Hybrid cloud cost management

Challenges, opportunities, and best practices

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Product Marketing
MBU - Red Hat

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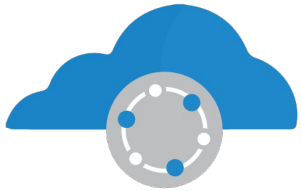
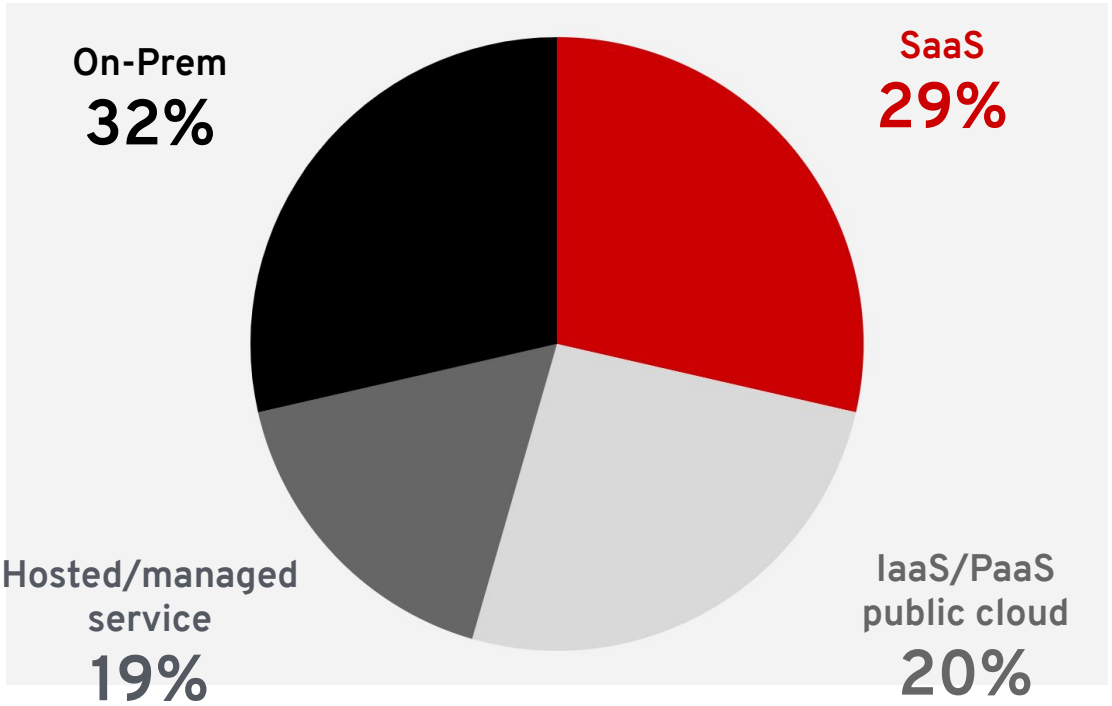
Manager,
Product Marketing
MBU - Red Hat

May 2019

ENTERPRISE SOFTWARE DEPLOYMENT FORECAST 2020



HYBRID CLOUD IS THE NORM



SOURCE: 451 Research, Voice of the Enterprise: Cloud, Hosting and Managed Services, Workloads and Key Projects 2018

HYBRID CLOUD DOMINATES ENTERPRISE IT STRATEGIES

HYBRID CLOUD IS THE GOAL:

58%

of enterprise are moving to hybrid IT environments that integrate on premises systems and off premises cloud and hosted environments

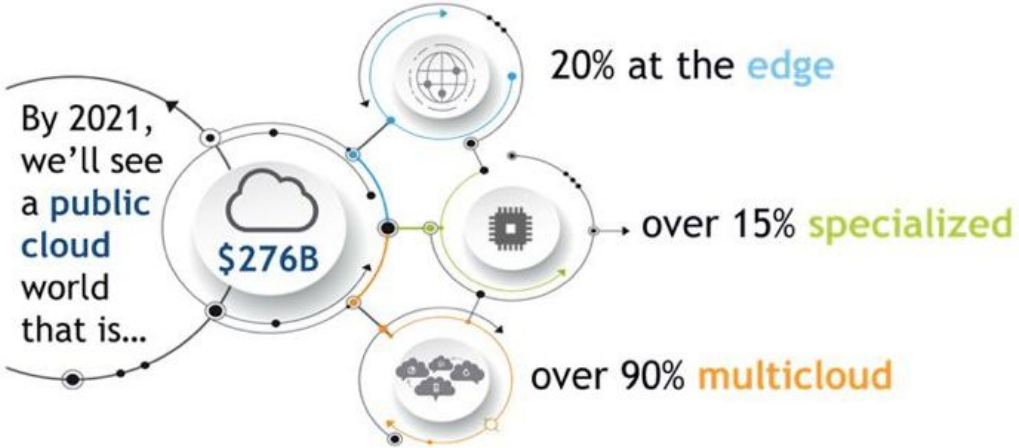
SAAS GROWTH EXPECTED:

32%

of businesses expect SaaS to be the largest area of growth in IT spending in 2018

Source: 451 Research Voice of the Enterprise Cloud, Hosting and Managed Services Budgets and Outlooks 2017

THE CLOUD IS EVOLVING



TOTAL MARKET CAGR 2016-2021 (IaaS, PaaS, SaaS)

+21,9%

Source: IDC, Worldwide and Regional Public IT Cloud Services Forecast, 2018–2021, #US43625818

MULTICLOUD CHALLENGE

"As multicloud architectures become mainstream, enterprise customers need better cloud management software and SaaS options to help them automate cloud operations, share IT resources, match workloads with appropriate cloud features, and control cloud costs and governance. "

Source: Mary Johnston Turner, IDC research vice president for Cloud Management.

How do I centralize functions across disparate clouds?

Consumption

Policy & Governance

Cost Management & Billing

Workload Placement

RED HAT HYBRID CLOUD MANAGEMENT

Govern, automate, and manage multicloud environments

CLOUDFORMS

On-premises IT Lifecycle Automation:

Policy driven **private cloud** provisioning and Day 2 operations

Capacity Planning

+

CLOUD MANAGEMENT SERVICES FOR HYBRID

CATALOG

Unified multicloud catalog

Easy consumption of cloud IT services

Frictionless governance of content to users

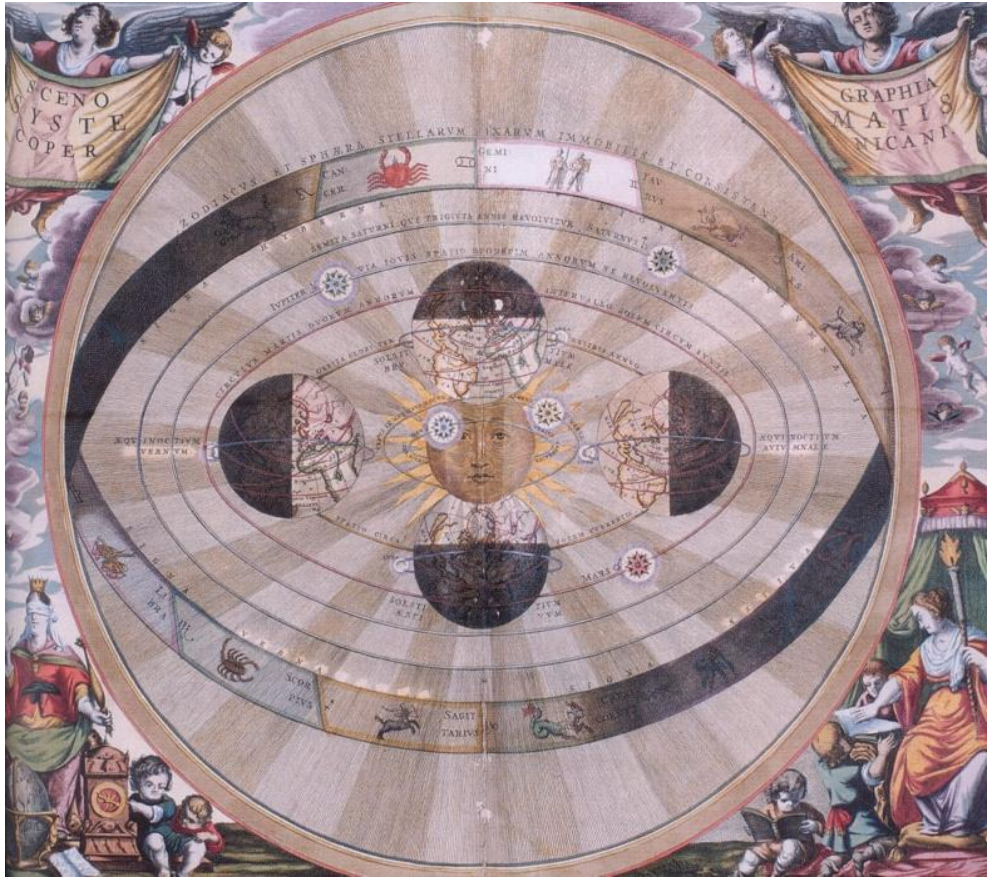
COST MANAGEMENT

Multicloud cost transparency

Cost optimization and analytics for rightsizing, consumption and forecasting

Effectively communicate cost with consumers and improve trust

COST VISIBILITY



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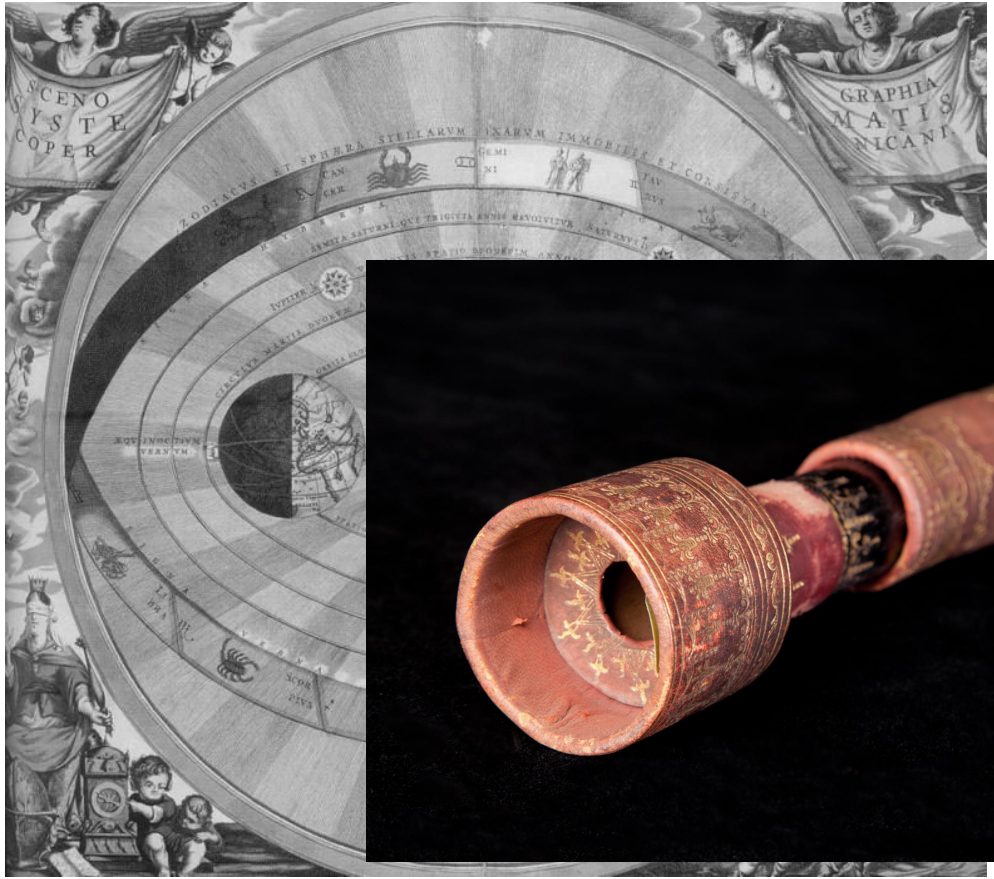

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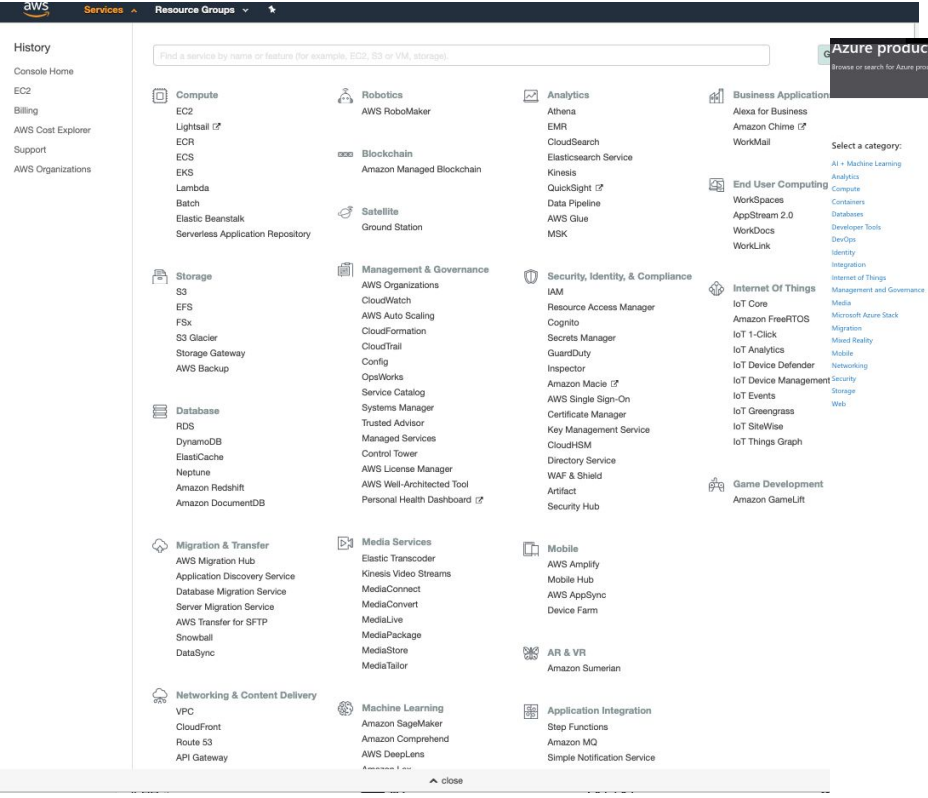
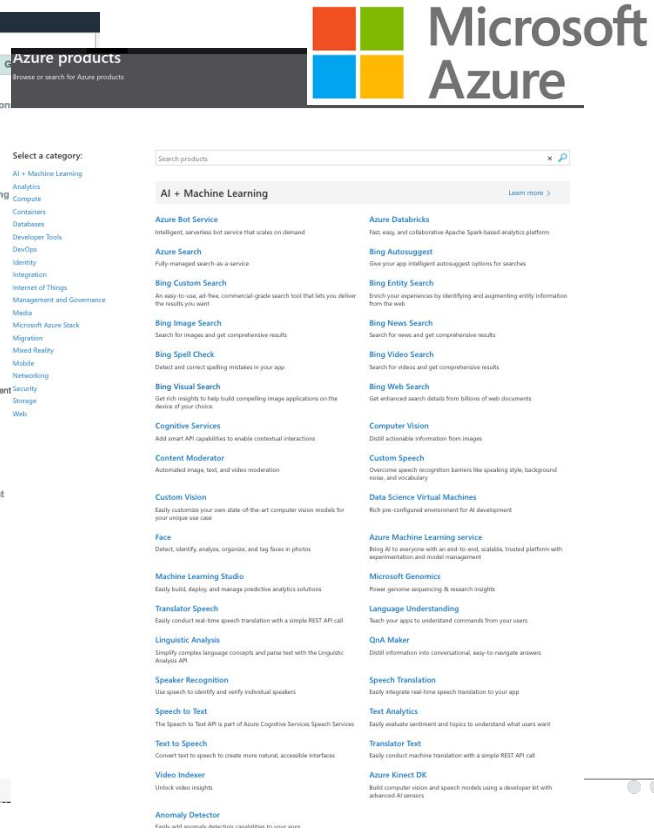
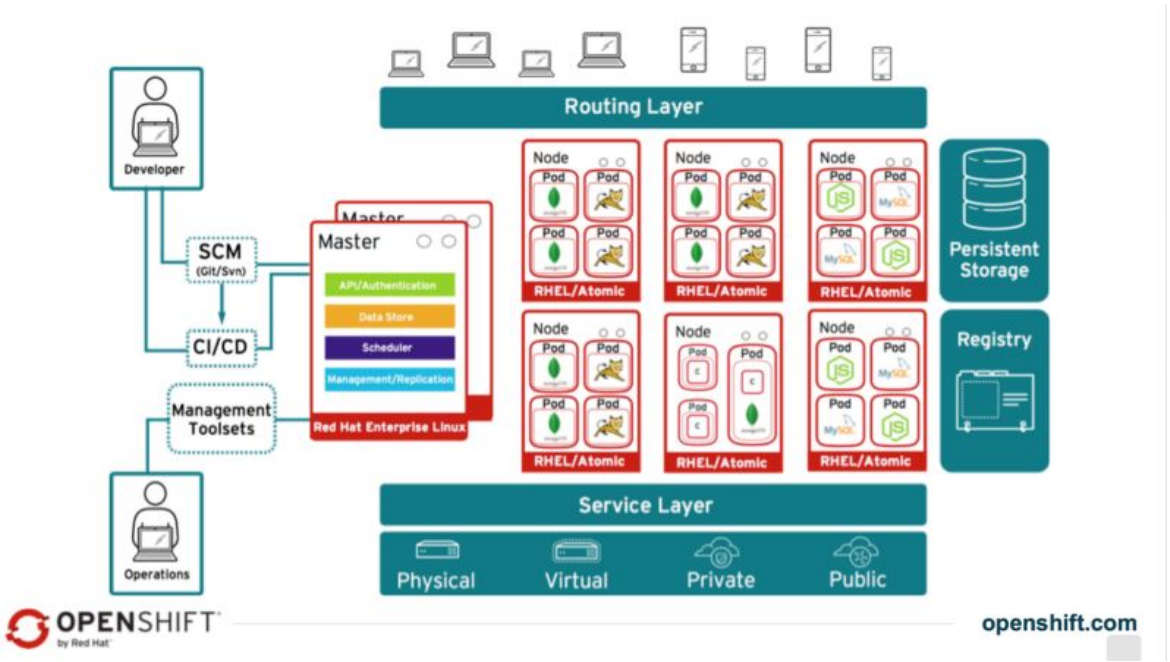
SERVICES SPRAWL

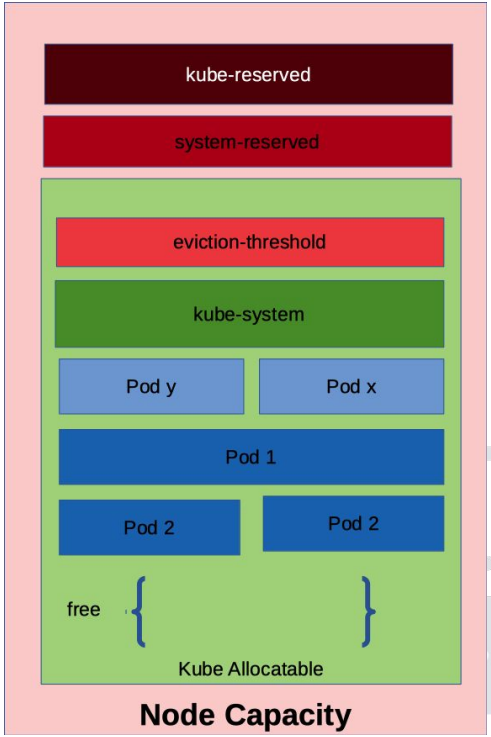




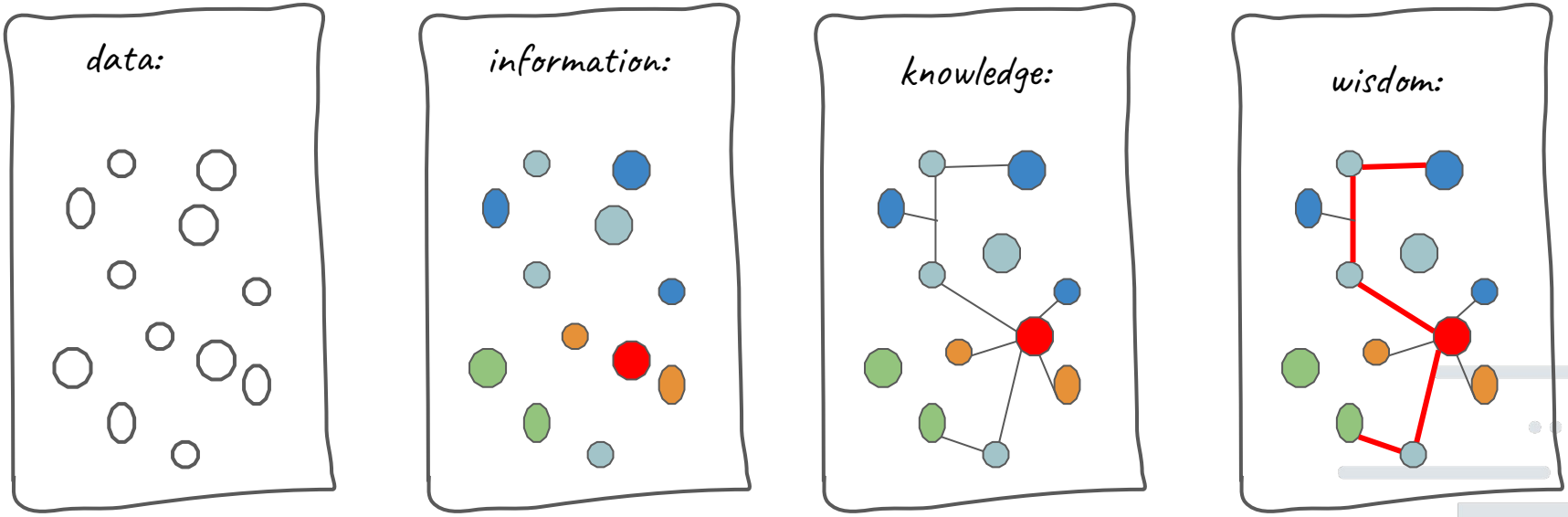
COST ANALYSIS

MORE THAN VM


Routing Layer
Developer
SCM
(Git/Svn)
CI/CD
Management
Toolsets
Operations
Master
API/Authentication
Data Store
Scheduler
Management/Replication
Red Hat Enterprise Linux
Node
Pod
RHEL/Atomic
Persistent
Storage
Registry
Service Layer
Physical
Virtual
Private
Public
OPENSHIFT
by Red Hat
openshift.com


kube-reserved
system-reserved
eviction-threshold
kube-system
Pod y
Pod x
Pod 1
Pod 2
Pod 2
free
Kube Allocatable
Node Capacity

UNCLUTTERING



(*) Self elaborated based on Genentech Information meme

MAKING SENSE OF COSTS

CHARGEBACK / SHOWBACK

OPENSHIFT

CPU

Memory

Storage

×

OPENSHIFT

Request

Actual Usage

Utilization %

×

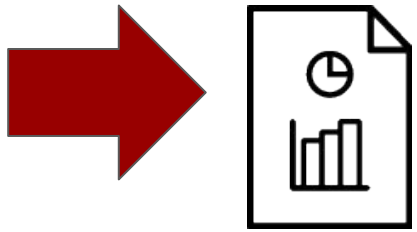
OPENSHIFT

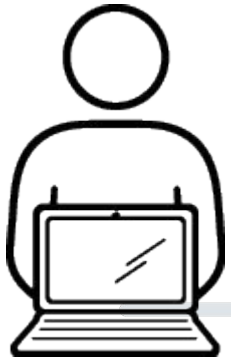
Pod

Namespace

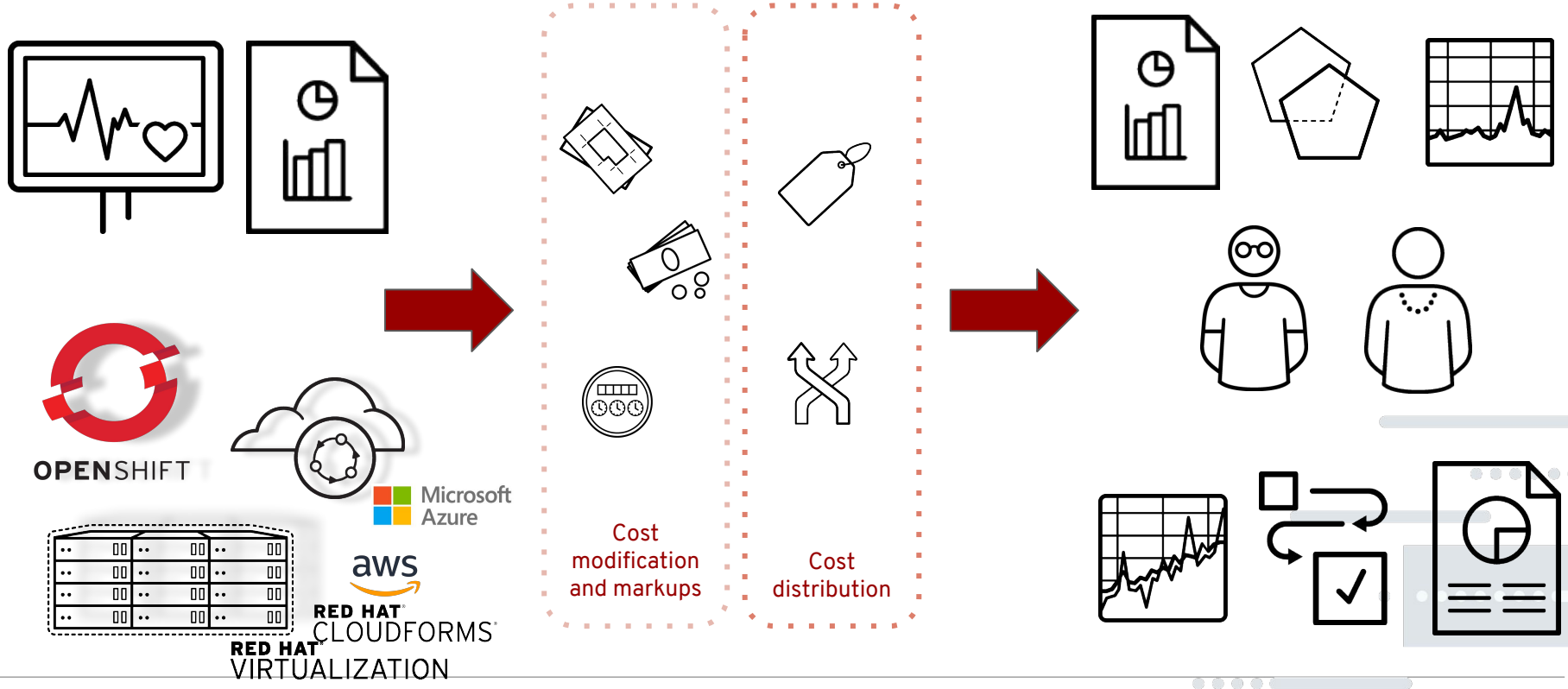
Node

Cluster





COST MANAGEMENT



CHARGEBACK / COST MANAGEMENT

CHARGEBACK

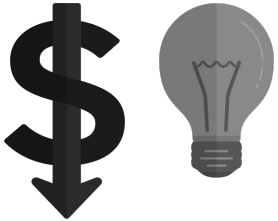
REPORTING, *WEIGHTED*

BASED ON METRICS

CONSUMPTION ESTIMATE

TO BE PLUGGED INTO BI TOOLS

PREDEFINED USE CASES



COST MANAGEMENT

COMPREHENSIVE, *ANALYTICS*

BASED ON METRICS & METADATA

COST & USAGE OPTIMIZATION

FORECASTING & BUDGETING

EXTENDED USE CASES

COST MANAGEMENT BEST PRACTICES

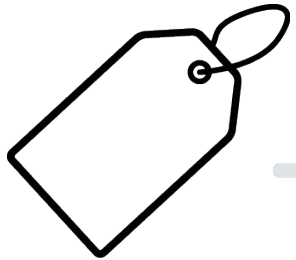
ANALYZE

- Generate a baseline through budgets
- Know what to expect: know your numbers
- Review the data often
- Use forecasts

- Understand your workloads and requirements for SaaS
- Not everything is equal
- Compare, compare, compare!

MAP DATA TO YOUR ORGANIZATION

- Link the service to the business through metadata
- Make it mandatory: enforce use of tags and policies
- Try to be consistent between providers
- Shut down any service that is not tagged



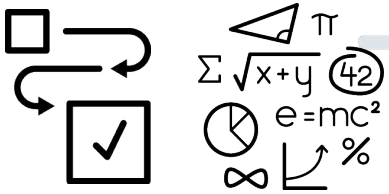
OPTIMIZE

- Manage your waste
  - Identify instance, storage, snapshots, not used
  - Shut down instances when not needed
  - Find the right usage %

- Choose your payment terms:
  - Reserved Instances
  - Spot instances
  - On-demand
  - Back on-premises?

- Optimize within the service:
  - Use optimized instances (storage, memory, compute, AI)
  - Review the new generation of VM
  - Choose the right size

- Improve through Machine Learning



DEMO

COST MANAGEMENT THEMES

Technical Preview

Summit 2019

OpenShift Cost Visibility

Augment insights of OpenShift metering on the four footprints. Chargeback from metrics based on projects / clusters and tags

OpenShift on AWS Cost Distribution

Provide insights about how OpenShift costs are distributed from the raw costs accrued in AWS

AWS Infrastructure Cost Visibility

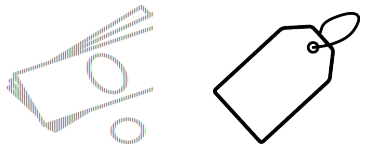
Being able to provide insights about the cost of all AWS services, using tags to enable reporting meaningful for the business

COST MANAGEMENT THEMES

General Availability

Q3/Q4/Q1

Markups & Dynamic Pricing



Being able to define pricing based on cloud prices and markups

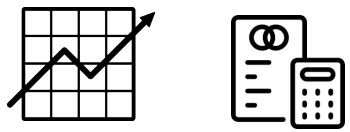
New sources

RED HAT® CLOUDFORMS

Microsoft Azure

Add support for CloudForms and additional clouds

Forecasting & Budgets(*)



Forecast usage and cost and compare them with defined budgets

Third Party Access (API)

Optimization(*)

RED HAT SUMMIT

THANK YOU

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