Open Source Software
Security Solutions
Consulting
Training

DASEQ

redhat.

CLOUDFORMS Open Hybrid Cloud

Cloud Evolution statt Cloud Revolution

Lutz Lange, RHCA, Solution Architect, Red Hat
Frank Rosendahl, RHCA, Solution Architect, DASEQ GmbH

CLOUDFORMS
Cloud Operations Management

Open Source Software
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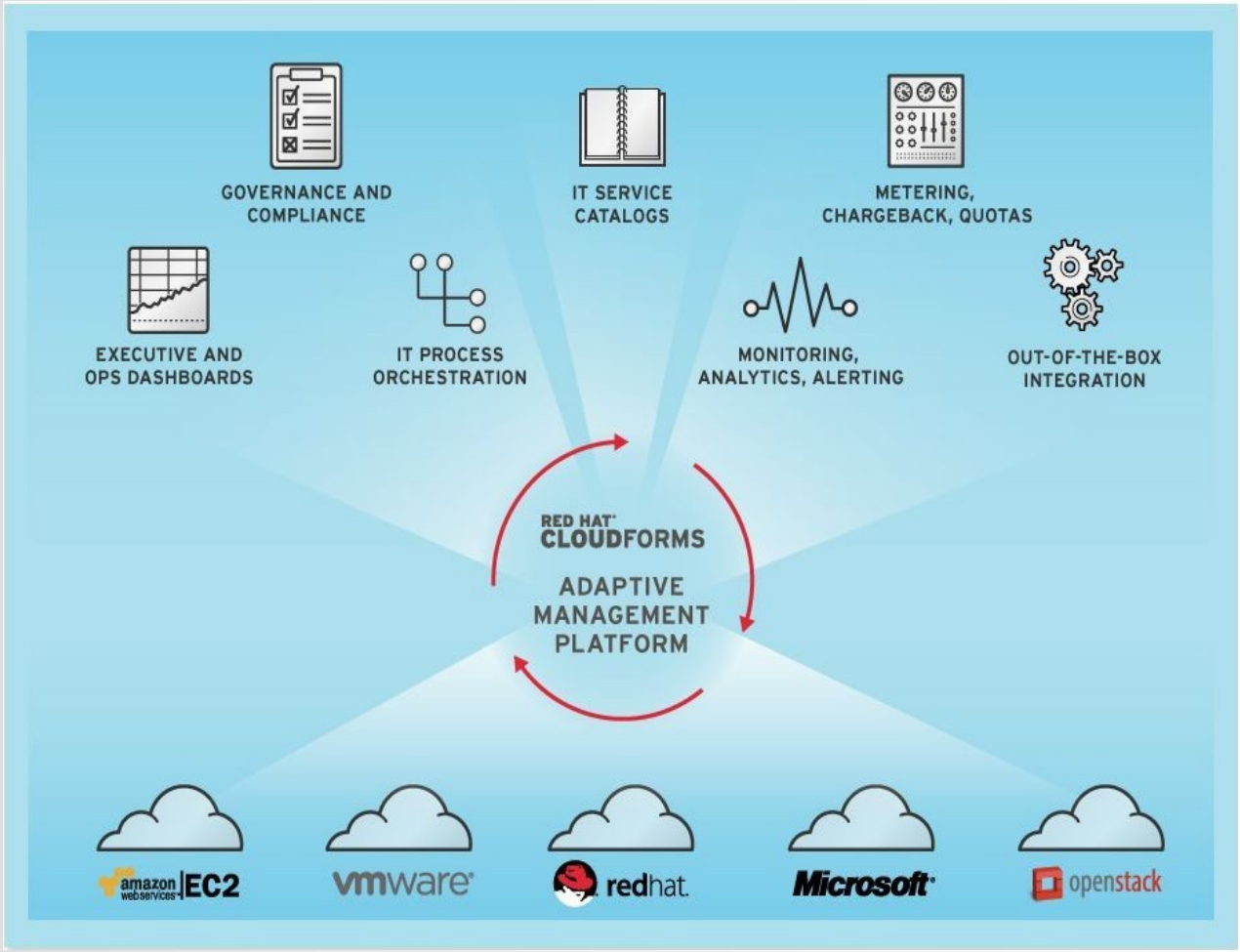
Training

- Delivers an Open Cloud Management Platform that Supports Heterogeneous Private, Public and Hybrid Clouds
- Enables Evolution from Proprietary Infrastructures to Open, Hybrid Clouds
- Enables IT to Deliver IAAS and Broker Cloud Services, Optimize Resources and Reduce Costs
- Manages Service Deployment across Hybrid Clouds Using Policies, SLAs and Cost
- Provides Rich Integration into Existing Enterprise Management Systems and Processes
- Eliminates Proprietary Cloud Management Tool Vendor Lock-In



CLOUD MANAGEMENT
Usage Scenarios

Open Source Software
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Consulting
Training

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Virtual

Reduce Cost of Existing VMware

CLOUDFORMS

vmware

Migrate to Lower Cost Virtual Platform

CLOUDFORMS

vmware redhat

Unify Management of Existing Multi-Hypervisor Environments

CLOUDFORMS

redhat

vmware Microsoft

Private

Transform Existing Virtual Platforms into Private Clouds

CLOUDFORMS vmware

CLOUDFORMS redhat

CLOUDFORMS Microsoft

Build Private Cloud

CLOUDFORMS

Hybrid

Build Hybrid Cloud

CLOUDFORMS

Private Public

Build Open Hybrid Cloud

CLOUDFORMS

redhat amazon web services

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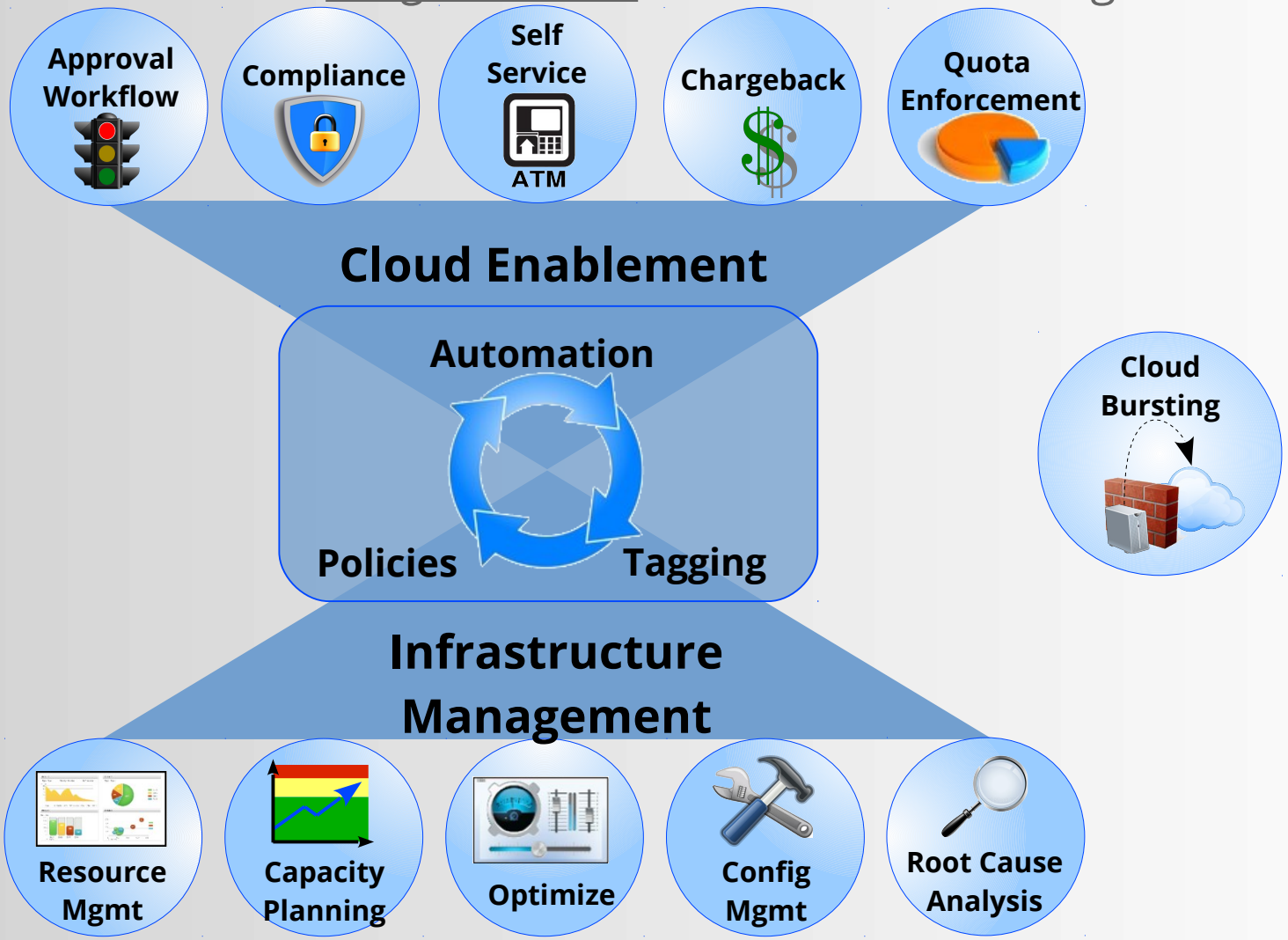
PASEQ

RED HAT CLOUDFORMS

Cloud Enablement *Integrated with* Infrastructure Management



CLOUDFORMS
Cloud Operations Management

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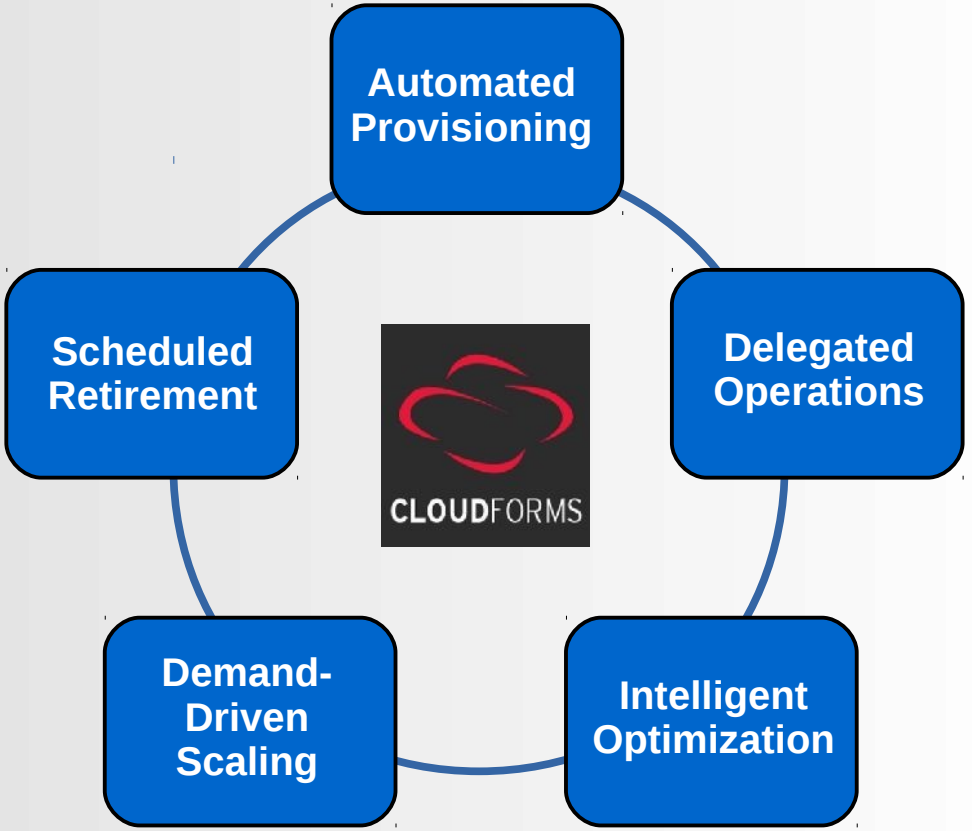
Complete Cloud Service Lifecycle

- Automated Provisioning
  - Simple/Multi-Tier, Full Stack
  - Self-Service, Service Catalog
- Delegated Operations
  - Power Operations, Console
  - Reconfiguration
- Intelligent Optimization
  - CPU, Memory & Storage
- Demand-Driven Scaling
  - Horizontal & Vertical
  - Start/Stop or Provision/Destroy
- Scheduled Retirement
  - Fully Automated
  - Multi-Phase



RED HAT CLOUD VISION

Open hybrid clouds from ALL Infrastructure

Open Source Software
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PORTABILITY

Applications
&
Operating System
and Hardware

PaaS

Application

Red Hat
OpenShift

IaaS

Operating System — Linux; Windows

Infrastructure — Virtual or Physical

CLOUDFORMS

SELF-SERVICE
Consumption with Control

HYBRID CLOUD

PRIVATE CLOUD

PUBLIC CLOUD

VIRTUAL RESOURCES

PHYSICAL RESOURCES

PUBLIC RESOURCES

VMware vSphere

Red Hat RHEV

Microsoft System Center

Red Hat OpenStack

Red Hat Enterprise Linux

Microsoft Windows

Amazon EC2

Rackspace

Red font denotes a future enhancement

CLOUDFORMS
Cloud Management Platform Capabilities

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Access Control	• Directory Integration, Role-Based • Classification-Driven Access Control • Self-Service & Admin Portals	**Automation**	**Integration**
Service Management	• Service Catalogs • Service Modeling & Designer • IaaS/PaaS Provisioning • Lifecycle Management • Financial Management	• Process • Runbook • Task • Orchestration • Workflows • Approvals • Policy Enforcement • Provisioning • Retirement • Reclamation • Classification • Optimization • Workload Management	• CMDB • Service Catalog • Incident • Change • Runbook • Event Console • SEIM • Helpdesk • Portals • Web Services
Resource Management	• Monitoring & Alerting • Capacity Planning • Self Learning Analytics • Quota Enforcement • Resource Pooling		
Infrastructure Management	• Automated Provisioning • Dynamic Reconfiguration • Capacity Planning		
Hybrid Cloud	• Federation • Brokering • Abstraction		

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N-TIER APPLICATION SERVICES

Orchestrate Deployment and Management

**I need resources for application service "X". 2 Web servers,
1 JBoss App server, and
1 Oracle DB server**

**How long do you need it?
How big do you need it?
What is it's purpose?**

**90 day project
Medium size
App Development**

N-Tier Application Service Request **1**

Approval Workflow

2

Management

3

VM Templates:
- Web server
- Application server
- Database Server

4

Intelligent Service Delivery:
- Where can I place this workload?
- What policies may affect placement?

5

Post-Provisioning Configuration:
- Satellite
- Puppet
- Chef
- SMS
- BladeLogic
- etc....

6

Chargeback:
- Whole Unit
- Allocated
- Actual Usage
- Tagged

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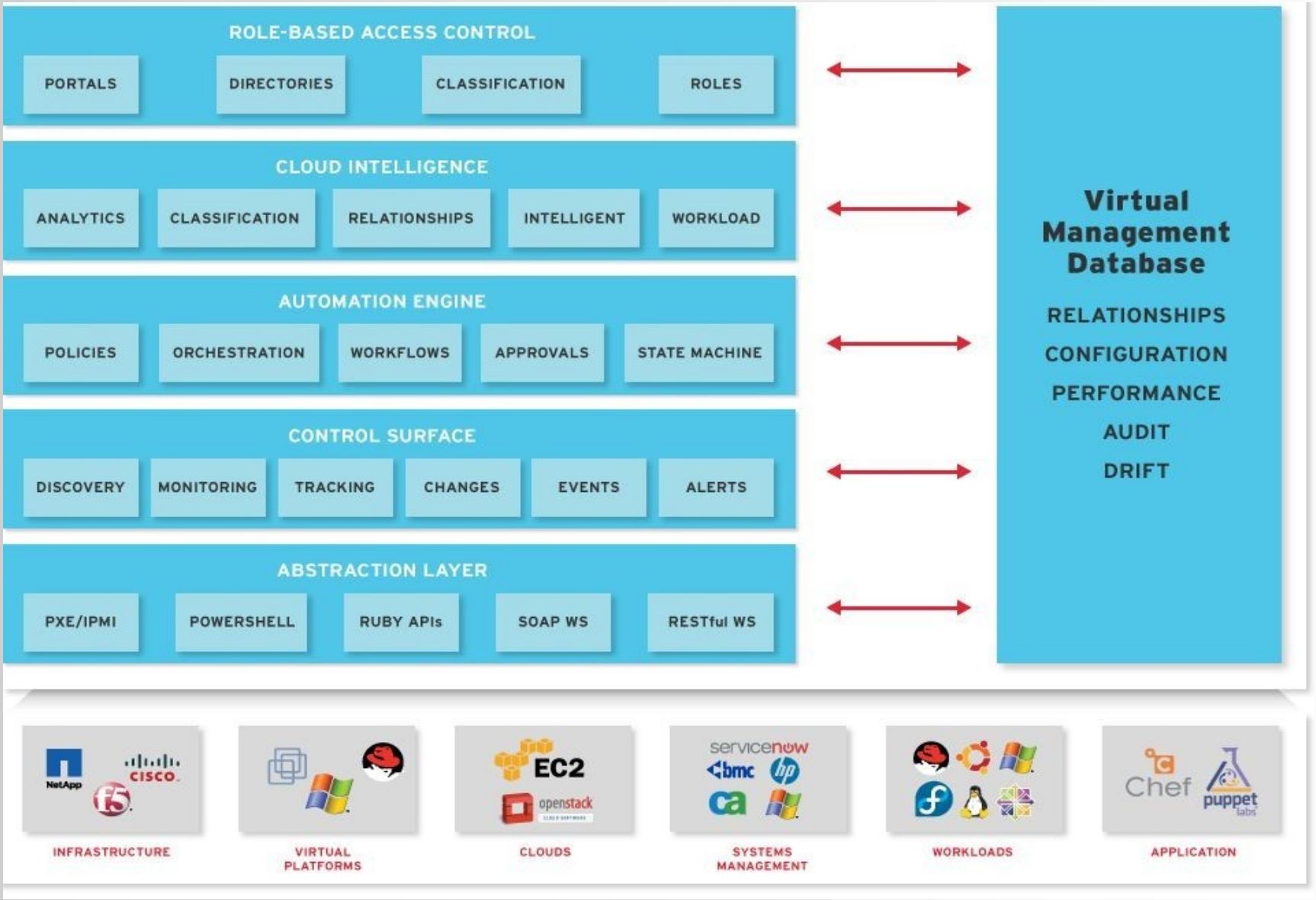
CLOUDFORMS

Built for Virtualization and Cloud Management



Open Source Software
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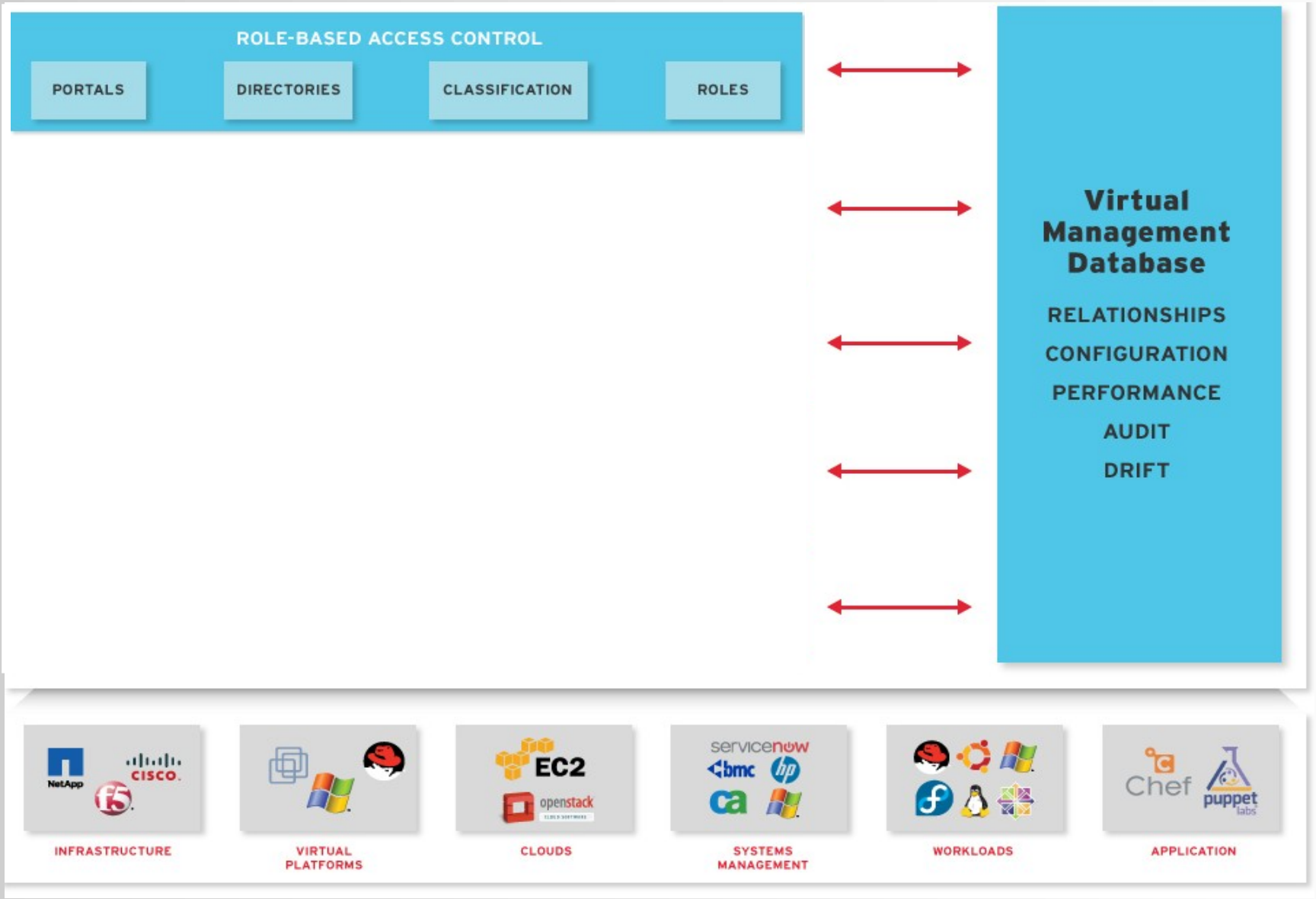
CLOUDFORMS
Built for Virtualization and Cloud Management



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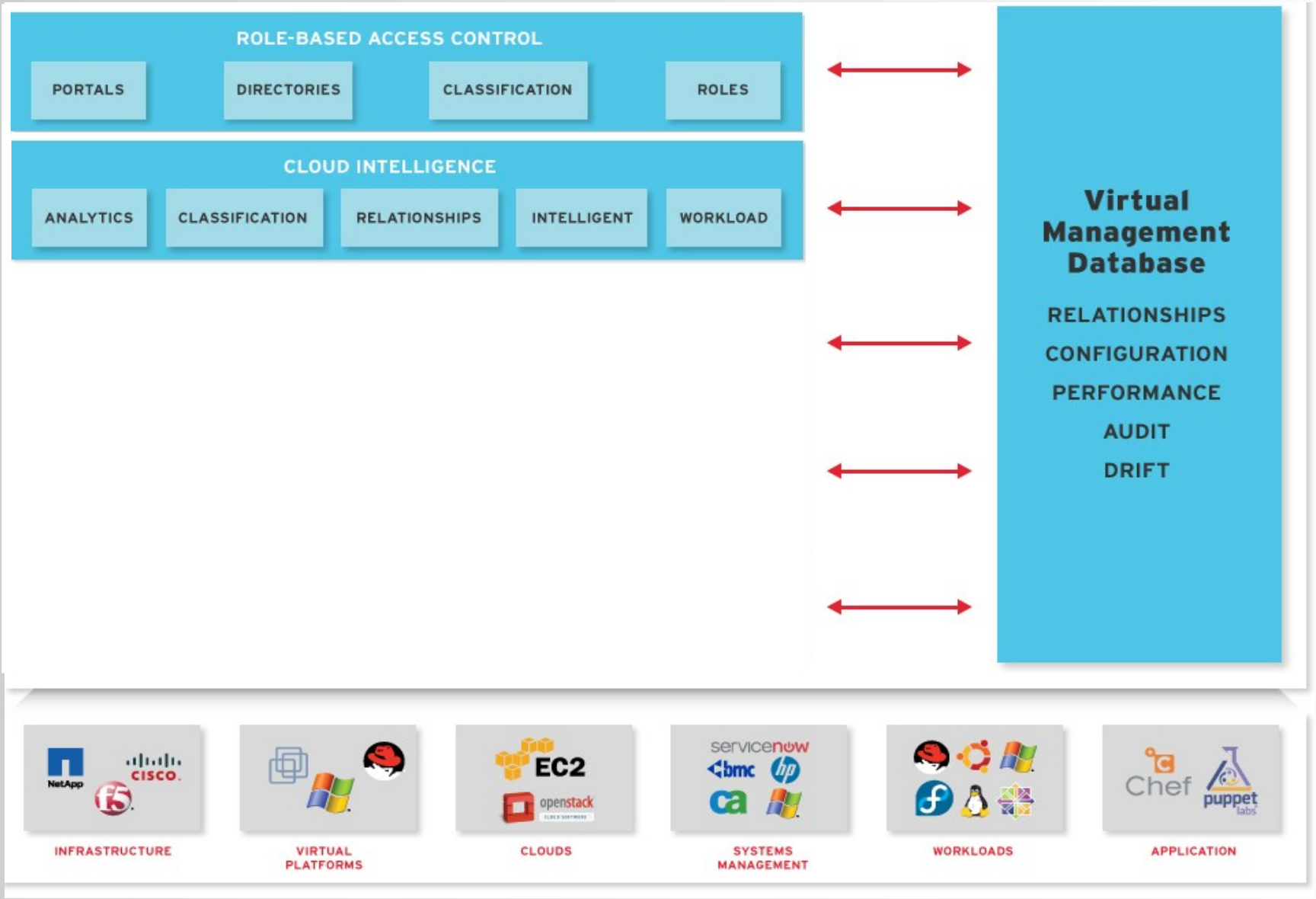
CLOUDFORMS
Built for Virtualization and Cloud Management



Open Source Software
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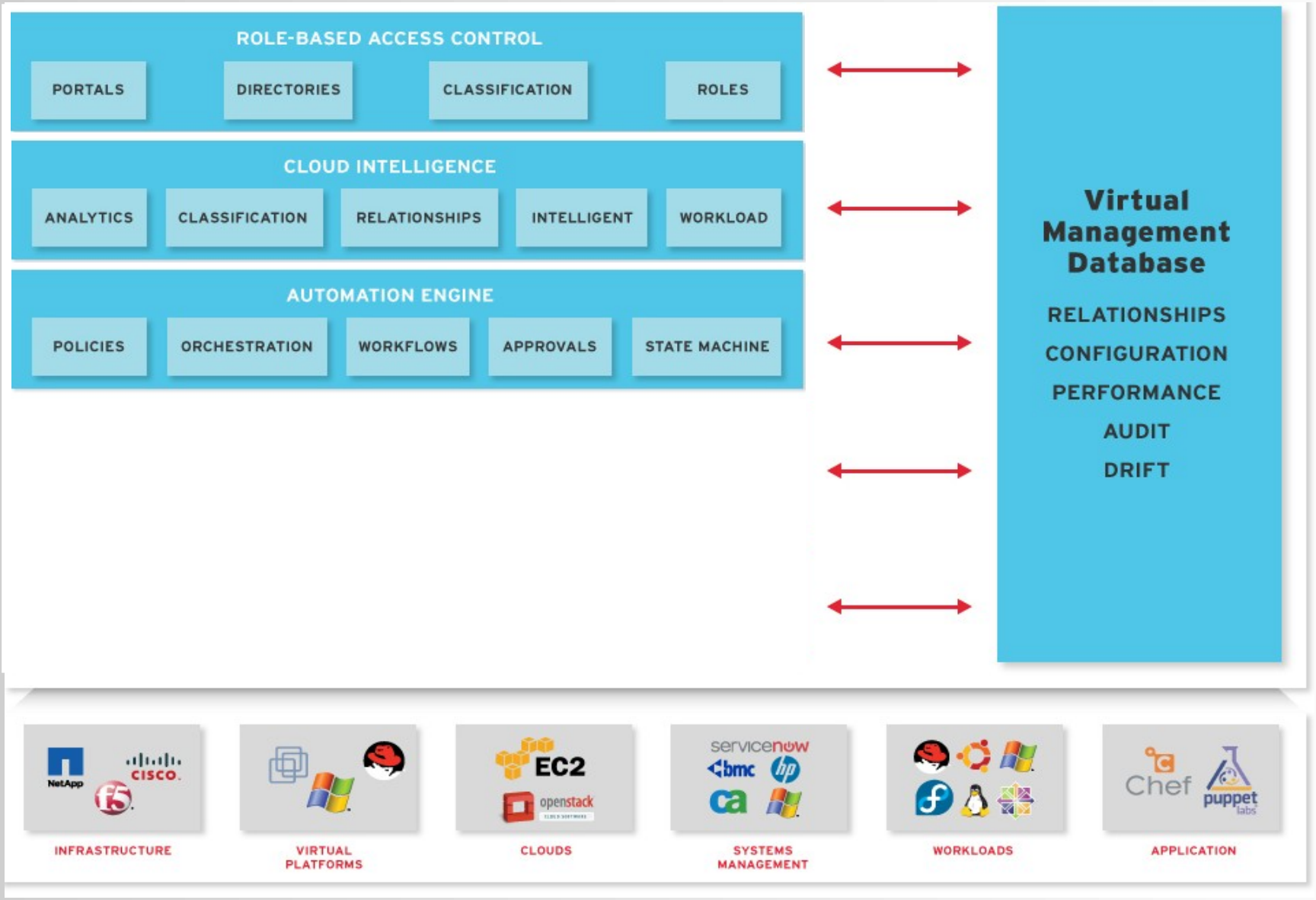
CLOUDFORMS
Built for Virtualization and Cloud Management



Open Source Software
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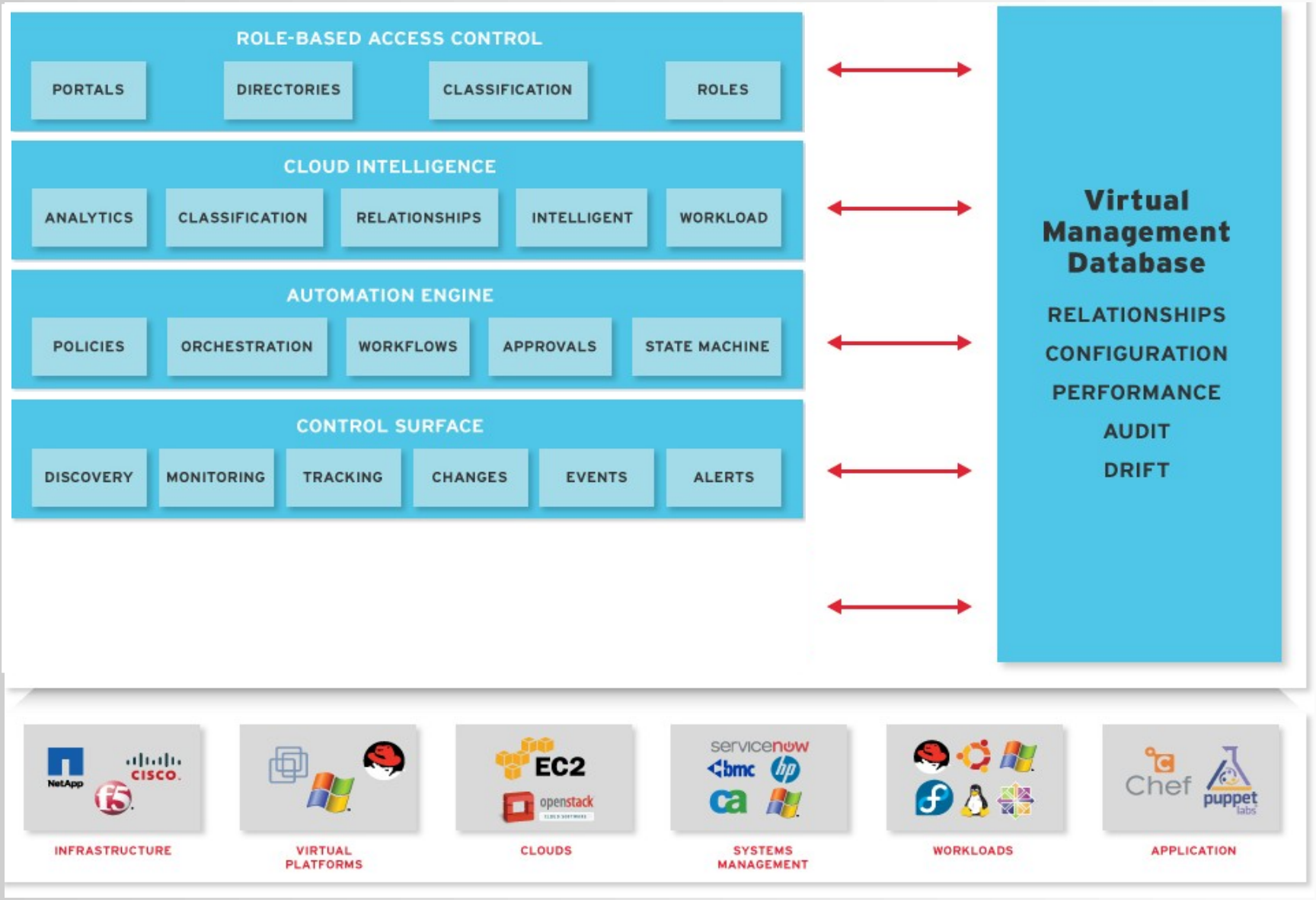
CLOUDFORMS
Built for Virtualization and Cloud Management



Open Source Software
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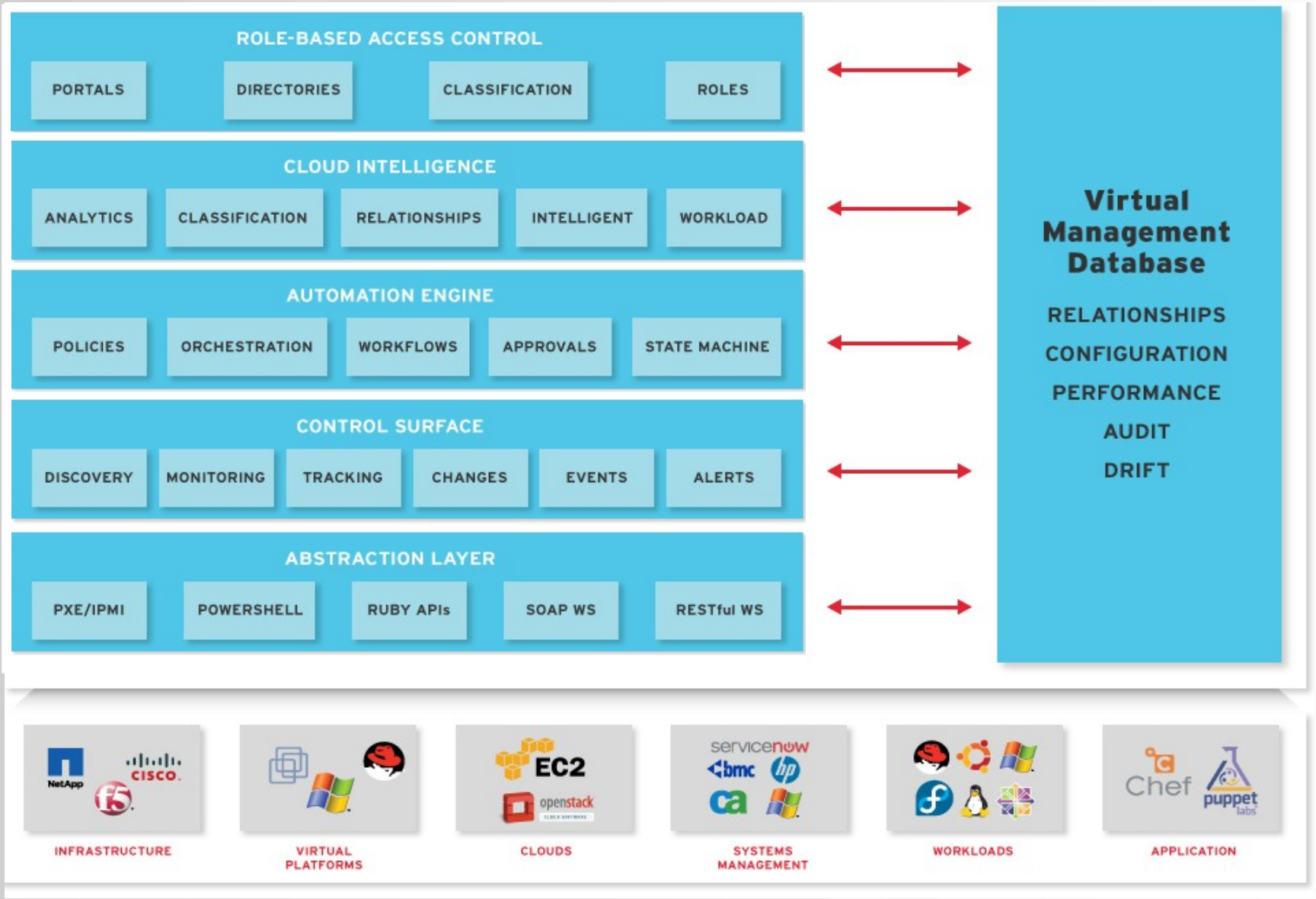
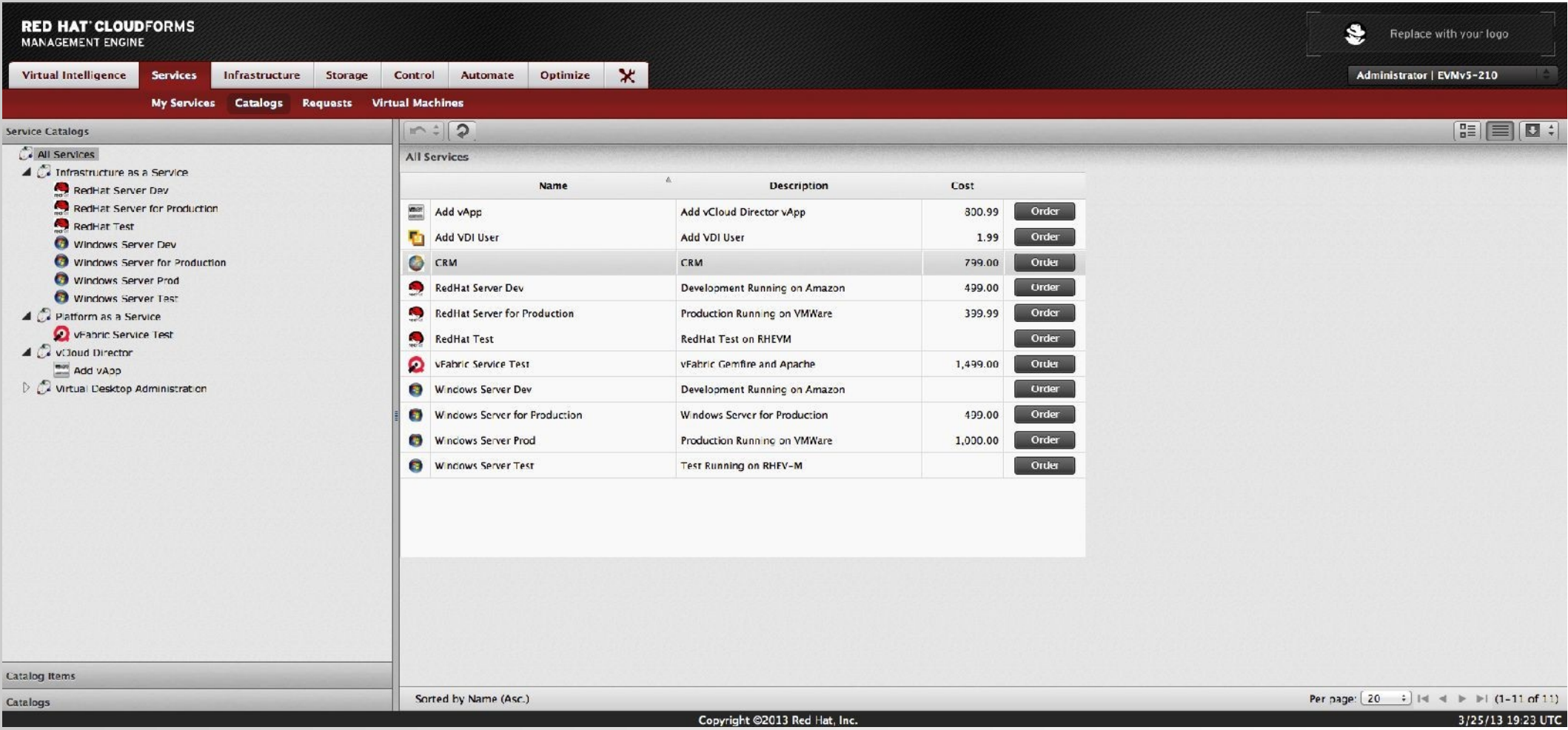
CLOUDFORMS
Built for Virtualization and Cloud Management



CLOUDFORMS
User - Catalog

Open Source Software
Security Solutions
Consulting
Training

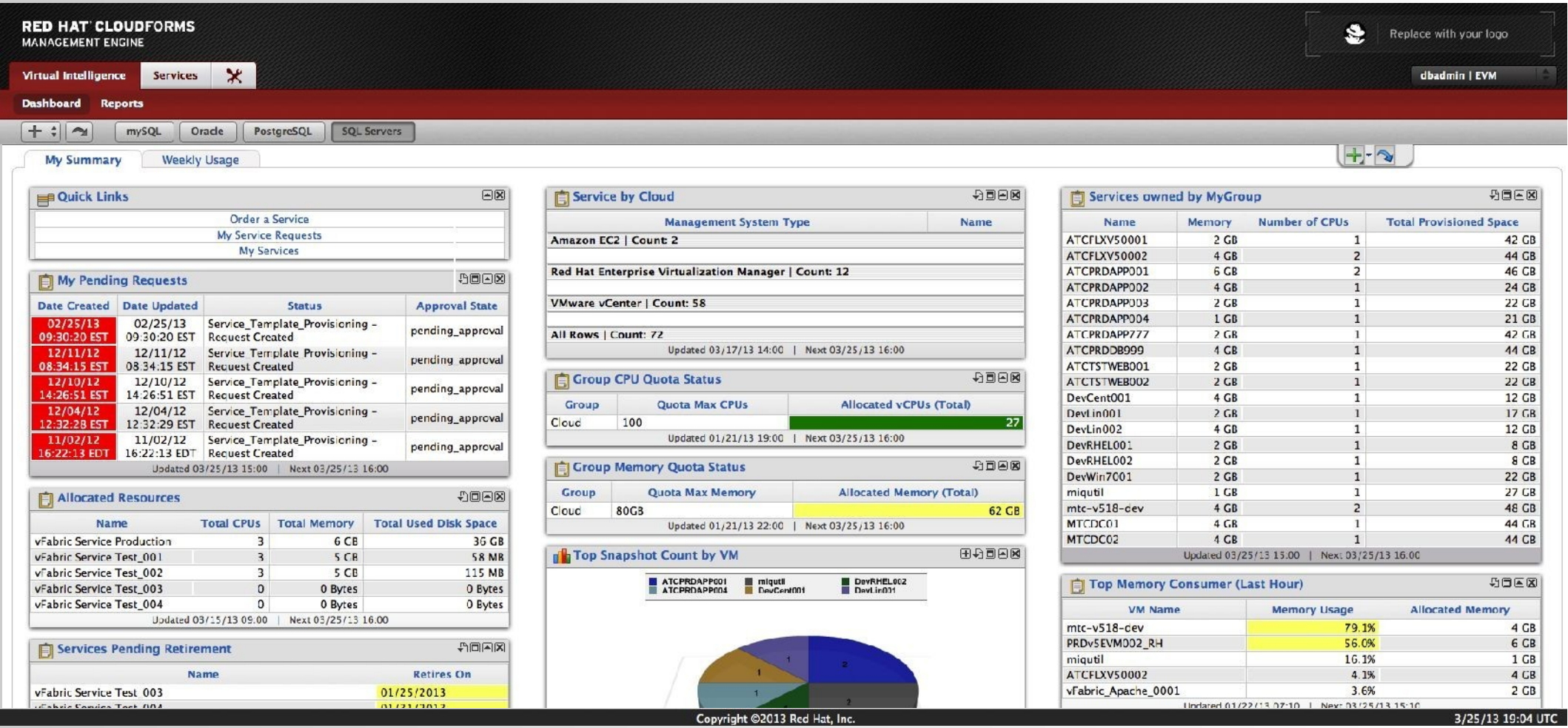
OPEN SEQ



CLOUDFORMS
User - Dashboard

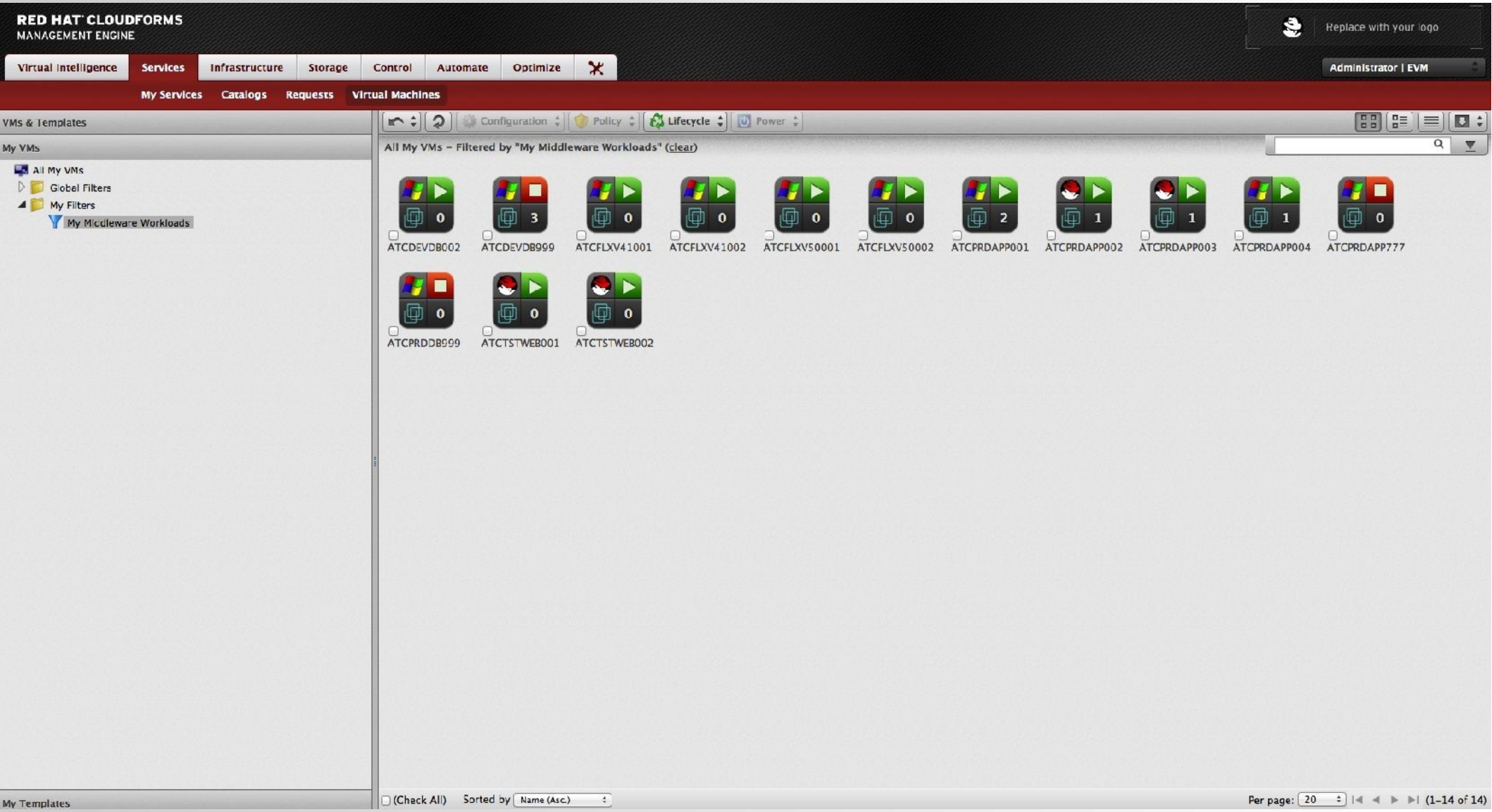
Open Source Software
Security Solutions
Consulting
Training

DASEQ



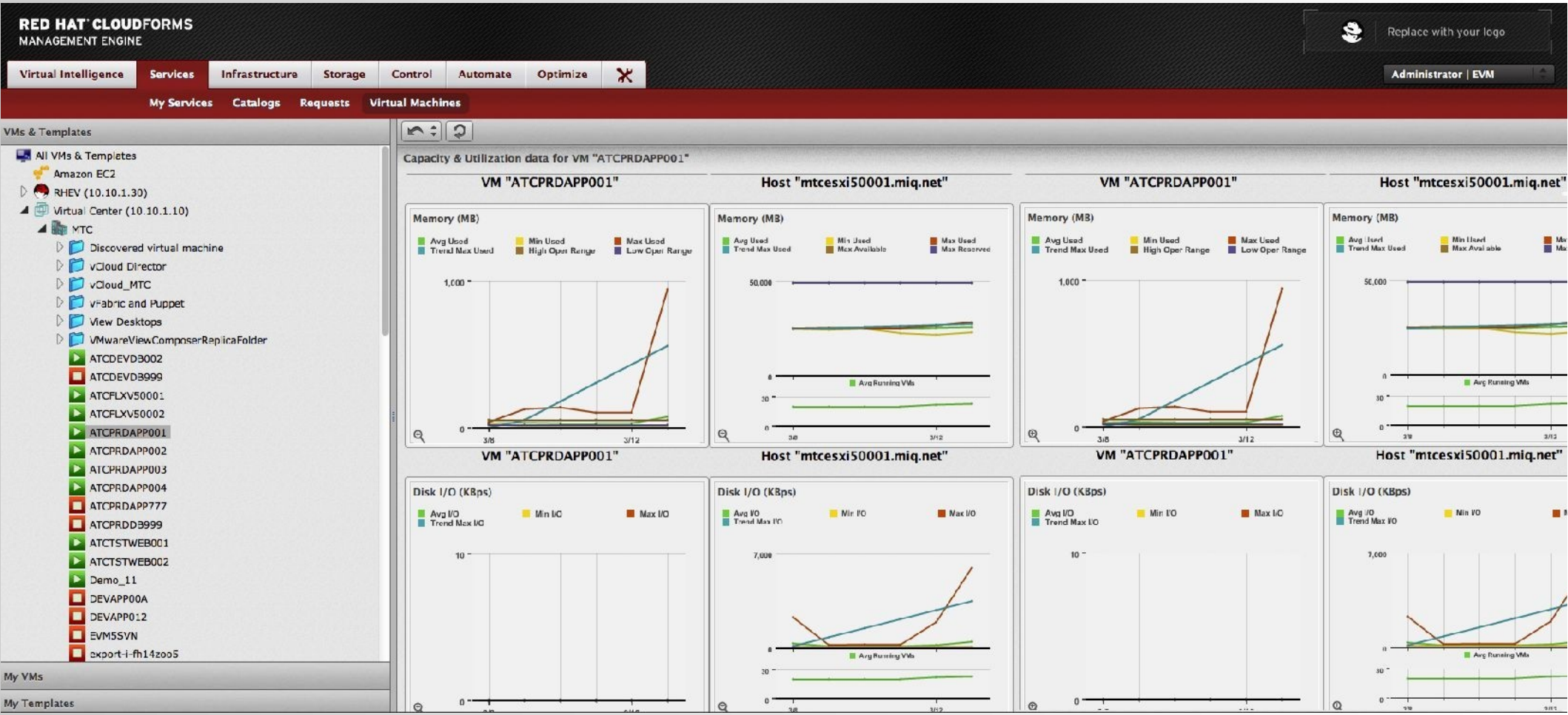
CLOUDFORMS
User – My Middleware Workloads

Open Source Software
Security Solutions
Consulting
Training



CLOUDFORMS
Ops - Monitoring

Open Source Software
Security Solutions
Consulting
Training



CLOUDFORMS
Ops - Dashboard

Open Source Software
Security Solutions
Consulting
Training

RED HAT CLOUDFORMS
MANAGEMENT ENGINE

Replace with your logo

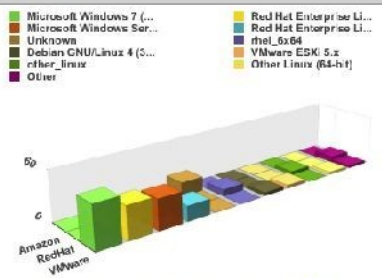
Administrator | EVM

Virtual Intelligence | Services | Infrastructure | Storage | Control | Automate | Optimize

Dashboard | Reports | Usage | Chargeback | Timelines | RSS

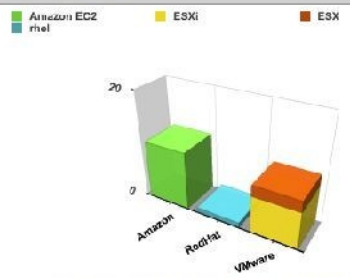
Default Dashboard

Vendor and Guest OS Chart



Updated 03/14/13 00:00 | Next 03/15/13 00:00

Virtual Infrastructure Platforms



Updated 03/14/13 00:00 | Next 03/15/13 00:00

EVM: Recently Discovered VMs

miq0002 on Host mtcesxi50001.miq.net *Date : 2013-03-14 16:51:16 UTC*
miq0034 on Host mtcesxi50001.miq.net *Date : 2013-03-14 16:21:54 UTC*
miq0023 on Host mtcesxi50001.miq.net *Date : 2013-03-14 16:05:31 UTC*
miq0012 on Host mtcesxi50001.miq.net *Date : 2013-03-14 15:52:17 UTC*
miq0001 on Host mtcesxi50001.miq.net *Date : 2013-03-14 15:47:11 UTC*

Updated 03/14/13 17:00 | Next 03/14/13 18:00

EVM: Recently Discovered Hosts

us-west-1c, hostname: , running Amazon VMM *Date : 2013-03-07 22:07:25 UTC*
us-west-1b, hostname: , running Amazon VMM *Date : 2013-03-07 22:07:25 UTC*
us-west-1a, hostname: , running Amazon VMM *Date : 2013-03-07 22:07:25 UTC*
us-east-1e, hostname: , running Amazon VMM *Date : 2013-03-07 22:07:25 UTC*
us-east-1d, hostname: , running Amazon VMM *Date : 2013-03-07 22:07:25 UTC*

Updated 03/14/13 17:00 | Next 03/14/13 18:00

New VM Capacity based on Allocation

Name	Net New VM Count based on Memory	Available Memory for New VMs
Pod1	11	41.6 GB
MTC Development	0	1.9 GB
us-east-1	0	0 Bytes
Default	0	0 Bytes
DC2-iSCSI	0	0 Bytes
DC2Cluster1	0	0 Bytes
Cluster2	0	9.1 GB
Cluster1-iSCSI	0	66 GB
temp	-1	-1 GB
MTCPRD001	-2	-15.2 GB

Updated 02/16/13 03:00 | Next 03/14/13 18:00

Top Storage Consumers

Name	Cluster Name	Host Name
PRDv5EVM001	MTCPRD001	92 GB
Xav	MTCPRD001	92 GB
PRDv5EVM002_RH	Pod1	86 GB
PRDEVM001	MTCPRD001	82 GB
PRDv5EVM002_amzn	MTCPRD001	72 GB
MTCIPAM001	MTCPRD001	72 GB
vCloud Storage 1	MTCPRD002	66 GB
MTCVCS56001	MTCPRD001	60 GB
MTCVC41	MTCPRD001	60 GB
vShield Manager	MTCPRD002	60 GB

Updated 03/14/13 17:27 | Next 03/15/13 00:00

CLOUDFORMS
Executive - Chargeback

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Security Solutions
Consulting
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RED HAT CLOUDFORMS
MANAGEMENT ENGINE

Replace with your logo

Administrator | EVMv5-210

Virtual Intelligence | Services | Infrastructure | Storage | Control | Automate | Optimize

Dashboard | Reports | Usage | Chargeback | Timelines | RSS

Saved Reports
- All Savec Reports
  - Operations VMs Powered On/Off for Last Week

Saved Report "Chargeback for Production VMs by Date – Wed Jan 09 15:12:27 UTC 2013"

TXT CSV PDF

Per page: 20 (Rows 1-20 of 226)

Date Range	VM Name	Total Cost	Owner	CPU Allocated Cost	CPU Allocated	CPU Total Cost	CPU Total	CPU Used Cost	CPU Used	Disk I/O Used Cost	Disk I/O Used	Fixed Compute Cost 1	Fixed Compute Cost 2	Fixed Total Cost	Memory Allocated Cost	Memory Allocated	Memory Total Cost	Memory Total	Memory Used Cost	Memory Used	Network I/O Used Cost	Netwo I/O Usec
12/13/2012	ATCFLXV50001	$216.43		$0.01	24 MHz	$32.82	352 MHz	$32.81	328 MHz	$3.73	373 KBps	$1.71	$1.17	$2.88	$3.41	48 GB	$177.00	49.7 GB	$173.59	1.7 GB	$0.00	1 KB
12/13/2012	ATCFLXV50002	$12,396.84		$0.02	48 MHz	$11,927.00	119 GHz	$11,926.98	119 GHz	$0.00	0 KBps	$1.71	$1.17	$2.88	$6.83	96 GB	$466.96	100.5 GB	$460.14	4.5 GB	$0.00	0 KB
12/13/2012	ATCPRDAPP001	$233.13	Cloud	$0.02	48 MHz	$53.83	586 MHz	$53.81	538 MHz	$0.00	0 KBps	$1.71	$1.17	$2.88	$10.24	144 GB	$176.42	145.6 GB	$166.18	1.6 GB	$0.00	0 KB
12/13/2012	ATCPRDAPP002	$148.66	Cloud	$0.01	24 MHz	$15.55	179 MHz	$15.54	155 MHz	$0.00	0 KBps	$1.71	$1.17	$2.88	$6.83	96 GB	$130.23	97.2 GB	$123.40	1.2 GB	$0.00	0 KB
12/13/2012	ATCPRDAPP003	$52.32	Cloud	$0.01	24 MHz	$9.17	116 MHz	$9.16	92 MHz	$0.05	5 KBps	$1.71	$1.17	$2.88	$3.41	48 GB	$40.21	48.4 GB	$36.80	368 MB	$0.00	0 KB
12/13/2012																						
Totals:		$13,047.37			168 MHz	$12,038.36	121 GHz		120 GHz		378 KBps			$14.40		432 GB	$990.82	441.4 GB		9.4 GB		1 KB
12/14/2012	ATCFLXV50001	$176.87		$0.01	24 MHz	$28.85	312 MHz	$28.84	288 MHz	$1.76	176 KBps	$1.71	$1.17	$2.88	$3.41	48 GB	$143.38	49.4 GB	$139.97	1.4 GB	$0.00	0 KB
12/14/2012	ATCFLXV50002	$12,244.18		$0.02	48 MHz	$11,787.74	118 GHz	$11,787.72	118 GHz	$0.00	0 KBps	$1.71	$1.17	$2.88	$6.83	96 GB	$453.56	100.4 GB	$446.73	4.4 GB	$0.00	0 KB
12/14/2012	ATCPRDAPP001	$127.22	Cloud	$0.02	48 MHz	$38.83	436 MHz	$38.81	388 MHz	$0.00	0 KBps	$1.71	$1.17	$2.88	$10.24	144 GB	$85.51	144.7 GB	$75.27	752.7 MB	$0.00	0 KB
12/14/2012	ATCPRDAPP002	$136.02	Cloud	$0.01	24 MHz	$14.36	167 MHz	$14.35	143 MHz	$0.00	0 KBps	$1.71	$1.17	$2.88	$6.83	96 GB	$118.79	97.1 GB	$111.96	1.1 GB	$0.00	0 KB
12/14/2012	ATCPRDAPP003	$48.19	Cloud	$0.01	24 MHz	$8.44	108 MHz	$8.43	84 MHz	$0.04	4 KBps	$1.71	$1.17	$2.88	$3.41	48 GB	$36.82	48.3 GB	$33.41	334.1 MB	$0.00	0 KB
12/14/2012																						
Totals:		$12,732.48			168 MHz	$11,878.22	119 GHz		119 GHz		180 KBps			$14.40		432 GB	$838.06	439.9 GB		7.9 GB		1 KB
12/15/2012	ATCFLXV50001	$201.89		$0.01	24 MHz	$30.64	330 MHz	$30.63	306 MHz	$1.98	198 KBps	$1.71	$1.17	$2.88	$3.41	48 GB	$166.38	49.6 GB	$162.97	1.6 GB	$0.00	1 KB
12/15/2012	ATCFLXV50002	$12,408.05		$0.02	48 MHz	$11,929.36	119 GHz	$11,929.34	119 GHz	$0.00	0 KBps	$1.71	$1.17	$2.88	$6.83	96 GB	$475.81	100.6 GB	$468.99	4.6 GB	$0.00	0 KB
12/15/2012	ATCPRDAPP001	$138.48	Cloud	$0.02	48 MHz	$39.70	445 MHz	$39.68	397 MHz	$0.00	0 KBps	$1.71	$1.17	$2.88	$10.24	144 GB	$95.90	144.8 GB	$85.66	856.6 MB	$0.00	0 KB
12/15/2012	ATCPRDAPP002	$146.45	Cloud	$0.01	24 MHz	$16.25	186 MHz	$16.24	162 MHz	$0.00	0 KBps	$1.71	$1.17	$2.88	$6.83	96 GB	$127.32	97.2 GB	$120.49	1.2 GB	$0.00	0 KB

Reports
Schedules
Dashboards
Dashboard Widgets
Edit Report Menus
Import/Export

CLOUDFORMS
Executive - Planning

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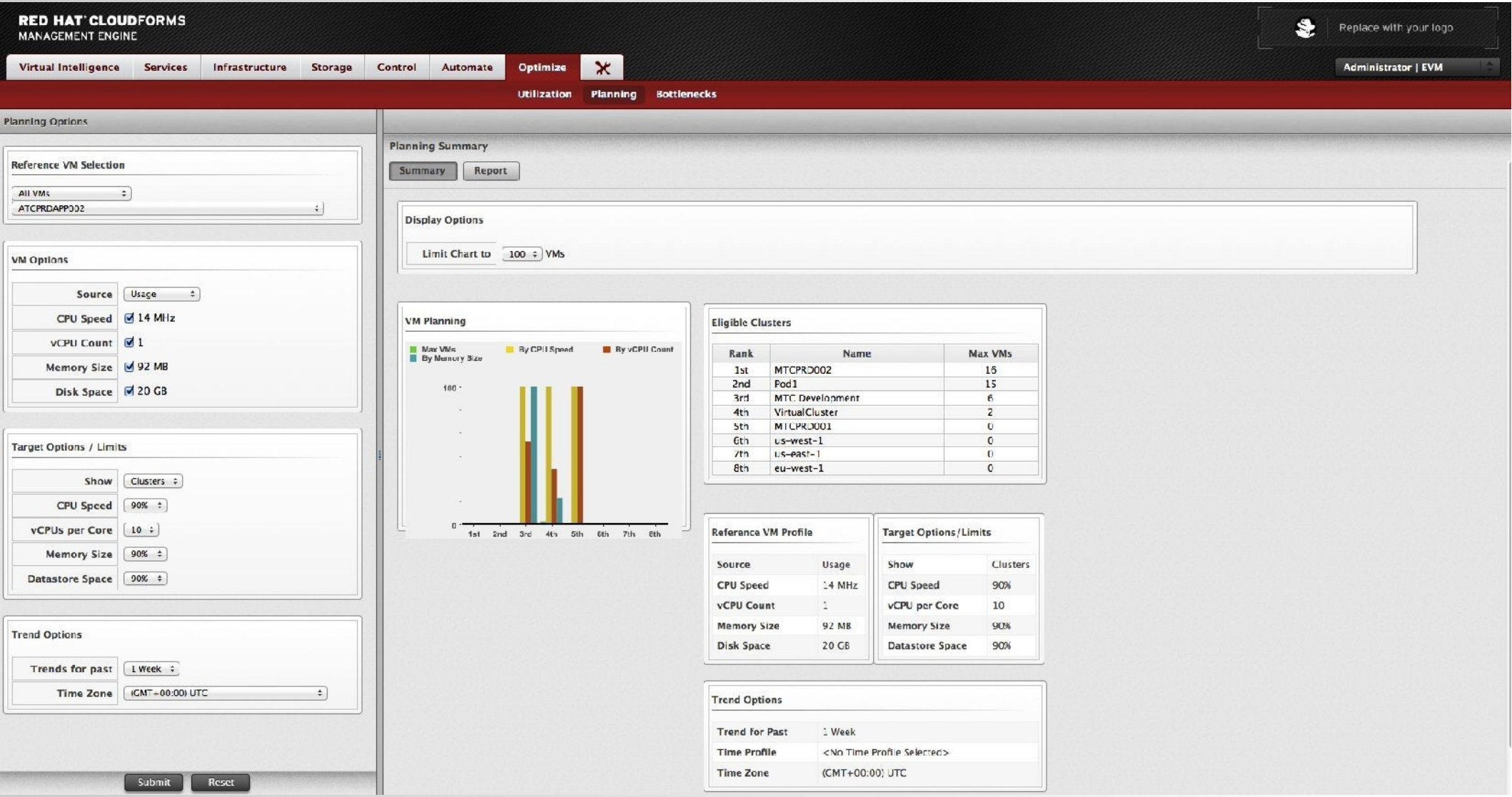

Und jetzt: Action!