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Europe 2020

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# FinOps for Kubernetes

*Casey Doran*

*Director of Product Management, Apptio*

# FinOps for Kubernetes



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## Introduction

## Challenges and Best Practices for Kubernetes Cost Allocation

Customer Story	Challenges	Best Practices	Allocate & Optimize
<ul style="list-style-type: none"><li>A High Performing Technology Company with complex cost allocation requirements transitioned to Kubernetes for portability and scale, but quickly encountered a cost allocation challenge they needed to solve</li></ul>	<ul style="list-style-type: none"><li>Lack of visibility into the consumption of shared Kubernetes clusters</li><li>Need to allocate shared usage to the correct cost centers</li><li>Full allocation includes Kubernetes and non-Kubernetes costs</li></ul>	<ul style="list-style-type: none"><li>Collect utilization by Kubernetes constructs and associate with cloud billing data</li><li>Label Kubernetes resources to align with internal cost centers</li><li>Unify Kubernetes label keys and traditional resource tag keys for a combined allocation model</li></ul>	<ul style="list-style-type: none"><li>Analyze Kubernetes costs by clusters and namespaces</li><li>Analyze Kubernetes costs by cost center</li><li>Fully and accurately allocate all costs to the correct cost center, and provide the insights needed for optimization</li></ul>



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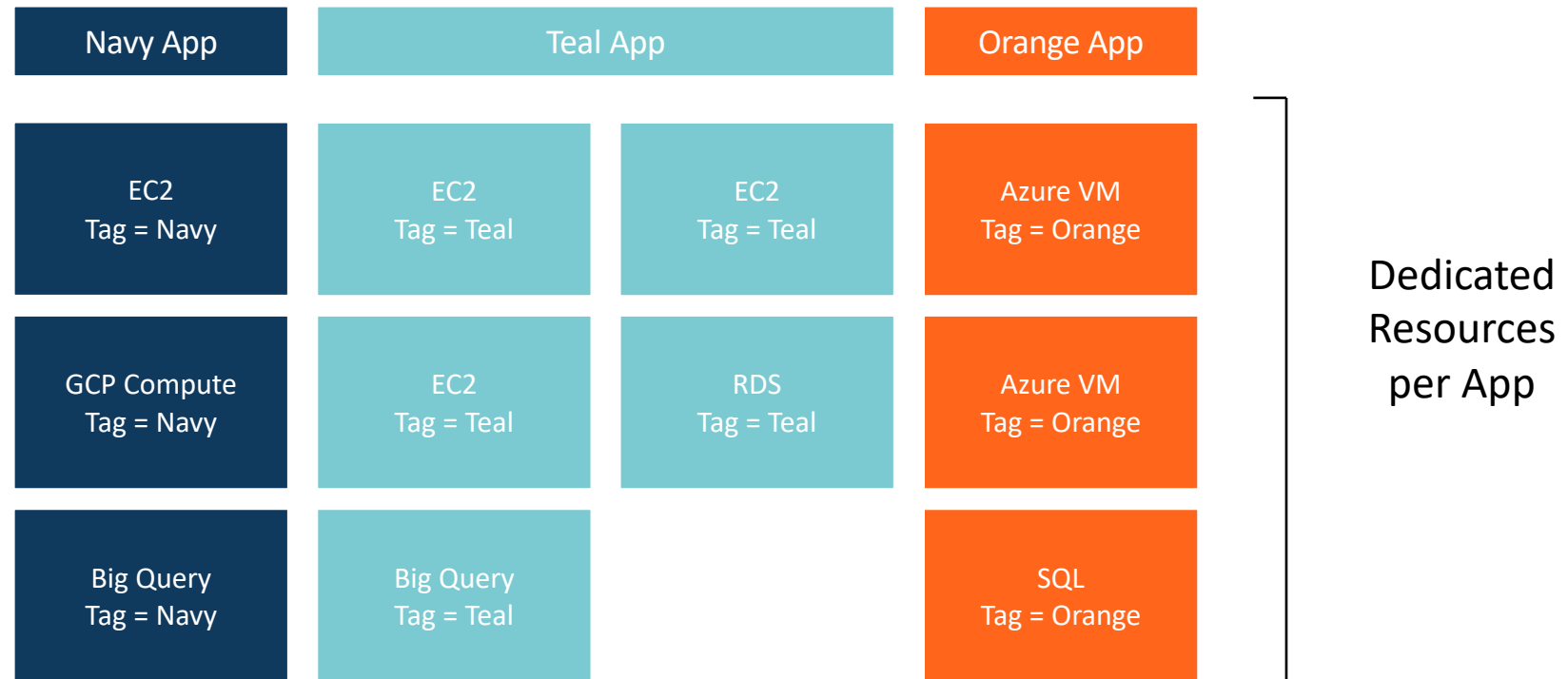
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# Challenges

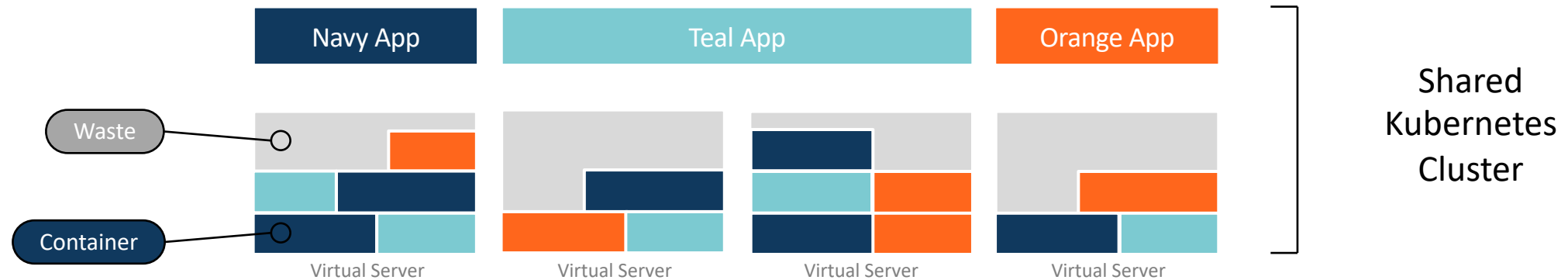
## Challenges – Traditional Allocation

### 1/1 mapping with vendor tags



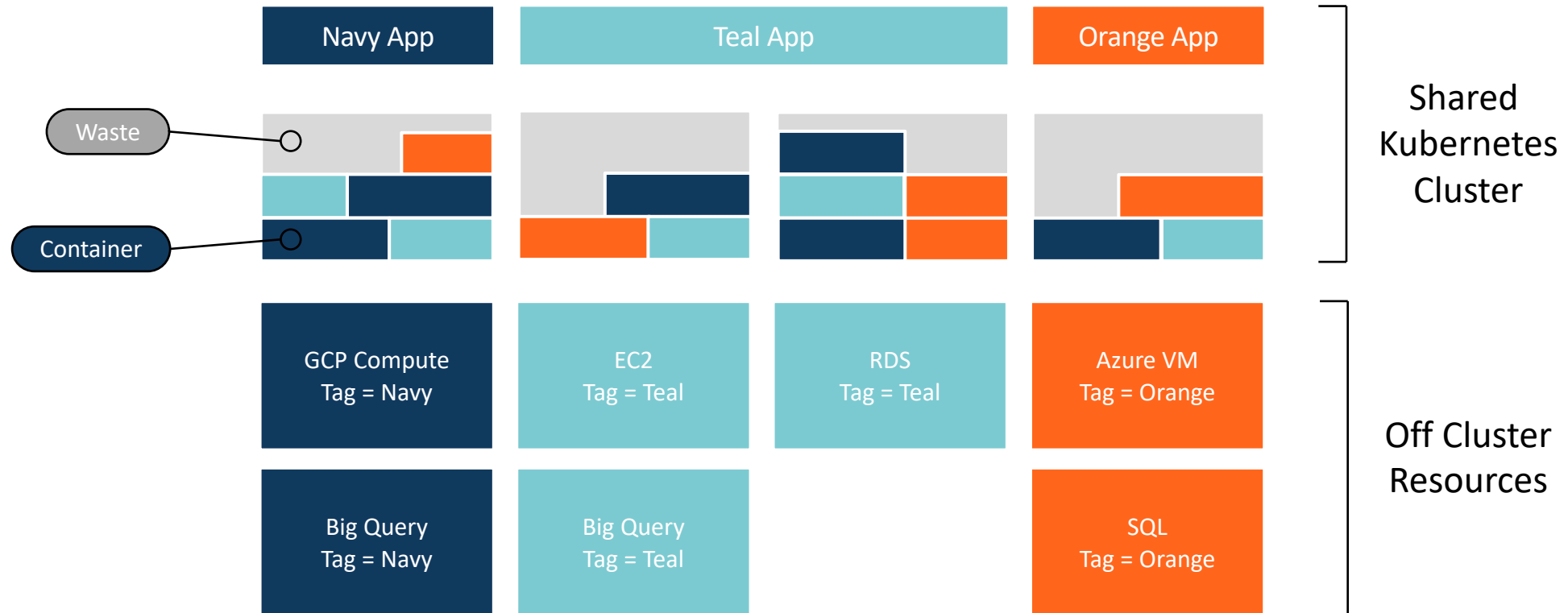
## Challenges – Allocation with Kubernetes

1/1 Mapping of Tags to VMs falls short



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## Challenges – Both are needed for Full Allocation





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# Best Practices



## Best Practices – Collect Utilization and Associate with Cost

- Analyze utilization of underlying cluster resources (Memory/CPU/Network) by container object types like Namespace and Deployment, as well as Label Key/Value Pairs
- Associate utilization data with underlying cluster cost to perform allocation
- Check out our Open Source Metrics Agent: <https://github.com/cloudability/metrics-agent>

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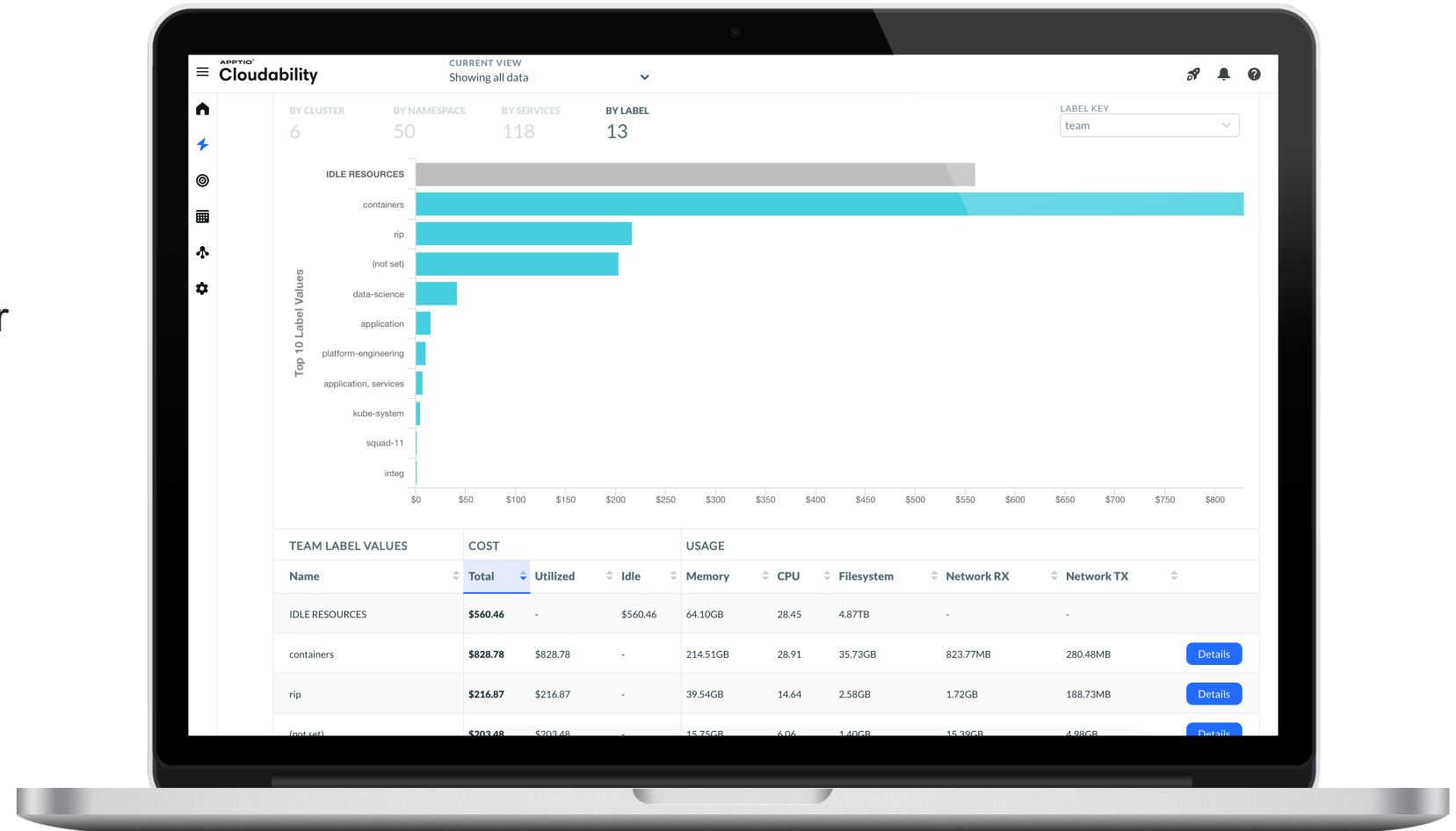
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## Best Practices – Labeling Strategy

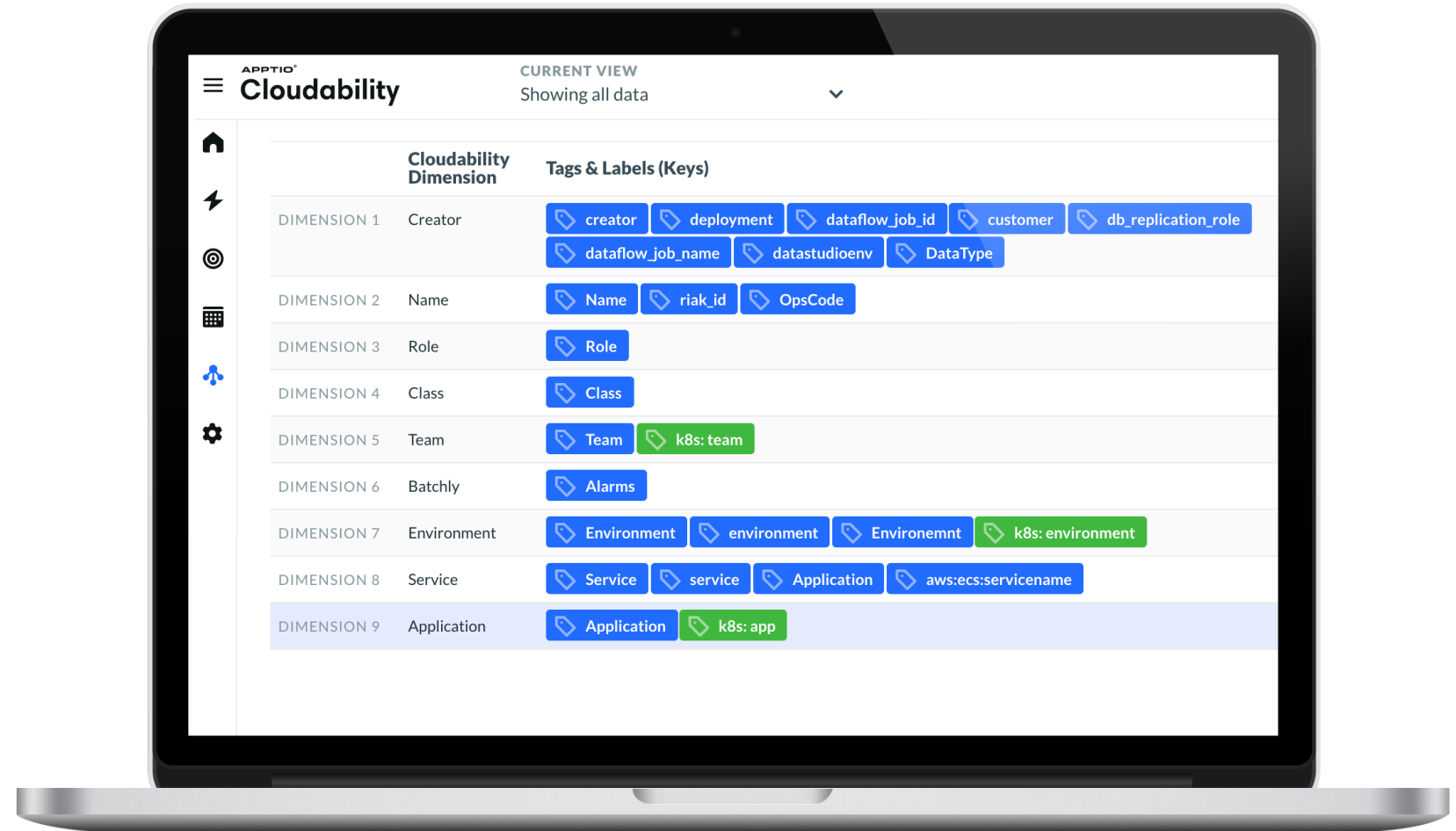
- Align K8s labeling strategy with allocation needs
- Label Keys for each cost center (App, Team, Department)
- Align across Cloud Providers
- Automate, if possible



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## Best Practices – Unified Label & Tag Strategy

- Map your resource tags and Kubernetes label keys together for a unified model





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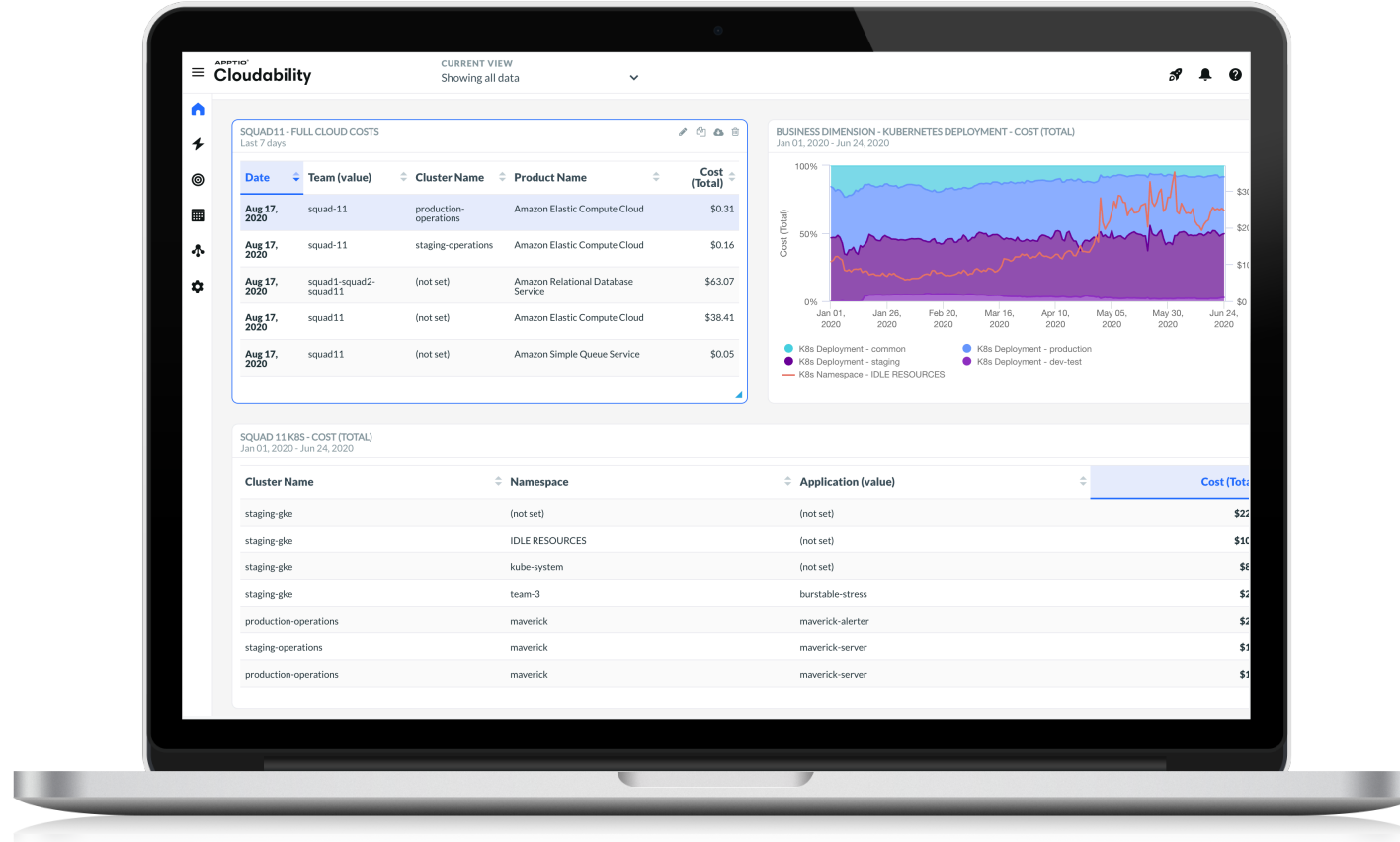
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# Allocate & Optimize

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## Allocate and Optimize

- Visualize your Kubernetes costs using Clusters, Namespaces, and Labels
- Visualize your Kubernetes Costs Alongside your Non-Kubernetes costs for Full Allocation
- Create Dashboards to provide visibility across multiple constructs so all costs can be accounted for, and teams have the data they need to optimize



## Be Accurate

- Allocate Requests over Usage
- Factor in Node Pinning
- Use Actual Costs, including all credits and discounts
- Report on idle resources, and use that data to optimize your clusters



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**Thank You!**