**Cost Analysis of AWS CloudWatch GetMetricData API Calls with Amazon CloudWatch Datasource in Grafana**

This report provides a detailed analysis of the costs associated with using the AWS CloudWatch GetMetricData API calls in conjunction with the Amazon CloudWatch datasource within Grafana. This report outlines the cost components, factors influencing costs, and provides specific examples to illustrate potential expenses.

**Cost Components**

The primary cost component associated with using the GetMetricData API is the number of metrics requested. The pricing is **$0.01 per 1,000 metrics** retrieved using the API. **Each time the Grafana dashboard is opened or refreshed, it queries the CloudWatch API**.

**Factors Influencing Costs**

1. Frequency of Data Retrieval:

The more frequently metric data is retrieved using the GetMetricData API, the higher the associated costs. The default frequency is 5 minutes.

1. Number of Metrics Requested:

Costs directly scale with the number of unique metrics requested. Each distinct metric contributes to the total cost.

1. Time Range of Data:

Retrieving historical data or data over extended time ranges may result in more API calls and subsequently higher costs.

**Examples** (prices per query)

1. One RDS instance, one week period, standard dashboard

Metrics requested per hour = 10 metrics x 12 (every 5 minutes) = 120 metrics

Metrics requested per day = 120 metrics x 24 hours = 2,880 metrics

Metrics requested per week = 2,880 metrics x 7 days = 20,160 metrics

Cost = 20,160 metrics / 1,000 \* $0.01 = **$0.201**

2. One EC2 instance, two weeks period, standard dashboard

Metrics requested per hour = 9 metrics x 12 (every 5 minutes) = 108 metrics

Metrics requested per day = 108 metrics x 24 hours = 2,592 metrics

Metrics requested per two weeks = 2,592 metrics x 14 days = 36,288 metrics

Cost = 36,288 metrics / 1,000 \* $0.01 **= $0.363**

3. One EBS volume, one week period, standard dashboard

Metrics requested per hour = 12 metrics x 12 (every 5 minutes) = 144 metrics

Metrics requested per day = 120 metrics x 24 hours = 3,456 metrics

Metrics requested per week = 3,456 metrics x 7 days = 24,192 metrics

Cost = 24,192 metrics / 1,000 \* $0.01 = **$0.242**

4. One ALB, two weeks period, standard dashboard

Metrics requested per hour = 7 metrics x 12 (every 5 minutes) = 84 metrics

Metrics requested per day = 84 metrics x 24 hours = 2,016 metrics

Metrics requested per two weeks = 2,016 metrics x 14 days = 28,224 metrics

Cost = 28,224 metrics / 1,000 \* $0.01 **= $0.282**