



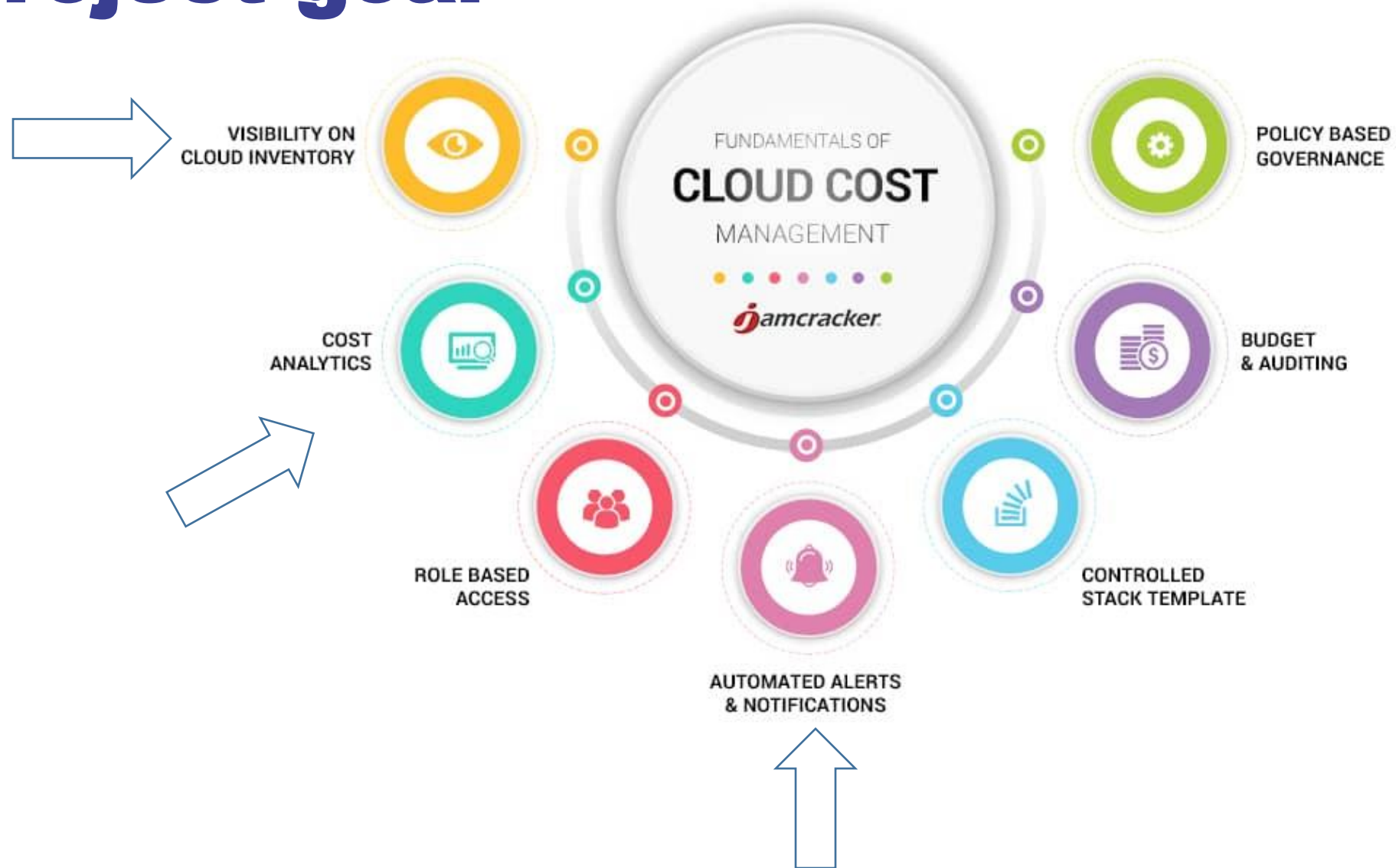
# Open Source Cloud Costing Framework

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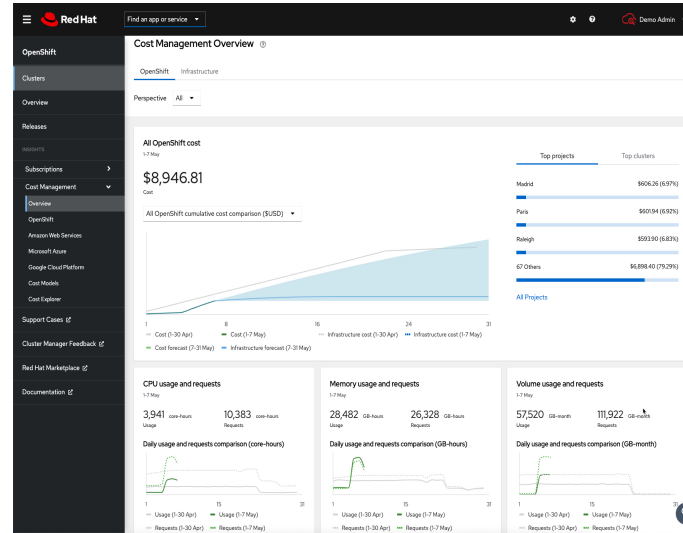
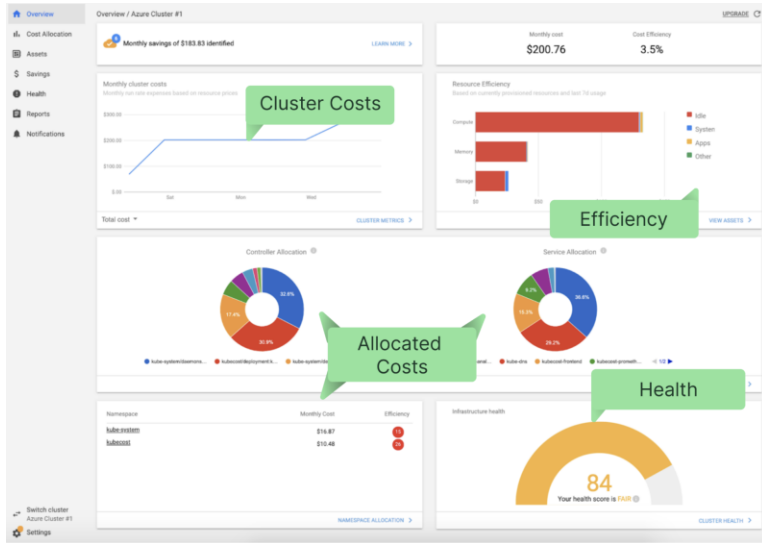
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# Project goal



# Cloud cost management tools



```
$ infracost diff --path=examples/terraform
```

Project: examples/terraform

~ aws\_instance.web\_app  
-\$125 (\$743 -> \$618)

~ ebs\_block\_device[0]

- Provisioned IOPS SSD storage (io1)  
-\$125

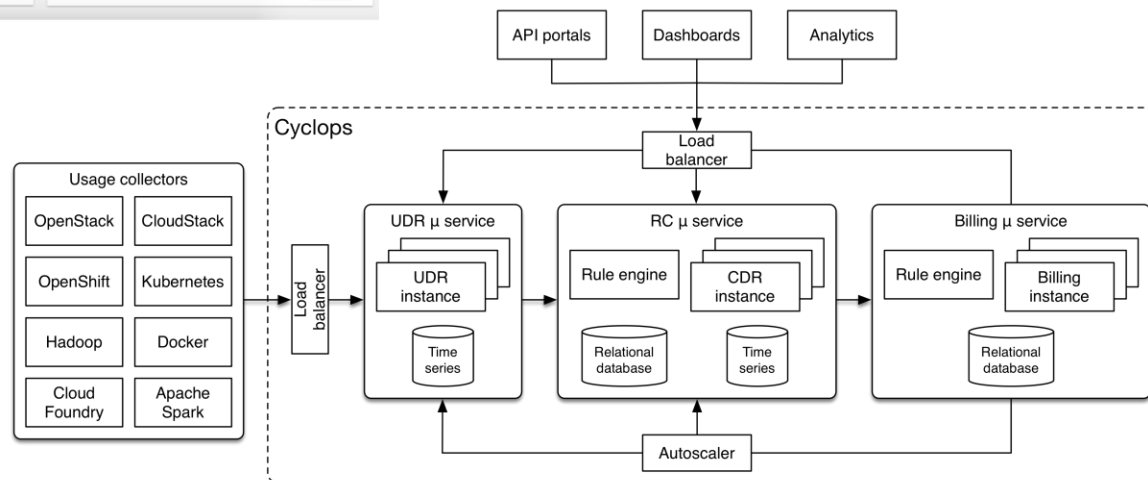
+ aws\_lambda\_function.hello\_world  
Cost depends on usage

+ Requests  
Cost depends on usage  
+\$0.20 per 1M requests

+ Duration  
Cost depends on usage  
+\$0.0000166667 per GB-seconds

Monthly cost change for examples/terraform  
Amount: -\$125 (\$743 -> \$618)  
Percent: -17%

Key: ~ changed, + added, - removed



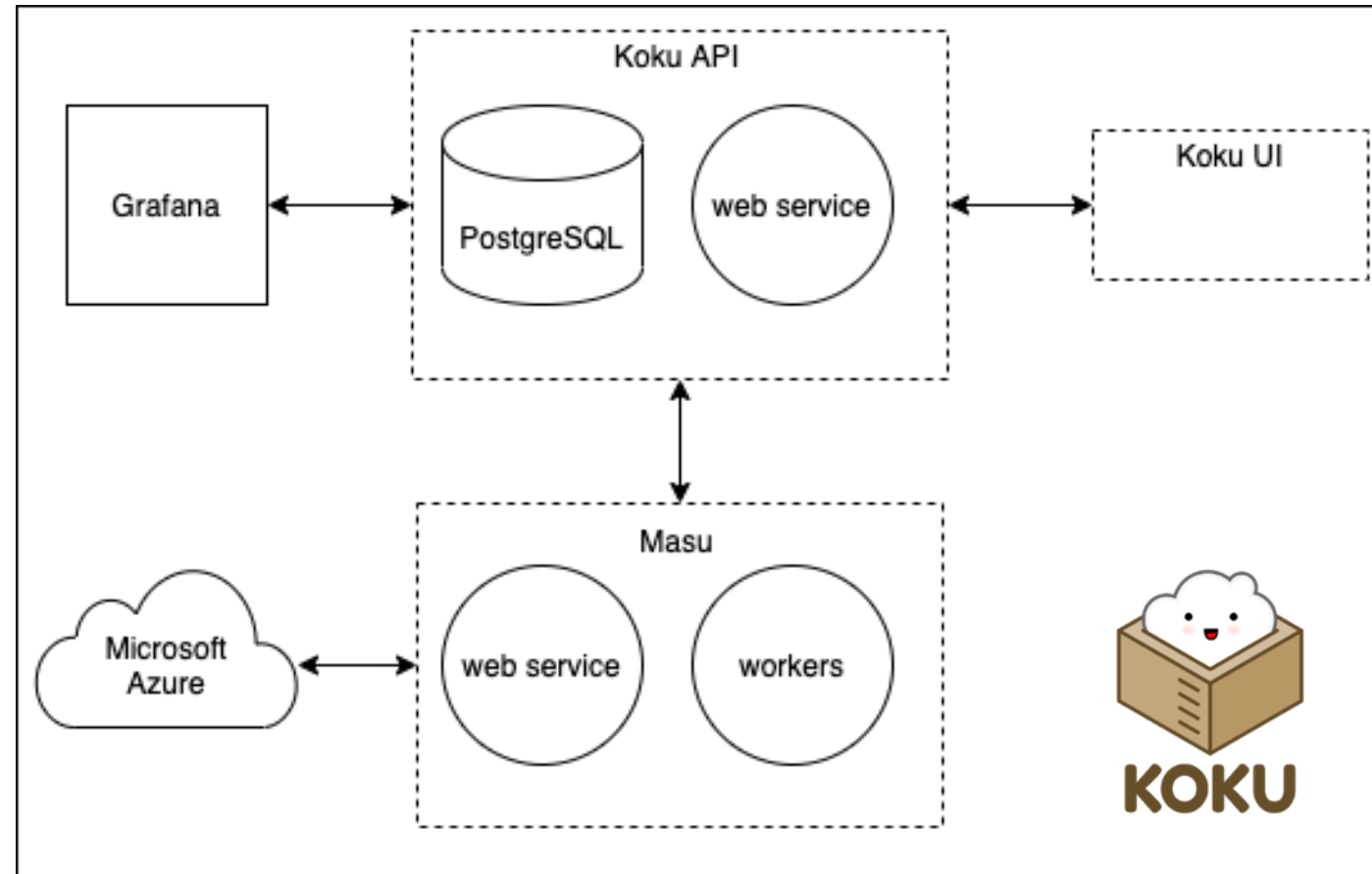
# Cloud cost management tools

## Comparison

	Microsoft Azure support	Can provide information for all types of resources	Visualization of costs	Prediction of costs	Alerting
Kubecost	Only through Kubernetes	Only Kubernetes	+	+	+
Infracost	+	+			
Cyclops		+	+	+	
Koku	+	+	+	+	

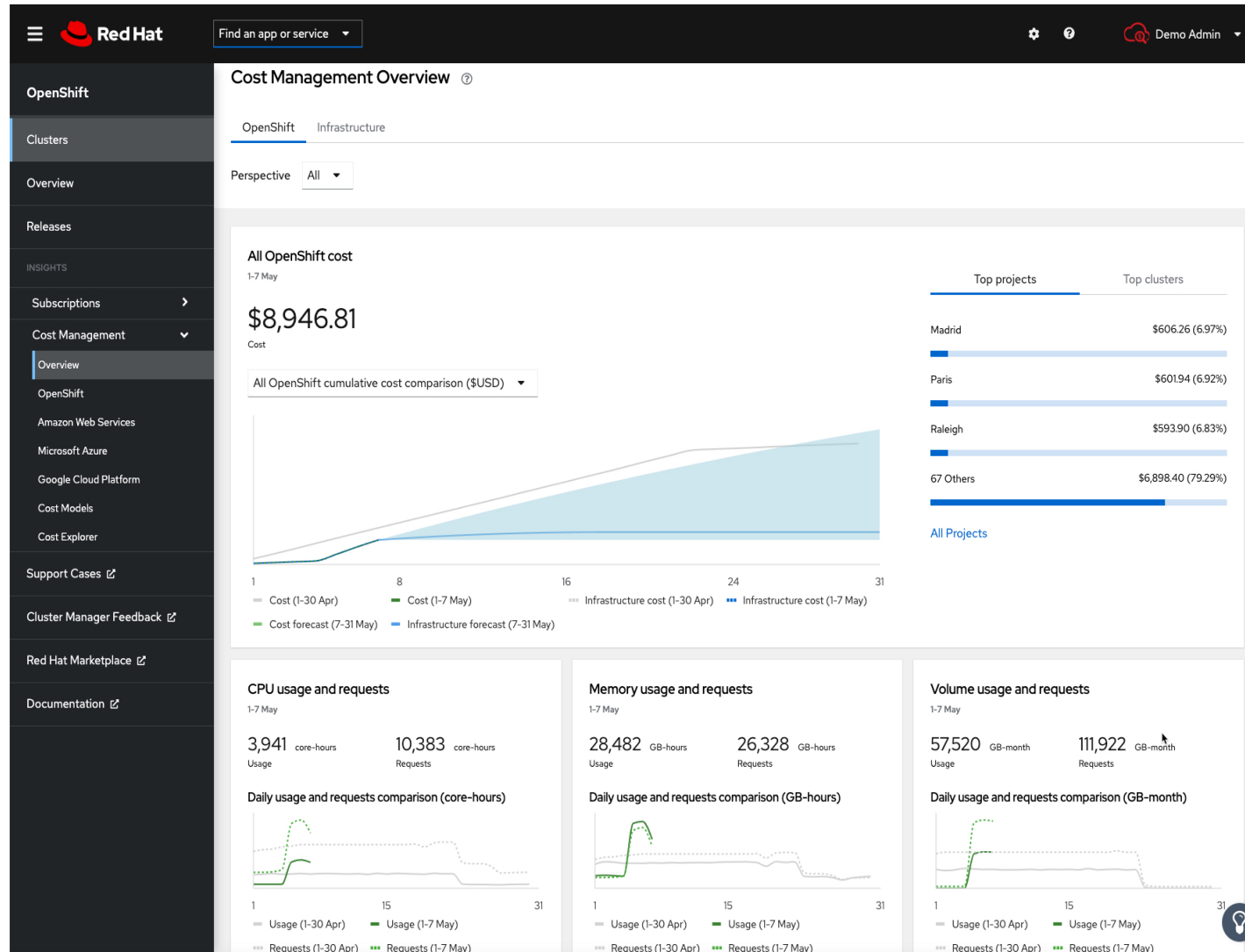
# Cloud cost management tools

## Project Koku



# Project Koku

Koku UI



# Project Koku

## Koku API

Django REST framework

Api Root / Azure Cost

## Azure Cost

OPTIONS

GET

Get cost data.

GET /api/cost-management/v1/reports/azure/costs/

HTTP 200 OK

Allow: GET, HEAD, OPTIONS

Content-Type: application/json

Vary: X\_RH\_IDENTITY, Accept

```
{
  "meta": {
    "count": 10,
    "filter": {
      "time_scope_value": "-10",
      "time_scope_units": "day",
      "resolution": "daily"
    },
    "group_by": {},
    "order_by": {},
    "total": {
      "infrastructure": {
        "raw": {
          "value": 7624.258317819,
          "units": "USD"
        },
        "markup": {
          "value": 0.0,
          "units": "USD"
        },
        "usage": {
          "value": 0.0,
          "units": "USD"
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          "units": "USD"
        }
      },
      "supplementary": {
```

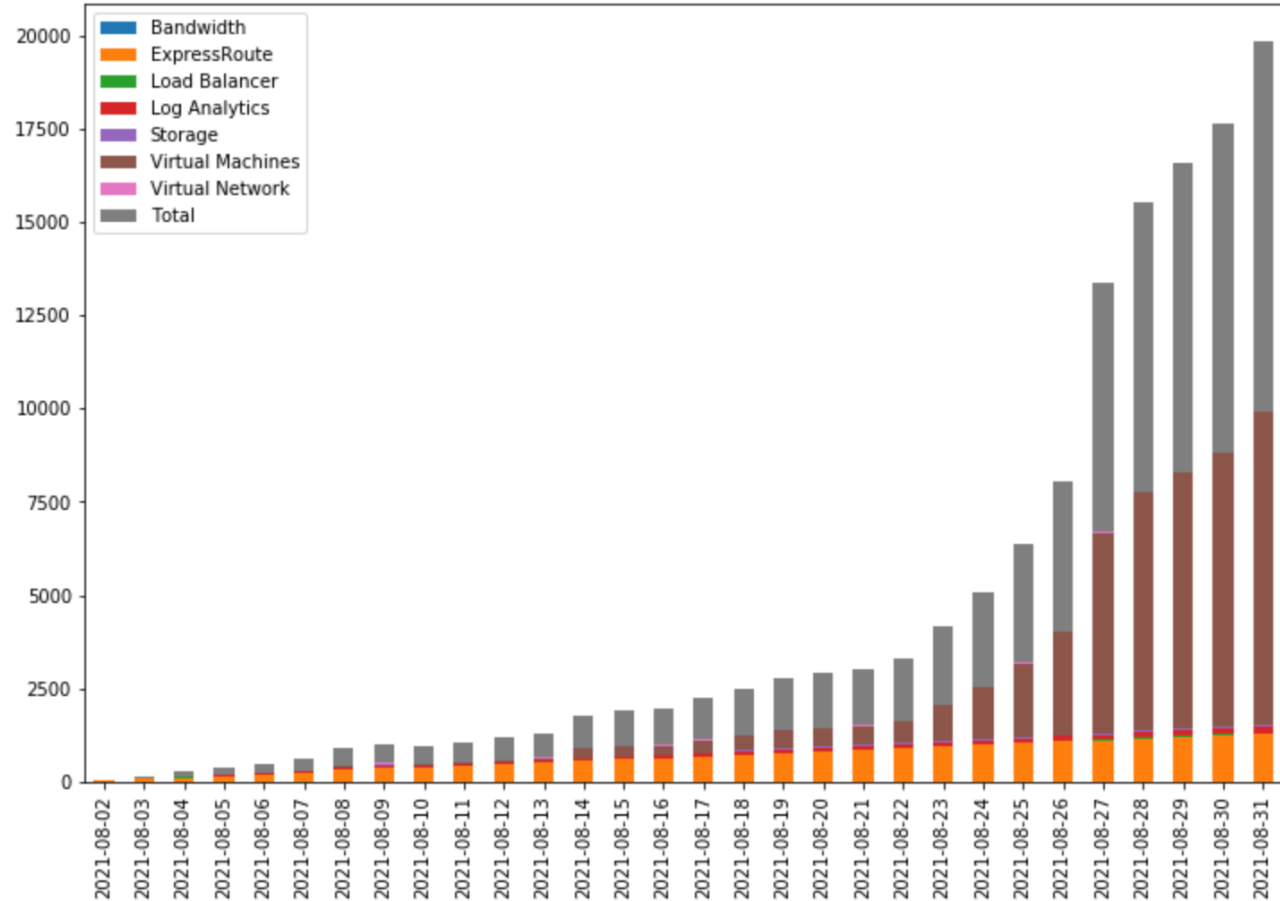
# Prediction of costs



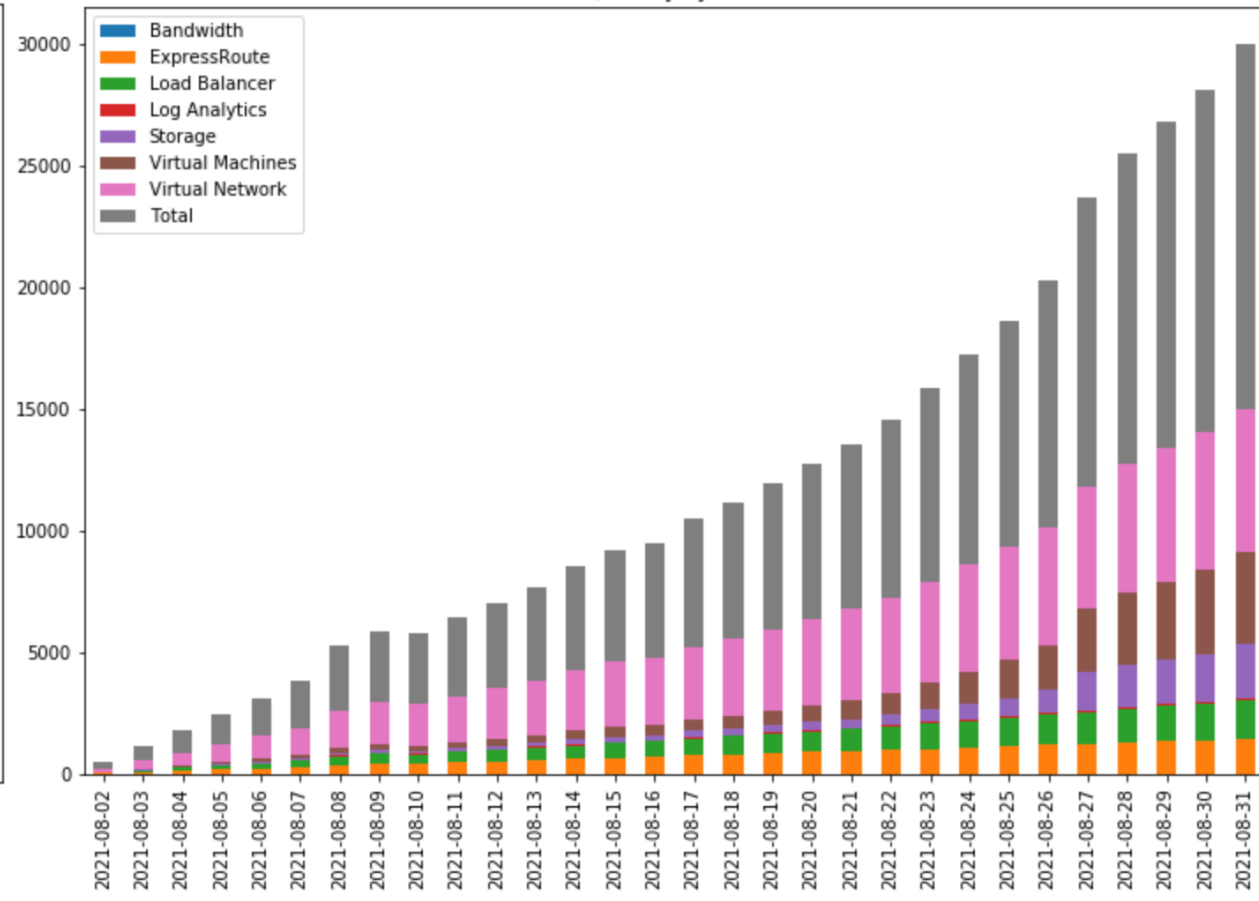


# Prediction of costs

Cost in billing currency by date



Quantity by date



# Conclusion

## **Koku is a good tool:**

- It supports major cloud providers, including Microsoft Azure
- Cloud cost is gathered and processed, exposed in a common framework for all providers
- It is an open source and actively maintained project

## **..but:**

- Koku UI is coupled to Red Hat Insights dependencies – hard to deploy
- The forecasting functionality is considered too simplistic
- No alerting functionality.

## **So:**

- Estimate the value of modifying Koku, particularly providing a working UI
- Follow the developments of Koku and interest from other communities
- Alternatives would imply custom solutions or evaluate commercial products.



# QUESTIONS?

**Thank you for your attention!**

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# References

1. Koku, <https://project-koku.github.io/>
2. Kubecost, <https://www.kubecost.com/>
3. Infracost, <https://github.com/infracost/infracost/>
4. Cyclops, <https://icclab.github.io/cyclops/>
5. Red Hat Insights, <https://cloud.redhat.com/security/insights/>