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EXAM PROFESSIONAL DATA ENGINEER TOPIC 1 QUESTION 224 DISCUSSION

Actual exam question from Google's Professional Data Engineer

Question #: 224

Topic #: 1

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A web server sends click events to a Pub/Sub topic as messages. The web server includes an eventTimestamp attribute in the messages, which is the time when the click occurred. You have a Dataflow streaming job that reads from this Pub/Sub topic through a subscription, applies some transformations, and writes the result to another Pub/Sub topic for use by the advertising department. The advertising department needs to receive each message within 30 seconds of the corresponding click occurrence, but they report receiving the messages late. Your Dataflow job's system lag is about 5 seconds, and the data freshness is about 40 seconds. Inspecting a few messages show no more than 1 second lag between their eventTimestamp and publishTime. What is the problem and what should you do?

- A. The advertising department is causing delays when consuming the messages. Work with the advertising department to fix this.
- B. Messages in your Dataflow job are taking more than 30 seconds to process. Optimize your job or increase the number of workers to fix this.
- G. Messages in your Dataflow job are processed in less than 30 seconds, but your job cannot keep up with the backlog in the Pub/Sub subscription. Optimize your job or increase the number of workers to fix this.
- D. The web server is not pushing messages fast enough to Pub/Sub. Work with the web server team to fix this.

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by [e70ea9e](#) at Dec. 30, 2023, 9:50 a.m.

Comments

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  **e70ea9e** Highly Voted  1 year, 4 months ago

Selected Answer: G

System Lag vs. Data Freshness: System lag is low (5 seconds), indicating that individual messages are processed quickly. However, data freshness is high (40 seconds), suggesting a backlog in the pipeline.

Not Advertising's Fault: The issue is upstream of their consumption, as they're already receiving delayed messages.

Not Web Server's Fault: The lag between eventTimestamp and publishTime is minimal (1 second), meaning the server is publishing messages promptly.

   upvoted 11 times

  **raaad** Highly Voted  1 year, 4 months ago

Selected Answer: G

- It suggest a backlog problem.

- It indicates that while individual messages might be processed quickly once they're handled, the job overall cannot keep up with the rate of incoming messages, causing a delay in processing the backlog.

   upvoted 5 times

  **datapassionate** 1 year, 3 months ago

Why not B than?

   upvoted 2 times

  **RenePetersen** 1 year, 2 months ago

I guess that's because it says in the text that "Your Dataflow job's system lag is about 5 seconds".

   upvoted 2 times

  **desertlotus1211** Most Recent  1 month, 2 weeks ago

Selected Answer: G

Answer is C lol

   upvoted 1 times

  **4a8ffd7** 7 months, 4 weeks ago

Selected Answer: B

I don't know why you guys got the processing time is less than 30 sec. But I would consider the processing time with $40(\text{freshness}) - 5(\text{system lag}) = 35 \text{ sec}$. Even minus the publish time of Pub/sub which is less than 1 sec. The processing time still larger than 30 sec. I believe inspecting a few messages show no more than 1 sec lag is about pub/sub processing time. Not inspecting a few messages for dataflow. So I would choose B.

   upvoted 2 times

  **JyoGCP** 1 year, 2 months ago

Selected Answer: G

Option C

   upvoted 2 times

  **Matt_108** 1 year, 3 months ago

Selected Answer: G

Option C - low system lag (which identifies fast processing) but high data freshness (which identifies that the messages sit in the backlog a lot)

   upvoted 4 times

  **Alex3551** 1 year, 3 months ago

Selected Answer: G

agree correct is C

   upvoted 1 times



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