Build an open hybrid cloud and paint it red and blue

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Agenda

- ❑ RH & MS Partnership
- ❑ Cloud native infrastructure
- ❑ Cloud native applications
- ❑ Hybrid architecture scenarios
- ❑ Demo


Microsoft

+


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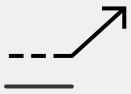
Microsoft & Red Hat?

Why Partner Now?

Customers want…

Support and service for hybrid clouds, spanning heterogeneous technologies and architectures	New generation of application development capabilities from Microsoft and Red Hat	Flexible, hybrid deployment and technology options	Portability and manageability	Confidence and choice in the enterprise cloud

Microsoft + Red Hat: Stronger together



Wide **availability** of Red Hat solutions whether PAYG or BYOS, across all Azure regions.

Microsoft Azure participation in Red Hat Certified Cloud & Service Provider Program (CCSP)

Developers can easily create and **deploy** apps with a .NET front-end on Windows and a MySQL database on Red Hat Enterprise Linux through Red Hat OpenShift Container Platform.

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Secure, **manageable** and well-supported Red Hat solutions in the Microsoft cloud, including Red Hat Enterprise Linux, Red Hat OpenShift Container Platform, SQL, Red Hat Ansible Automation and Red Hat JBoss Middleware.

Integrated enterprise-grade support spanning hybrid cloud, including co-located support resources.

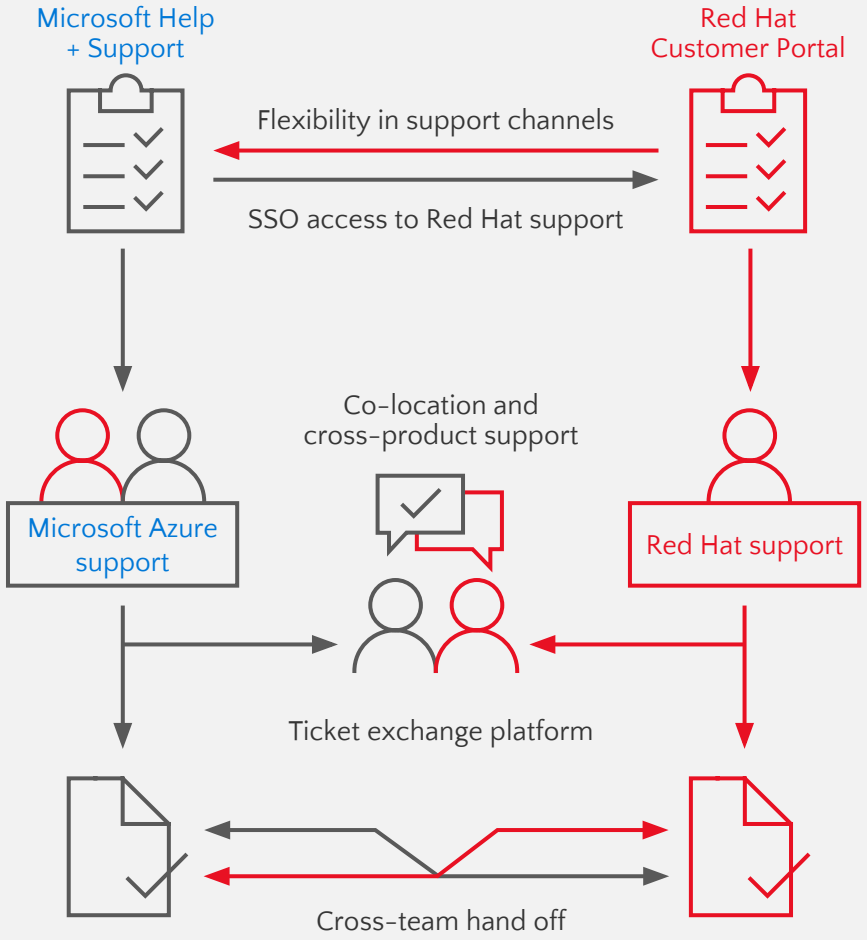
Integrated support process

In-portal customer experience for PAYG deployments

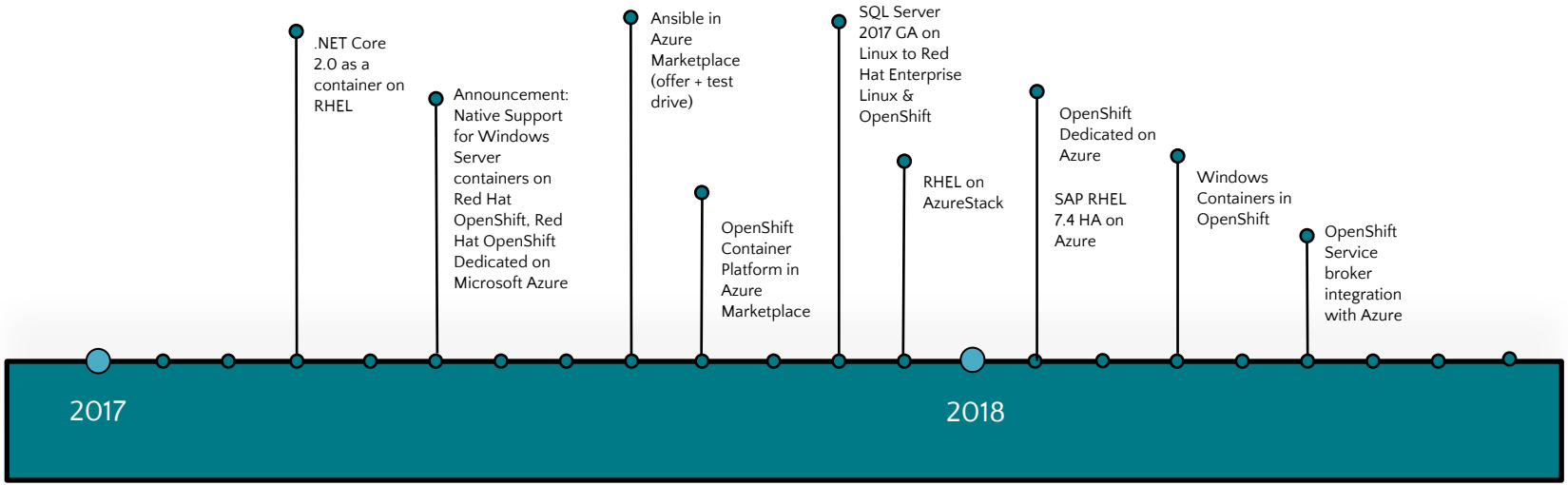
Co-located support with Red Hat on-site team

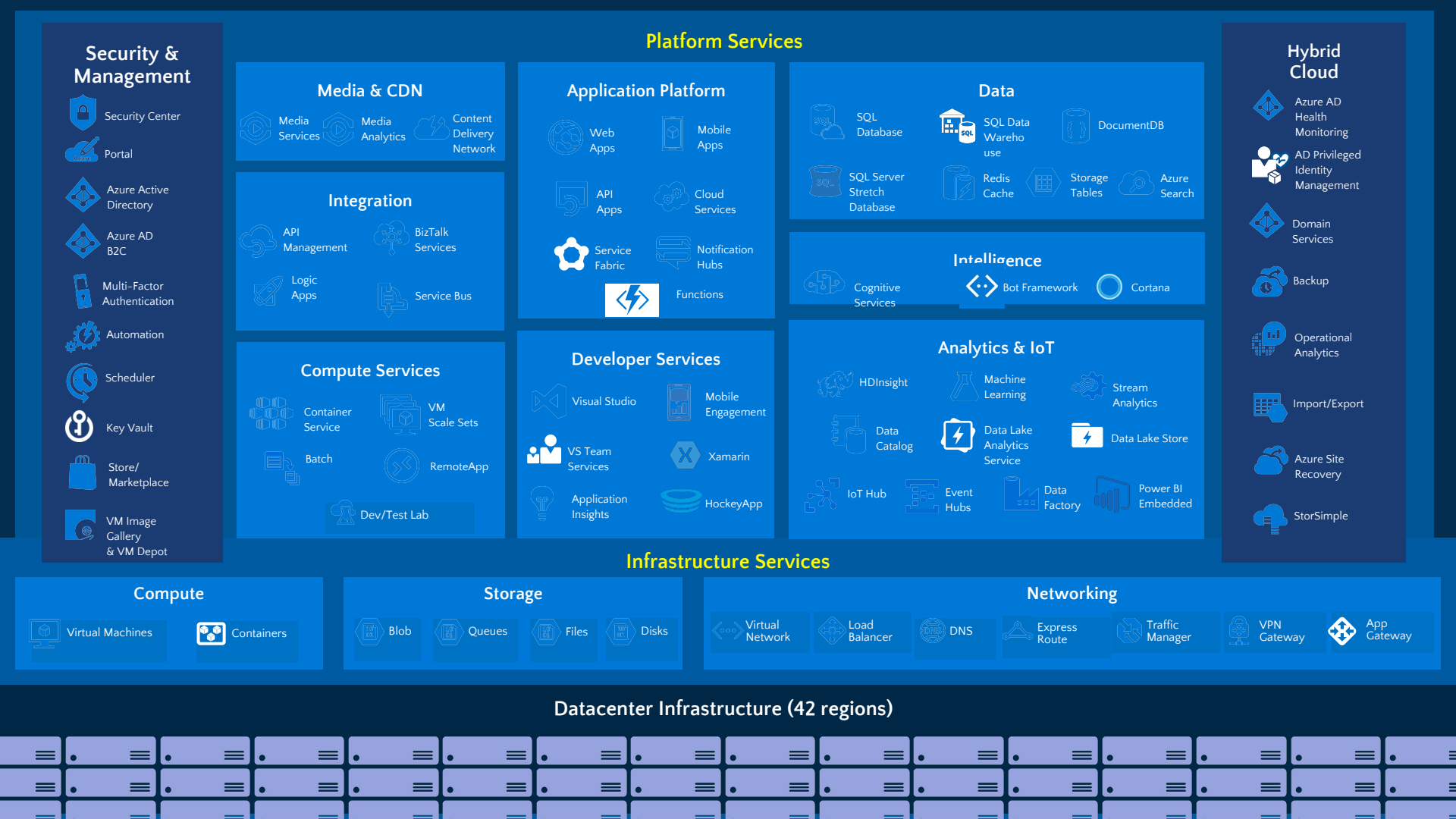
ISO 27001 compliant B2B communication channel

Integrated support is available 24x7 for **Cloud Access** (**BYOS**) as well as **On-Demand** (**PAYG**) deployments



Partnership Roadmap



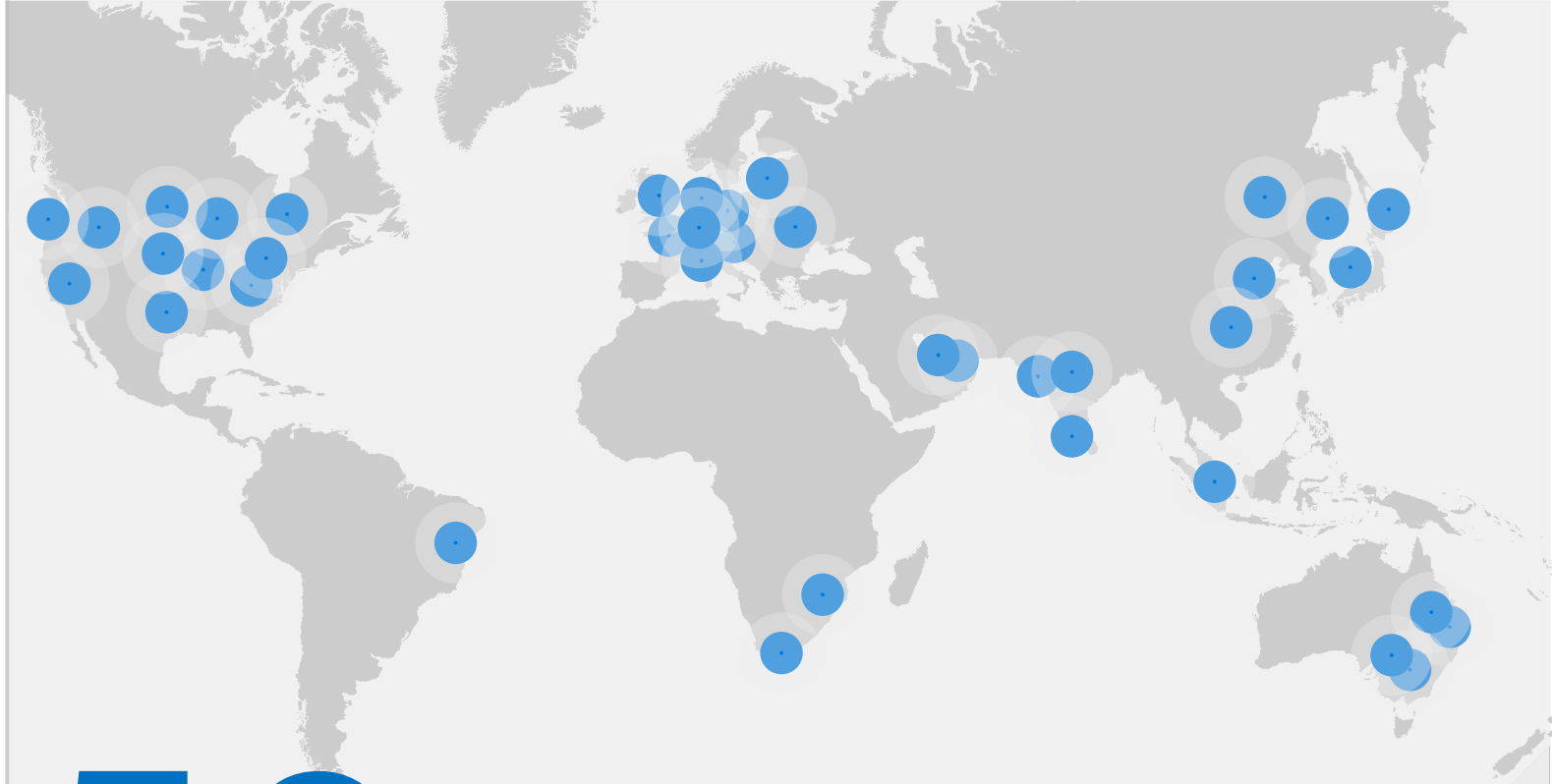

Security & Management
Security Center
Portal
Azure Active Directory
Azure AD B2C
Multi-Factor Authentication
Automation
Scheduler
Key Vault
Store/ Marketplace
VM Image Gallery & VM Depot
Platform Services
Media & CDN
Media Services
Media Analytics
Content Delivery Network
Integration
API Management
BizTalk Services
Logic Apps
Service Bus
Compute Services
Container Service
VM Scale Sets
Batch
RemoteApp
Dev/Test Lab
Application Platform
Web Apps
Mobile Apps
API Apps
Cloud Services
Service Fabric
Notification Hubs
Functions
Developer Services
Visual Studio
Mobile Engagement
VS Team Services
Xamarin
Application Insights
HockeyApp
Data
SQL Database
SQL Data Warehouse
DocumentDB
SQL Server Stretch Database
Redis Cache
Storage Tables
Azure Search
Intelligence
Cognitive Services
Bot Framework
Cortana
Analytics & IoT
HDInsight
Machine Learning
Stream Analytics
Data Catalog
Data Lake Analytics Service
Data Lake Store
IoT Hub
Event Hubs
Data Factory
Power BI Embedded
Hybrid Cloud
Azure AD Health Monitoring
AD Privileged Identity Management
Domain Services
Backup
Operational Analytics
Import/Export
Azure Site Recovery
StorSimple
Infrastructure Services
Compute
Virtual Machines
Containers
Storage
Blob
Queues
Files
Disks
Networking
Virtual Network
Load Balancer
DNS
Express Route
Traffic Manager
VPN Gateway
App Gateway
Datacenter Infrastructure (42 regions)

Productive

Hybrid

Intelligent

Trusted



50 Azure regions

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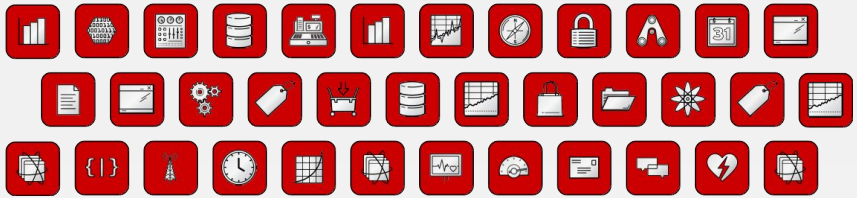
Enterprise Operating System

- **Red Hat Enterprise Linux** is a trusted, open source operating system that enterprise customers across the globe rely on to run their business-critical workloads.

Azure

- Subscription flexibility with Red Hat Cloud Access
- Marketplace Images on-demand
- Foundation for next-gen architectures

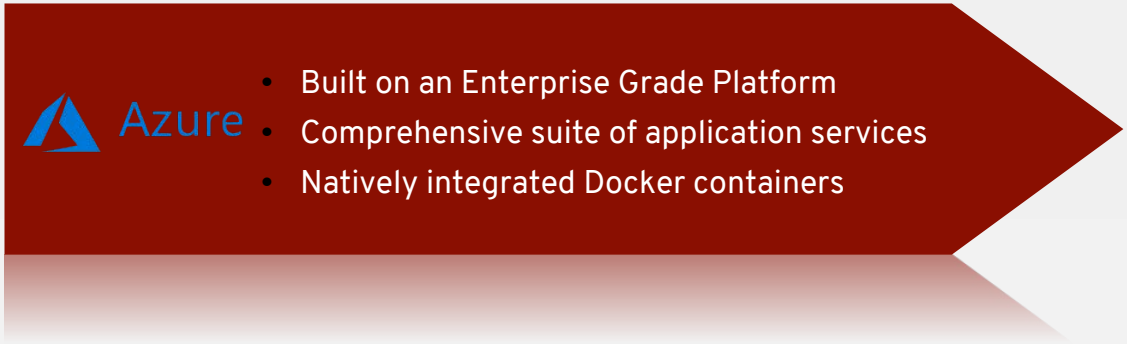


TRUSTED
BY FORTUNE 500 COMPANIES

RED HAT®
ENTERPRISE LINUX®

Hybrid Application Framework

- **OpenShift by Red Hat** and **Red Hat JBoss Middleware** enable developers to build, integrate, and deploy cloud-native applications and open Red Hat's award-winning application middleware, development & deployment solutions in Azure.



OPENSHIFT ENTERPRISE by Red Hat®

RED HAT® JBOSS® MIDDLEWARE

Hybrid Storage

- **Red Hat Gluster Storage** is a reliable and cost-effective, storage solution that's engineered for Hybrid Cloud environments to deliver rich functionality without rigid hardware dependencies.

Azure

- Scale-out & Scale-up cloud storage
- Rich Media & Archival
- File sync & share

RED HAT®
GLUSTER STORAGE

Hybrid Cloud Management

- **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.

Azure

- Hybrid Cloud Management Platform
- Intelligent Cloud Brokering
- System Center Integration


UNIFIED MANAGEMENT AND OPERATIONS


COMPLETE LIFE-CYCLE MANAGEMENT


VISIBILITY AND ANALYTICS


COMPLIANCE AND GOVERNANCE


INTEGRATION AND COMPOSABILITY

RED HAT® CLOUDFORMS

Hybrid Infrastructure automation deployment

- **Red Hat Ansible Tower** helps you scale IT automation, manage complex deployments and speed productivity.

Azure

- Automating in Azure at scale
- Automate once, deploy anywhere
- Windows, Linux, Services, Networks and more

RED HAT ANSIBLE Automation

Key scenarios

Red Hat Enterprise Linux in Azure

- Cost savings and operational efficiency gained form using consistent / standard OS platforms across your hybrid infrastructures.
- Integrated support for RHEL in the Azure Marketplace.
- Red Hat subscription flexibility / portability.

Red Hat OpenShift Container Platform in Azure

- Easily build, deploy, and manage modern container-based apps on OpenShift in Azure.
- Technology that enables digital transformation and application modernization.
- Consistent application platform for hybrid cloud infrastructures.

SQL Server on Red Hat Enterprise Linux

- Industry-leading, most secure data platform on a leading OS & a leading cloud platform.
- Optimize with a modern data platform.

Red Hat Enterprise Linux for SAP Solutions in Azure

- Most powerful and scalable cloud for SAP HANA.
- Deep partnership between SAP, Microsoft & Red Hat.
- First-class hybrid support experience for Red Hat on Azure.
- Integrated management portal experience.

Hybrid Application Framework

Hybrid Cloud Storage

Hybrid Cloud Management

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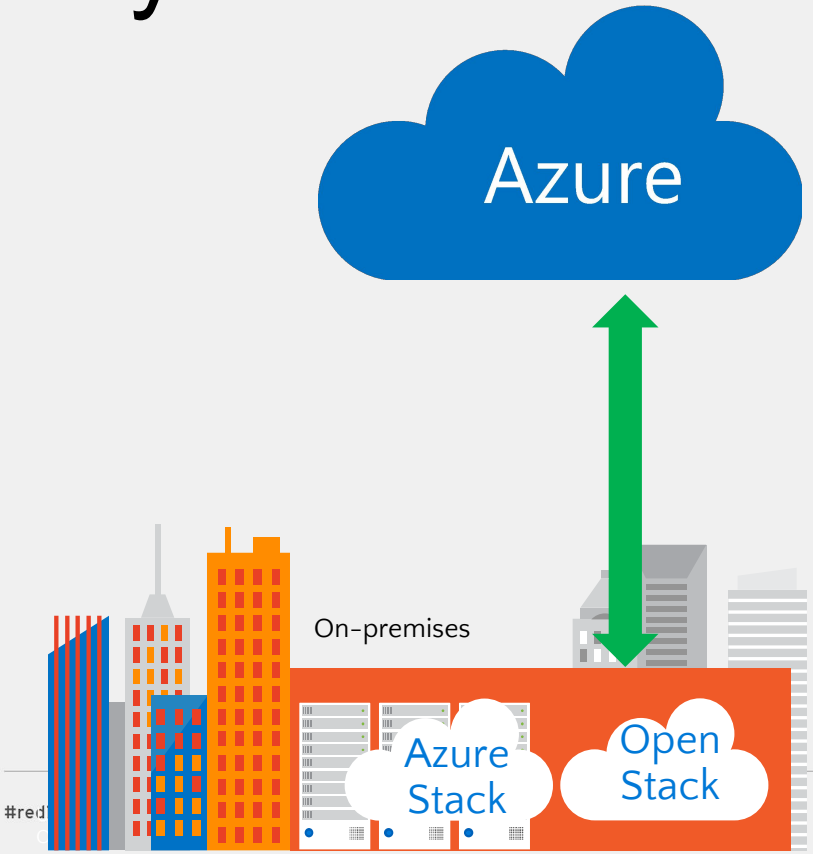
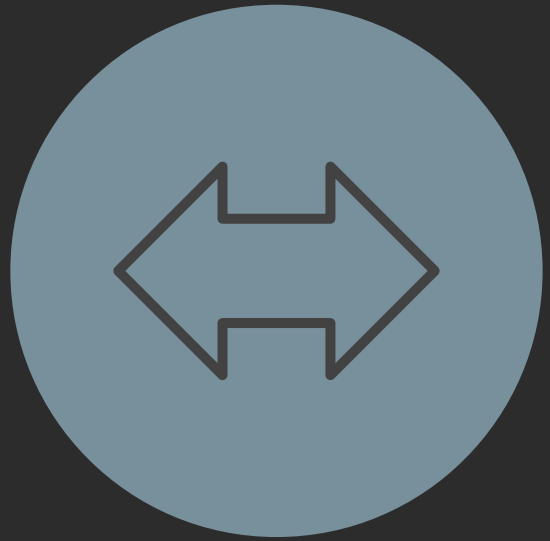
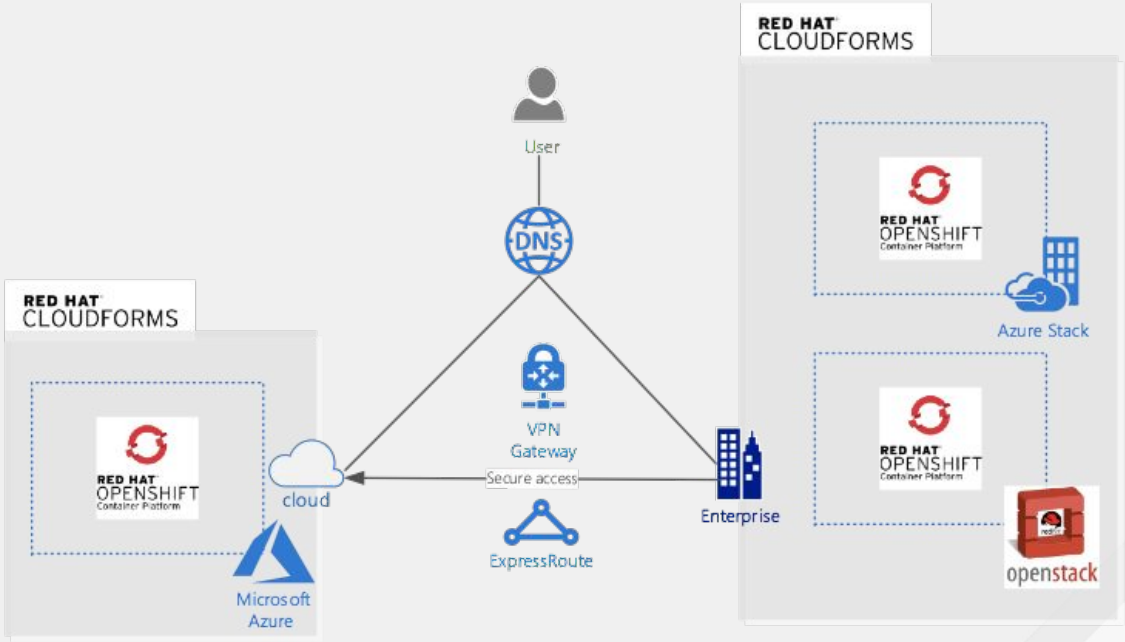
Hybrid Cloud





Hybrid Cloud Architecture

- Cloud native infrastructure
  - Microsoft Azure
  - Microsoft Azure Stack
  - Red Hat OpenStack
- Cloud native applications
  - Red Hat OpenShift
  - Azure ecosystem
- Key considerations
  - Applications assessment
  - Security
  - Management
  - Network constraints
  - Regulations



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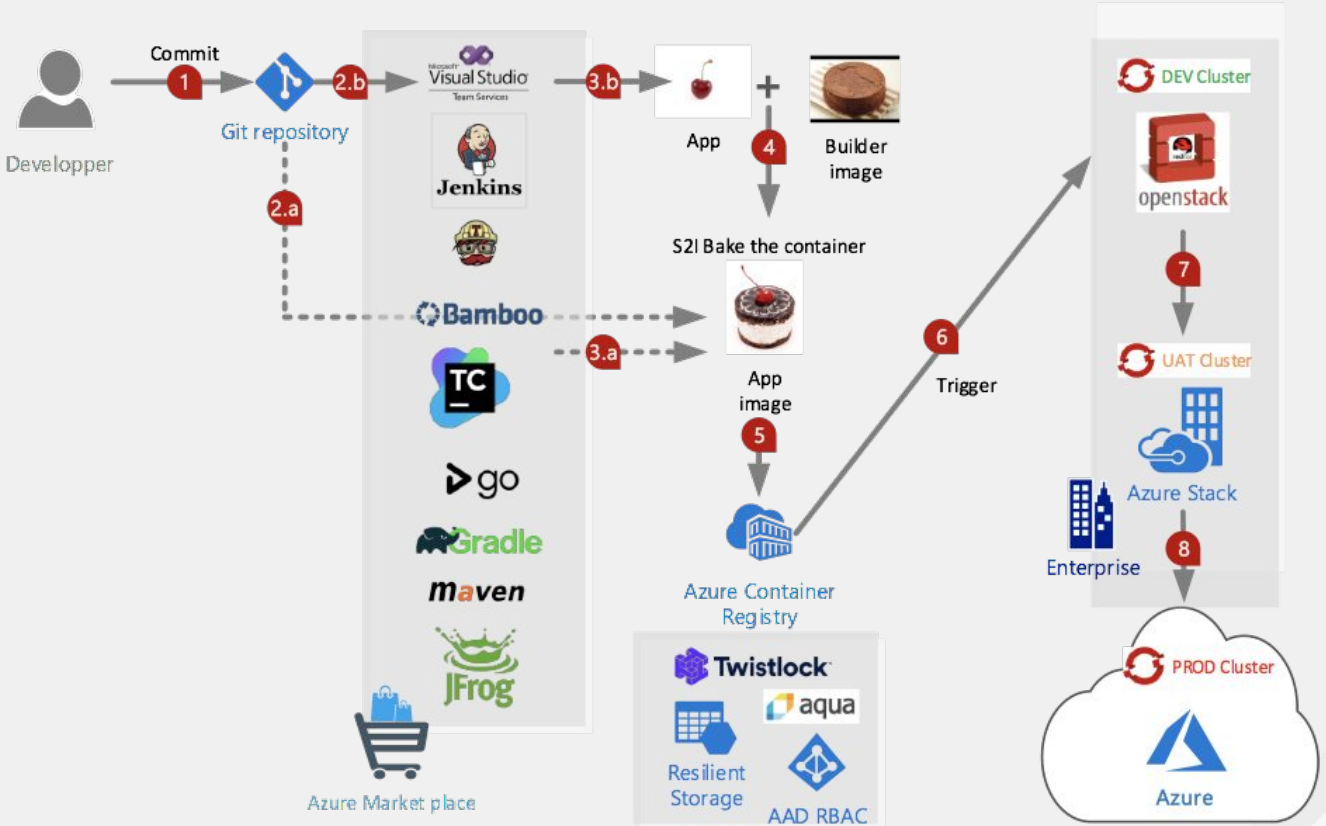
CI/CD

- Consistency
- Automation
- Immutability
- Reproducibility



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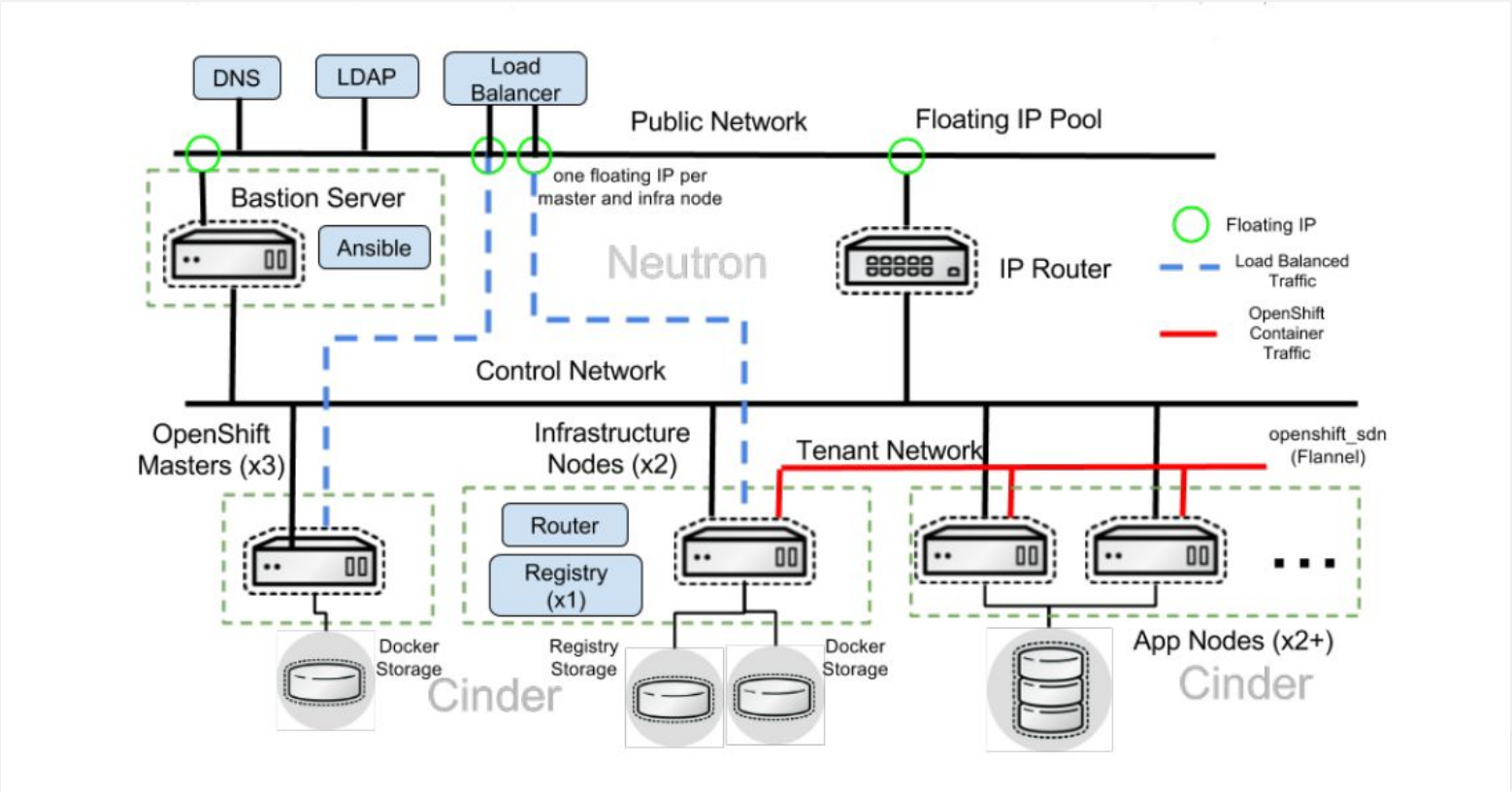
OpenShift on OpenStack Reference architecture



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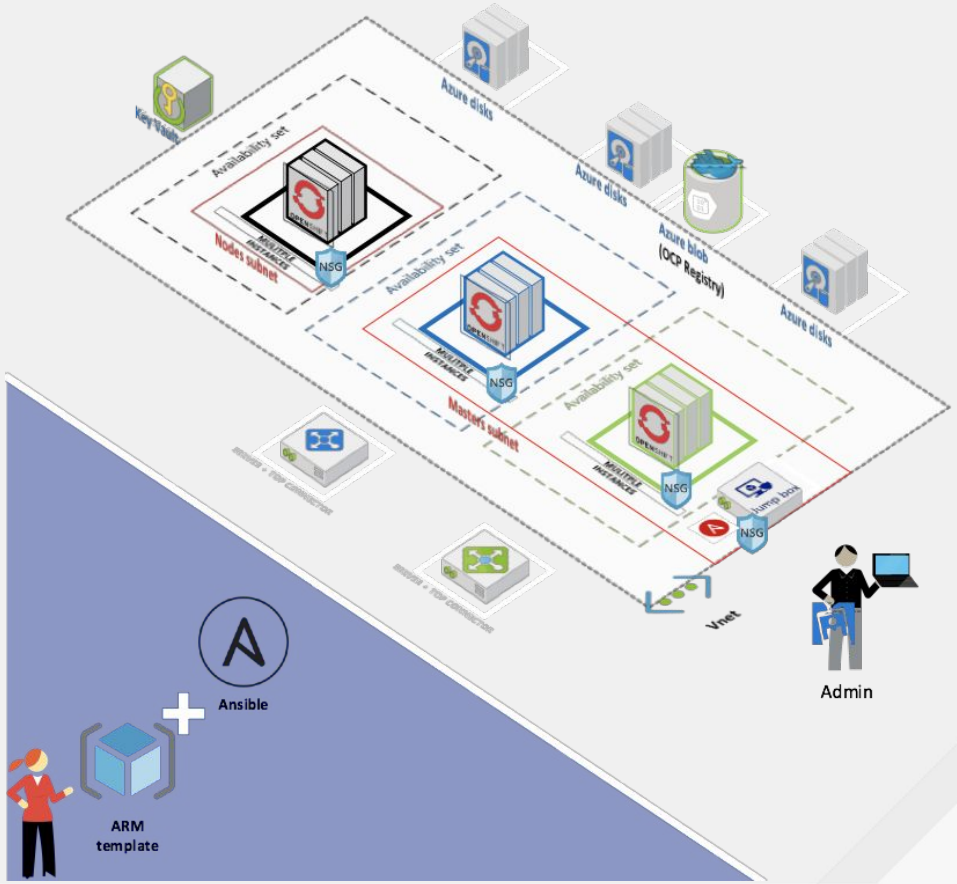
OpenShift on Azure Reference architecture

- 2 Azure load balancers
- 3 master nodes
- 3 Infrastructure nodes
- 3 Application nodes
- Bastion host
- Azure disks for PVC
- Azure blob for ACR
- Azure Key Vault for ssh private key
- ARM template + Ansible scripts



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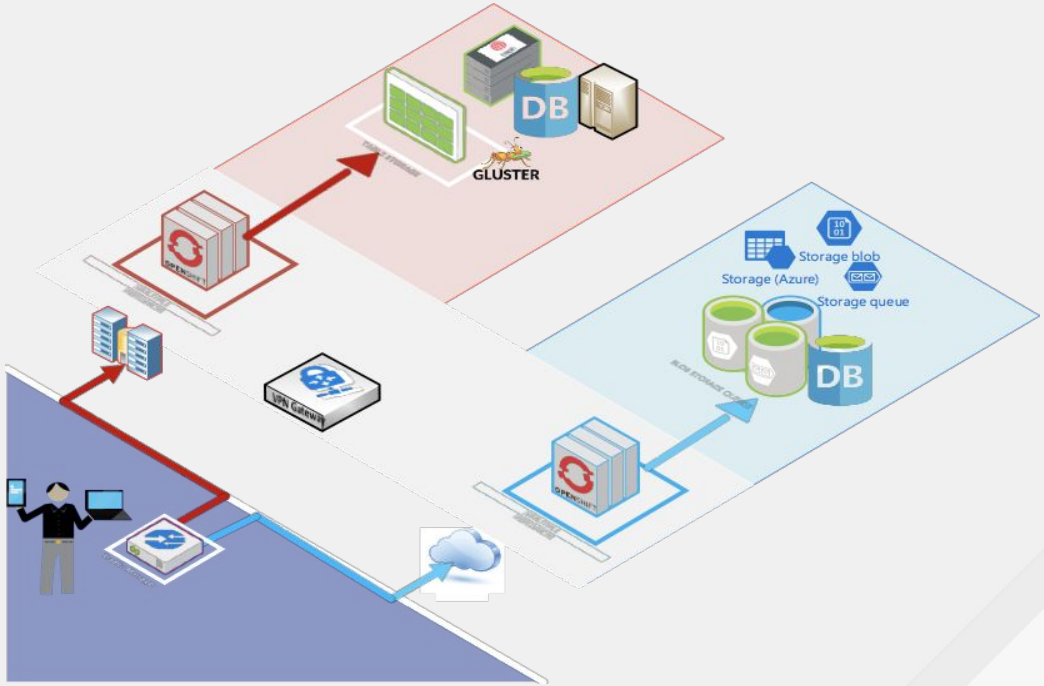
Different apps, different clouds

- No replication between the clouds
- Simple architecture
- Sample scenarios
  - Web apps on Azure. LOB apps on OSP
  - Anonymous data on Azure. Customer data on-prem
  - Content service routing (videos vs transactional)
  - {Learn, test, fail}\ fast in Azure



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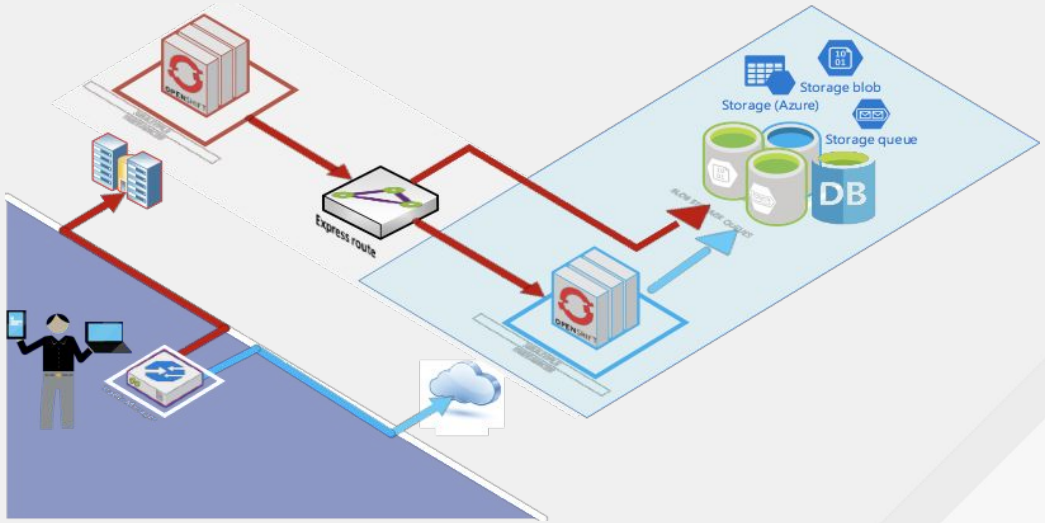
Born in the cloud

- Easier when there is no legacies
- Azure first for apps and data
- Leverage Azure managed services (OSBA, network, data…)
- Built in HA and BC capabilities (Availability sets, geo-replication…)
- Sample scenarios
  - Tier 1 data on prem. Anonymized and masqueraded data on azure
  - Process batch jobs In Azure. Analyze results on-prem.
  - IDM federation from on-prem



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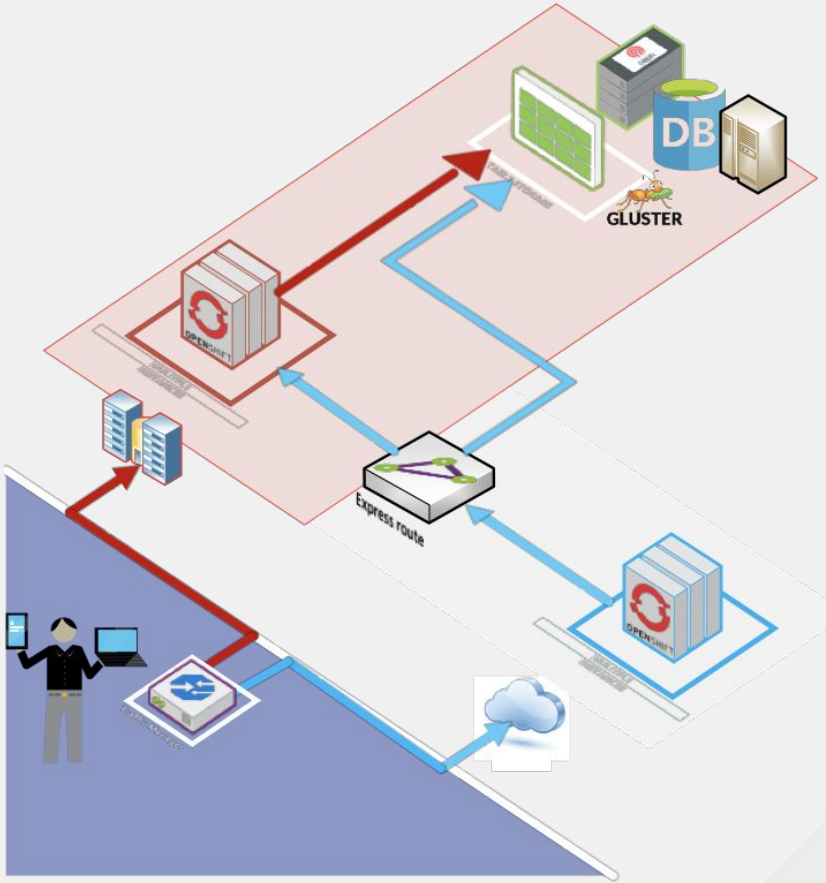
New to the cloud

- Suitable for complex environments with legacy systems like mainframe or with rigid data regulations
- Assess, migrate, learn and iterate
- Sample scenarios:
  - Own the base, rent the spike
  - Stateless and front end apps (API, Bots) on Azure
  - Develop services at the edge (CDN, API, IDM with Aoth…)



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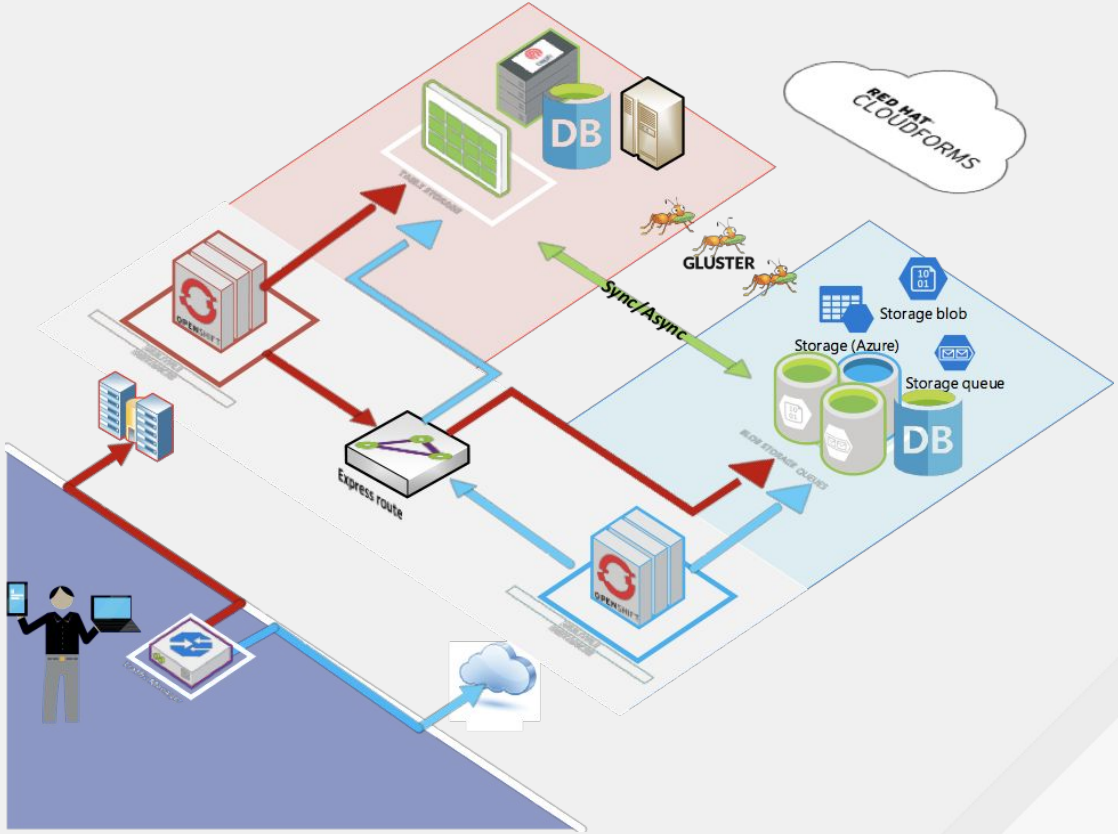
Balanced cloud

- Active-Active environment.
- Optimum use of resources
- Elastic infrastructure
- Required mature management process
- Sample scenarios:
  - Warm/Hot DR
  - Cloud brokering
  - Spiky workloads



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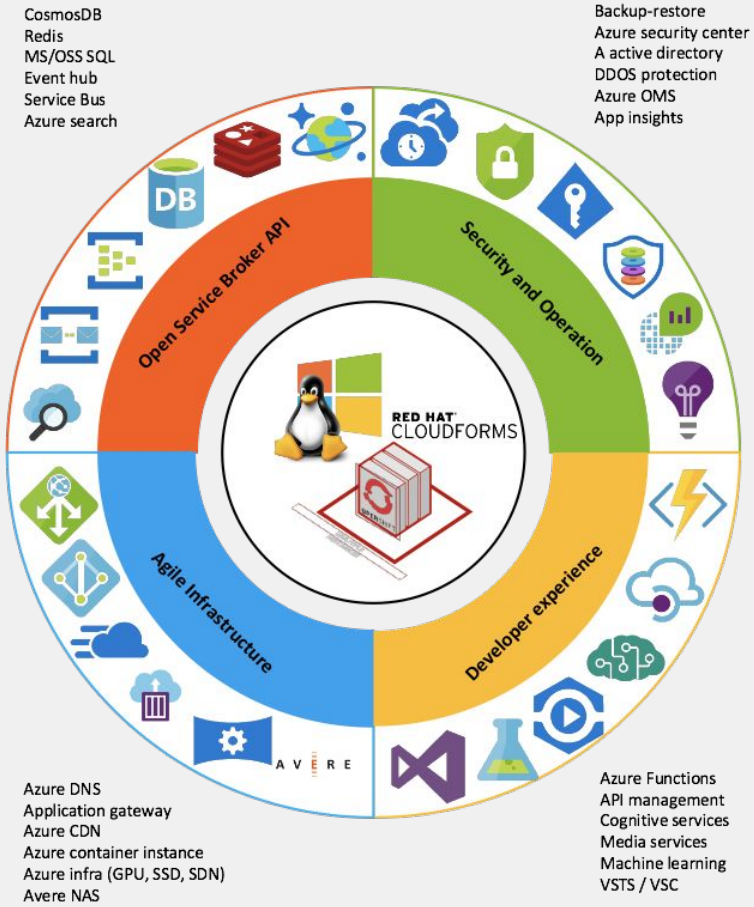
The Azure ecosystem

- Agile infrastructure
- Open Service Broker for data services
- Security and operations
- Inner Developer experience



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Demo time!

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Key takeaways

1. Microsoft + Red Hat are the trusted & leading partners in your Digital Transformation Journey

2. Microsoft + Red Hat have deep collaboration from joint engineering, global reach and integrated co-located support.

3. Continuing to evolve based on your needs

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Red Hat on Azure Customers

More customer stories @ customers.microsoft.com

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