Cost Management

Bean counting for OpenShift

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What we’ll discuss today

- Use cases
- CNCF research
- Cost Management for Red Hat OpenShift
- What’s next
Consolidating environments

Centralised costs
Software usage

Subscription tracking & popularity contests

Our first list. Isn’t it exciting?
Hybrid OpenShift workload

De-centralised costs
24% of companies do not monitor costs at all. 44% rely on monthly estimates.

68% of companies using Kubernetes report costs increasing (half of them more than 20% YoY).

Only 13% have accurate showbacks, only 14% have chargeback programs.

The majority (90%) of costs come from compute and memory.

CONCLUSION: The majority of companies using Kubernetes need to become more cost-efficient.
Different personas, Different needs

“I want to …”

Finance Manager
- “Map charges to projects and organizations”
- “Set up showback and/or chargeback reports”

App Owner / Dev Lead
- “Forecast capacity needs, and what-if scenarios”
- “Know when I am over the budget”

Operations
- “Drill down into details for root cause analysis”
- “Know unexpected behaviours”
Cost Management
for Red Hat OpenShift Container Platform

**Visualize costs**
Review OpenShift costs aggregated across hybrid infrastructure so you can stay on budget
Show Red Hat related costs in context

**Allocate costs**
Understand spending habits and distribute costs into projects, organizations, and regions
Improve communication between IT and line of business (LOB)

**Influence behaviours**
Models costs to align operations, developers and business.
Make those responsible accountable so they take action
Cost management for Red Hat OpenShift

Red Hat SaaS offering to provide customers with cost visibility across OCP clusters on-premises and in the cloud

- Visualize costs across hybrid cloud infrastructure
- Track cost trends
- Map charges to projects, labels and organizations. Slice and dice the data with filters
- Use cost models to normalize data from the cluster and clouds
- Generate showback exports and utilize them to build your chargeback reports
Red Hat Insights

**Business**
Track and optimize spending

**Operations**
Improve stability and performance

**Security**
Reduce risk
Resource Optimization (ROS) and Cost Management

Currently two independent applications, targeting two different platforms

ROS: Resource Optimization Service
Resource Optimization (ROS) and Cost Management

Started as two independent applications targeting two different platforms

ROS
Cost

RHEL
OpenShift

ROS: Resource Optimization Service
Immediate priorities

Include additional services

Distribute shared service cost

Enhanced history
Further plans

1. CO2 footprint
2. Layered cost models
3. Cost Management for RHEL
Resource Optimisation
Integrated into the Cost Management interface

Utilisation reports
Pods - requests vs usage
Identify unlimited pods

Application right-sizing
Workload-based
Historical analysis of similar pods

Cluster right-sizing
Smaller workers?
Fewer workers?
Resource Optimization (ROS) and Cost Management

All things to all people

ROS

Cost

RHEL

OpenShift

ROS: Resource Optimization Service
Resource Optimization and Cost Management

There will be gaps

ROS
Cost

RHEL

OpenShift
Thank you

linkedin.com/company/red-hat
youtube.com/user/RedHatVideos
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Examples

- NICK: Customer - doing a DC migration and consolidation of k8s platforms, which is bringing a variety of applications from lots of different BUs & departments into a single OCP architecture. Centralises the cost, but because everything’s in OCP, they can’t use high-level reporting (like AWS’s) to spread it back out to users accurately and fairly. They Need Something Clever
  - Intense pressure to deliver quickly, lots of different “experts”, chaos, accountability and governance will naturally be hard to maintain. Platform admins under lots of stress.
- NICK: Customer is running software on their clusters (which may have separate commercial terms) and need to track each, and they need to monitor and forecast usage so they can make sure they’re complying with those terms and/or buying the right amount.
- CHRISTINA: Customer has cross-cloud provider OCP clusters with multiple applications on each cluster, can get breakdown from each cloud provider on infrastructure utilisation but use of the total application spend was not transparent at the time. Need a hybrid platform cost management solution that can take account of the usage of a BU/project across multiple clusters/infra platforms.
Immediate priorities

1. Include additional services
2. Distribute shared service cost
3. Enhanced history
Further plans

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