



On-the-Fly Containerization of  
Enterprise Java & .NET Apps

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dockercon 16

# Agenda

## Challenges with Containerizing Enterprise Apps

No Support for Legacy Apps

App Code Change Required

## DCHQ Solution Overview

On-the-fly Containerization

No Code Change

Service Discovery

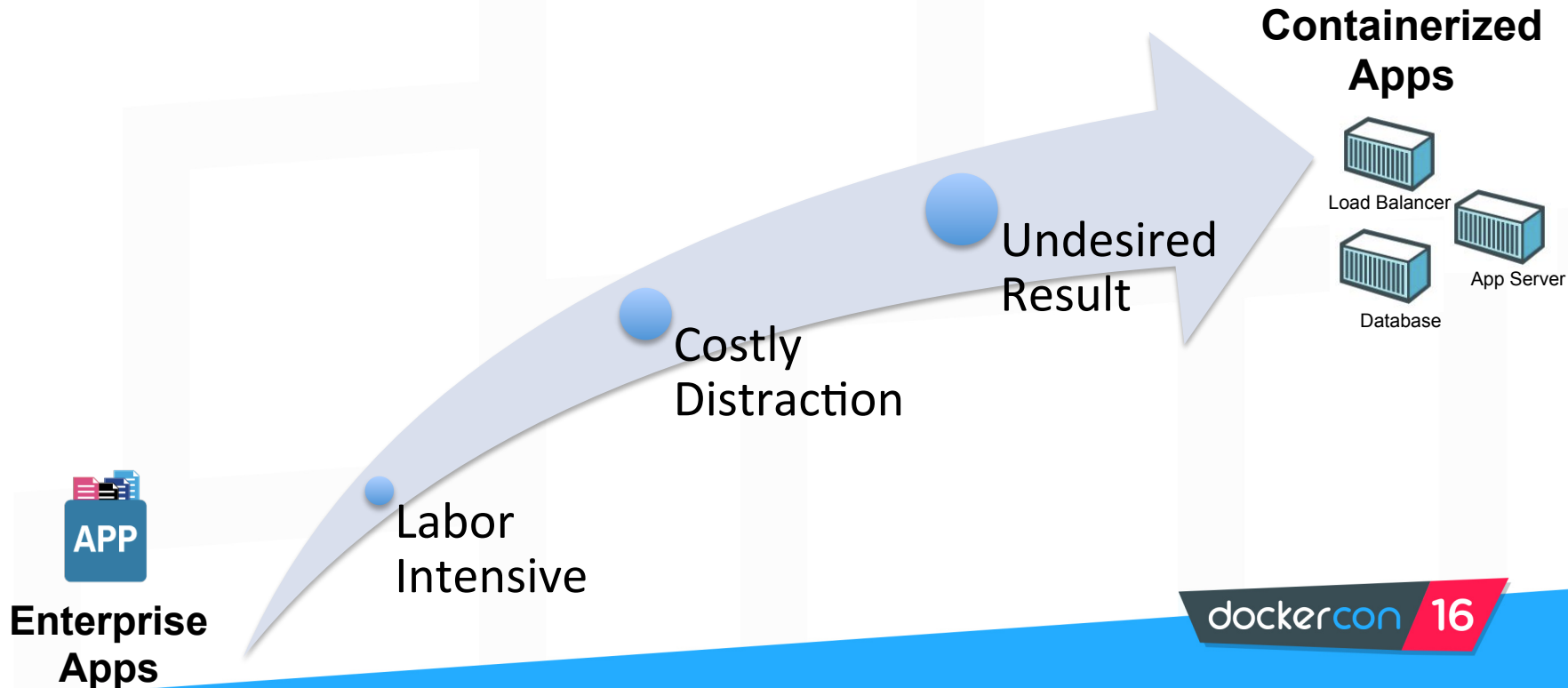
## Demo

Containerization & Deployment of Multi-Tier Java & .NET Apps

Persistent Storage & Data Replication

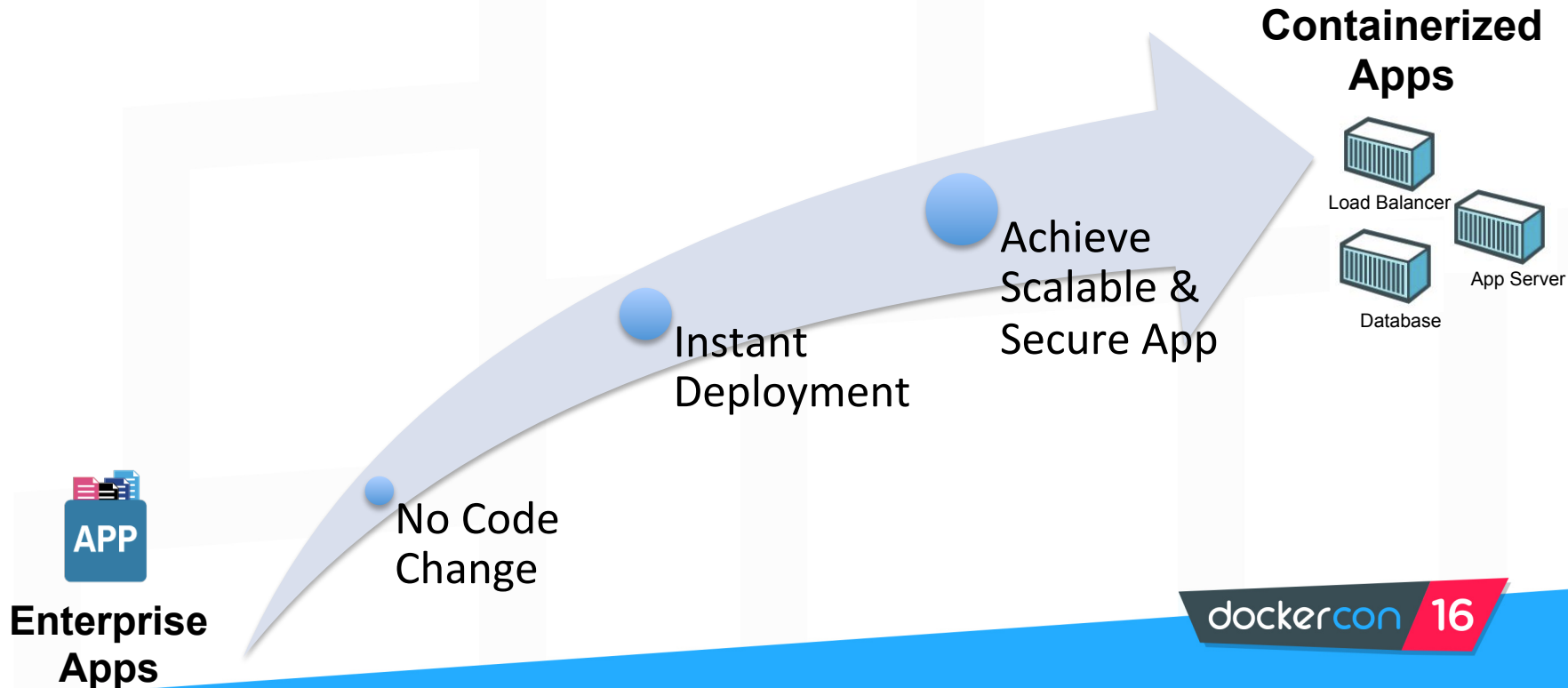
# Challenges with Containerizing Enterprise Apps

# Tedious App Journey to Containers

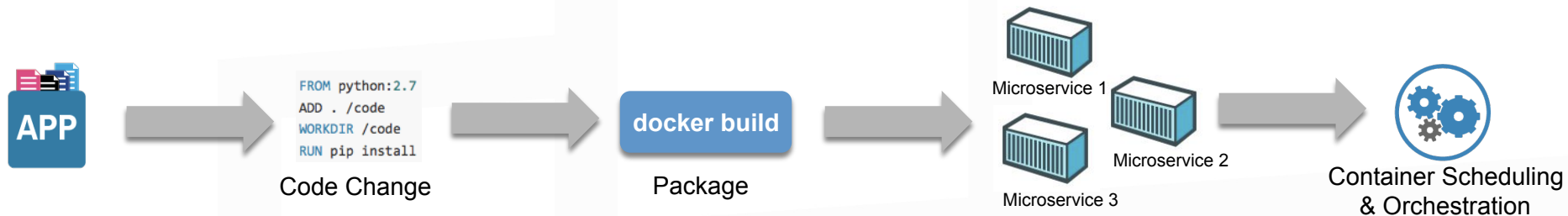




# DCHQ Simplifies the App Journey to Containers



# App Journey to Containers

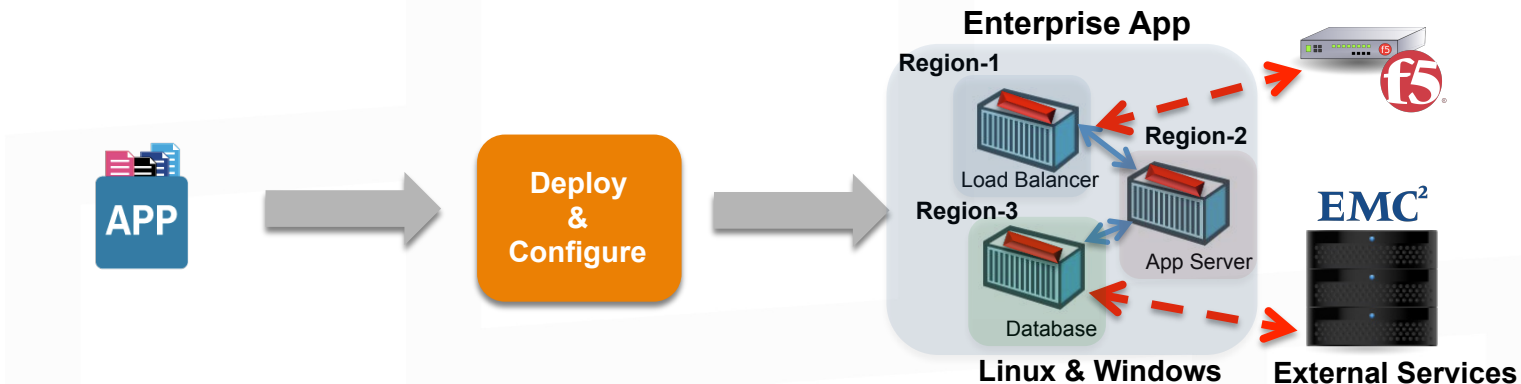


## Problems:

- **App Containerization Requires Code Change (Time & Cost)**
- **DEV/TEST Cannot Run on Containers if PROD Runs on VM's**
- **Container Orchestration Does Not Support Ancillary Services (Storage, Load Balancing, etc.)**
- **Enterprise Legacy Apps Not Supported**



# App Journey to Containers with DCHQ



## Benefits:

- No App Code Change (On-the-Fly Containerization) → Reduced Cost & Time
- Supports Both Brownfield Apps & Microservices
- Provides auto service discovery and supports open-source SDN
- Enable External Services (Storage, Monitoring, etc.) & App Configuration Changes
- Run DEV/TEST on Containers & PROD on VM's

# DCHQ Solution Overview

## Solution

- **SaaS Platform**: For Developers & Startups to manage Apps not clouds
- **On-Prem Platform**: For Enterprises to manage Apps across hybrid clouds

# Product

## Provision Cloud Resources



## Model Apps



## Run

Name	Host/IP	Cluster	Status
dchq-pMjxP	46.4.62.105	Sphere Data Center	CONNECTED
dchq-CxSdzi	13.91.252.104	Azure Resource Manag	CONNECTED
dchq-da4	158.69.75.242	OVH Beaharnois-Cala	CONNECTED
db-master	54.183.152.239	AWS Woon-Northern C	CONNECTED
dchq-57b	104.239.230.234	Backspace Northern V	CONNECTED
dchq-c37	104.239.162.8	Backspace Northern V	CONNECTED
enterprise-c02	169.54.152.149	IBM SoftLayer San Jo	CONNECTED
dchq-FdkMn0	13.93.154.228	Azure Resource Manag	CONNECTED

```

1 HTTP-LB:
2 image: httpd:latest
3 publish_all: true
4 mem_min: 50m
5 host: host1
6 plugins:
7   - !plugin
8     id: uazUi
9     restart: true
10    lifecycle: on_create, post_scale_out:
11    arguments:
12      # Use container_private_ip if you're
13      - BalancerMembers=BalancerMember ht
14      # Use container_hostname if you're
15      #- BalancerMembers=BalancerMember h
16
17 AppServer:
18 image: tomcat:8.0.21-jre8
19 mem_min: 600m
20 host: host1
21 cluster_size: 1
22 environment:
23   - database_driverClassName=com.mysql.jd
24   - database_url=jdbc:mysql://((MySQL|con
25   - database_username=((MySQL|MYSQL_USER)
26   - database_password=((MySQL|MYSQL_ROOT_
27   - solr_host=((Solr|container_private_ip
28   - solr_port=8983
  
```

**WebLogic Cluster**

Cluster: IBM SoftLayer San Jose

Environment: PROD

Status: RUNNING

Created on: 4/24/16 5:27 PM - amjad.afanah

Last Update: 4/24/16 6:11 PM - amjad.afanah

Lease: Unlimited

Container	Status	CPU	Mem	I/O	Machine
AdminServer (adminserver_owriow)	RUNNING	0.022%	728M	10M/37M	169.54.152.149 0%   64%   25%
ManagedServer (managedserver_yoxyxw)	RUNNING	0.047%	439M	63M/51M	169.54.152.149 0%   64%   25%
ManagedServer (managedserver_kwtdl)	RUNNING	0.064%	428M	64M/52M	169.54.152.149 0%   64%   25%
<b>Total</b>		<b>0.133%</b>	<b>1.56G</b>	<b>138M/140M</b>	

## DCHQ Offering

### Governance

RBAC, Cost, Reports, Approvals, Quotas

Config, Service Discovery, On-the-Fly Containerization

Linux / Windows

IaaS Automation  
18+ Clouds

App Orchestration  
Most Advanced

Monitoring  
Host & Container

**DCHQ Platform**



## Use Cases

### App Modernization

- Migrate existing enterprise apps to the cloud
- Containerization of enterprise apps for agility & app portability
- Cloud services integration (e.g. network, storage, caching, etc.)
- Support for both Linux/Windows workloads

### Service Providers

- Broker cloud services across AWS, Azure, OpenStack, vSphere, etc.
- Provide IaaS, PaaS, and Container Services
- Support multi-tenancy, billing, and localization
- Support hybrid apps (partially containerized apps, Linux/Windows)
- Support enterprise apps (e.g. Oracle, SAP, etc.) and micro-services

### Enterprise DevOps

- Faster go-to-market
- On-the-fly containerization to minimize costs & ensure consistency across DEV/TEST and PROD environments
- Elastic infrastructure for provision-manage-retain
- Parallel testing (CI) for growing engineering teams
- Advanced queuing to minimize cloud costs



# Demo

**DCHQ** | Tour | English | Amjad

Home

- Library
- Apps
- Image Builds

Infrastructure

- Cloud Providers
- Clusters
- Machines
- Blueprints
- Policies
- Identity
- Your Stuff

**Multi-Tier Java (ApacheLB-Tomcat-Solr-MySQL)**

Cluster: Azure Resource Manager Cluster

Environment: DEV

Status: ● **RUNNING** 0

Created on: 4/24/16 1:46 PM - amjad.afanah

Last Update: 4/24/16 1:50 PM - DCHQ SYSTEM

Lease: Unlimited

Container	Status	CPU	Mem	I/O	Machine	Ports
>_ AppServer (appserver_gvoykx)	<span style="color: green;">●</span> RUNNING	0.109%	280M	13K/8K	13.91.248.162 1%   91%   6%	0 : 808
>_ HTTP-LB (http-lb_tkaihm)	<span style="color: green;">●</span> RUNNING	0.065%	8M	4K/0K	13.91.248.162 1%   91%   6%	32773
>_ MySQL (mysql_pibmrq)	<span style="color: green;">●</span> RUNNING	0.041%	496M	15K/8K	13.91.248.162 1%   91%   6%	0 : 330
>_ Solr (solr_ogueun)	<span style="color: green;">●</span> RUNNING	0.063%	192M			

Action

- Start
- Stop
- Edit
- Lease
- Move
- Add
- Backup
- Plugins (Run)
- Plugins (Lifecycle)
- Redeploy
- Redeploy Profile
- Continuous Delivery
- Scale-Out
- Scale-Out (Scheduled)

Thank you!

