

# HP Helion: Now cloud runs through your business











# A Transformation of Architecture and Principles



## Cloud Native Concepts

	<b>Scale Out</b>	Not scale-up
	<b>Open Source</b>	Not closed
	<b>Simple</b>	Not complex
	<b>Distributed</b>	Not monolithic
	<b>Grassroots</b>	Not top-down
	<b>API</b>	Not integration





# Public Cloud gives you Convenience

# Private Cloud gives you Control



**Control** ←



→ **Convenience**



# Hybrid Cloud Gives You Flexibility



← **Flexibility** →

## Hybrid Cloud



**Private  
Cloud**



**Managed  
Private Cloud**



**Managed Virtual  
Private Cloud**



**Public  
Cloud**

# Our Vision



HP  
**Helion**

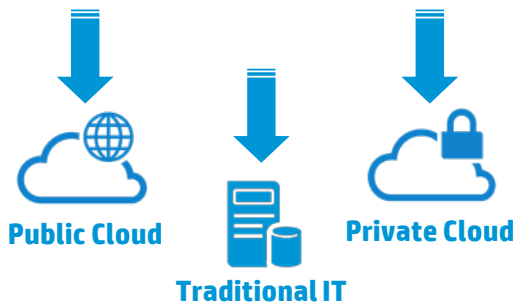
A developer-led, open source-based, distributed world with ever-increasing needs to store and process data, on hybrid clouds that just work

# HP Helion core strategies



## Hybrid IT

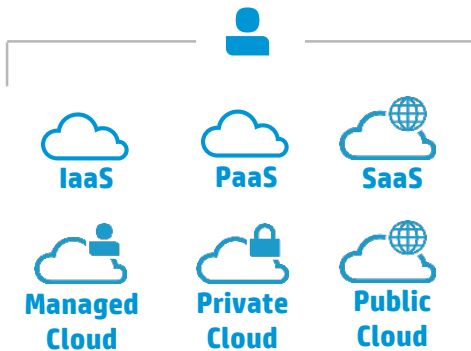
Use the right destination for the right application



Security	Availability	Performance
Cost	Compliance	Resiliency

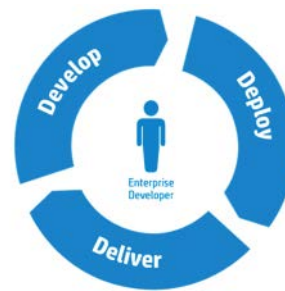
## Brokering Services

Internal Services Providers broker cloud for their business



## Developer Centric

Enable developers to rapidly develop cloud-native applications

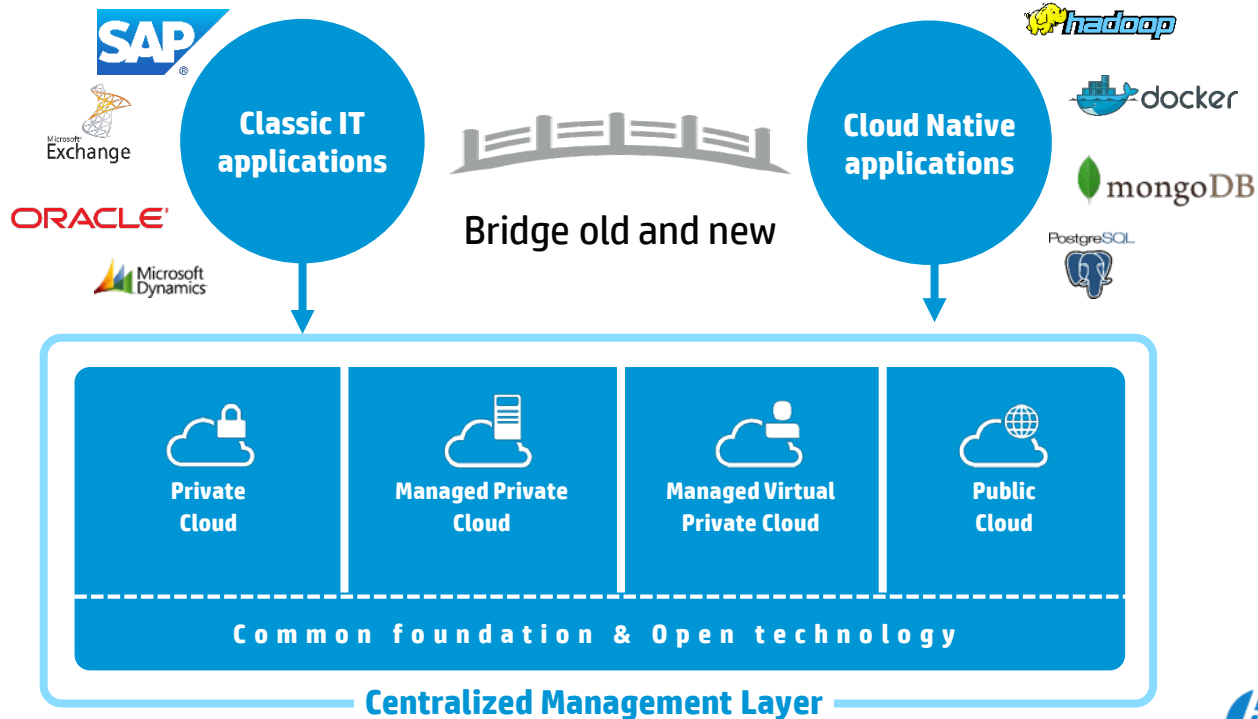


# Hybrid IT

Use the right destination for the right application

## Key Factors:

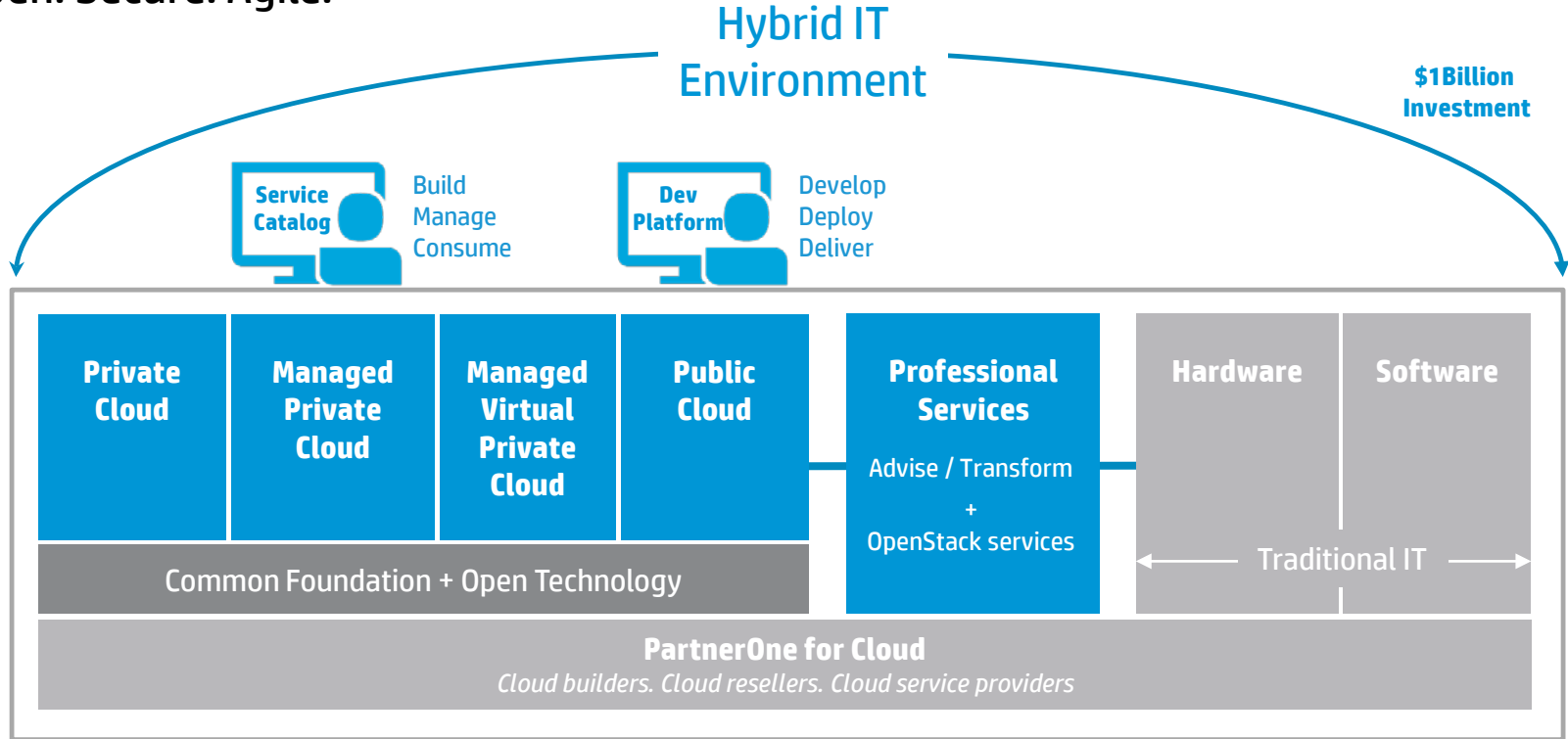
- Security
- Availability
- Resiliency
- Compliance
- Data Sovereignty
- Performance
- Open
- Cost



# HP Helion Hybrid IT environment



Open. Secure. Agile.

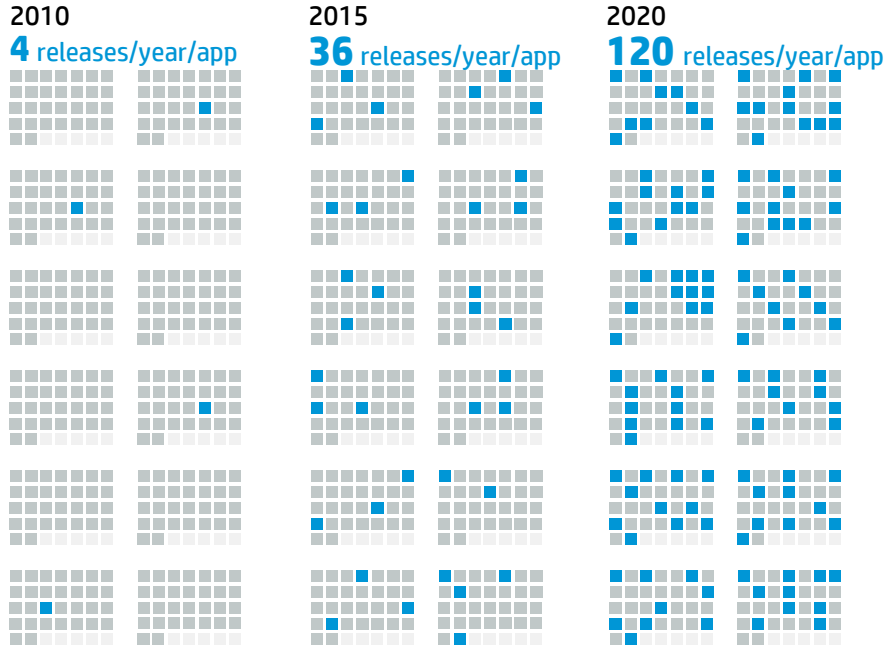




# Developer Centric



## Faster application deployment enables accelerated innovation



- Agility is paramount
- 30x increase in application releases
- “Even when delivering at cadences of less than a week, 20% of organizations want to go even faster”<sup>1</sup>
  
- Developers need flexibility
- “Expects to deploy 50%-70% of code to cloud environments by 2015”<sup>1</sup>
- Want open flexible architectures for application portability and prevent lock-in

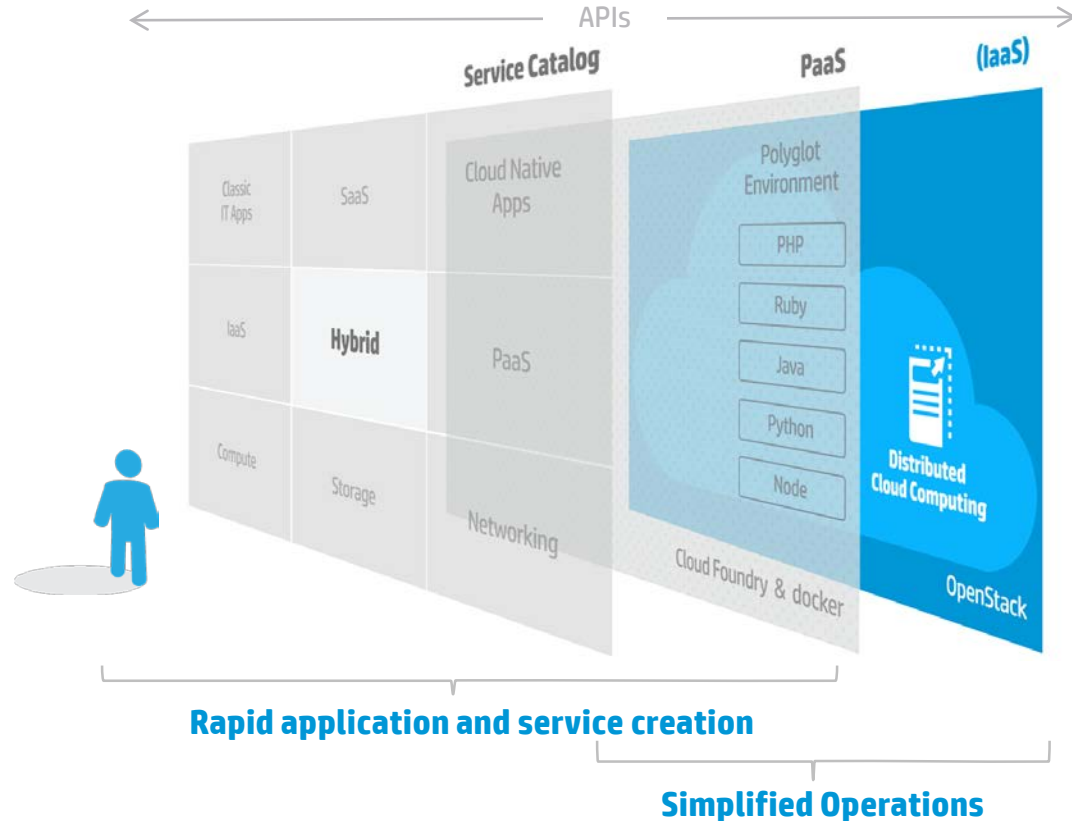
<sup>1</sup> Forrester Thought Leader Paper commissioned by HP, “Better outcomes, faster results. Continuous delivery and the race for better business performance”, December 2013



# Application Centric Cloud

## Cloud Native Infrastructure Services

- IT provides the underlying infrastructure for development services
- Install, configure and manage
- Service portability and flexibility



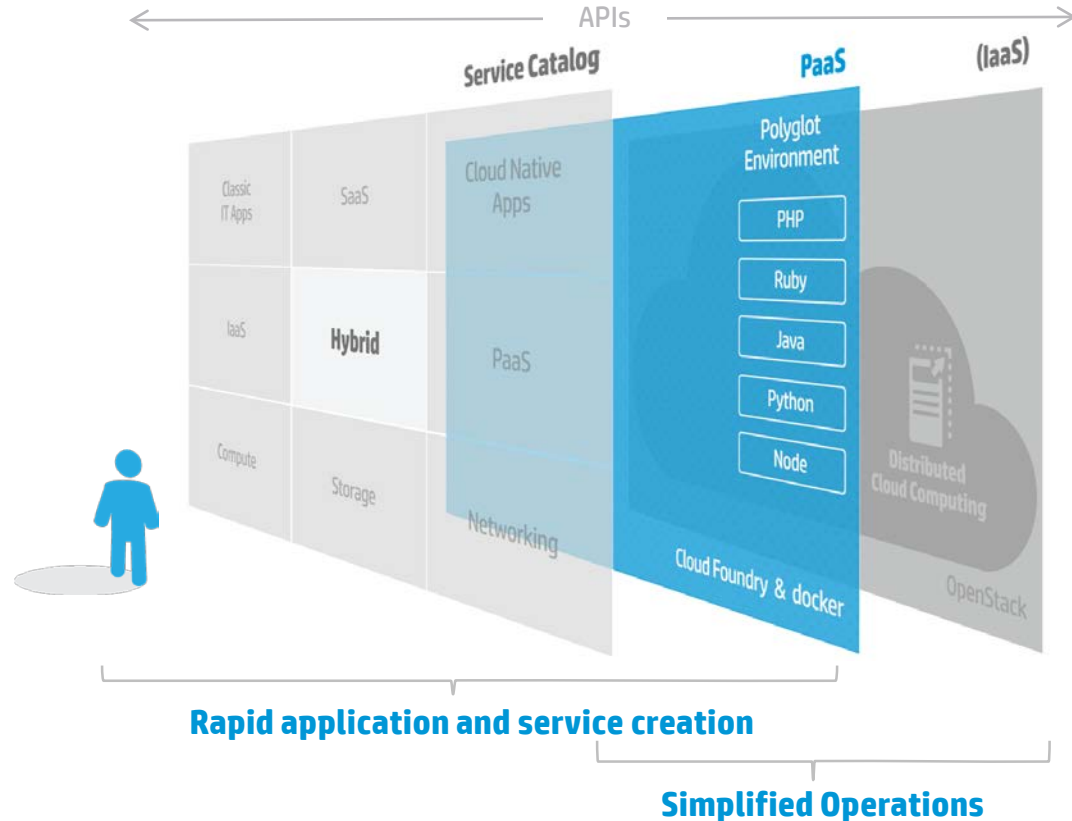
# Application Centric Cloud

## Cloud Native Infrastructure Services

- IT provides the underlying infrastructure for development services
- Install, configure and manage
- Service portability and flexibility

## Cloud Native Development Platform

- Developers focus on developing



# Application Centric Cloud

## Cloud Native Infrastructure Services

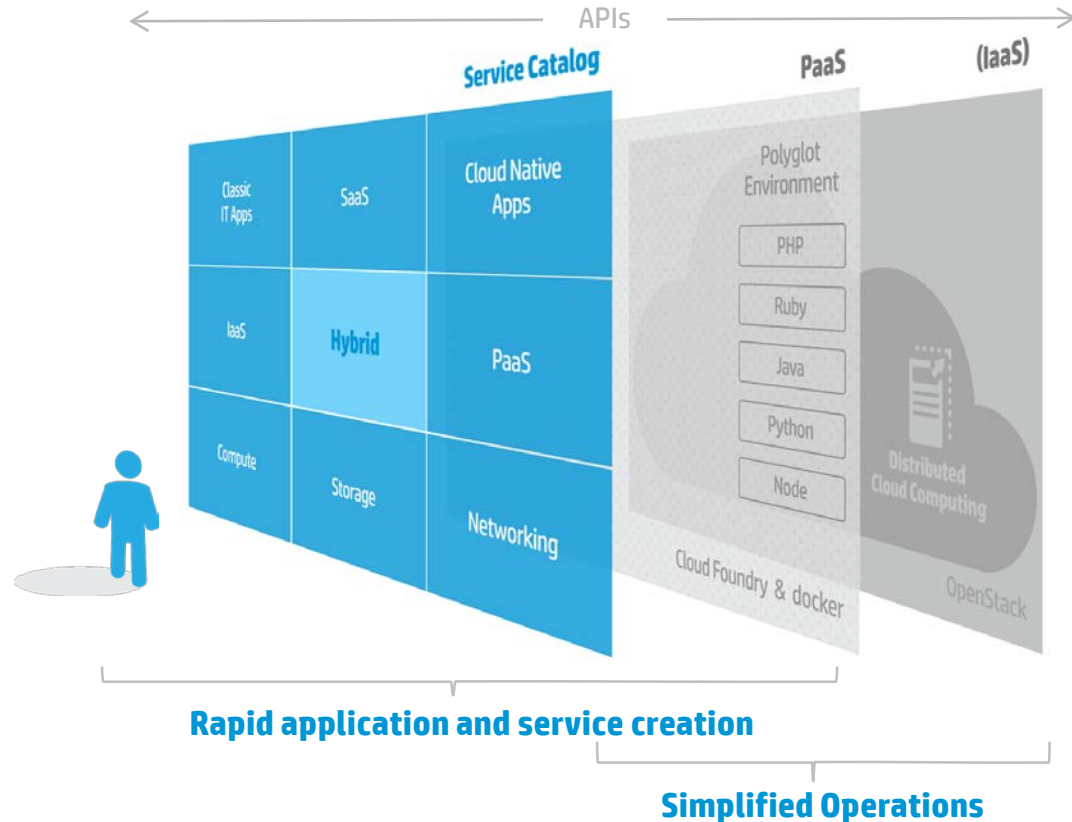
- IT provides the underlying infrastructure for development services
- Install, configure and manage
- Service portability and flexibility

## Cloud Native Development Platform

- Developers focus on developing

## Service Catalog

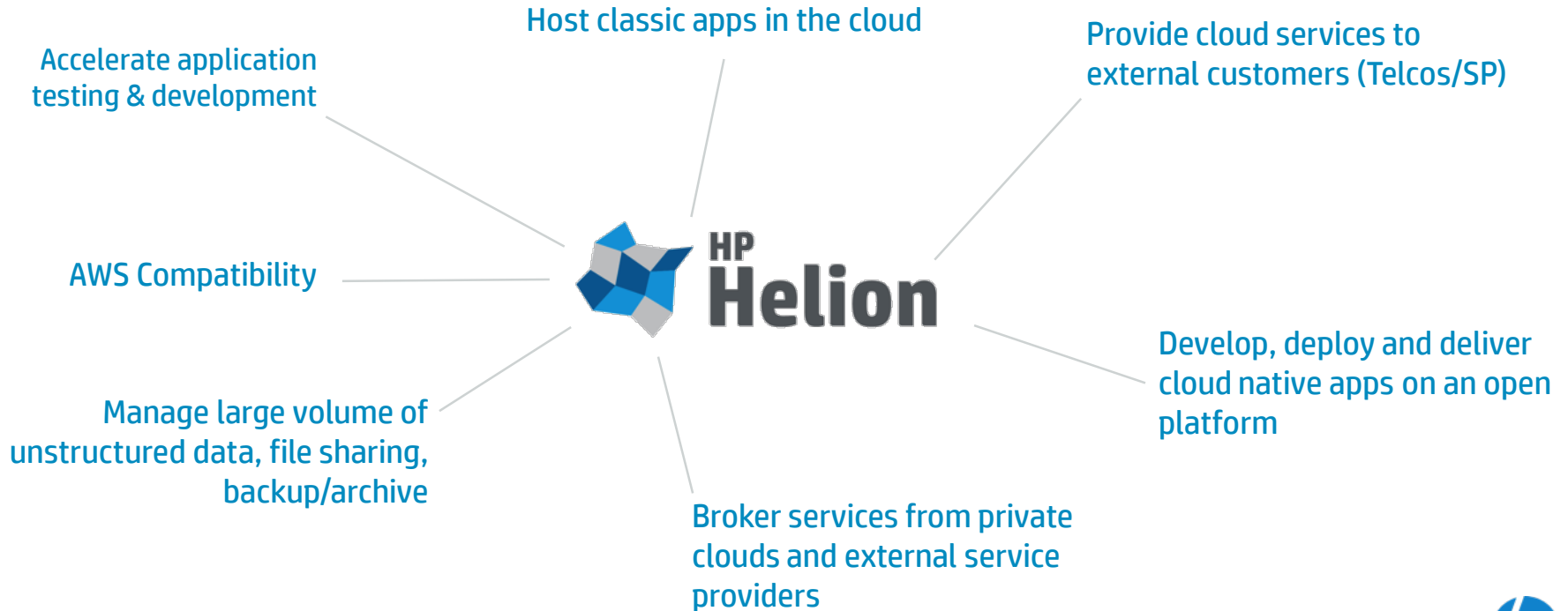
- Automate the delivery of services
- Rapid creation of services



# Typical use cases for HP Helion



How customers use HP Helion to enhance their business



# Why OpenStack and Cloud Foundry® technologies?



**TCO reduction**



**No vendor lock-in**



**Workload Portability**



**Control with a  
centralized  
management console**



**Security**



**Data Sovereignty**



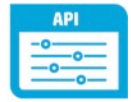
**Increased Agility**



**Availability  
Resiliency**



**Scalability**



**Programmable  
APIs**

# HP – A leading contributor to OpenStack project\*



## Platinum Member

- 2 Board members (1 designated member, 1 elected Individual member)
- 5 elected members of the Technical Committee
- Legal Affairs, Incubation, Election, Training, DefCore Committees

## Top Community Contributor

- 1<sup>st</sup> in contributions, code reviews, and # of contributors, and second in lines of code for Juno \*
- 9 PTLs (1<sup>st</sup> overall) and 38 core reviewers (1st overall)

## Leading OpenStack Deployment

- HP operates one of largest OpenStack-based public cloud infrastructures comprising thousands of compute nodes and multiple petabytes of storage

## Dedicated Staff

- #1 largest contributor by an employer for Juno\*
- Only company with dedicated resources to infrastructure
- OpenStack Continuous Integration/Continuous Deployment (CI/CD) runs on HP's Public Cloud

## Top Contributors



\*based on Stackalytics as of October 2014  
(<http://stackalytics.com/>)



# How HP's commitment to OpenStack technology helps our customers



Security is a priority for HP and its customers

## HP security contributions

- OpenStack Security Guide and Security Notes *(best practices for deploying hardened OpenStack)*
- OpenStack Security Guidelines: *(security guidance to developers)*
- Barbican *(OpenStack project for encryption)*
- Kite *(OpenStack project for RPC security)*

## HP sponsored security activities

- Co-created OpenStack Vulnerability Mgt Team
- Led formation of OpenStack Security Group
- Host OpenStack security meet-ups

## Examples of security issues HP helped solve

- Bash/Shellshock security response
- Hypervisor security hardening
- Best practices for using SSL with OpenStack software
- Best practices for API endpoint security

Our commitment to OpenStack software allows us to resolve customer issues by influencing OpenStack code, projects and community







# Thank you

Learn more about HP Helion at [hp.com/helion](http://hp.com/helion)

OpenStack: The OpenStack Word Mark and OpenStack Logo are either registered trademarks/service marks or trademarks/service marks of the OpenStack Foundation, in the United States and other countries and are used with the OpenStack Foundation's permission. We are not affiliated with, endorsed or sponsored by the OpenStack Foundation, or the OpenStack community. Cloud Foundry is a trademark of Cloud Foundry Foundation. Microsoft is the trademark of the Microsoft group of companies. Oracle is a registered trademark of Oracle and/or its affiliates. SAP is the trademark or registered trademark of SAP SE in Germany and in several other countries.

© Copyright 2015 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.



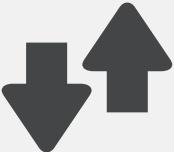


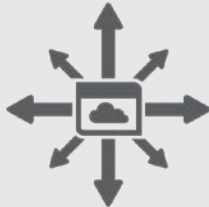
# Cloud Solutions



# HP Helion Eucalyptus



Private and Hybrid Cloud Solutions for AWS users

Costs	Data	Performance	Mobility
<p>Reduce public cloud spend and rebalance capex/opex spend</p> 	<p>Put data governance and control back into the hands of IT</p> 	<p>Cloud solutions that match your performance requirements</p> 	<p>Freedom to choose where workloads reside</p> 



# AWS Compatibility

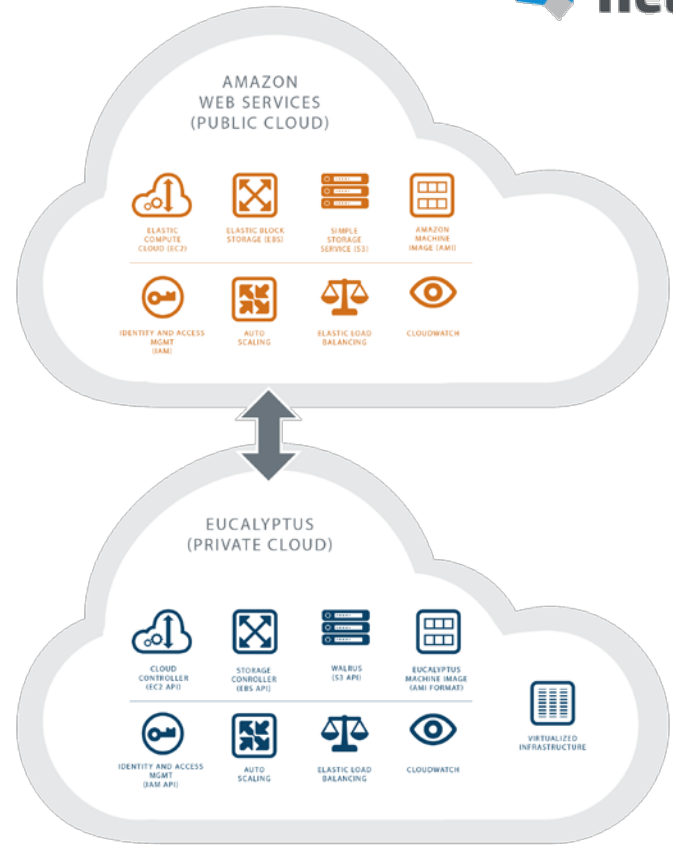
## The unique capabilities of Helion Eucalyptus

Eucalyptus provides interoperability with Amazon Web Services (AWS). Easily move applications on-premises with no modification to the workload, design patterns, nor mindset.

### Supported AWS Services

- EC2 - compute
- S3 - object storage
- EBS - block storage
- ELB - load balancing
- VPC - virtual private cloud
- IAM - authN, authZ
- STS - Security token service
- Cloudwatch - monitoring
- CloudFormation – app deployment templates

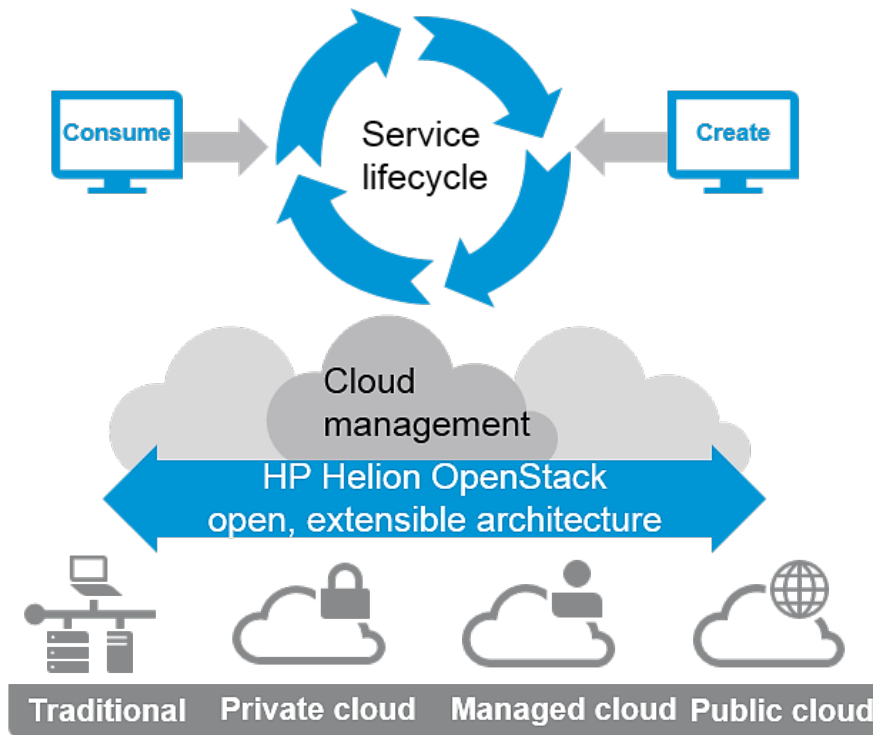
*\* As of Eucalyptus 4.1. Roadmap includes additional service implementations*



# HP Helion OpenStack

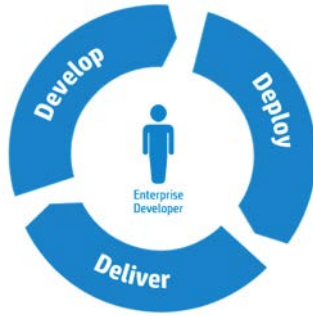
An easier way to build and manage commercial-grade hybrid clouds

- An **open, scalable, extensible** cloud platform for large businesses and service providers
- Let's you choose the **right delivery model** across public, private, and traditional IT environments
- A **resilient, maintainable** and **easy-to-install** solution.



# HP Helion Development Platform

Your apps + Open Clouds = Code On



## What does it allow you to do?

- **Develop** cloud-native applications
- **Deploy** across hybrid clouds
- **Deliver** highly available and scalable applications

## Benefits

- Accelerate development of cloud-native applications
- Easy to use developer experience
- Reduce cost using a common platform across development and operations
- Focus on coding and not managing resources
- Move applications from a private or public cloud without having to change the code

## Features

- Based on leading open source technologies Cloud Foundry™, Docker and OpenStack® cloud software
- Supports popular languages and frameworks such as Java, Python, Ruby, PHP, Node.js and leverages popular open source technologies such as MySQL, RabbitMQ, MemCache

# HP Public Cloud portfolio

Security hardened deployment with live support and leading SLAs

99.95% SLA

## HP Cloud Compute

On demand compute instances to handle unique workloads.

## HP Cloud Networking

Configurable private IP ranges, subnets, firewall rules, and more

## HP Cloud Object Storage

On-demand scalable storage capacity for archiving and data backup.

## HP Cloud Block Storage

High-performance, highly available local VM storage solution.

## HP Cloud CDN

Delivery of cached content to end users powered by [Akamai](#).

## HP Cloud DNS

Authoritative Domain Services for VM hostname management

### In version 13.5:

- Deploy more resource-hungry workloads
- Create a VPC with software-defined networking (SDN)
- Easily manage multi-AZ deployments, with one API endpoint per region

Public Beta

## HP Cloud Monitoring

Real-time VM health and performance metrics

## HP Cloud Relational Database for MySQL

On-demand, scalable access to application data

## HP Cloud Load Balancer

Network load balancing across VMs with selectable routing algorithms

Alpha

## HP Cloud Application Platform as a Service

Multiple language development, deployment, and management of apps

