RED HAT
FORUM
Europe, Middle East & Africa

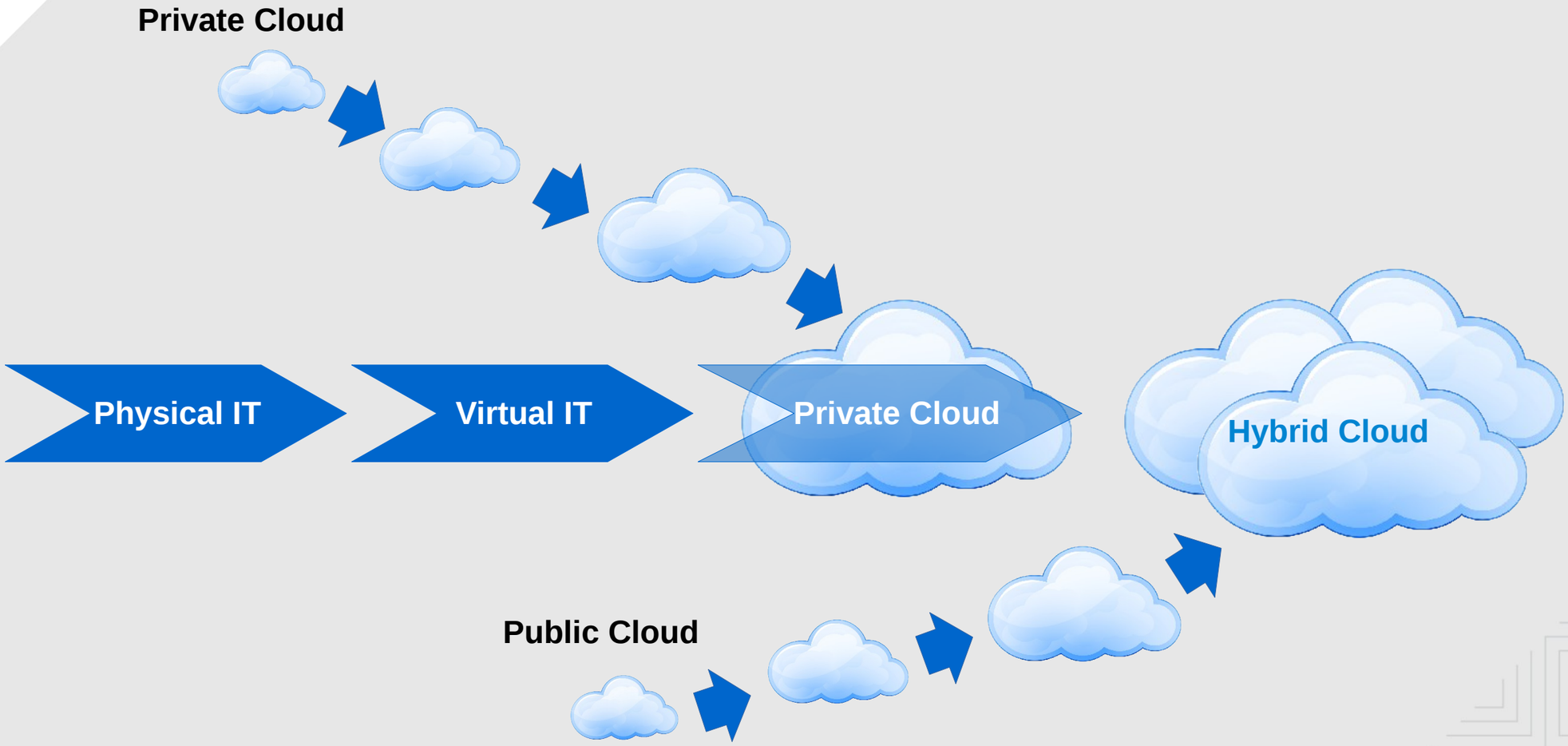
redhat.

CloudForms For Your Business

Oren Oichman
Senior consultant – RHCE / Matrix

Industry Trend – Hybrid Cloud

Existing IT + Private Cloud + Public Cloud = “Hybrid Cloud”



It's all happening at the same time!!!

Gartner – Bi-Modal IT

IT Industrialization

- Cloud/Web-scale infrastructure
- Software-defined flexibility
- Diverse sourcing

Renovate the core of IT

Build bimodal capability

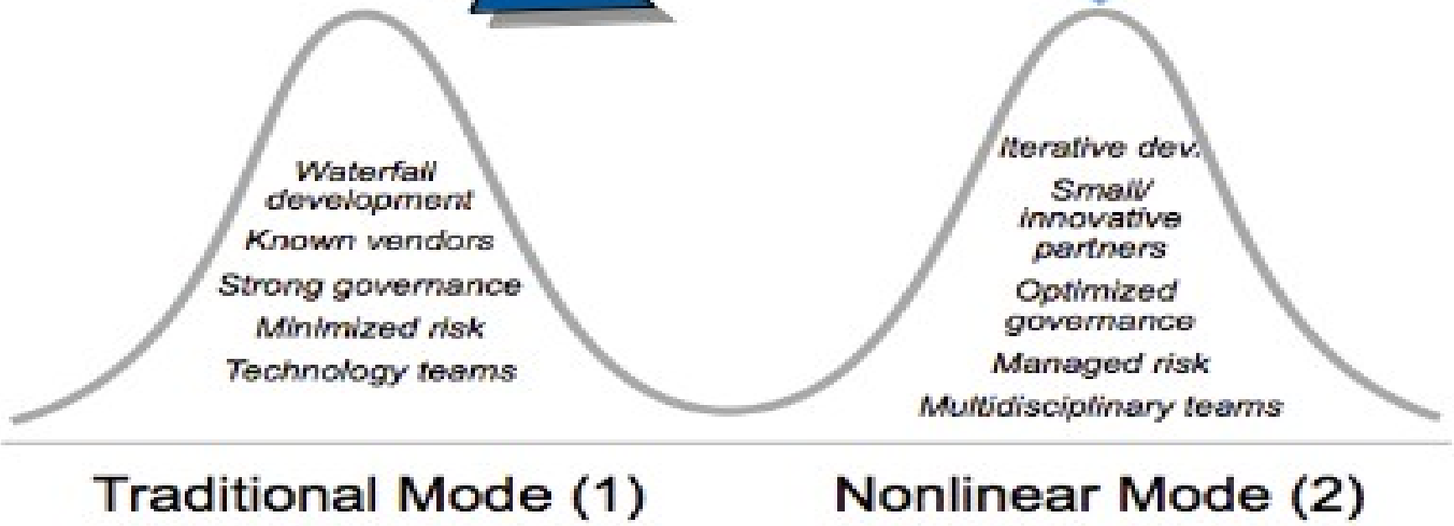
Digitalization

- Dealing with uncertainty
- Exploratory, iterative style
- Multidisciplinary teams
- New risk/speed trade-offs

"By 2017, 75% of IT organizations will have a bimodal capability."

Gartner

When speed or innovation is needed, or there is a high degree of uncertainty



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IT CHALLENGES

FLEXIBILITY

- Scale-out on demand hampered by proprietary virtualization licensing
- Other solutions force single-vendor stack solutions, requiring migration and forklift
- Public cloud like future based on open source technology, enables economics of scale-out

MANAGEMENT

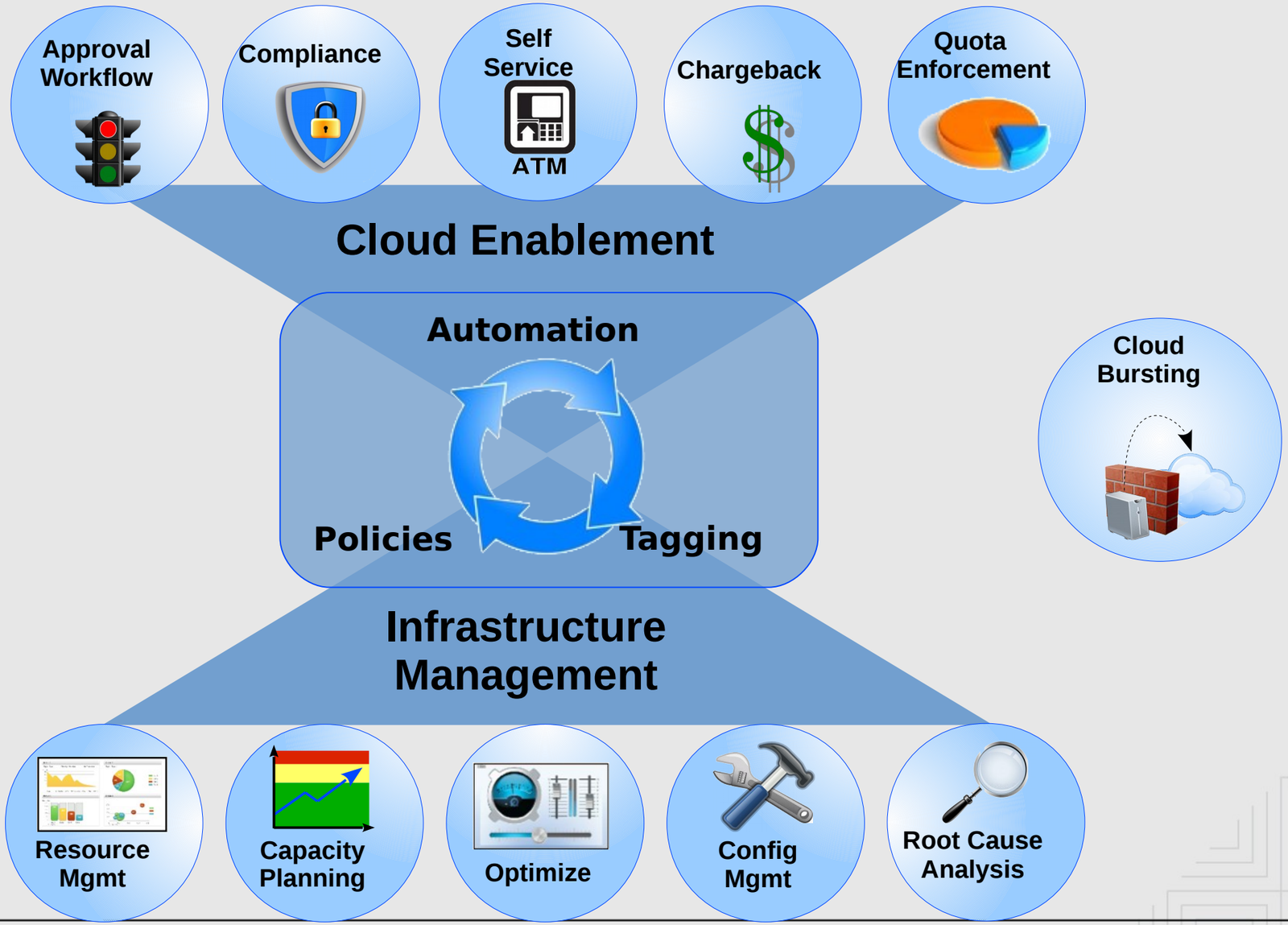
- VM sprawl and management sprawl
- Multiple panes of glass with no central governance
- Demands for self service must balance with policy and security
- Orchestration of complex and repeatable tasks
- Discovery and monitoring of disparate systems

WORKLOADS

- Legacy workloads require traditional datacenter virtualization
- New cloud enabled workloads need flexible scale-out, fault tolerant infrastructure
- Management tools must deal with both use cases
- Solutions must deal with a long term migration from one type to another

RED HAT CLOUDFORMS

Cloud Enablement *Integrated with* Infrastructure Management



CLOUDFORMS
Built for Enterprise Scale Cloud Operations Management

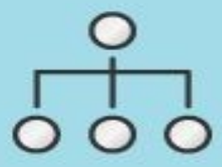
AGENT-FREE, VIRTUAL APPLIANCE ARCHITECTURE

Rapid deployment, non-invasive (Industry Standard OVF)

WEB-BASED OPERATIONS, ADMIN AND SELF-SERVICE

Access anywhere from any browser

ENTERPRISE DIRECTORY SUPPORT



Leverage directory for authentication and role

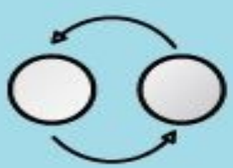
SUPPORTS MULTI-TENANCY

Securely share infrastructure

HORIZONTALLY SCALABLE

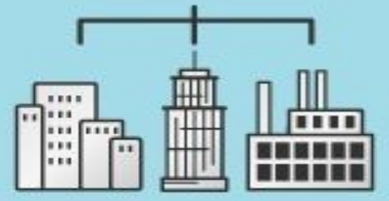
Highly scalable, load balancing

LOAD BALANCING, FAILOVER/BACK



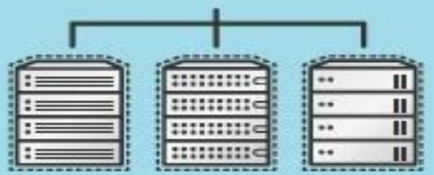
Provides reliability, high availability

MANAGEMENT ACROSS MULTIPLE LOCATIONS



Single pane of glass, unified management

MANAGEMENT ACROSS VIRTUAL PLATFORMS & PUBLIC CLOUDS

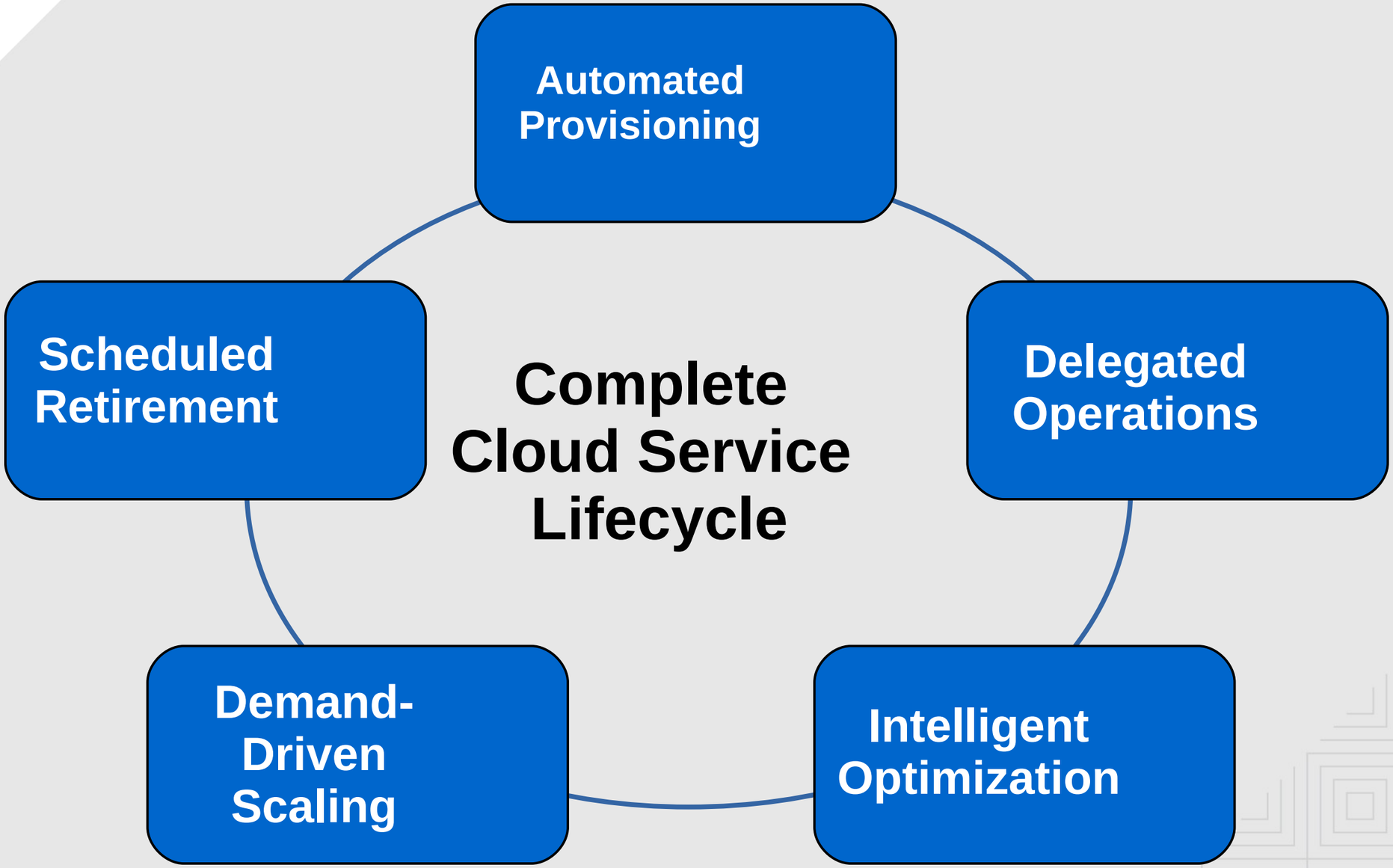


Single pane of glass, unified management

CLOUDFORMS
Benefits

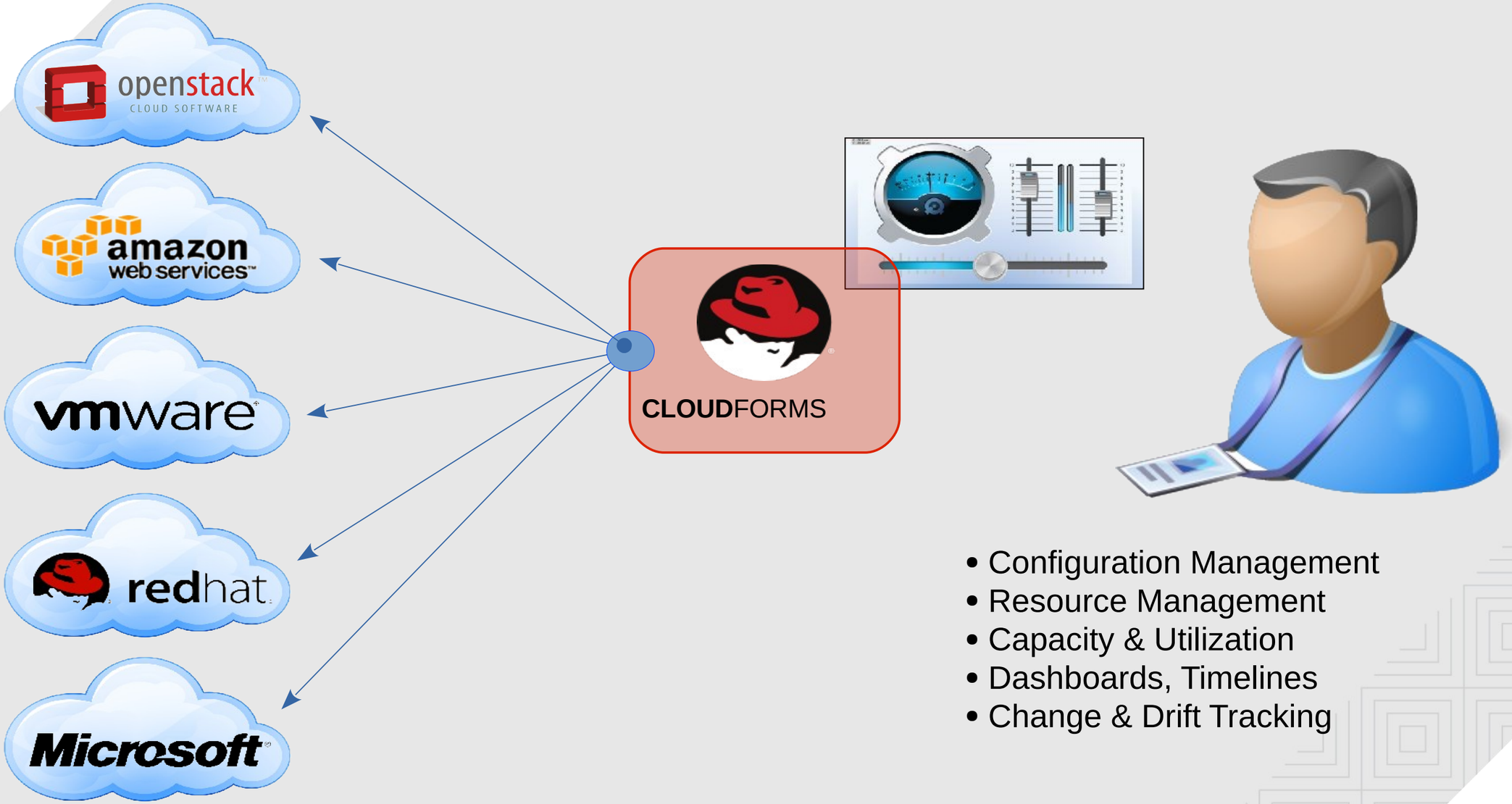
- **Lower Acquisition Cost**
  - Lowest cost of leading commercial vendors
- **Faster Time to Cloud**
  - Virtual Appliance, agent-free
- **Lower Implementation Costs**
  - Out-of-the-box reports, alerts, policies, integration, automation
- **Tool Reduction**
  - Integrated capabilities that eliminate need for many tools
- **Continuous Optimization**
  - Maximize resource efficiency
- **Increased Automation**
  - Highest operational efficiency
- **Open/Flexible**
  - Leverage low cost virtual platforms for your cloud

CLOUDFORMS - **Cloud Operations Management**



IT CLOUD MANAGEMENT

Single Pane of Glass Operations



- Configuration Management
- Resource Management
- Capacity & Utilization
- Dashboards, Timelines
- Change & Drift Tracking

IT CLOUD MANAGEMENT
Integration

Microsoft System Center

bmcsoftware

hp

servicenow

ca

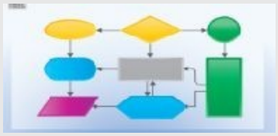
Enterprise Service Catalogs

Management & Reporting

Event Consoles

CMDB

ITPA/RBA



CLOUDFORMS

amazon web services

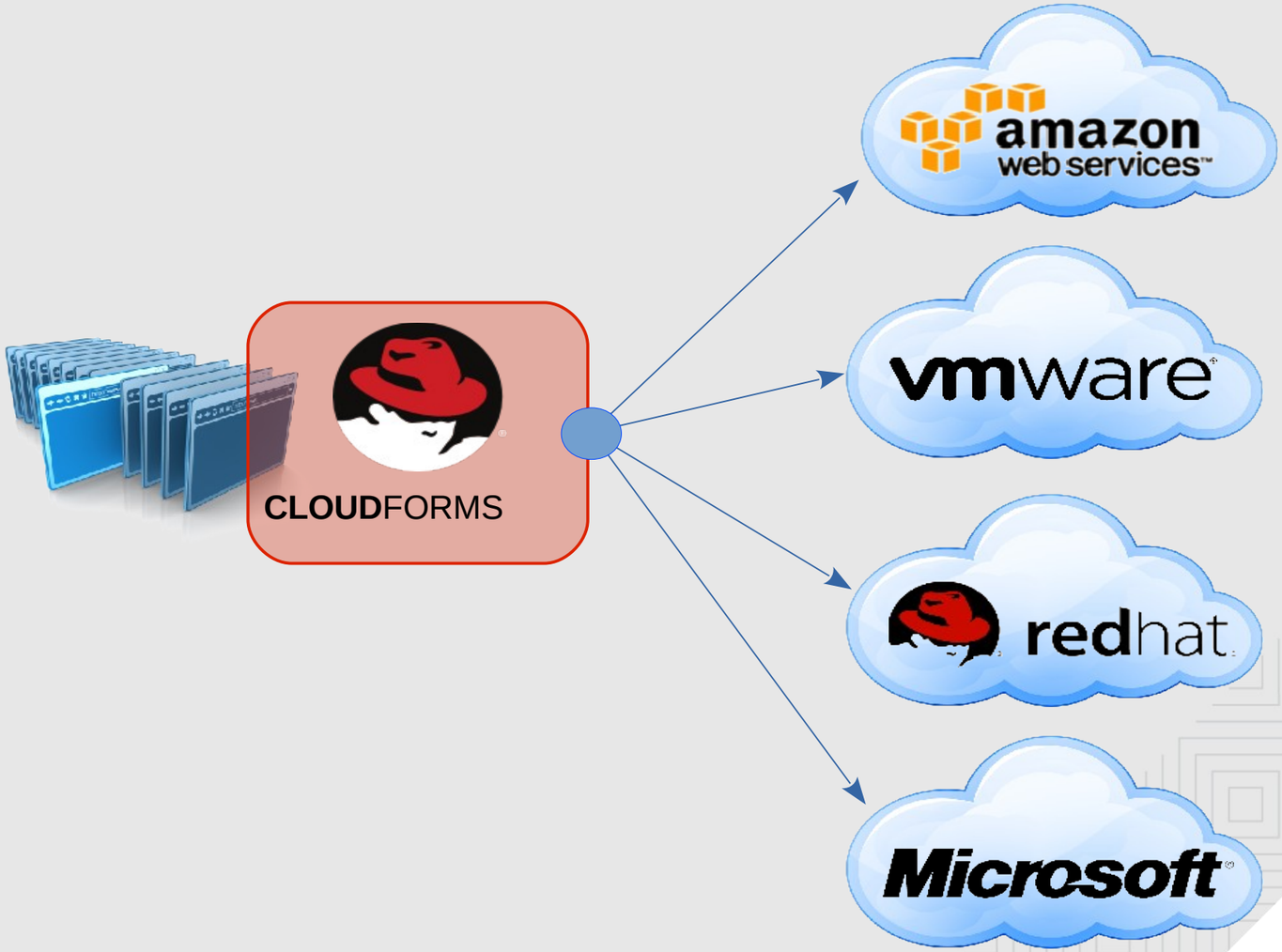
vmware

redhat

Microsoft

IT CLOUD MANAGEMENT

Seamless Self-Service



- Role-based Delegation
- Self-Service Portals
- Service Catalogs
- Automated Provisioning
- Quotas & Chargeback

IT CLOUD MANAGEMENT

Executive Management

- Multi-Tenancy
- Financial Management
- Governance & Compliance, Security Policies
- Forecasting & Planning
- Health, Availability

Containers are about micro-services...

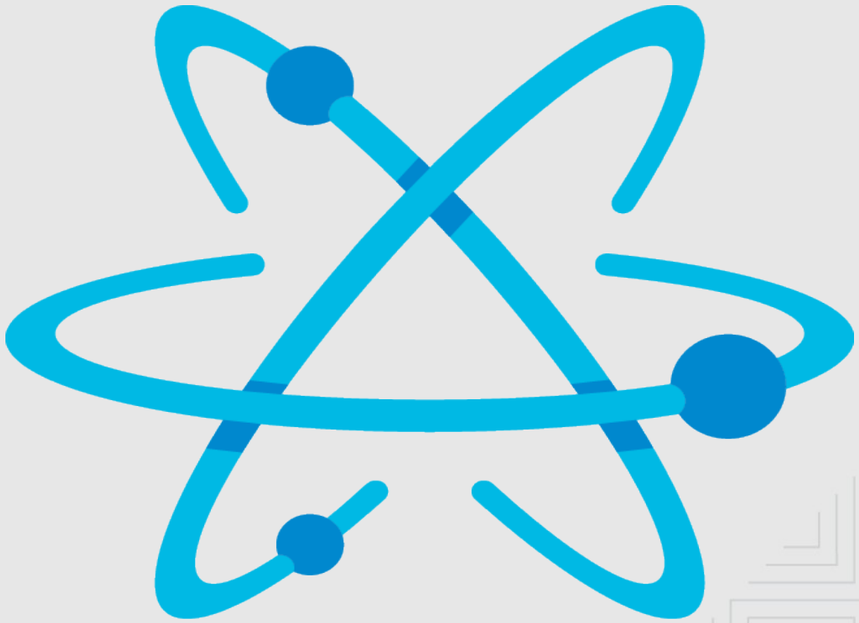
Expect 10X scale of VMs!

And… expect them to run in VMs

(so we'll talk about managing through the layers)

What is Atomic?

- RHEL Atomic is a variation of Red Hat Enterprise Linux 7
- Components
  - systemd
  - Kubernetes
  - Docker
  - SELinux
- JEOS for Containers
- OSTree vs. Yum / RPM
- Everything is a Container



RED HAT ATOMIC

Audience	Capability	RH Atomic Enterprise Platform	OpenShift Enterprise by RH	RH Cloud Suite for Applications
Operations	Container optimized host	✓	✓	✓
	Orchestration	✓	✓	✓
	Large scale deployments	✓	✓	✓
	Certified ecosystem	✓	✓	✓
Developers	App lifecycle management		✓	✓
	Continuous integration		✓	✓
	Developer tooling		✓	✓
	Large scale deployments		✓	✓
Enterprise Architects	VMs + Containers			✓
	Unified Management			✓
	Hybrid Cloud			✓
	Full stack, fully integrated			✓

RED HAT® CLOUDFORMS MANAGEMENT ENGINE

Brian Johnson

Cloud Intelligence | Services | Clouds | Infrastructure | Containers | Control | Automate | Optimize | Configure

Dashboard | Container Providers | Projects | Nodes | Container Groups | Routes | Replicators | Images | Image Registries | Services | Containers | Topology

2 Providers
1 1

52 Nodes 3

300 Containers

4 Registries

510 Projects

1200 Container Groups 35

2500 Services

2500 Images

300 Routes

Utilization

CPU
50 Available of 1000 MHz
950 MHz Used
Last 30 Days

Memory
256 Available of 432 GB
176 GB Used
Last 30 Days

Storage
0.5 Available of 1.6 TB
1.1 TB Used
Last 30 Days

Network
200 Available of 1300 Gbps
1100 Gbps Used
Last 30 Days

Container Group Trends

Last 30 Days

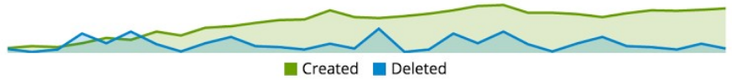
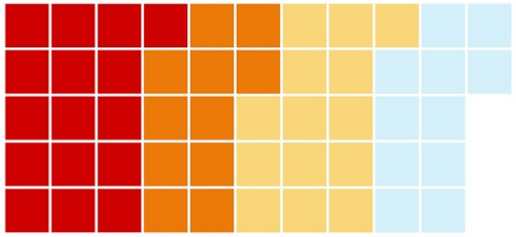


Image Creation Trends

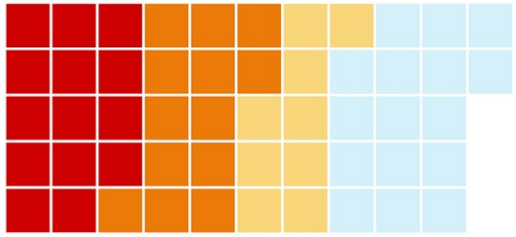
Last 30 Days

Utilization By Nodes

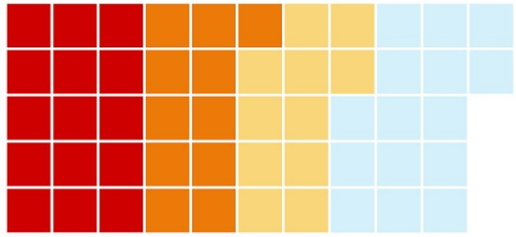
CPU



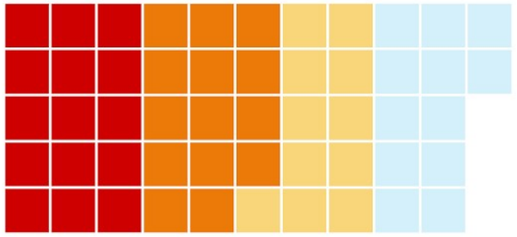
Memory



Storage



Network



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Container Providers » Kubernetes

27 Nodes, 2	120 Containers	2 Registries	210 Projects
500 Container Groups, 35	1500 Services	1250 Images	175 Routes

Utilization

CPU	Memory	Storage	Network
50 Available of 1000 MHz	256 Available of 432 GB	0.5 Available of 1.6 TB	200 Available of 1300 Gbps
950 MHz Used	176 GB Used	1.1 TB Used	1100 Gbps Used
Last 30 Days	Last 30 Days	Last 30 Days	Last 30 Days

Container Group Trends

Last 30 Days

Created Deleted

Image Creation Trends

Last 30 Days

Images Total Size

Utilization By Nodes

CPU | Memory | Storage | Network

> 90% 80-90% 70-80% < 70%

Very Low Low High Very High

localhost:4200/containers/providers?provider_type=kubernetes

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Container Providers » OpenShift

25 Nodes — 1

180 Containers

2 Registries

310 Projects

700 Container Groups — 35

1000 Services

1250 Images

125 Routes

Utilization

CPU

50 Available of 1000 MHz

950 MHz Used

Last 30 Days

Memory

256 Available of 432 GB

176 GB Used

Last 30 Days

Storage

0.5 Available of 1.6 TB

1.1 TB Used

Last 30 Days

Network

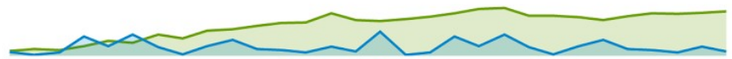
200 Available of 1300 Gbps

1100 Gbps Used

Last 30 Days

Container Group Trends

Last 30 Days



Created Deleted

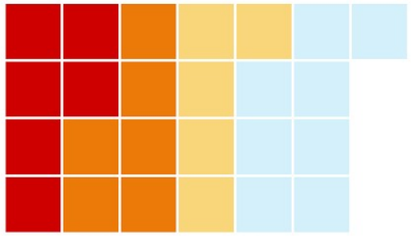
Image Creation Trends

Last 30 Days

Images Total Size

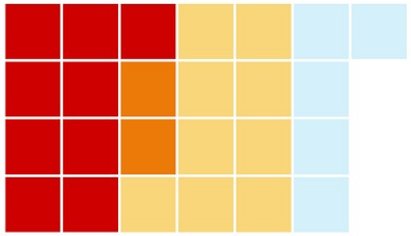
Utilization By Nodes

CPU

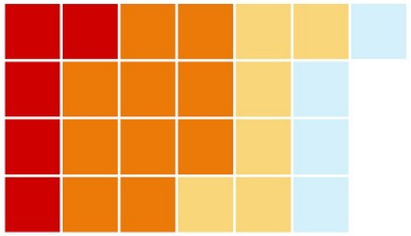


> 90% 80-90% 70-80% < 70%

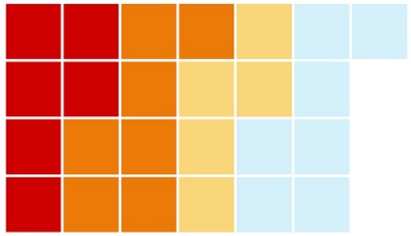
Memory



Storage



Network



Very Low Low High Very High

localhost:4200/containers/providers?provider_type=openshift

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Projects » Project Demo

27 Nodes — 2

120 Containers

175 Routes

500 Container Groups — 35

1500 Services

1250 Images

Container Group Trends

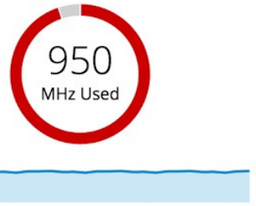
Last 30 Days

Created Deleted

Utilization

CPU

50 Available of 1000 MHz



Last 30 Days

Memory

256 Available of 432 GB

Last 30 Days

Storage

0.5 Available of 1.6 TB

Last 30 Days

Network

200 Available of 1300 Gbps

Last 30 Days

Quotas

CPU 26 of 45

Memory 8 of 16

Container Groups 500 of 632

Services 1500 of 2500

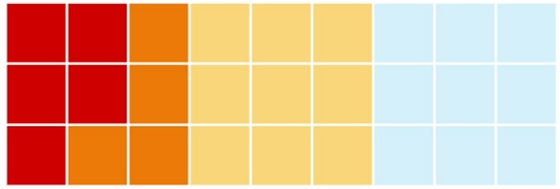
Utilization By Nodes

CPU

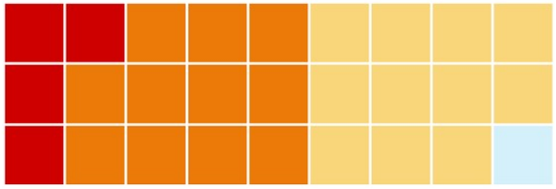
> 90% 80-90% 70-80% < 70%

Memory

Storage



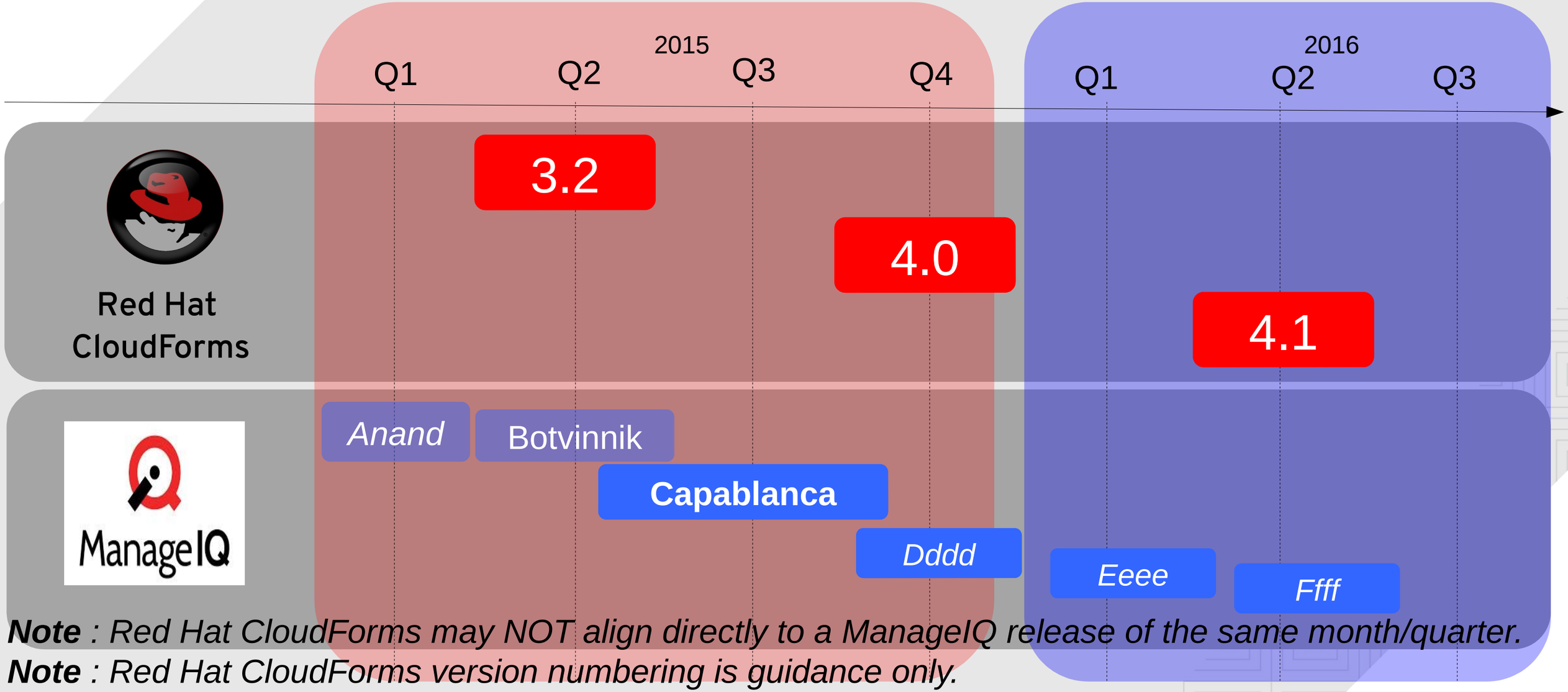
Network



Very Low Low High Very High

localhost:4200/#

Release Schedule



***Note** : Red Hat CloudForms may NOT align directly to a ManageIQ release of the same month/quarter.*

***Note** : Red Hat CloudForms version numbering is guidance only.*

Cloud of the Day

- IT To The Future
- Red Hat Couldforms – your solution
- CloudForms with Containers
- CloudForms Road-map

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