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GOOGLE CLOUD BILLING AND COST MANAGEMENT

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Abstract

Google Cloud Billing and Cost Management is a service provided by Google Cloud Platform (GCP) that enables users to manage the costs associated with using GCP services. This service offers various features to help users track their GCP usage, optimize costs, and manage billing and payments. One of the key features of Google Cloud Billing and Cost Management is the ability to view and analyse GCP usage and costs. Users can access detailed reports on their GCP usage and expenses, which can help identify areas where costs can be optimized. The service also provides various cost analysis tools, such as Cost Explorer and Budgets, to help users manage and track their spending.Another important feature of Google Cloud Billing and Cost Management is the ability to manage billing and payments. Users can set up billing accounts, view invoices, and make payments through the service. The service also provides various tools to help users manage their billing, such as billing alerts and payment methods.In addition, Google Cloud Billing and Cost Management offers various cost optimization tools. For example, users can take advantage of GCP's committed use discounts, which provide lower prices for users who commit to using certain GCP services for a specific period of time.

INTRODUCTION

Google Cloud cost management tools provide greater visibility, accountability, control, and intelligence so that you can scale your business in the cloud with confidence. Tailored to meet the needs of organizations of all sizes, these tools helpreduce complexity and increase the predictability of your cloud costs.Google Cloud Platform (GCP) is a popular cloud computing platform that provides various services for building, deploying, and managing applications and infrastructure. As with any cloud computing platform, it's important to manage the costs associated with using GCP to ensure that usage is optimized and costs are kept under control. This is where Google Cloud Billing and Cost Management comes in.

RELATED WORKS

The problem that Google Cloud Billing and Cost Management addresses is the need for businesses and organizations to effectively manage the costs associated with using Google Cloud Platform (GCP). Without effective cost management, GCP usage can quickly become expensive and unsustainable, leading to unexpected costs and potential financial strain.GCP offers various services for building, deploying, and managing applications and infrastructure, and the costs associated with using these services can quickly add up. In addition, GCP provides various pricing models and options, which can make it difficult for users to understand and manage their costsGoogle Cloud Billing and Cost Management addresses this problem by providing a centralized dashboard for managing GCP costs.

GoogleCloud Billing and Cost Management addresses this problem by providing a centralized dashboard for managing GCP costs. Users can view and analyze their GCP usage and expenses, identify areas where costs can be optimized, and manage billing and payments through a single interface. The service also provides various cost optimization tools, such as committed use discounts and usage recommendations, to help users reduce costs.Google Cloud Billing and Cost Management helps businesses and organizations manage their GCP costs effectively, enabling them to maximize the value of their cloud computing investment while avoiding unexpected expenses and financial strain.The service also provides various cost optimization tools, such as committed use discounts and usage recommendations, to help users reduce costs.GCP offers various services for building, deploying, and managing applications and infrastructure, and the costs associated with using these services can quickly add up. In addition, GCP provides various pricing

models and options, which can make it difficult for users to understand and manage their costs.

MATERIALS AND METHODOLOGY

A. EXPLORE CLOUD BILLING REPORT CHART

In this task you explore your Cloud Billing report chart to see how much you are spending. You have a variety of options available to customize your report views, including filters and other settings.

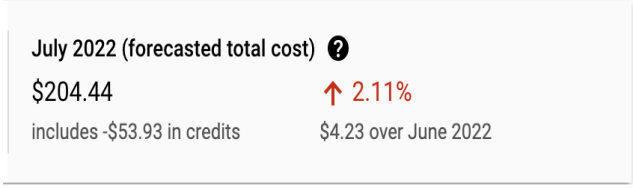

FIG 1.TOTAL COST OF JULY MONTH

To visualize your daily costs grouped by project, hold the pointer over a specific day on one of the colours in the chart to compare the cost for that project to the total cost for the day.

The cost trend line (the dotted line) is visible when your selected time period includes a date in the future. The cost trend line indicates how much you're forecasted to spend in that time period.

This is the second Quest in a two-part series on Google Cloud billing and cost management essentials. This Quest is most suitable for those in a Finance and/or IT related role responsible for optimizing their organization's cloud infrastructure.

Here you'll learn several ways to control and optimize your Google Cloud costs, including setting up budgets and alerts, managing quota limits, and taking advantage of committed use discounts

In the hands-on labs, you'll practice using various tools to control and optimize your Google Cloud costs or to influence your technology teams to apply the cost optimization best practices.

Learn how to answer cost management questions using intuitive reports available in the Google Cloud console. In this 30-minute tutorial, you'll familiarize yourself with some of the built-in reports and learn how to customize them to answer questions such as

Use Twitter's search API: Use Twitter's search API to retrieve tweets that match your keywords and hashtags. You can specify the date range, language, and other parameters to filter your search results.

The combined costs of your monthly Google Cloud usage at the on-demand rate, calculated using non-discounted list prices.

All the prices are shown in the currency of the selected billing accountThe report view is customizable and downloadable to CSV for offline analysis.

Get at-a-glance and user-configurable views of your cost history, current cost trends, and forecasted costs with intuitive reports available in the Google Cloud console. Several different reports are available for your billing data analysis needs.

Cloud Billing Reports page lets you view your Google Cloud usage costs at a glance and discover and analyze trends. The Reports page displays a chart that plots usage costs for all projects linked to a Cloud Billing account.

To help you view the cost trends that are important to you, you can select a data range, specify a time range, configure the chart filters, and group by project, service, SKU, or location.API indeed doesn't provide functionality you need, however you may consider setting up billing exports to GCS (this part has to be done manually AFAIK), then use GCS API to extract necessary information.

By using this model we are mounting cost trend line indicates how much you're forecasted to spend in that time period.

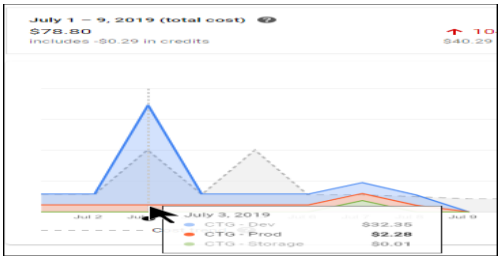

Fig.2. TOTAL COST OF MONTHLY GRAPH

B. FILERS AND GROUPING

1.Filters And Grouping

In this task you explore your Cloud Billing report chart to see how much you are spending. You have a variety of options available to customize your report views, including filters and other settings. Your report view changes depending on the filter selections you choose.

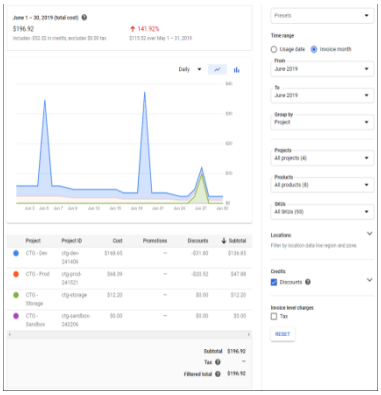

Fig .3.Forecasted coststed Grapg.

3. Analyze Your cost Trend

In this task you analyze your cost trends. You filter the view by time range, location, and credits to see how your costs have changed.The chart shows the last 30 days of usage. As before, the top of the graph shows your costs compared to the previous time period so you can easily compare how your costs trend over time.Notice how the specific Americas regions and multi-regions are selected and that the graph changes to reflect this.

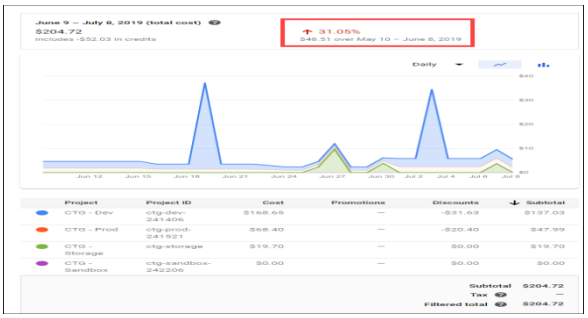

Fig .4. COST OF FILTERED TOTAL GRAF

In this lab, Sustained use is the only available discount.

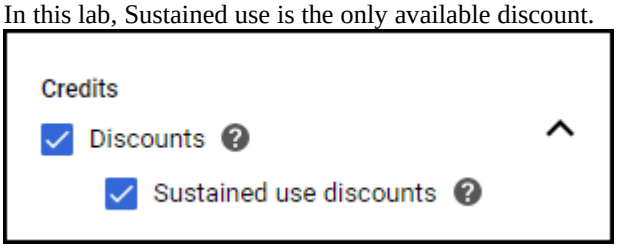

Fig.5. EXPENDED BY CREDITS SECTION

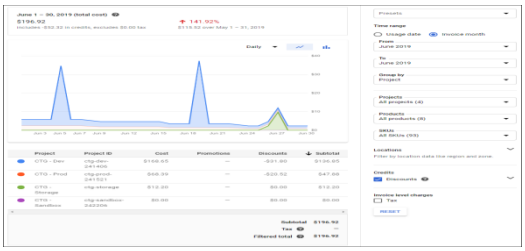

Fig.6.NUMBER OF PROJECT DISPLAYED

RESULTS AND DISCUSSIONS

Google Cloud Billing Cost and Management is a suite of tools and services offered by Google Cloud to help users understand and control their cloud spending. Here are some of the key features and benefits of Google Cloud Billing Cost and Management. Billing Dashboard: The Billing Dashboard provides a real-time view of your cloud spending and usage, making it easy to track and monitor your costs

Cost ControlsGoogle Cloud provides a variety of cost controls, including budget alerts, spending limits, and resource quotas, to help you manage and control your spendingGoogle Cloud provides detailed usage reports that can help you identify areas where you can optimize your spending and reduce costs.

Cost Optimization Tools: Google Cloud provides a variety of cost optimization tools, including recommendation engines and cost calculator, to help you identify areas where you can save money. Google Cloud provides APIs that allow you to automate billing tasks and integrate with third-party billing systems.

Overall, Google Cloud Billing Cost and Management is an effective solution for users who want to manage their cloud costs and optimize their spending. With its advanced features and tools, users can easily track and control their cloud costs, while also identifying areas for cost savings and optimization.

CONCLUSION AND FUTURE SCOPE

Conclusion of google cloud billing cost and Management Google Cloud provides various tools and services to help you manage your billing costs effectively. Here are some key takeaways for managing Google Cloud billing costs:

Budget alerts: You can set up budget alerts to notify you when you are close to reaching your budget threshold or when you have exceeded it. This can help you avoid unexpected costs.Resource optimization: You can use tools like Google Cloud's recommendations to optimize your resources and reduce unnecessary spending. For example, you can identify idle virtual machines and shut them down when not in use.

Usage analysis: You can analyze your usage patterns to identify areas where you can reduce costs. For example, you can identify which services are using the most resources and adjust your usage accordingly.Cost tracking: Google Cloud provides detailed cost tracking and reporting tools that can help you understand your usage patterns and make informed decisions about future spending.

Cost allocation: You can use cost allocation to assign costs to specific projects or teams, which can help you understand where your spending is going and make adjustments as needed.Overall, effective cost management in Google Cloud requires a combination of tools, strategies, and analysis to ensure that you are using your resources efficiently and avoiding unnecessary spending.

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