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%

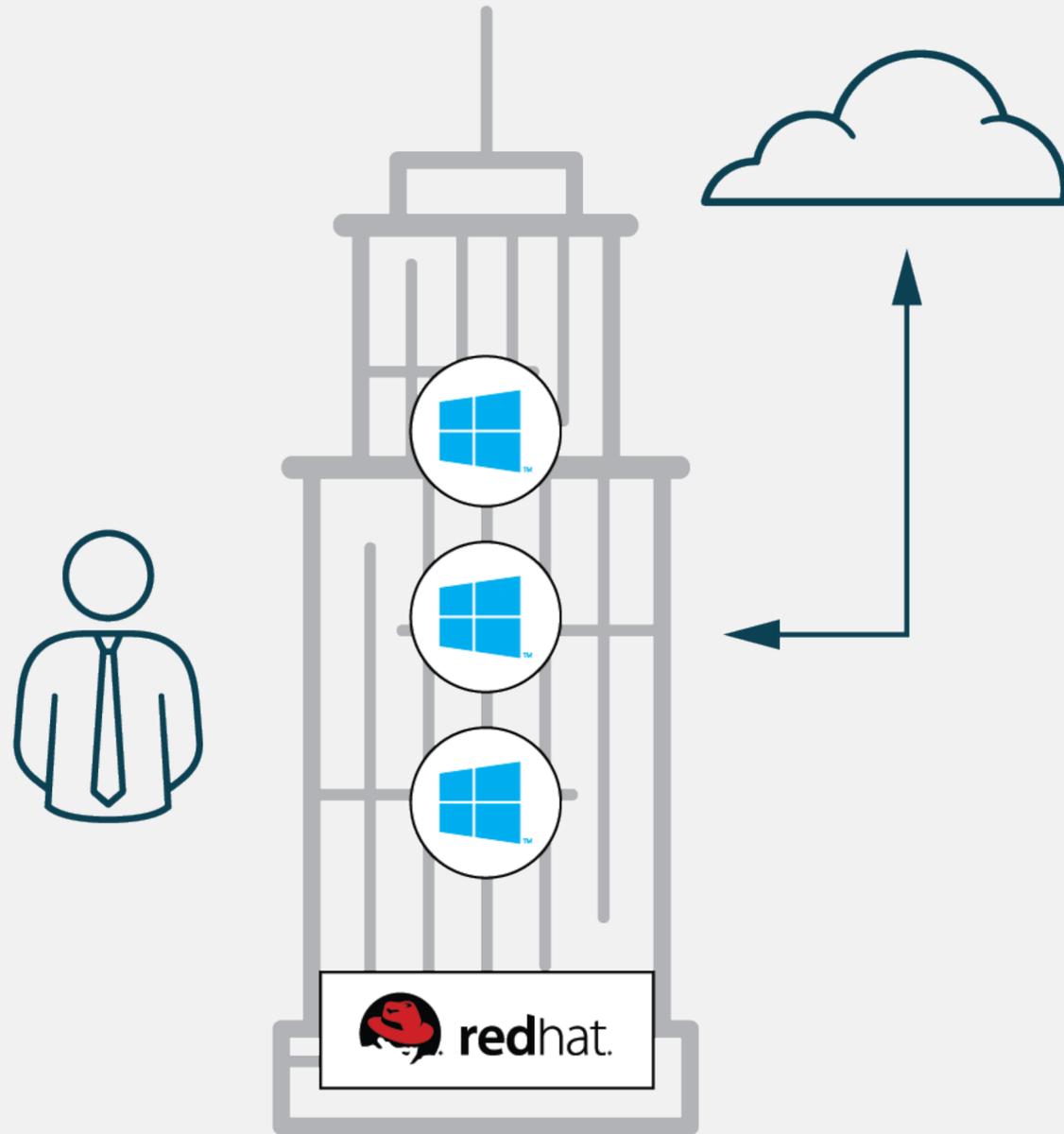of IT organizations will commit to hybrid cloud architectures by 2017*

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

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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

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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

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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

UNIFIED MANAGEMENT AND OPERATIONS

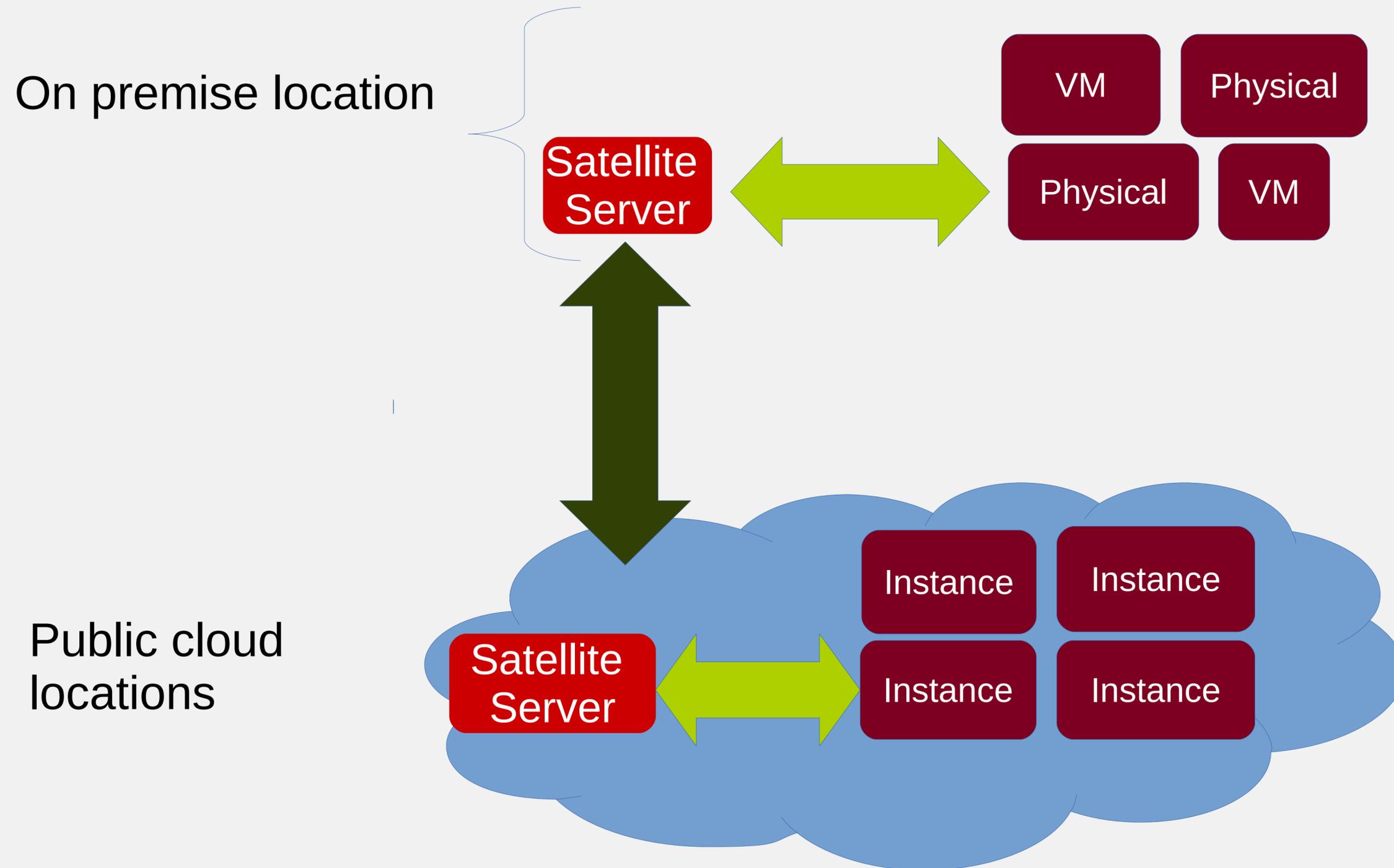**COMPLETE LIFE-CYCLE MANAGEMENT**

VISIBILITY AND ANALYTICS

COMPLIANCE AND GOVERNANCE

INTEGRATION AND COMPOSABILITY

RED HAT®
CLOUDFORMS

RED HAT SATELLITE FOR HYBRID CLOUD ARCHITECTURES

On premise location

Satellite Server

VM | Physical
Physical | VM

Public cloud locations

Satellite Server

Instance | Instance
Instance | Instance

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UNDERSTANDING RISK

- 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

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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

IDENTITY AND ACCESS CONTROL
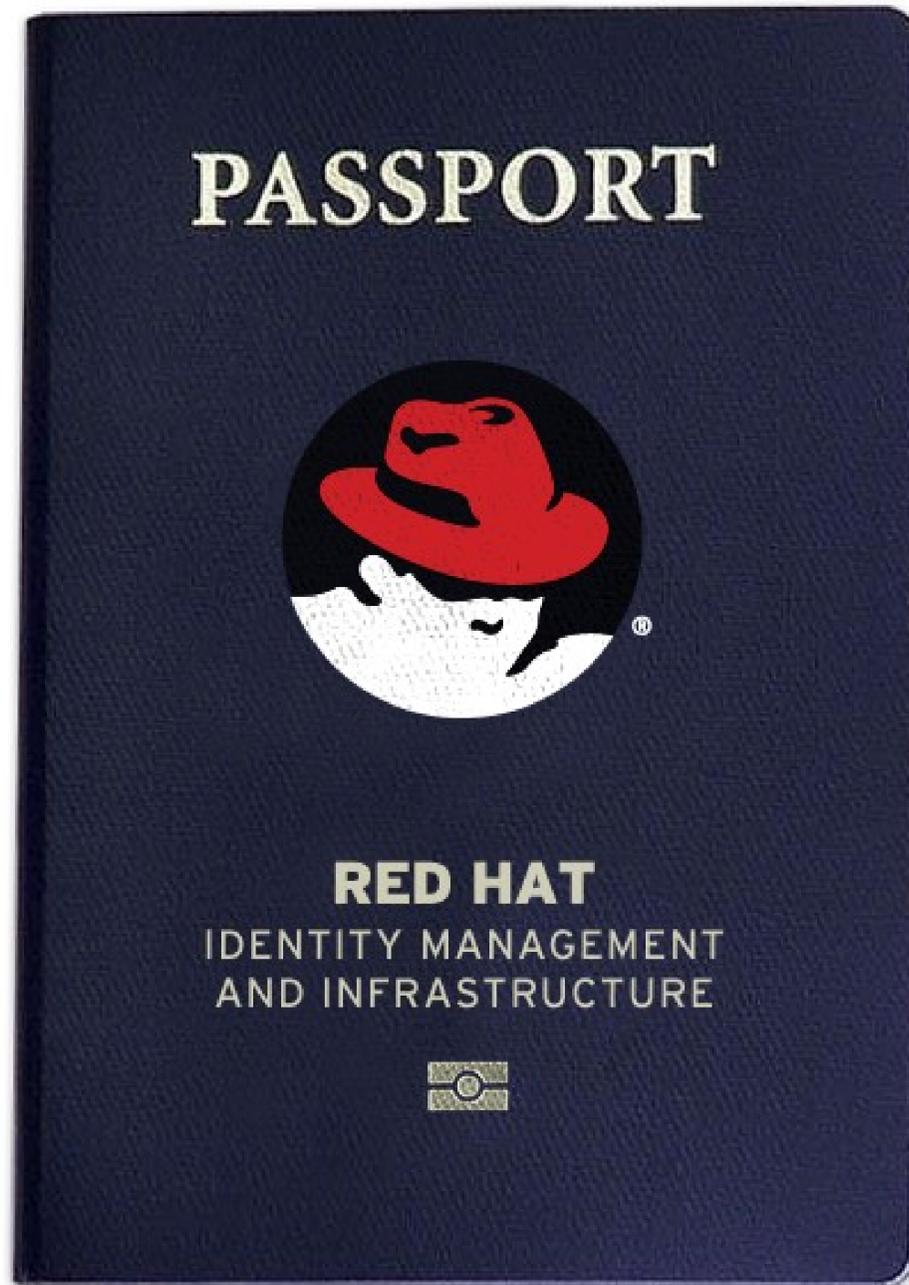
- In a multi-tenant cloud you are responsible for access controls

- 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

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RED HAT SOLUTIONS ON CERTIFIED PUBLIC CLOUDS

RED HAT CERTIFIED CLOUD & SERVICE PROVIDER PROGRAM

Ensures consistency and stability between applications on premise and on public clouds
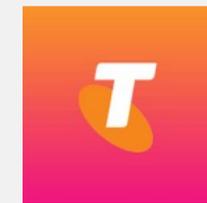
260 CLOUD PARTNERS WORLDWIDE

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

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

Red Hat Subscription

Deploy in Data Center

Deploy on CCSP
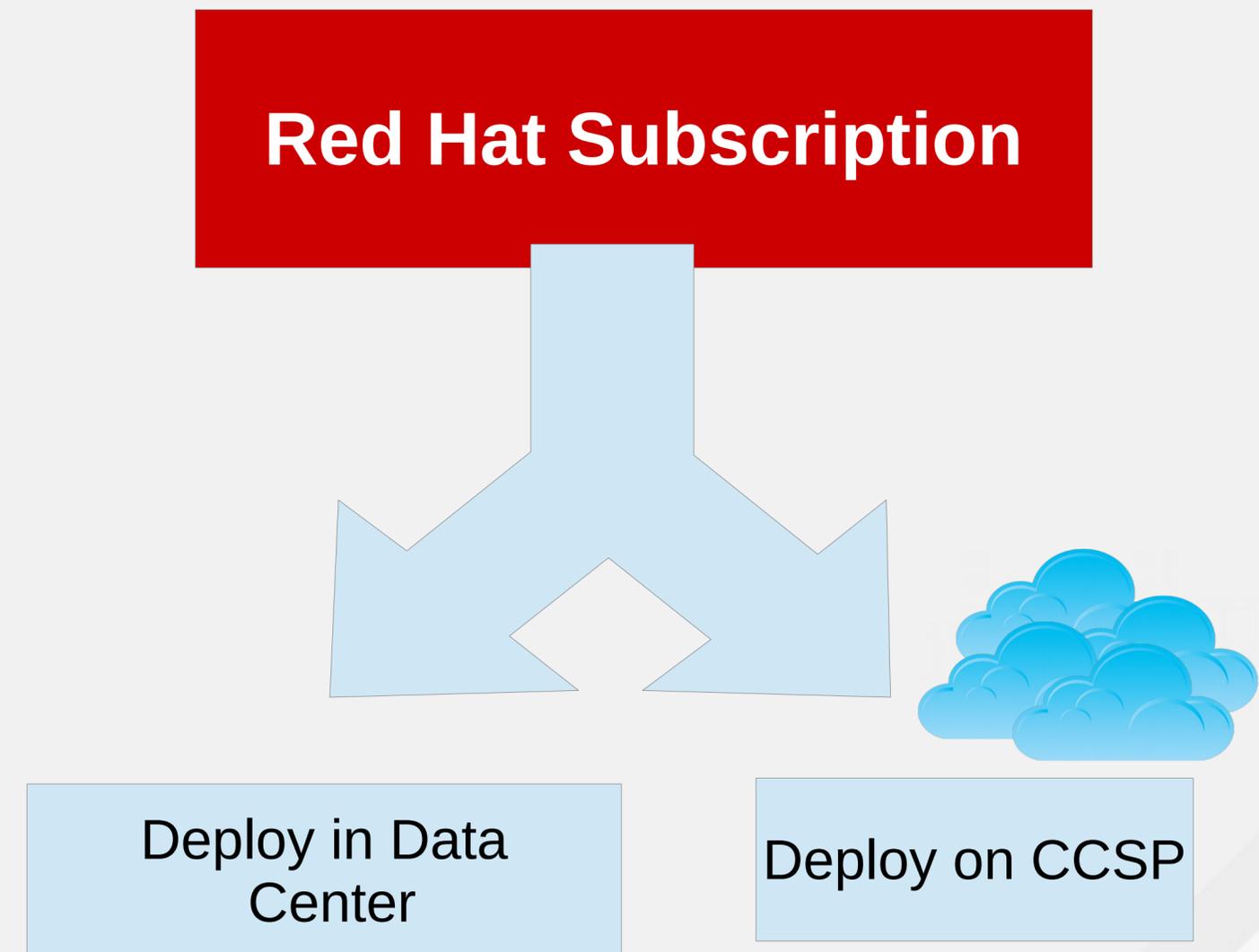
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CONSUMPTION MODELS TO MEET YOUR NEEDS

- 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

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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!

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SUPPLEMENTAL RESOURCES

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)

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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

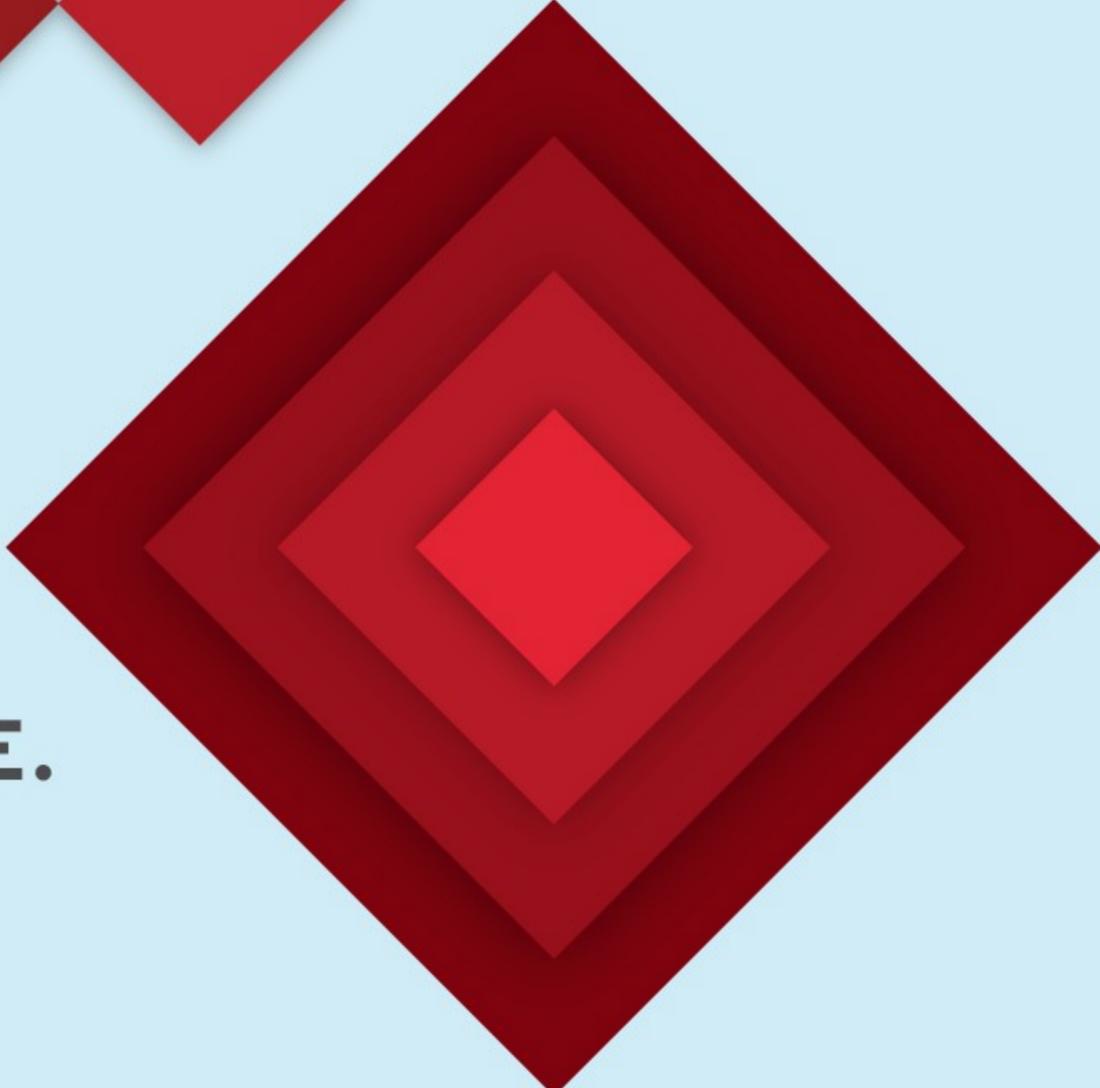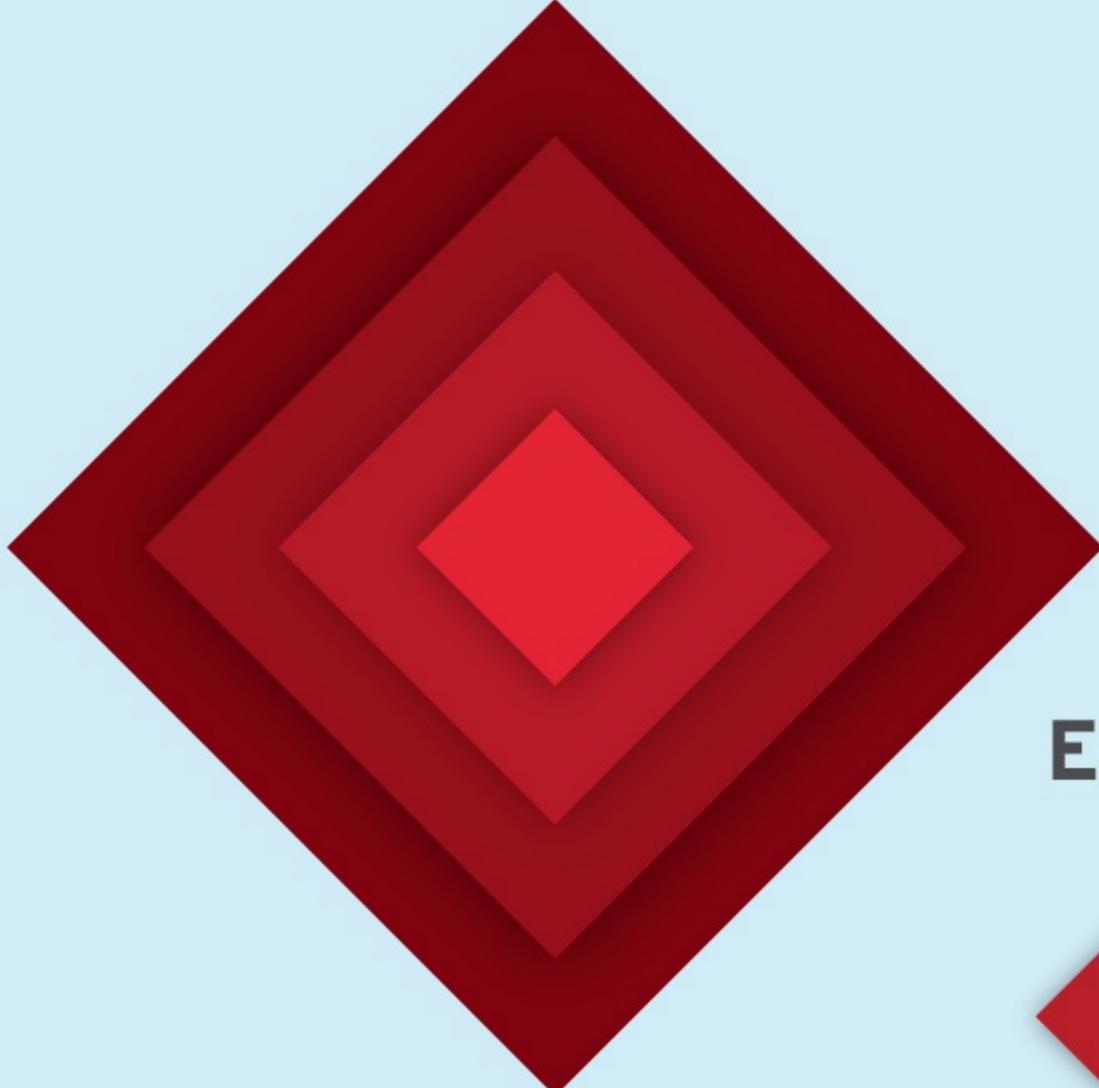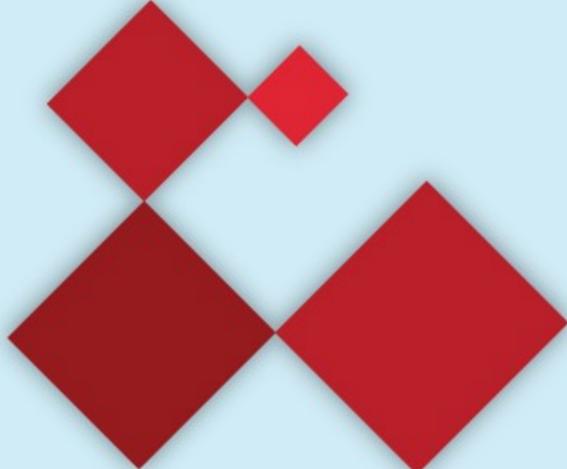- Self-service IT and delegation with Ansible Tower – Thurs. 3:30 PM

THANK YOU!

VISIT US AT BOOTH #27

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