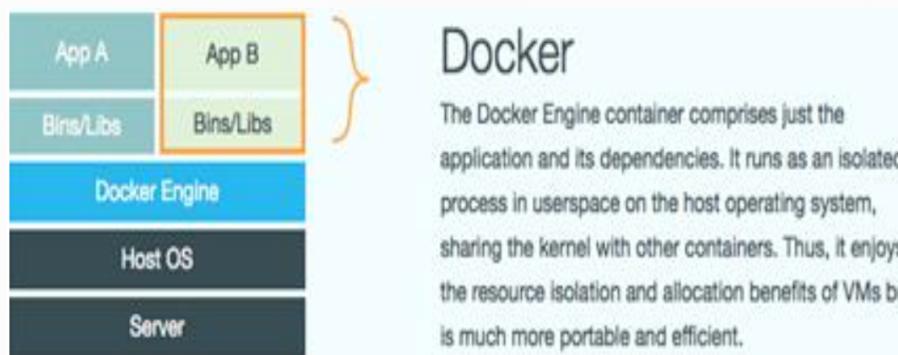


ibm.biz/Bluemix2015



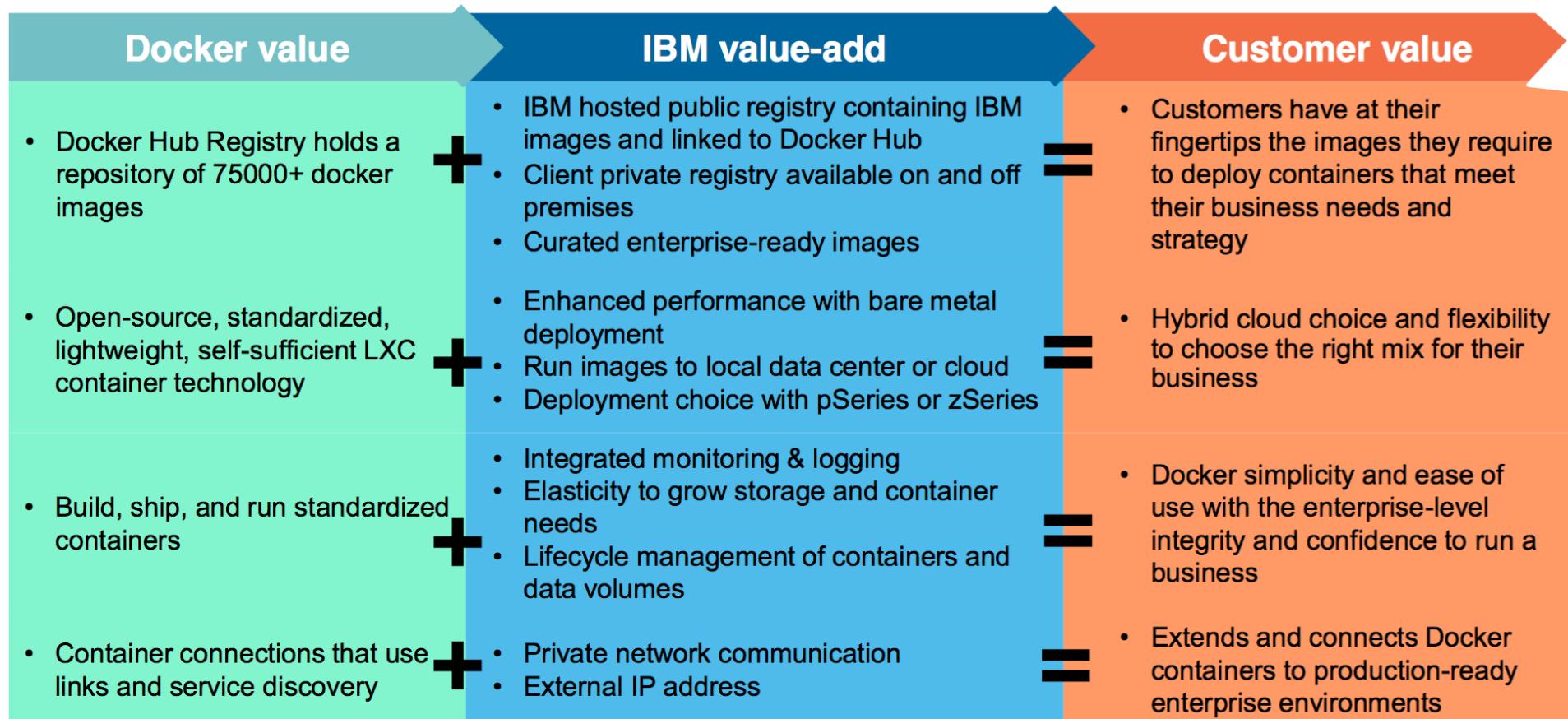
Docker containers

- An open platform for developers and system administrators to build, ship and run distributed applications
- Docker components include:
 - Docker Engine
 - Docker Hub/Registry
 - Dockerfile
 - Image
- Client-server architecture:
 - Docker service
 - REST/APIs
 - Docker client



Value of IBM Containers

Deploy and manage distributed cloud workloads in a hybrid environment packaged as Docker containers.



Advantages and differentiators of IBM Containers

Key differentiators:

1. Push and pull containers from on-premises to off-premises service
2. Hosted private registry with access controls
3. Integrated container monitoring and logging
4. One-step public IP configuration
5. Services integration, including seamless IaaS and PaaS with other Bluemix services such as analytics

Key advantages:

1. Automate the build of Docker images
2. Manage and distribute Docker images in private Docker registries
3. Easily host containers in the cloud
4. Scale and auto-recovery built in
5. Logging and monitoring built in

Compute // Start with Cloud Foundry or Docker images

Container Images
Create containers from IBM images or add your own.

ibm-mobilefirst-starter ibmliberty ibmnode Add your own
IBM IBM IBM My Org

ibm.biz/Bluemix2015



The Bluemix tour

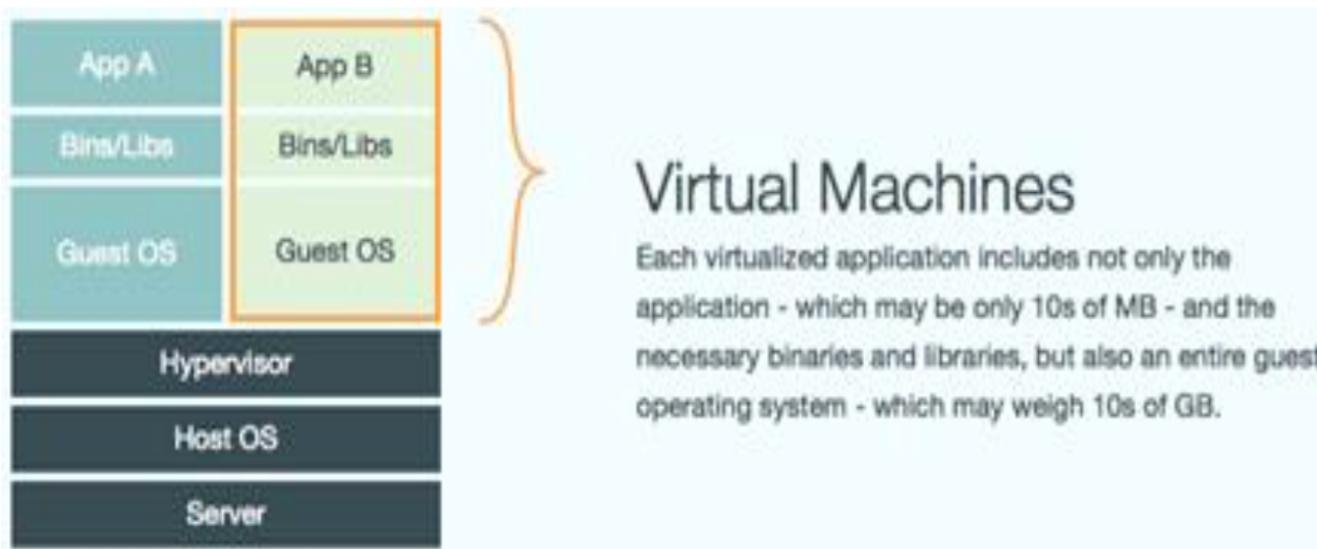
Demo of the IBM Containers

ibm.biz/Bluemix2015



OpenStack virtual machines

- A software implementation of a machine that's hosted by a real machine based on OpenStack software
- Includes the application, its dependencies/middleware, and a guest operating system (OS)
- Managed by a hypervisor server for resource allocation and provisioning
- Multiple VMs can run simultaneously on a single host
- Guest OSs might not be the same as the host OS



ibm.biz/Bluemix2015



Advantages of OpenStack VMs

- Enables creation of VMs running in public and private OpenStack clouds
- Allows reuse of existing VM images
- Provision VM groups with auto-scaling and load balancing against a target cloud
- Manages operations by using a dashboard or CLI and API
- Enables you to view VM information, such as instance ID, IP, CPU, memory, or disk resources and status of VM
- Supports OpenStack project deployments and scales both horizontally and vertically

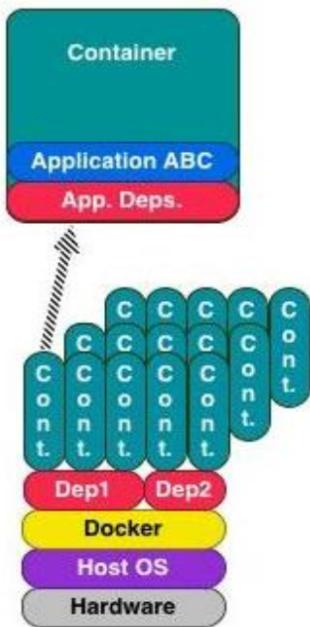
The screenshot shows the IBM Bluemix PaaS interface. At the top, there's a navigation bar with links for DASHBOARD, SOLUTIONS, CATALOG, PRICING, DOCS, and COMMUNITY. Below the navigation, a header says "Create a Virtual Machine" with a sub-instruction "Virtual machines can be connected to public or private clouds." A dropdown menu "Select the VM Cloud to use:" is set to "IBM Cloud Public". To its right, there's a field "Initial instances:" with a value of "1" and a checked checkbox "Assign public IP addresses". On the left, a section titled "VM Sizes Available" lists two options: "m1.small" (selected) and "m1.medium". The "m1.small" row has values: Size "m1.small", Memory "1.5 GB", CPUs "1 CPUs", and Disk "10 GB". The "m1.medium" row has values: Size "m1.medium", Memory "3.1 GB", CPUs "2 CPUs", and Disk "20 GB". To the right of the main interface, a modal window titled "Launch VM from Image" is open. It contains fields for "Image to launch:" (set to "Ubuntu 14.04"), "Name your VM group:" (empty), "Choose VM size:" (set to "m1.small"), "SSH Key:" (set to "No SSH key found"), and "Network:" (set to "private"). At the bottom of the modal is a large green "CREATE" button.

IBM Bluemix PaaS provides support for virtual machines as a beta feature that is available in selected regions.

© 2015 IBM Corporation



Deploying to the cloud in a repeatable way



Container approach

Build

- Software stack can be individually packaged

Deploy

- Software stack in a Docker container can be easily moved between deployment environments

Change

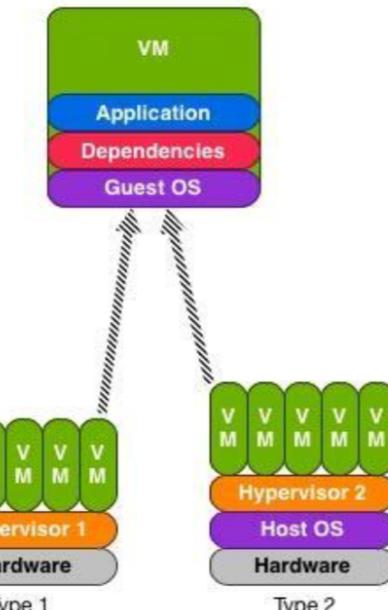
- Recompose software into new stacks

Value

- Built-on-the-cloud applications
- Loosely coupled, elastic architectures

Containers and VMs

Understanding both technologies



Virtualization approach

Build

- Package the (guest) operating system
- Add required files and programs

Deploy

- This entire “package” can be moved and reconfigured across different physical machine

Change

- Change details of the software within the virtual machine and then create a new virtual machine

Value

- Traditional cloud-enabled workloads



The Bluemix tour

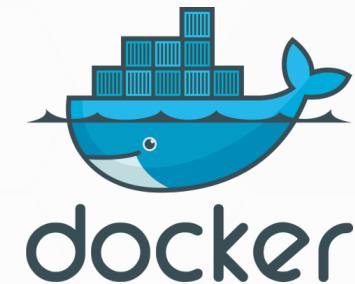
Demo of the Virtual Machines

ibm.biz/Bluemix2015



Related links

- IBMBluemix
<https://console.ng.bluemix.net/>
<https://console.eu-gb.bluemix.net/>
- IBM Bluemix documentation: “Virtual machines”
https://www.ng.bluemix.net/docs/virtualmachines/vm_index.html
- IBMBluemixdocumentation:“IBMContainers”
https://www.ng.bluemix.net/docs/containers/container_index.html
- Docker containers
<https://www.docker.com/>
- CloudFoundry
<https://www.cloudfoundry.org/>





Sei una startup? IBM ti aiuta a crescere con il cloud



Se la tua startup...

- ha meno di 5 anni
- è privata
- utilizza il cloud
- non è un rivenditore IBM
- fattura meno di un milione di **euro**/anno

...allora IBM ti offre

- 1000\$/mese per 12 mesi per l'utilizzo di **SoftLayer**, lo IaaS di IBM
- 1000\$/mese per 12 mesi per l'utilizzo di **Bluemix**, il PaaS di IBM
- attività di mentoring e networking
- supporto tecnico di esperti
- visibilità su scala globale mettendoti in contatto con investitori

Per maggiori informazioni vai al sito [Gep4Cloud](#) oppure
contatta ornella_beggiato@it.ibm.com

Free trial Bluemix: ibm.biz/Bluemix2015





**Sei uno studente
universitario e vuoi
imparare a creare app?**

...allora IBM ti offre

utilizzo gratuito di **Bluemix**, il PaaS di IBM, fino al 30/04/2016

è necessario:

- lasciare il tuo indirizzo email
- attivare il tuo account entro il 31/12/2015

Per maggiori informazioni sui programmi IBM per le Università vai al sito
[IBM Academic Initiative](#)

Free trial Bluemix: ibm.biz/Bluemix2015

