PUBLIC AND HYBRID CLOUD: BREAKING DOWN BARRIERS

Jane R. Circle
Manager, Red Hat Global Cloud Provider Program and Cloud Access Program

June 28, 2016
WHAT WE'LL DISCUSS TODAY

- Hybrid clouds and multi-cloud strategies are now a reality
- Understanding your options
- Pitfalls to avoid
- Hybrid cloud management
- Why certifications and standards are important
- Red Hat certified cloud and service providers
- Summary
HYBRID CLOUDS ARE A REALITY
HYBRID CLOUDS AND MULTI-CLOUD STRATEGIES ARE A REALITY FOR IT

80% of IT organizations will commit to hybrid cloud architectures by 2017*

60% of Enterprises will use multiple cloud services by 2017*

Driven by LOB, big data, digital transformation, dev/ops

* IDC FutureScape, November 2015, IDC#259840
HYBRID CLOUD INNOVATION PRESENTS I.T. CHALLENGES

- Integration with existing IT investments
- Heterogeneous, complex IT landscape
- Security, performance, compliance
WHAT ARE YOUR OPTIONS FOR HYBRID CLOUD?

- Multi-tenant public clouds
- Hosted, dedicated private clouds
- Private clouds in the datacenter
- Managed services using public clouds
RED HAT SOLUTIONS ARE HYBRID

- **Private** cloud – Red Hat OpenStack, Red Hat Ceph storage and Red Hat Enterprise Linux
- **Public** cloud - Red Hat Products on public clouds, through the Red Hat Certified Cloud & Service Provider Program
- **Red Hat Cloud Access** – Use your subscriptions on a public cloud

- **IaaS** - Red Hat Cloud Infrastructure
- **PaaS** - OpenShift Enterprise by Red Hat and OpenShift Online

- **Seamless management** of private and public, IaaS and PaaS clouds - CloudForms, Satellite

- **Traditional applications** – Red Hat Enterprise Virtualization, Red Hat JBoss
- **Cloud applications** – Red Hat OpenStack, OpenShift, JBoss, RHEL Atomic, Containers
PITFALLS TO AVOID

- Understanding your workloads
- Lack of management tools for spanning on premise to hybrid clouds
- Understanding risk
- Security
- Support models that span public clouds
- Choosing the right cloud provider
- Cloud lock-in
- Portability of applications, licenses, app environment
- Lack of hybrid cloud business and consumption models
WORKLOAD CONSIDERATIONS

- Traditional vs agile development
- “Lift and shift” or re-architect
- LOB requirements
- Security considerations
- Data management between private and public clouds
HOW DO YOU MANAGE HYBRID CLOUD DEPLOYMENTS?

Red Hat CloudForms is a cloud management platform that offers the control and automation capabilities IT staff need to effectively manage increasingly complex hybrid infrastructures.

- Hybrid Cloud Management Platform
- Intelligent Cloud Brokering
- Manages AWS, Azure and now GCP VMs
RED HAT SATELLITE FOR HYBRID CLOUD ARCHITECTURES

On premise location

Satellite Server

Public cloud locations

Satellite Server

VM
Physical
VM
Physical
Instance
Instance
Instance
Instance
• Limitations of third-party auditability can be a concern for public cloud users

• Know your cloud provider’s certifications

• Build out private, dedicated clouds for liability protection

• Laws and regulations governing data placement and notifications
  › Differ widely by country/state
  › EU General Data Protection Regulation (GDPR)

• Provider nationality can matter
VIRTUAL PRIVATE CLOUDS CAN HELP

• Logically isolated section of public cloud
• Separate network traffic between organizations
• Control over virtual networking environment, including selection of IP address range, creation of subnets, and configuration of route tables and network gateways
In a multi-tenant cloud you are responsible for access controls.

Store and manage *current* identity information about every person who accesses the cloud resources and determine their level of access.

Develop a menu of cloud IT services associated with identities and roles.
AVOIDING CLOUD LOCK-IN

- Use containers to deploy apps on multiple clouds
- Standardize images
- Weigh benefits of platform-specific features
- Cloud providers should be part of your trusted supply chain
- Adopt consistent operational models
RED HAT SOLUTIONS ON CERTIFIED PUBLIC CLOUDS
Ensures consistency and stability between applications on premise and on public clouds
260 CLOUD PARTNERS WORLDWIDE
RED HAT ENTERPRISE LINUX ON PUBLIC CLOUDS*

● Leading cloud service providers offer Red Hat Enterprise Linux

● Red Hat Enterprise Linux offerings in CCSP:
  ● Red Hat Enterprise Linux 6/7 as a virtual system
  ● Red Hat Enterprise Linux 6/7 on bare metal

● Enables:
  ● Public cloud, IaaS
  ● Hosting and managed OS services

*Public clouds include multi-tenant and hosted dedicated, private clouds

Magic Quadrant for Cloud IaaS

As of May 2015
RED HAT CLOUD ACCESS

- Move your subscriptions to an eligible Red Hat Certified Cloud
- Maintain your direct support relationship with Red Hat
- Consistency between on premise and the public cloud
- Flexible implementation when you need it
- Predictable pricing
- Allows you to be compliant on public clouds
CONSUMPTION MODELS TO MEET YOUR NEEDS

• Utility model on public clouds – hourly, monthly, yearly
  – Effemeral vm's
  – Bursting
  – DR testing

• Red Hat Cloud Access – move your Red Hat subscription to a cloud provider
  – Production workloads
  – Geographically dispersed
  – Devops architectures
RED HAT PRODUCTS AVAILABLE THROUGH CLOUD ACCESS

- Red Hat Enterprise Linux – all Cloud Access providers
- OpenShift Enterprise by Red Hat – AWS, Google, Azure
- Red Hat JBoss EAP and EWS – AWS, Google
- Red Hat JBoss, entire portfolio – Azure
- Red Hat Gluster Storage – AWS, Google, Azure
- Red Hat OpenStack - Rackspace Private Cloud powered by Red Hat
- Red Hat Ceph Storage - Rackspace Private Cloud powered by Red Hat
CLOUD ACCESS ENABLED PARTNERS

- Global
  - AWS
  - Azure
  - Google
  - Rackspace Private Cloud powered by Red Hat
- Japan only
  - Fujitsu
  - KDDI
  - NEC
  - NTT Communications
  - Softbank
  - TOKAI Communications
  - I-NET
SUMMARY

- Understand your options for using private and public clouds
- Evaluate your risks based on your workloads and data
- Implement a data management plan that meets your needs
- Deploy a unified cloud management solution for both private and public clouds
- Use a Red Hat Certified Cloud and Service Provider to insure application performance and support
- Consider your consumption model options
- Use Cloud Access for portability to public clouds
- REPEAT AS NECESSARY!
HELPFUL LINKS

- Red Hat Certified Cloud and Service Provider image catalog
- Red Hat Cloud Access – how to register
- Red Hat Cloud Access and Migrating Your Subscriptions between Clouds
- AWS partner page on redhat.com
- Red Hat CloudForms: Integration with AWS CloudFormation and OpenStack Heat
- JBoss EAP 6 on Amazon EC2
- Microsoft partner page on redhat.com
  Creating a Red Hat Enterprise Linux image and provisioning it to Microsoft Azure
- Using Red Hat Gluster Storage with Microsoft Azure
- How to engage Red Hat for issues on Microsoft Azure
- Microsoft Azure - Red Hat Support Frequently Asked Questions (FAQs)
CCSP AND RELATED SUMMIT SESSIONS

- OpenStack is better with Rackspace and Red Hat – Tues. 4:45 PM
- Successful cloud adoption with Red Hat Enterprise Linux and AWS - Tues. 4:45 PM
- Identity management for cloud and hybrid cloud environments with Red Hat and Microsoft – Tues. 4:45 PM
- Microsoft and Red Hat: A partnership to transform cloud DevOps – Wed. 10:15 AM
- OpenShift on public and private clouds with Amazon, Google, Microsoft, and Red Hat – Wed. 10:15 AM
- Scaling in-memory data grid automatically with Kubernetes – Wed. 10:15 AM
- Red Hat CloudForms 2016 roadmap – Wed. 11:30 AM
- Managing Red Hat Enterprise Linux across clouds with Microsoft Operations Management Suite – Wed. 4:45
- Automating Azure public and private clouds with Red Hat CloudForms 4 – Wed. 4:45 PM
- OpenStack-as-a-Service: Red Hat and Rackspace – Thurs. 3:30 PM
- Self-service IT and delegation with Ansible Tower – Thurs. 3:30 PM
THANK YOU!

VISIT US AT BOOTH #27

jcircle@redhat.com
Twitter - @JaneCircle
https://www.linkedin.com/pub/jane-circle/0/763/a82
LEARN. NETWORK.
EXPERIENCE OPEN SOURCE.