



HP CloudSystem Bursting

Tính năng “vay và cho vay” tài nguyên sẵn có của HP cloudsystem

August-2013

Pham Vinh Thai

thai@hp.com

Điện toán đám mây lai cung cấp khả năng linh hoạt cho IT

Supplement internal resources with pay-per-use infrastructure as needed

Elastic capacity

- Manage predictable and unpredictable peaks
 - holiday season, end of month/quarter/year, product launch
 - Emergency disaster response, unforeseen demand for new offering

Geographic reach

- Gain proximity to target market
- Meet location-based regulatory requirements
- Expand into a new region

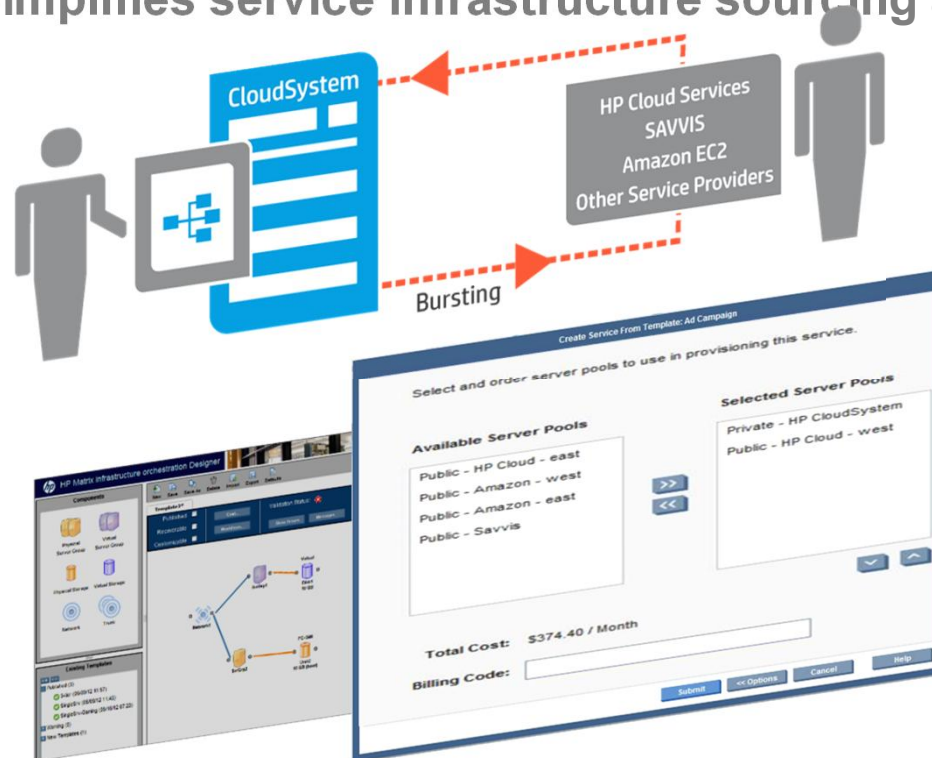
Specialized value

- Access commodity compute resources on a large scale
 - For SW load testing, high density compute farms, etc.
- Satisfy niche project or regulatory requirements



Tính năng “vay-cho vay” tài nguyên có sẵn trong HP CloudSystem

Simplifies service infrastructure sourcing across multiple clouds



Featuring:

- Integrated governance and control of multi-cloud resources
- Consistent definition, delivery, and management of private, public, and hybrid cloud services
- Dynamic licensing across multiple clouds
- Diverse range of cloud service providers
- Open, no lock-in architecture for healthy ecosystem growth

CloudSystem bursting for XaaS delivery

Leverage infrastructure bursting in higher level services

CloudSystem Application Services

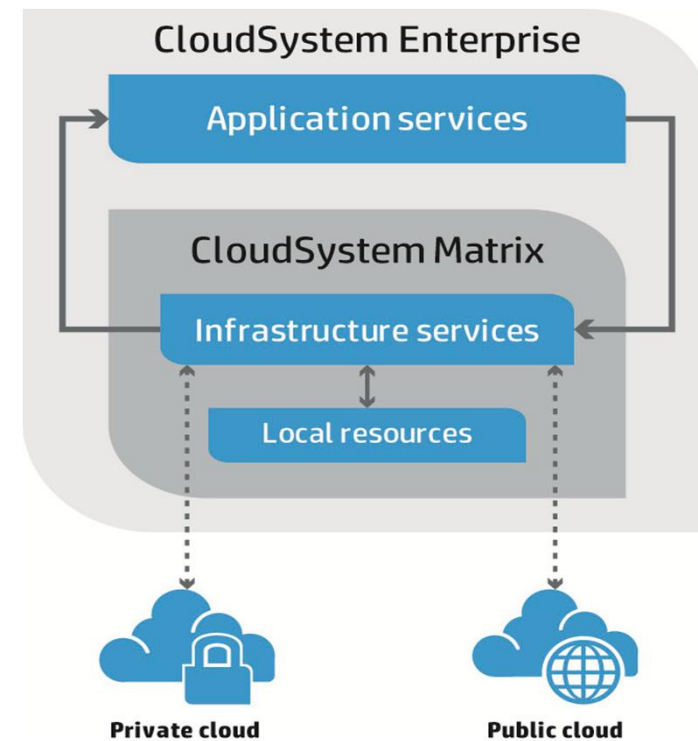
- Delivered via CloudSystem Enterprise
- Embed CloudSystem infrastructure services

CloudSystem Infrastructure Services

- Delivered via CloudSystem Matrix
- Embed infrastructure resources

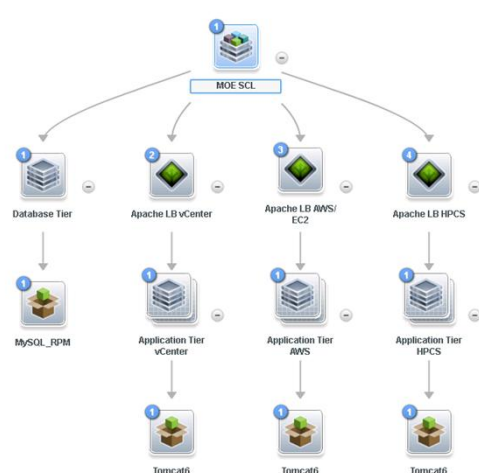
Infrastructure Resources

- Local CloudSystem infrastructure resources
- External 'burst' resources
 - Commercial private or public cloud IaaS offerings
 - Another CloudSystem within your company



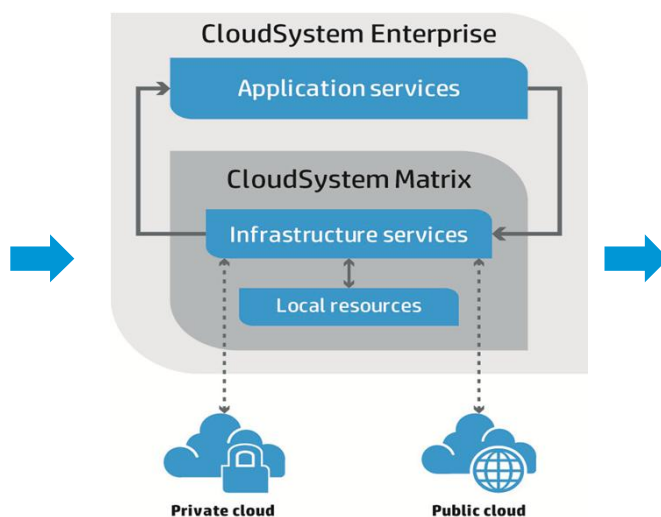
Example Use Case

Scale app web tier across clouds dynamically



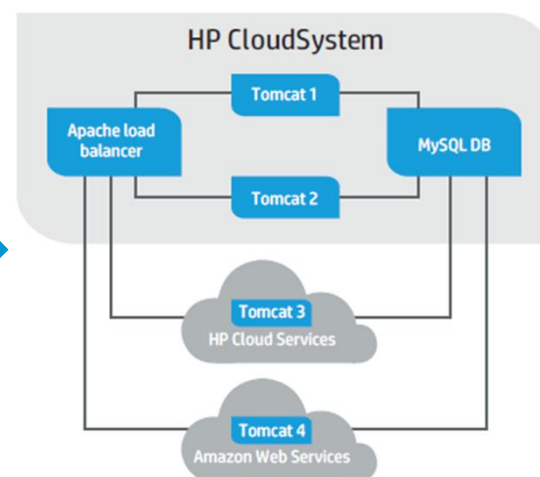
Design

Design sophisticated applications to address any service requirement



Deploy

Leverage bursting via infrastructure services



Scale

Optimize use of all cloud resources with custom brokering and provisioning policies

<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA4-4384ENW>



Bursting có thể tạo nguồn thu mới

Give HP's enterprise customers easy access to your cloud services

The screenshot displays the HP Matrix infrastructure orchestration Designer interface. The main window is titled "Create Service From Template: Ad Commission". It shows the process of selecting and ordering server pools for provisioning a service.

Available Server Pools:

- Public - HP Cloud - east
- Public - Amazon - west
- Public - Amazon - east
- Public - Savvis

Selected Server Pools:

- Private - HP CloudSystem
- Public - HP Cloud - west

Total Cost: \$374.40 / Month

Billing Code: [Input field]

1. Select Operating System:

- ☒ Automatic software deployment
- ☐ Manual software deployment

Select software to deploy below, and

OS Type: Linux

Show only rows that contain: [Input field]

Name	Source Type
<input type="checkbox"/> Ubuntu Natty 11.0..	Cloud
<input checked="" type="checkbox"/> Ubuntu Natty 11.0..	Cloud
<input type="checkbox"/> Ubuntu Oneiric 11..	Cloud
<input type="checkbox"/> Ubuntu Oneiric 11..	Cloud
<input type="checkbox"/> Ubuntu Oneiric 11..	Cloud

Total Size of Selected Software (GB): 10.000 **Size of boot disk (GB):** 8.000

Buttons: Submit, << Options, Cancel, Help, OK, Cancel, Help



NEW! Bursting options expand hybrid delivery use cases

HP CloudSystem brokers across multiple clouds from a single, integrated point of control

Powerful new use cases

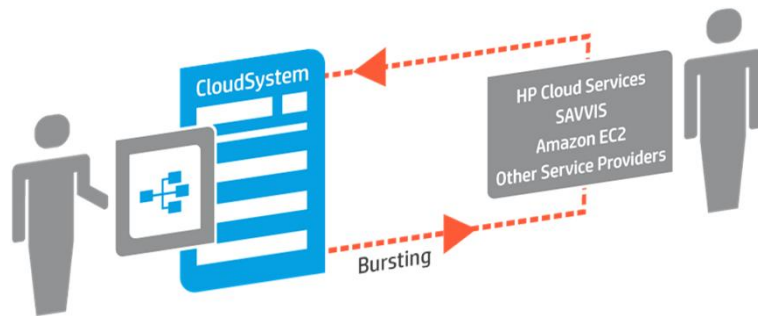
- **NEW!** Elastically scale applications across clouds
E.g., dynamically add web servers from private or public cloud
- **NEW!** Intra-company resource sharing
CloudSystem-to-CloudSystem bursting

Broadened out-of-the-box ecosystem

- **NEW!** Built-in OpenStack connector for SP
Customizable connector makes becoming a destination e
Complements HP Cloud Services, Amazon EC2, Savvis



What's happening under the covers?



Inventory

- Public cloud resources appear as pools with unlimited capacity

Access

- Access to public cloud server pools is assignable to users/groups

Allocation Policy

- User selects server pools and specifies pool list order
- Servers are provisioned to the first pool that can accommodate the needs of a server group

VM Provisioning

- OS image is deployed
- Data disks are added
- Servers are added to the provider network
- Progress is monitored, and status reported as for on-premise



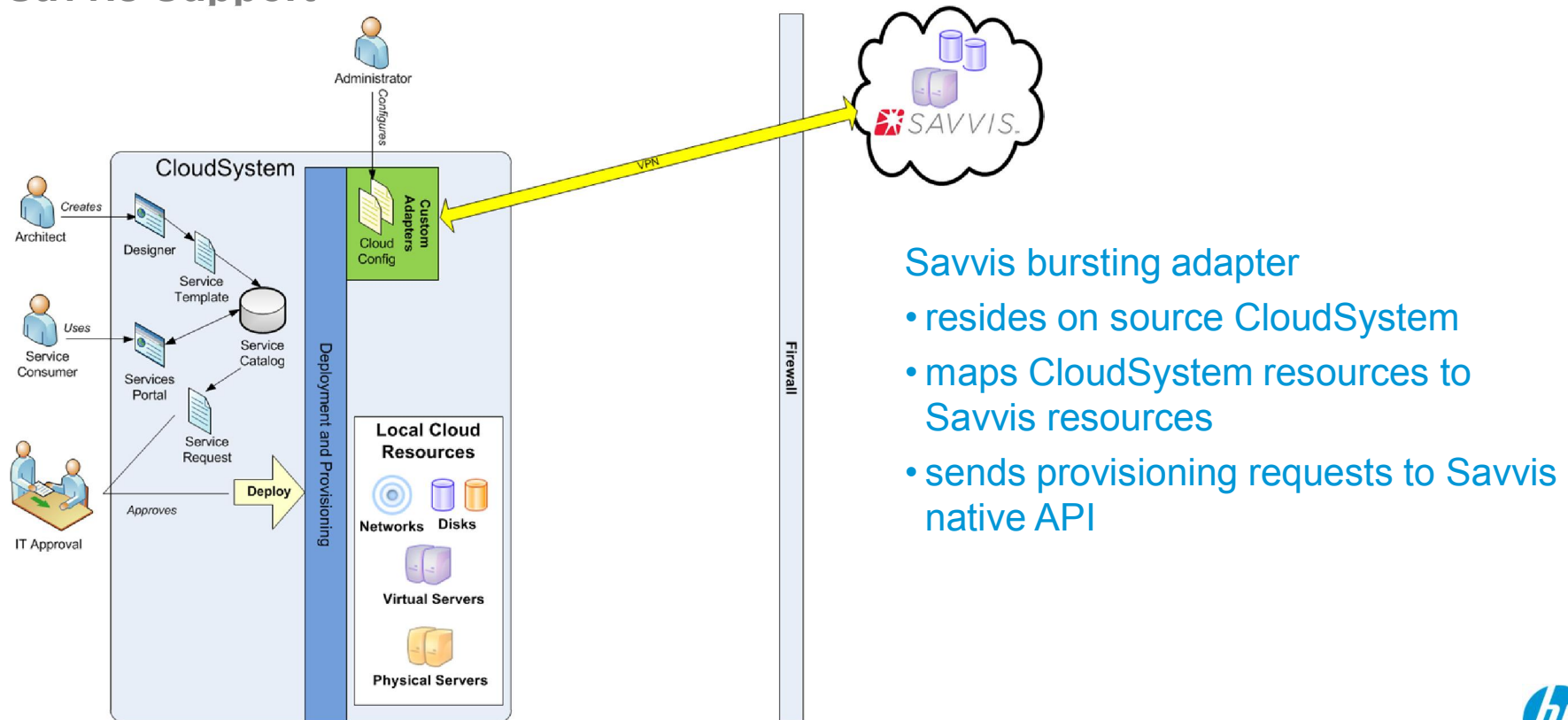
HP CloudSystem Bursting Architecture and Ecosystem



© Copyright 2013 Hewlett-Packard Development Company, L.P.
The information contained herein is subject to change without notice. HP Restricted.

CloudSystem Bursting Architecture

Savvis Support

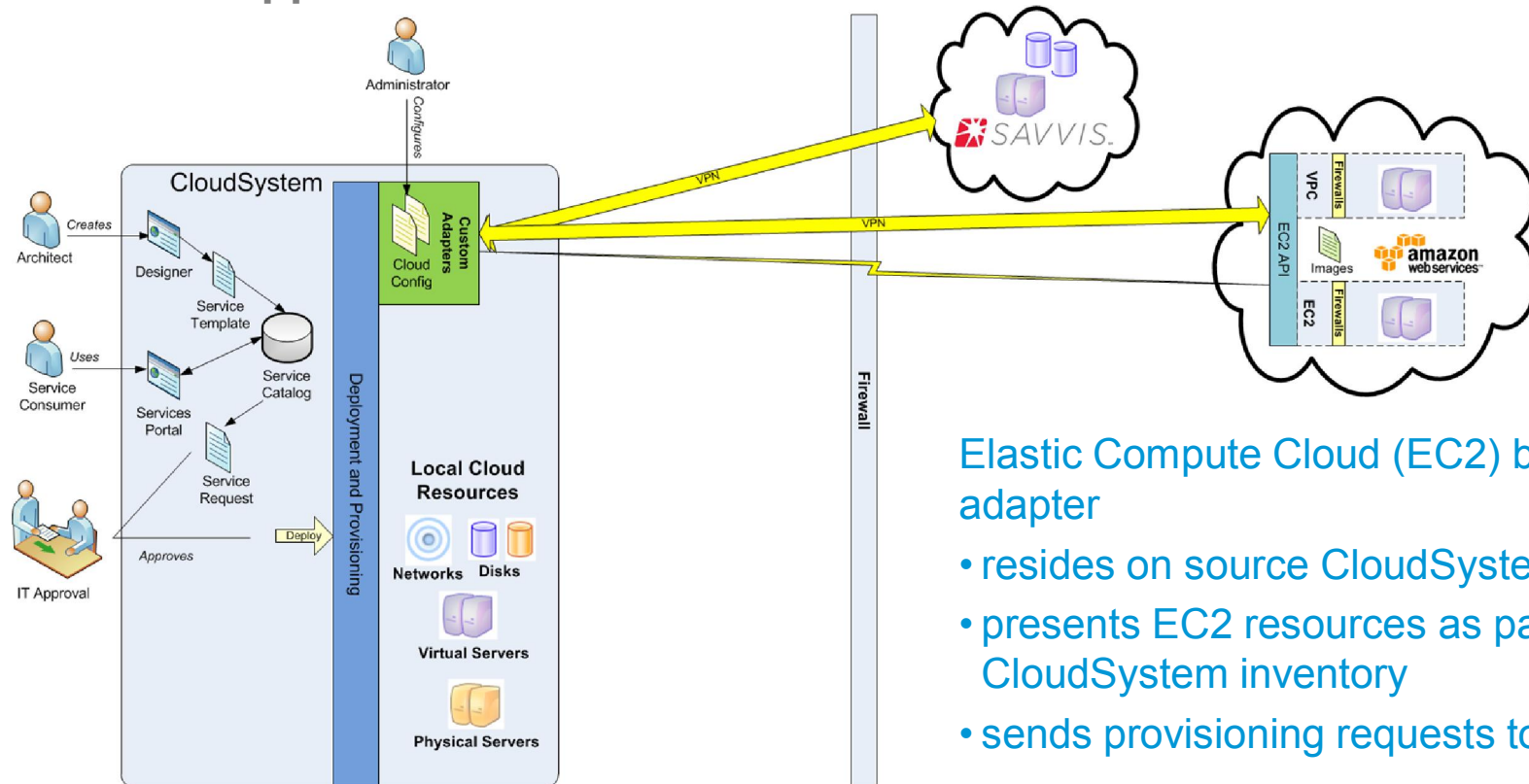


Savvis bursting adapter

- resides on source CloudSystem
- maps CloudSystem resources to Savvis resources
- sends provisioning requests to Savvis native API

CloudSystem Bursting Architecture

Amazon Support



Elastic Compute Cloud (EC2) bursting adapter

- resides on source CloudSystem
- presents EC2 resources as part of CloudSystem inventory
- sends provisioning requests to EC2 API



OpenStack Support

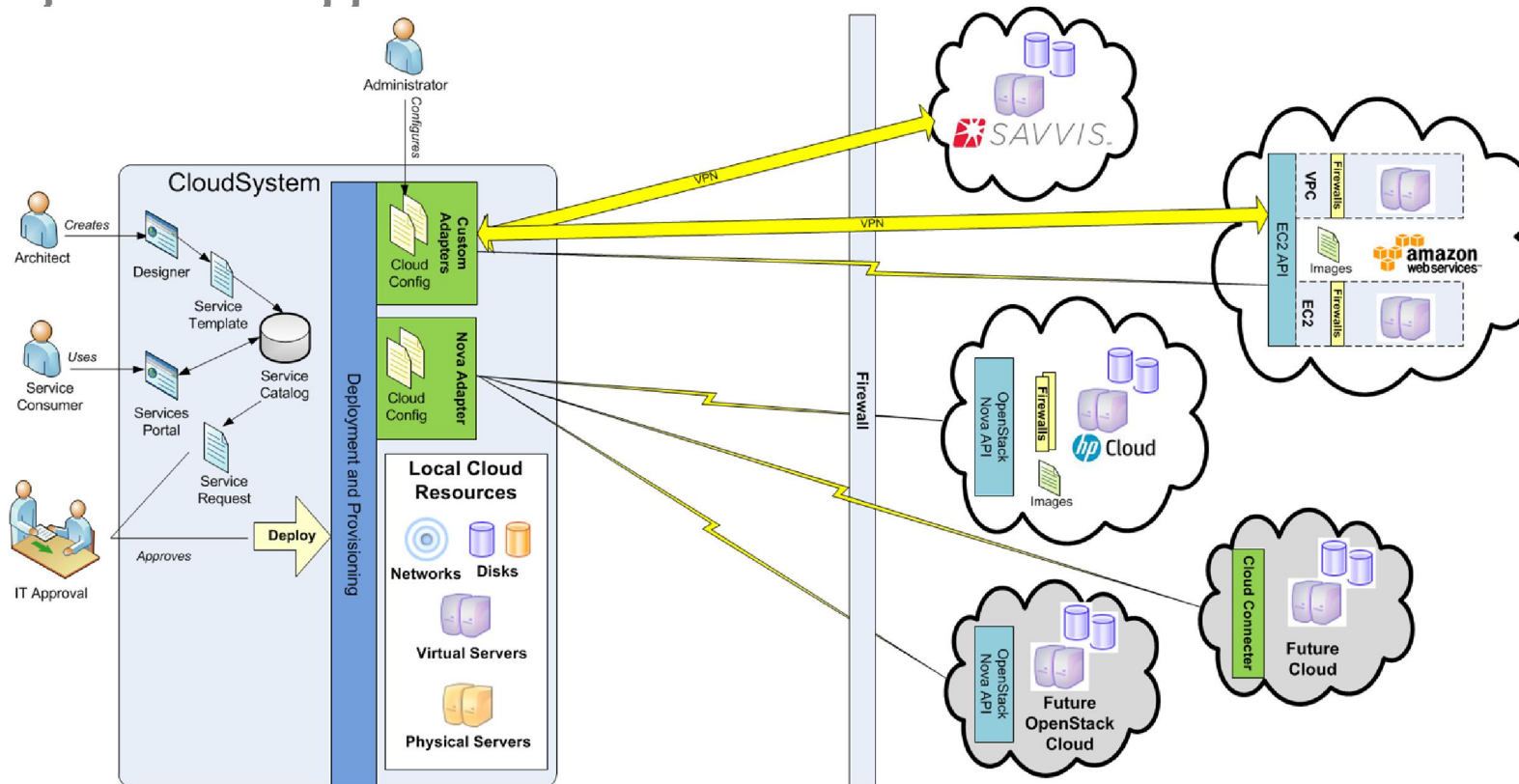
Adapter / Connector Architecture

-
- The diagram illustrates the OpenStack Architecture. At the top, it says "OpenStack Architecture". The central component is the "QUEUE SERVER". To its left are the "GLANCE API" (red box) and "NOVA API" (green box), which interact with a "SOURCE REGISTRY" (purple cylinder) and an "IMAGE STORE" (purple cylinder). Above the QUEUE SERVER is the "NOVA COMPUTE" (blue box) containing two "INSTANCE" boxes. Below the QUEUE SERVER is the "NOVA NETWORK" (orange box) containing "FLAT", "DHCP", and "VLAN". To the right of the QUEUE SERVER are the "NOVA VOLUME" (blue box), "SWIFT" (green cylinder), and "NOVA SCHEDULER" (blue box). A red-bordered box encloses NOVA COMPUTE, NOVA VOLUME, SWIFT, and NOVA SCHEDULER. Arrows indicate bidirectional communication between most components. In the bottom left corner, there is an icon of a laptop. In the bottom right corner, there are logos for "CSS CORP" and Creative Commons licenses.

- Use a subset of OpenStack protocols for bursting
 - Nova (compute)
 - Keystone (authentication)
- Simplifies interfacing to growing number of OpenStack based clouds
- Non-OpenStack based clouds must host a connector
- No SP lock-in to proprietary vendor APIs

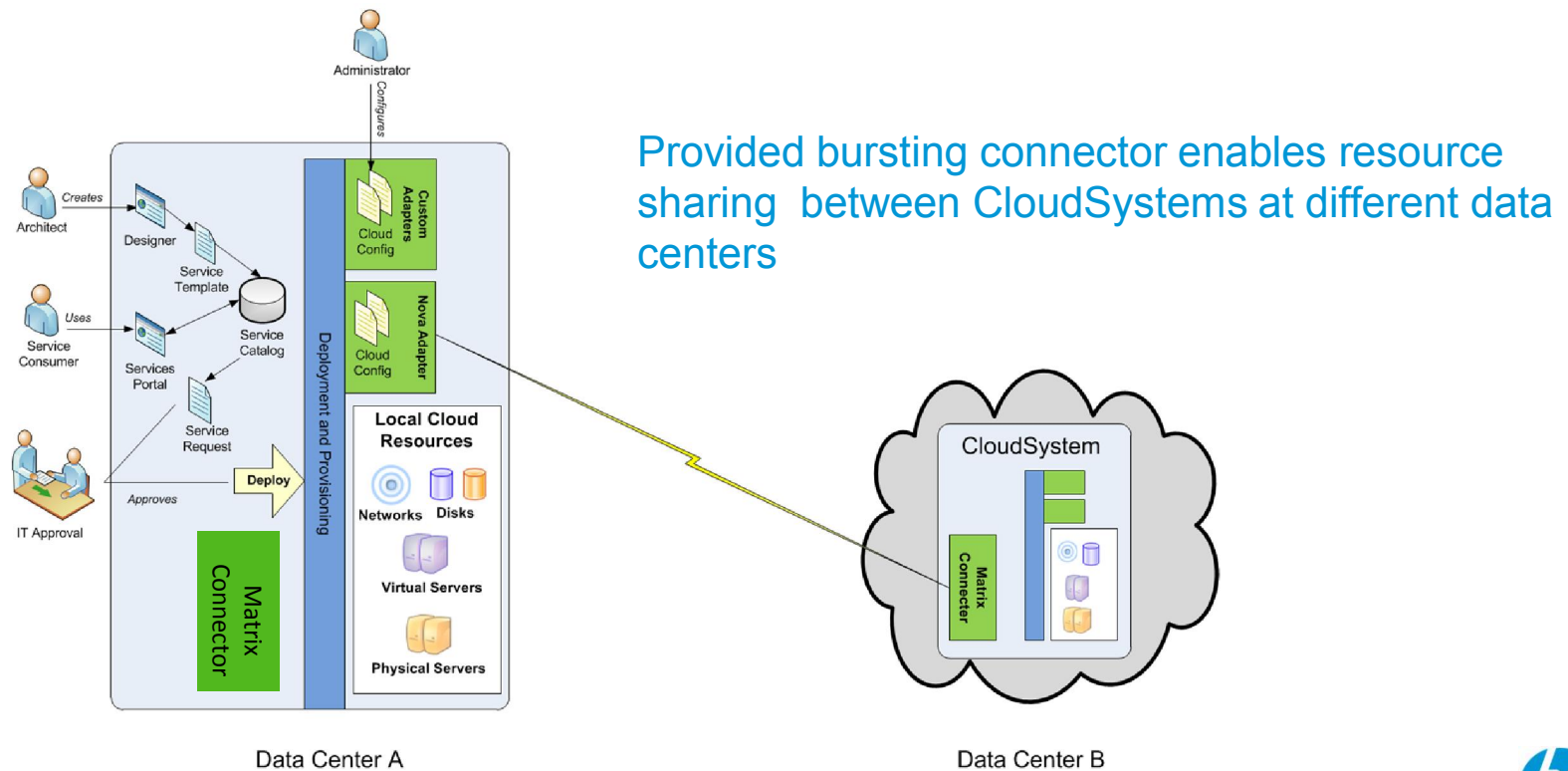
CloudSystem Bursting Architecture

OpenStack Support



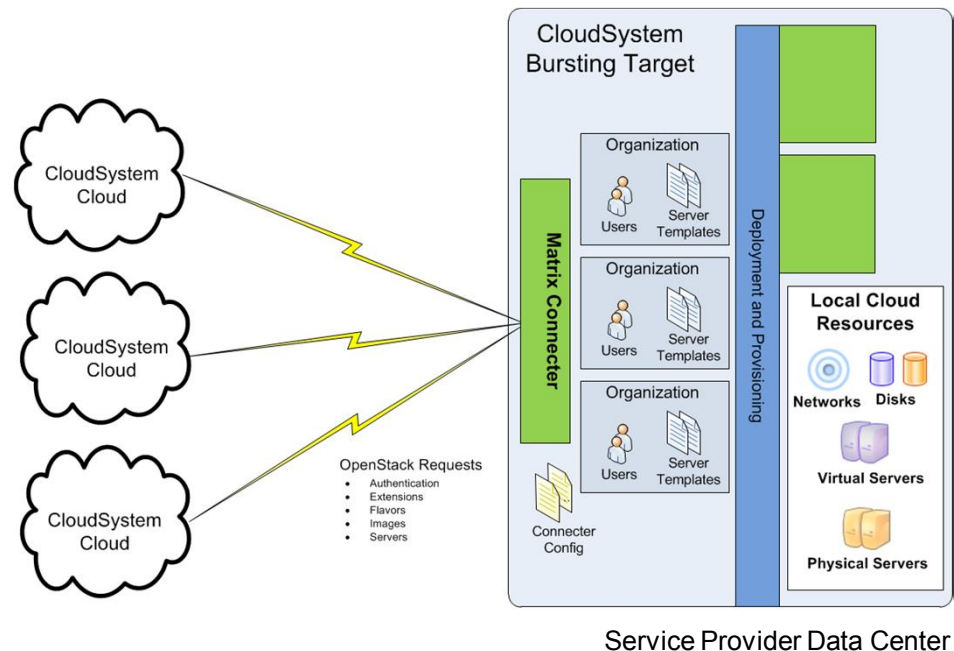
CloudSystem-to-CloudSystem bursting

For intra-company resource sharing



Built-in Bursting for Service Providers

Customizable connector makes becoming a bursting destination easy



New CloudSystem bursting connector

- Included with Matrix OE
- Adapts CloudSystem bursting API to Matrix OE
 - Bursting API = subset of OpenStack API
 - NOVA (compute) + Keystone (authentication)
- Customizable
 - Integrate with SP firewall solution, etc.

HP CloudAgile



Simplifies path to bursting for SPs

- Open new revenue streams
- Join HP CloudAgile partner program

• www.hp.com/go/cloudagile

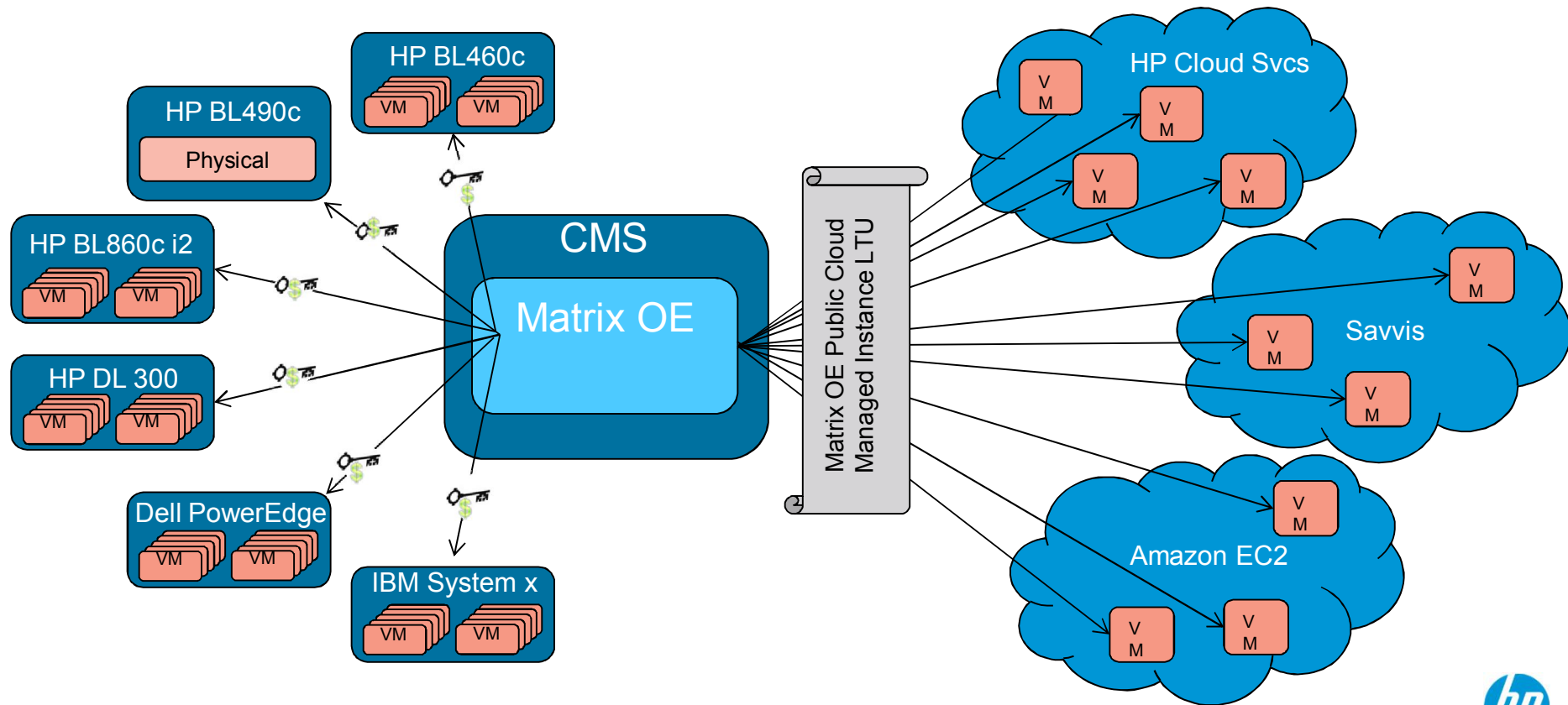


Getting Started with CloudSystem Bursting



© Copyright 2013 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. HP Restricted.

Matrix OE Public Cloud Licensing



Support for CloudSystem bursting

All Matrix OE licenses include 1 year of 24x7 support

- Support for public cloud licenses cannot extend beyond 1 year

HP and partners collaborate to support bursting customers

- HP supports bursting to HP Cloud Services
- Collaborative support provided by HP and CloudAgile partners
 - for HP and partner issues respectively
- HP supports bursting to Amazon Web Services, but does not support Amazon's web service offerings
 - Customers work independently with Amazon to address issues with AWS



Other TS offerings for bursting customers

- CloudSystem Bursting Activation Service
- HP Cloud Planning Services



CloudSystem bursting for service providers

Technical requirements to be a bursting destination

Technical Prerequisites

- User provisioning, management, billing mechanisms
- Provide an inventory of software images
- Provide one or more server hardware profiles
- Host one or more service endpoints
- Control access to compute instances
 - Console access (commonly key pairs)
 - Inbound network access control
- Provide end-user support

OpenStack Based Providers

- Little or no work to interface to HP CloudSystem*
- Run validation tests
- Receive CloudAgile certification

Non-OpenStack Providers

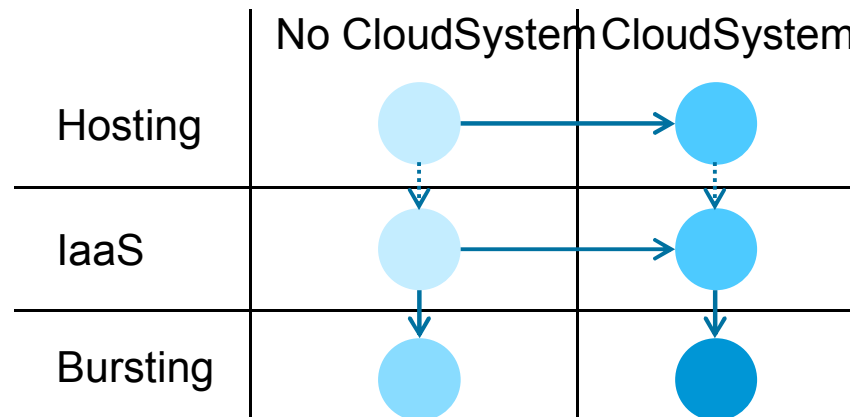
- Must implement and host an HP CloudSystem Cloud Connector
- Run validation tests
- Receive CloudAgile certification



CloudSystem bursting for service providers

CloudAgile partner programs pave the way

HP CloudAgile



Partner benefits

- technical resources
- exclusive service offerings
- joint sales and marketing support
- collaborative support programs
- access to HP's CloudSystem customers

www.hp.com/go/cloudagile



For More Information

Key Links

- HP CloudSystem home page (hp.com/go/cloudsystem)
- HP CloudSystem bursting white paper (hp.com/go/cloudsystem)
- HP cloud solutions demo portal (hp.com/go/cloudsystemdemos)
- HP CloudAgile service provider program (hp.com/go/cloudagile)
- HP Cloud Services (www.hpcloud.com)



Thank You !

© Copyright 2013 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. HP Restricted.

