HP Cloud OS
Платформа OpenStack корпоративного уровня

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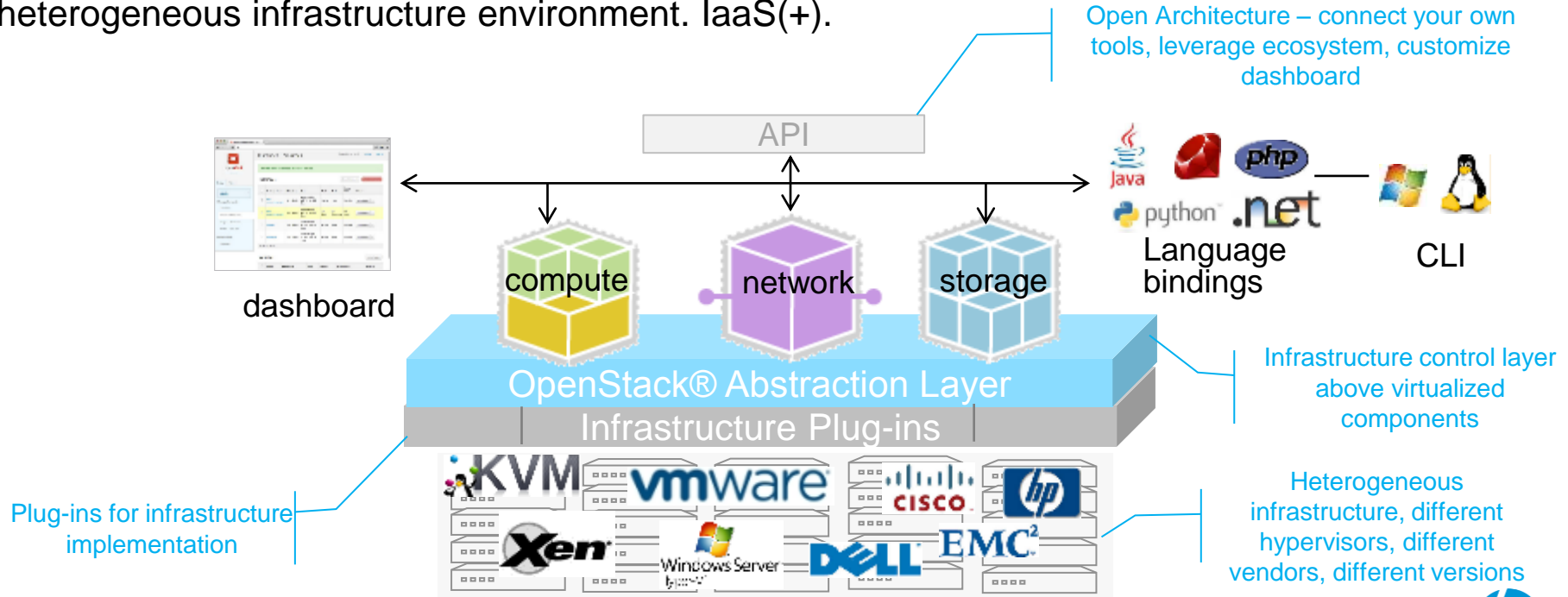# What is OpenStack® Software

- **Massively scalable** cloud operating system that controls large pools of compute, storage and networking resources
- **Community open source** with contributions from **1000+ developers** and **180+ participating** organizations
- **Open web-based API** Programmatic Infrastructure as a Service
- **Plug-in architecture**; allows different hypervisors, block storage systems, network implementations, hardware agnostics, etc.
- **Fastest growing and rapidly adopted** Open Source project
- **HP is a Platinum member** gaining transparency into governance, roadmap, blueprints, and development.

OpenStack® in a nutshell

A series of **interrelated projects** that control pools of compute, storage, and networking infrastructure exposed as a **consistent and open layer (API)** for a heterogeneous infrastructure environment. IaaS(+).

Open Architecture – connect your own tools, leverage ecosystem, customize dashboard

API

dashboard

compute

network

storage

Language bindings

CLI

OpenStack® Abstraction Layer

Infrastructure Plug-ins

Infrastructure control layer above virtualized components

Plug-ins for infrastructure implementation

KVM   vmware   CISCO   hp

Xen   Windows Server   DELL   EMC²

Heterogeneous infrastructure, different hypervisors, different vendors, different versions

HP OpenStack Leadership

Platinum Member

- 2 Board members
- 2 elected members of the Technical Committee
- Legal Affairs, Incubation, Election, Training, DefCore Committees

Top Community Contributor

- Top contributor in Havana by # contributions (2nd), lines of code (4th), and reviews (4th)*
- 3 PTLs and 18 core team members
- Employed #1 reviewer for Havana release, 5 of top 20*

Leading Hybrid Cloud Offerings

- Named "Leader" in Forrester Wave for private cloud; built on OpenStack technology
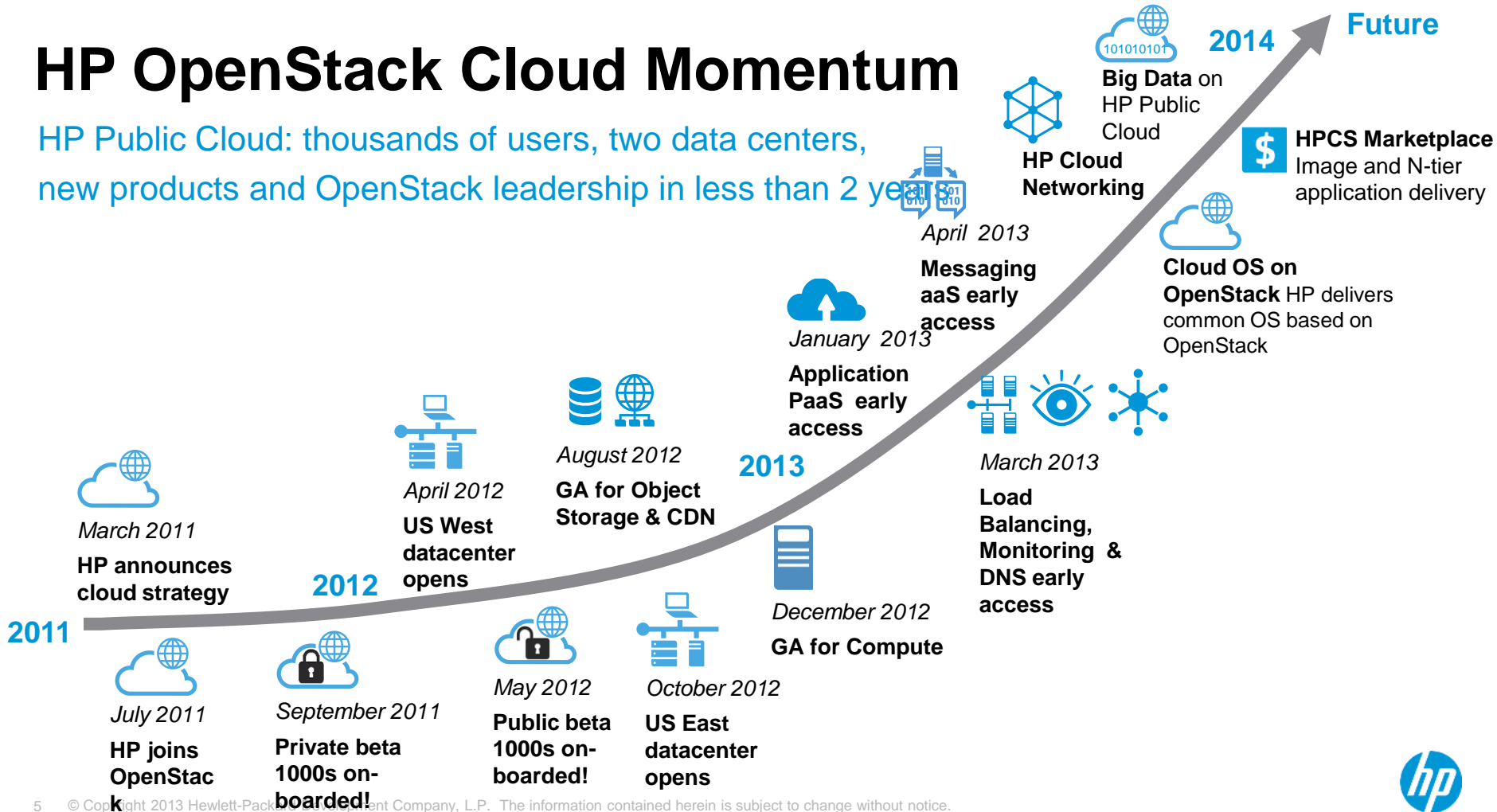- One of largest OpenStack-based public cloud infrastructures

Dedicated Staff

- #1 largest contributor by employee for Havana*
- Only company with dedicated resources to infrastructure
- Leading & providing the majority of staff for continuous integration project
- Continuous Integration/Deployment runs on HP's Public Cloud

Top Contributors

rackspace HOSTING

MIRANTIS

redhat

hp

IBM

based on gitdm data script as of Havana release

HP OpenStack Cloud Momentum

HP Public Cloud: thousands of users, two data centers, new products and OpenStack leadership in less than 2 years

2014

Future

Big Data on HP Public Cloud

HP Cloud Networking

HPCS Marketplace Image and N-tier application delivery

April 2013

Messaging aaS early access

January 2013

Cloud OS on OpenStack HP delivers common OS based on OpenStack

Application PaaS early access

August 2012

GA for Object Storage & CDN

2013

April 2012

US West datacenter opens

March 2011

HP announces cloud strategy

March 2013

Load Balancing, Monitoring & DNS early access

2012

December 2012

GA for Compute

2011

July 2011

HP joins OpenStack

September 2011

Private beta 1000s on-boarded!

May 2012

Public beta 1000s on-boarded!

October 2012

US East datacenter opens

Introducing HP Cloud OS

Industry's first OpenStack®-based technology platform for hybrid delivery

Common Architecture for Converged Cloud

Cloud OS technology embedded in existing products & Solutions

New innovations to expand portfolio

Cloud OS Sandbox Technology Preview

Based on OpenStack®

Fastest growing open source project

Rapid innovations from a community of thousands

HP is a top contributor in OpenStack

Open and extensible

Simplified OpenStack Installation

Automated patch and OpenStack release management

Standards-based infra and app modeling

Enables seamless hybrid delivery

Private Cloud

Managed Cloud

Public Cloud

HP Cloud OS based on OpenStack® cloud software

HP Cloud OS based on OpenStack® cloud software

Foundation for Converged Cloud common architecture enabling hybrid cloud delivery

Simplified delivery

- Simple and accelerated installation and configuration process
- Centralize management of your cloud environments
- Automated-live content distribution (upgrades, patches, content)

Enhanced service lifecycle

- Model-based infrastructure topology for multi-tier applications
- Enable hybrid delivery model
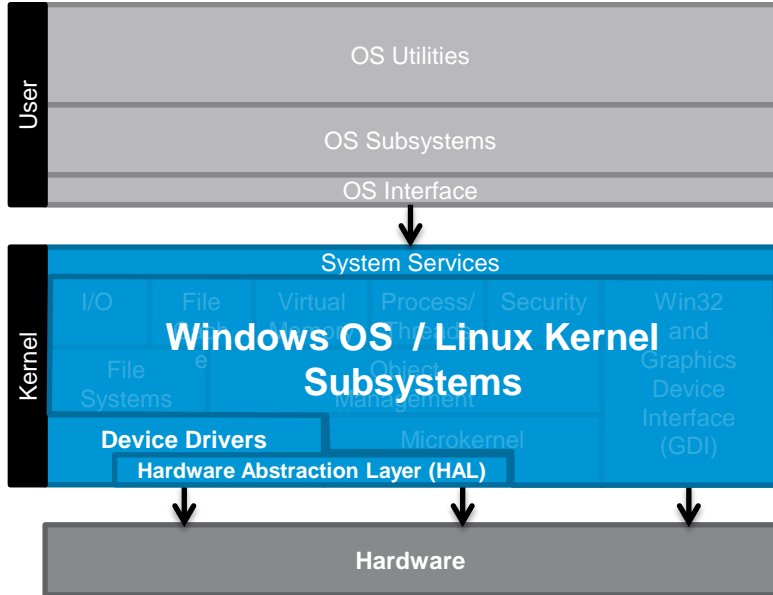- Cloud infrastructure health monitoring

Optimized cloud workloads

- Enable workload portability across cloud providers
- Model once, provision anywhere
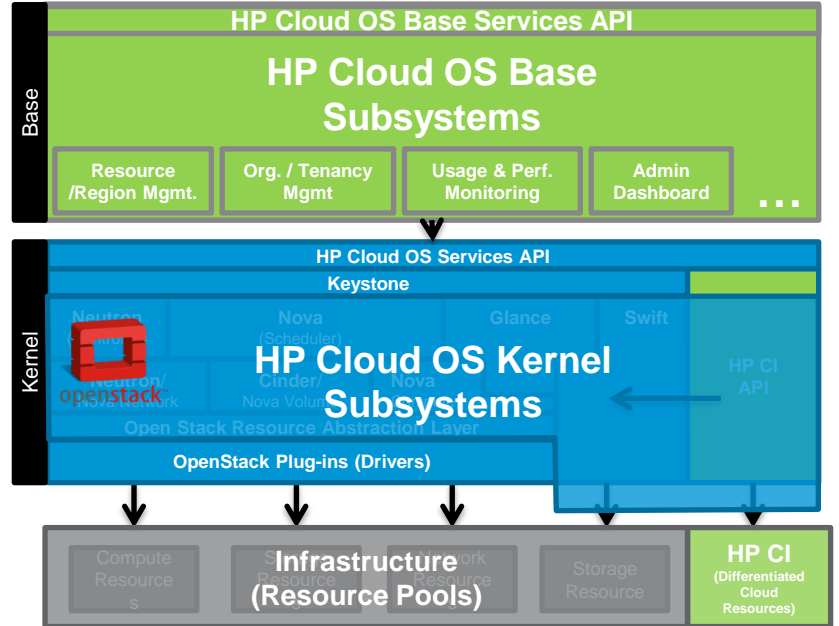- Workload aware provisioning

HP Cloud OS

Cloud operating system based on OpenStack®

Windows 32 / Linux OS

User

OS Utilities

OS Subsystems

OS Interface

Kernel

System Services

Windows OS / Linux Kernel Subsystems

I/O | File Management | Virtual Memory | Process/Thread | Security | Win32 and Graphics Device Interface (GDI)

File Systems | Object Management | Microkernel

Device Drivers

Hardware Abstraction Layer (HAL)

Hardware

HP Cloud OS

Base

HP Cloud OS Base Services API

HP Cloud OS Base Subsystems

| Resource /Region Mgmt. | Org. / Tenancy Mgmt | Usage & Perf. Monitoring | Admin Dashboard | ... |

HP Cloud OS Services API

Keystone

Kernel

HP Cloud OS Kernel Subsystems

Neutron | Nova (Scheduler) | Glance | Swift

Neutron/ Network | Cinder/ Nova Volume | Nova | HP CI API

Open Stack Resource Abstraction Layer

OpenStack Plug-ins (Drivers)

openstack

Compute Resources | **Infrastructure (Resource Pools)** | Network Resource | Storage Resource | **HP CI (Differentiated Cloud Resources)**
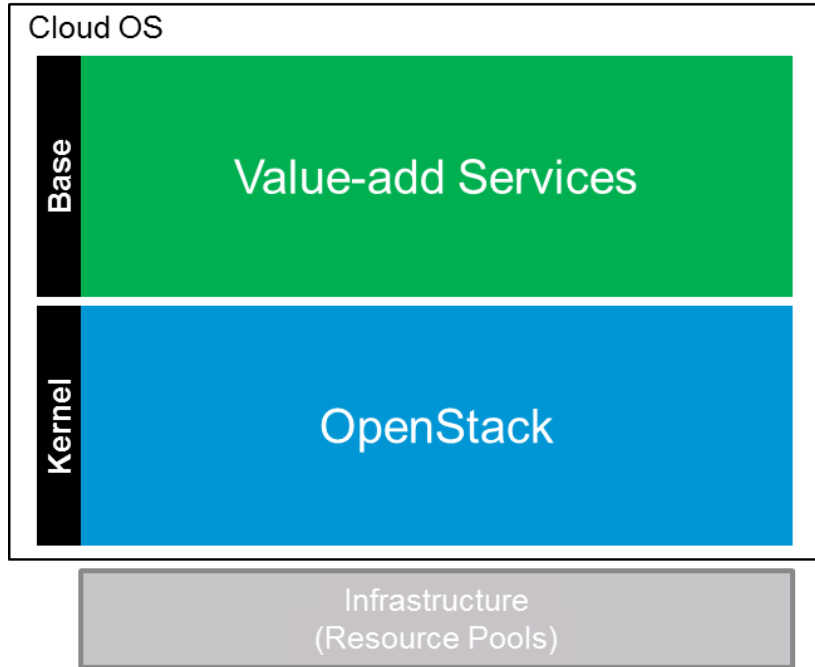
HP Cloud OS: Drives OpenStack adoption

HP Cloud OS in a nutshell

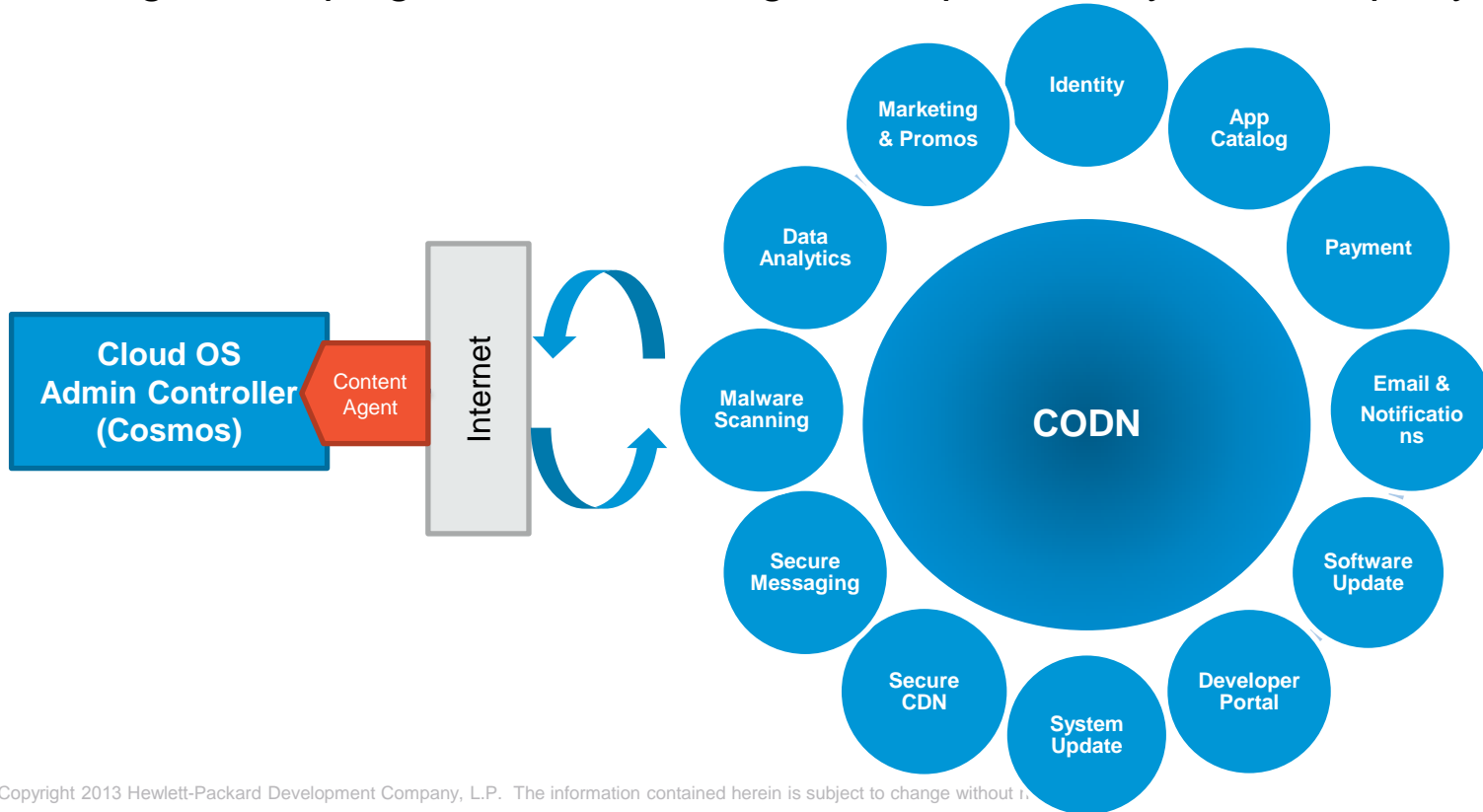## Feature Overview

Base services

- Peer – Resource Pool Registry and Abstraction Service
- Eden – Execution and Utility Service
- Eve – Topology Provisioning Service
- Focus – Topology Document Repository Service
- Skyline – Cloud Administration Dashboard
- Cosmos – Cloud Installation Dashboard

Kernel services

- Cinder – Block Storage Service
- Glance – Image Service
- Nova – Compute Service
- Neutron – Network Service
- Keystone – Identity Service
- Swift – Object Storage Service
- Horizon – Web-based Dashboard

HP Cloud OS Distribution Network

For management, plug-ins, content/images, templates, payment, 3rd party

Cloud OS Admin Controller (Cosmos) — Content Agent — Internet — CODN

Marketing & Promos · Identity · App Catalog · Data Analytics · Payment · Malware Scanning · Email & Notifications · Secure Messaging · Software Update · Secure CDN · System Update · Developer Portal

NEW: HP CloudSystem 8 built on HP Cloud OS

Designed to enhance business agility and productivity

Consistency

Consumer-inspired experience
New face of cloud dramatically improves productivity

Choice

Open hybrid cloud
Reduce risk with the most open and flexible cloud solutior

Confidence

Easy on ramp to cloud in hours
Fast time to value with a proven, integrated solution

Hardware   Software   Services

Download and evaluate: HP Cloud OS Sandbox

hp.com/go/cloudos

HP Cloud OS Sandbox

- Gain experience on OpenStack-based cloud architecture
- Workload portability in a hybrid delivery model
- Enable service lifecycle management

Includes:

- New Cloud OS Distribution Network (CODN) continual value adds
- New modern design and tools simplify multi-tier infrastructure deployment
- Enhanced infrastructure provisioning for post-deployment configuration and customization
- Improved scalability for primary storage and multi-region support

Thank you!

Q&A

Backup slides