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Google Cloud Status Dashboard

This page provides status information on the services that are part of Google Cloud Platform. Check back here to view the current status of the services listed below. If you are experiencing an issue not listed here, please contact Support. Learn more about what's posted on the dashboard in this FAQ. For additional information on these services, please visit cloud.google.com.

Google Cloud Pub/Sub Incident #19001

We are investigating elevated error rate on publish/pull and various admin operations (i.e. create/delete/get topics) with Google Cloud PubSub globally.

Incident began at **2019-05-20 20:54** and ended at **2019-05-21 00:24** (all times are **US/Pacific**).

DATE	TIME	DESCRIPTION
✅ May 28, 2019	13:13	**ISSUE SUMMARY** On Monday 20 May, 2019, Google Cloud Pub/Sub experienced publish error rates of 1.2%, increased publish latency by 1.7ms at the 50th percentile, and 8.3s increase at the 99th percentile for a duration of 3 hours, 30 minutes. Publish and Subscribe admin operations saw average error rates of 8.3% and 3.2% respectively for the same period. We apologize to our customers who were impacted by this service degradation. **DETAILED DESCRIPTION OF IMPACT** On Monday 20 May, 2019 from 20:54 to Tuesday 21 May, 2019 00:24 US/Pacific Google Cloud Pub/Sub experienced publish error rates of 1.2%, increased publish latency by 1.7ms at the 50th percentile, and 8.3s increase at the 99th percentile for a duration of 3 hours, 30 minutes. Publish (CreateTopic, GetTopic, UpdateTopic, DeleteTopic) and Subscribe (CreateSnapshot, CreateSubscription, UpdateSubscription) admin operations saw average error rates of 8.3% and 3.2% respectively for the same period. Customers affected by the incident may have seen errors containing messages like "DEADLINE_EXCEEDED". Cloud Pub/Sub's elevated error rates and increased latency indirectly impacted Cloud SQL, Cloud Filestore, and App Engine Task Queues globally. The incident caused elevated error rates in admin operations (including instance creation) for both Cloud SQL and Cloud Filestore, as well as increased latencies and timeout errors for App Engine Task Queues during the incident. **ROOT CAUSE** The incident was triggered by an internal user creating an unexpected surge of publish requests to Cloud Pub/Sub topics. These requests did not cache as expected and led to hotspotting on the underlying metadata storage system responsible for managing Cloud Pub/Sub's publish and subscribe operations. The hotspotting triggered overload protection mechanisms within the storage system which began to reject some incoming requests and delay the processing of others, both of which contributed to the elevated error rates and increased latencies experienced by Cloud Pub/Sub. **REMEDIATION AND PREVENTION** On Monday 20 May, 2019 at 21:16 US/Pacific Google engineers were automatically alerted to elevated error rates and immediately began their investigation. At 22:18, we determined the underlying storage system was responsible for the elevated error rates afflicting Cloud Pub/Sub and escalated the issue to the storage system's engineering team. At 22:48, Google engineers attempted to mitigate the issue by providing additional resources to the impacted storage system servers, however, this did not address the hotspots and error rates remained elevated. At 23:00, Google engineers disabled non-essential internal traffic to reduce load being sent to the storage system, this improved system behavior, but did not lead to a full recovery. On Tuesday 21 May, 2019 at 00:19 US/Pacific, Google engineers identified the source for the surge of requests and implemented a rate limit on the requests, which effectively mitigated the issue. Once the traffic had subsided, the storage system's automated mechanisms were able to successfully heal the service, leading to full resolution of the incident by 00:24. In order to prevent a recurrence of the incident we are adding an additional layer of caching to further reduce load on the metadata storage system. We are preemptively increasing the number of storage servers to improve isolation, improve load distribution, and reduce the effect hotspotting may have. We are reviewing the schema of the storage system to improve load distribution. Finally we will be improving our playbooks with learnings from this incident, specifically improving sections around rate limiting, load shedding and hotspot detection.
✅ May 21, 2019	01:13	The issue affecting PubSub and causing elevated error rate on multiple operations has been resolved for all affected users as of Tuesday, 2019-05-21 01:02 US/Pacific. We will conduct an internal investigation of this issue and make appropriate improvements to our systems to help prevent or minimize future recurrence. We will provide a more detailed analysis of this incident once we have completed our internal investigation.
✅ May 21, 2019	00:41	Mitigation work is currently underway by our Engineering Team. We will provide another status update by Tuesday, 2019-05-21 01:40 US/Pacific with current details.
❌ May 20, 2019	23:39	We are still seeing errors on publish/pull and admin operations on Cloud PubSub. Our Engineering Team is investigating possible causes. We will provide another status update by Tuesday, 2019-05-21 00:40 US/Pacific with current details.
❌ May 20, 2019	22:38	Further investigation indicates that approximately 3% pull and 5% publish operations globally are seeing 5xx and 499 errors. Various admin operations like CreateTopic and DeleteTopic are also seeing >50% errors. We will provide an update by Monday, 2019-05-20 23:40 US/Pacific with current details.
❌ May 20, 2019	22:16	We are experiencing an issue with Cloud PubSub beginning at 2019-05-20 21:35 US/Pacific. Current data indicates that approximately 1% of publish operations globally (15% publish operations in asia-northeast2) and approximately 20~25% of various types of admin operations (i.e. CreateTopic) are affected by this issue. For everyone who is affected, we apologize for the disruption. We will provide an update by Monday, 2019-05-20 22:45 US/Pacific with current details.
❌ May 20, 2019	21:51	We are investigating elevated error rate on create/delete/get topics with Google Cloud PubSub globally. Our Engineering Team is investigating possible causes. We will provide another status update by Monday, 2019-05-20 22:15 US/Pacific with current details.
❌ May 20, 2019	21:51	We are investigating elevated error rate on create/delete/get topics with Google Cloud PubSub globally.

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