

## DIGITAL TRANSFORMATION WITH OPEN SOURCE TECHNOLOGY

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## WHY CHANGE?



#### I.T. LEADERS SAY CHANGE IS COMING

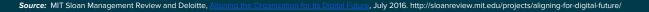
IS YOUR ORGANIZATION ALSO SEEING DIGITAL DISRUPTION?



anticipate that their industries will be disrupted by digital trends to a great or moderate extent.



say their organizations are adequately preparing for the disruptions to come.





#### A NEW COMPETITIVE ENVIRONMENT

BIGGER EXPECTATIONS FROM CUSTOMERS, USERS, AND THE BUSINESS



feel they are expected to address wider stakeholder needs.



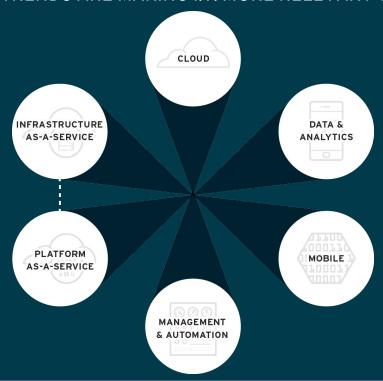
say that technology is one of the top 3 influencers transforming stakeholder expectations for the business

**Source:** Survey of 1,409 CEOs in 83 countries by PricewaterhouseCooper, 19th Annual Global CEO Survey, January 2016 http://www.pwc.com/gx/en/ceo-survey/2016/landing-page/pwc-19th-annual-global-ceo-survey.pdf



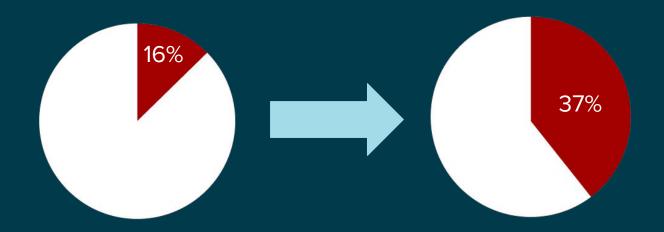
## **TECHNOLOGY IS MAKING A DIFFERENCE**

BUSINESS TRENDS ARE MAKING I.T. MORE RELEVANT THAN EVER





## TECHNOLOGY IS DELIVERING DIGITAL REVENUE



In the private sector, CIOs expect digital revenue to grow from 16% to 37% in the next 5 years.

Source: CIO Survey (n=609), 2,944 CIOs in 84 countries. Graphic created by Red Hat based on Gartner research.

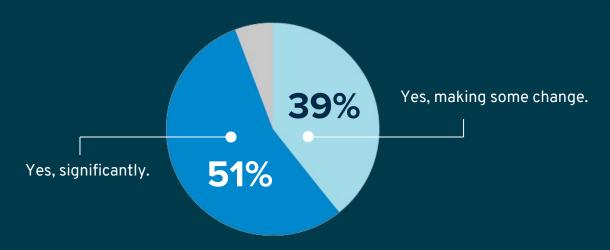
Building the Digital Platform: The 2016 CIO Agenda, Published: 02 October 2015. http://www.gartner.com/imagesrv/cio/pdf/cio\_agenda\_insights\_2016.pg



## 90% OF CEOS ARE CHANGING HOW THEY USE TECHNOLOGY

#### **QUESTION**

Are you changing how you use technology to assess and deliver on wider stakeholder expectations?



Source: Survey of 1,409 CEOs in 83 countries by PricewaterhouseCooper, 19th Annual Global CEO Survey, January 2016. http://www.pwc.com/qx/en/ceo-survey/2016/landing-page/pwc-19th-annual-global-ceo-survey.pdf



## **BEYOND TECHNOLOGY**

INVOLVES TRANSFORMING I.T. AND BUSINESS



## NEXT-GENERATION ARCHITECTURE

New ways of developing, delivering, and integrating applications



## CLOUD-NATIVE PLATFORMS

Modernize existing and build new cloud-based infrastructure



## DEVOPS & CULTURAL CHANGES

More agile process across both IT and the business



## WHY NOW?



#### **ARE YOU A DIGITAL BUSINESS TODAY?**

IF YOU'RE NOT THERE YET, YOU'RE NOT ALONE



of the surveyed IT professionals are in no doubt that they have a role to play in their organization's digital transformation. However...



added that their IT organization is unprepared for the digital business of the next 2 years.

Source: Survey of 948 clients across 30 countries. Gartner Newsroom, <u>Gartner Survey Finds That Two-Fifths of IT Professionals Consider Their IT Organisation Ready for Digital Business</u>, July 2016. http://www.gartner.com/newsroom/id/3375817



## **BALANCING INNOVATION AND OPTIMIZATION**

YOUR PEERS SAY THESE ARE THEIR TOP PRIORITIES AND CHALLENGES



Optimize the IT you have



Integrate apps, data, and processes



Add and manage cloud infrastructure

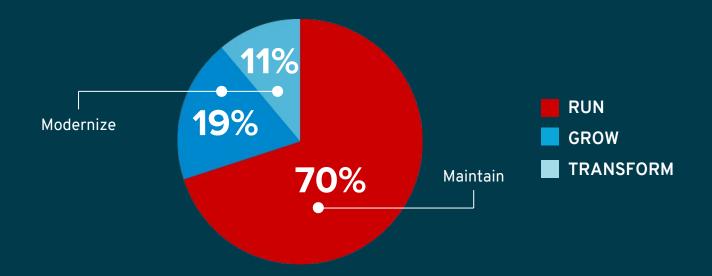


Build more modern applications



#### MAINTAIN AND MODERNIZE

I.T. SPENDING TO RUN, GROW, AND TRANSFORM THE BUSINESS, CROSS-INDUSTRY

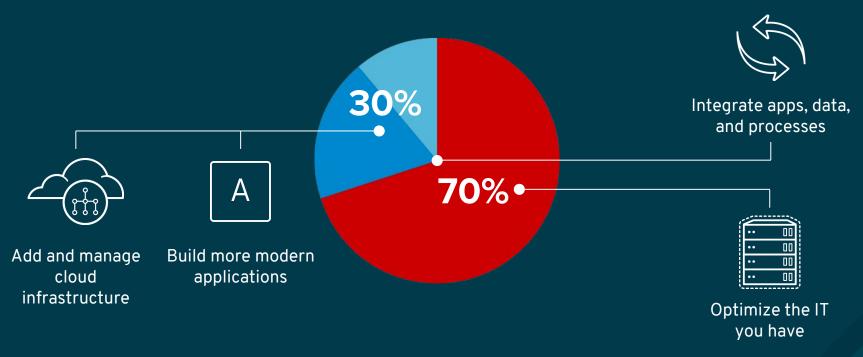


Source: Graph created by Red Hat based on Gartner research. Potter, Kurt, Sanil Solanki, and Ken McGee, Run, Grow and Transform the Business IT Spending: Approaches to Categorization and Interpretation. Gartner G00308477, 27 June 2016



## INNOVATION VS. OPTIMIZATION

THIS IS THE REALITY FOR MOST ORGANIZATIONS

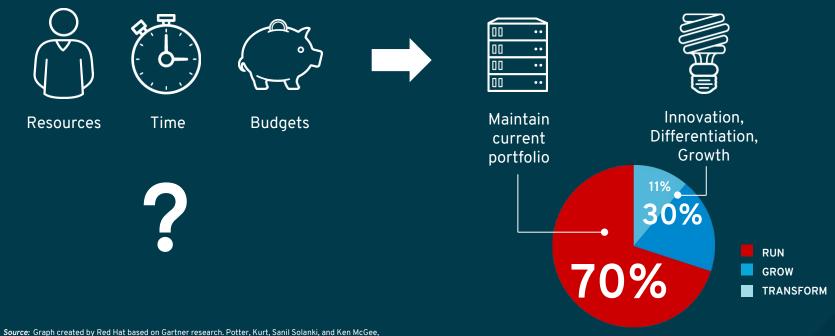


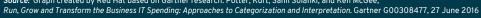
Source: Graph created by Red Hat based on Gartner research. Potter, Kurt, Sanil Solanki, and Ken McGee, Run, Grow and Transform the Business IT Spending: Approaches to Categorization and Interpretation. Gartner G00308477, 27 June 2016



## THE CIO DILEMMA

Business Expectations become IT Challenges



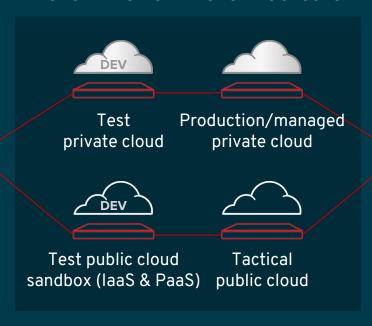




## IT'S A DIFFERENT JOURNEY FOR EVERYONE

BUT HERE'S WHAT IT LOOKS LIKE FOR ONE FINANCIAL SERVICES CUSTOMER

#### **AUTOMATION & DEVOPS PROCESSES**



## CONTAINERS FOR EVERYTHING



Strategic hybrid cloud



Traditional physical environment



Strategic virtualization

## **BALANCING INNOVATION AND OPTIMIZATION**

HERE'S WHAT YOUR PEERS SAY ARE THEIR TOP PRIORITIES AND CHALLENGES



Optimize the IT you have



GAIN EFFICIENCY



Integrate apps, data, and processes



IMPROVE PRODUCTIVITY



Add and manage cloud infrastructure



INCREASE AGILITY



Build more modern applications



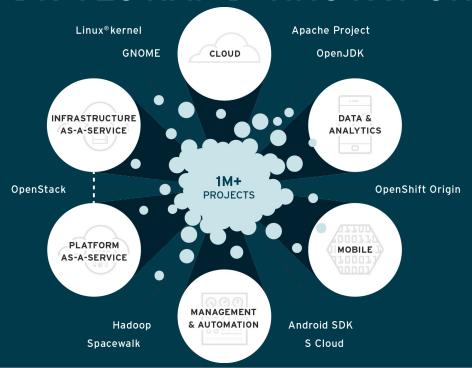
MOVE FASTER



## WHY OPEN SOURCE?



## OPEN SOURCE DEVELOPMENT DRIVES RAPID INNOVATION





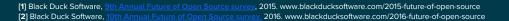
## **OPEN SOURCE ADOPTION**



of enterprises run open source.<sup>11</sup>

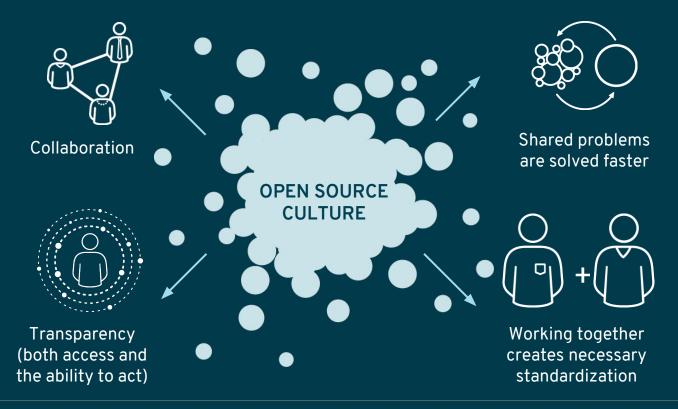


of companies are contributing to open software. [2]





## IT'S NOT JUST CODE, IT'S CULTURE





#### **OPEN SOURCE ADOPTION**

"Open-source software (OSS) industry saturation is complete: Today, 95% of mainstream IT organizations leverage nontrivial open-source software assets within their mission-critical IT portfolios — whether they know it or not."

Gartner, Hype Cycle for Open Source Software 2016



## WHY RED HAT?



## FROM COMMUNITY TO ENTERPRISE

JBoss Community ™ Apache
Software Foundation PATTERNFLY fedora **FuseSource** RED HAT' ENTERPRISE LINUX' RED HAT JBOSS MIDDLEWARE oVirt RED HAT VIRTUALIZATION 1 FEEDHENRY RED HAT' MOBILE SDO RED HAT' OPENSTACK' PLATFORM 1,000,000+ origin **PROJECTS** RED HAT'
OPENSHIFT RED HAT' ENTERPRISE LINUX' ATOMIC HOST ATOMIC 🙍 Manage 🛛 RED HAT CLOUDFORMS ceph GLUSTER RED HAT' STORAGE 🟶 CentOS **FOREMAN** ANSIBLE RED HAT' SATELLITE ANSIBLE <u>openstack</u>

RH0064-3



## IT'S ABOUT MORE THAN OPEN SOURCE





## **RED HAT'S VISION: OPEN HYBRID CLOUD**

EFFICIENT, STABLE TECHNOLOGY FOUNDATION ACROSS ALL 4 FOOTPRINTS

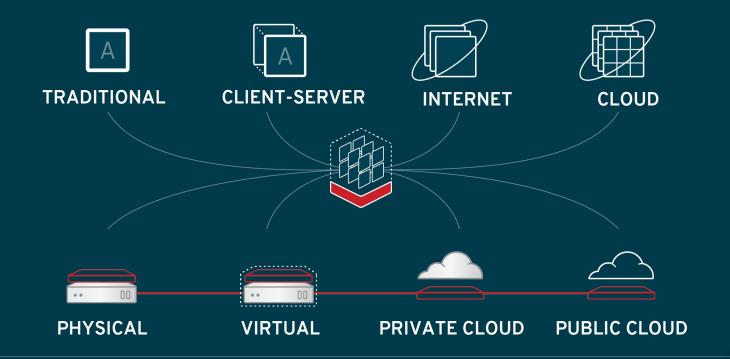






## **RED HAT'S VISION: OPEN HYBRID CLOUD**

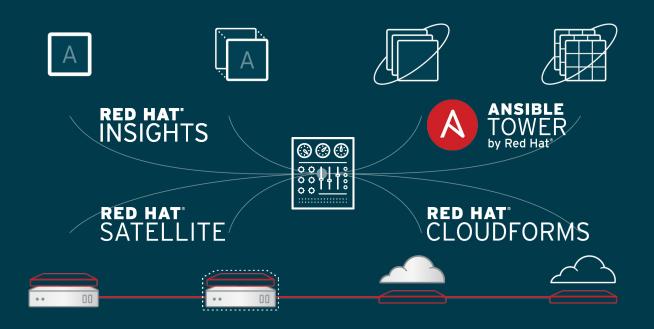
ALL KINDS OF APPS AND ENVIRONMENTS, INCLUDING CONTAINERS





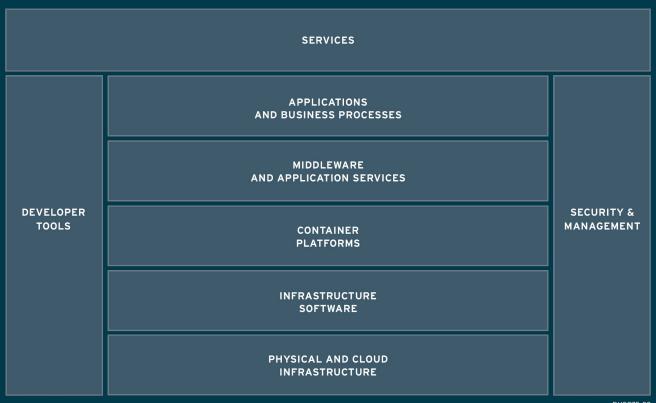
## **RED HAT'S VISION: OPEN HYBRID CLOUD**

COMMON MANAGEMENT, INTEGRATION, AND AUTOMATION TO KEEP IT ALL GOING













## IT'S ALL HERE

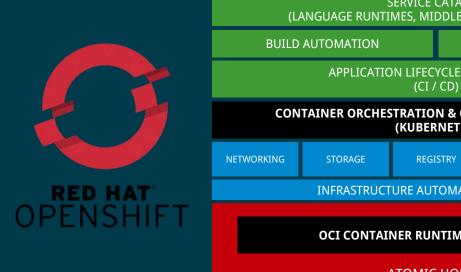


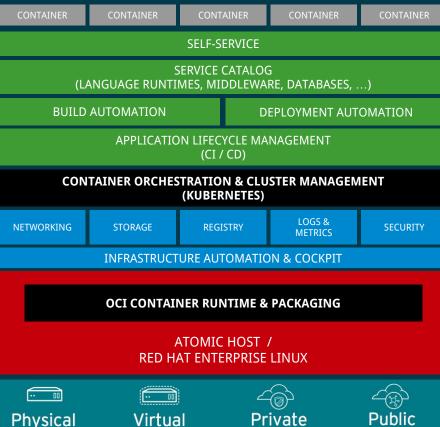


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#### **OPENSHIFT = ENTERPRISE KUBERNETES+**

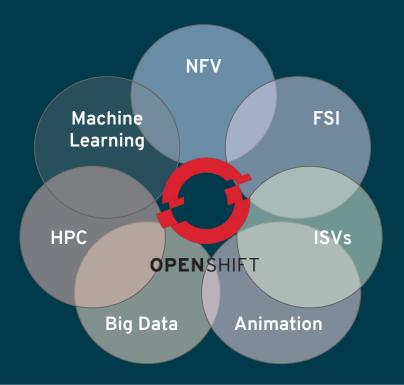
Build, Deploy and Manage Containerized Apps







## Performance Sensitive Applications (P-SAP)





## **GPU** support in OpenShift

- Joint collaboration with strategic partners for drivers, plugins and container images
- Device Manager GA
- Scheduler: Priority and preemption
- Seamless install experience of drivers, plugins and dependencies
- Container images in RHCC/ISV Registry
- Certifications and support

RHEL base image + Vendor libraries for GPUs + Frameworks for Al/ML such as Tensorflow or Pytorch Kubernetes Scheduler

Kublet Device Manager

Device Manager plugin

**RHEL Host** 

Device drivers for GPU

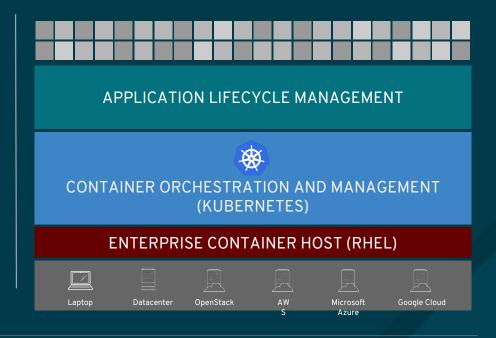


#### AI AS A WORKLOAD

Enabling Analytics and Machine Learning workloads on Red Hat platforms.



- Requires enablement from the HW up: Storage, laaS, OS, Container Platform.
- Pushes limits for performance at scale.
- Kubernetes and containers are quickly becoming the default.
- Al workflows resemble other DevOps models
   OpenShift.
- Business-critical decisions taken by Al depend on stability and security.
- Auditability increasingly important.
- Heterogeneous ISV landscape: benefit from common platform and Service Catalog





# HELPING YOU ON YOUR JOURNEY



## WHERE ARE YOU TODAY?

MORE IMPORTANTLY, WHERE DO YOU WANT TO BE TOMORROW?



Optimize the IT you have



Integrate apps, data, and processes



Add and manage cloud infrastructure



Build more modern applications

Digital Transformation with Open Source Technology!!





## THANK YOU



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youtube.com/user/RedHatVideos