

Google Cloud Status Dashboard

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Google BigQuery Incident #19003

Google BigQuery users experiencing elevated latency and error rates in US multi-region.

Incident began at **2019-05-17 09:02** and ended at **2019-05-17 13:38** (all times are **US/Pacific**).

DATE	TIME	DESCRIPTION
✓ May 23, 2019	21:00	<div>ISSUE SUMMARY</div> <p>On Friday, May 17 2019, 83% of Google BigQuery insert jobs in the US multi-region failed for a duration of 27 minutes. Query jobs experienced an average error rate of 16.7% for a duration of 2 hours. BigQuery users in the US multi-region also observed elevated latency for a duration of 4 hours and 40 minutes. To our BigQuery customers whose business analytics were impacted during this outage, we sincerely apologize – this is not the level of quality and reliability we strive to offer you, and we are taking immediate steps to improve the platform's performance and availability.</p> <div>DETAILED DESCRIPTION OF IMPACT</div> <p>On Friday May 17 2019, from 08:30 to 08:57 US/Pacific, 83% of Google BigQuery insert jobs failed for 27 minutes in the US multi-region. From 07:30 to 09:30 US/Pacific, query jobs in US multi-region returned an average error rate of 16.7%. Other jobs such as list, cancel, get, and getQueryResults in the US multi-region were also affected for 2 hours along with query jobs. Google BigQuery users observed elevated latencies for job completion from 07:30 to 12:10 US/Pacific. BigQuery jobs in regions outside of the US remained unaffected.</p> <div>ROOT CAUSE</div> <p>The incident was triggered by a sudden increase in queries in US multi-region leading to quota exhaustion in the storage system serving incoming requests. Detecting the sudden increase, BigQuery initiated its auto-defense mechanism and redirected user requests to a different location. The high load of requests triggered an issue in the scheduling system, causing delays in scheduling incoming queries. These delays resulted in errors for query, insert, list, cancel, get and getQueryResults BigQuery jobs and overall latency experienced by users. As a result of these high number of requests at 08:30 US/Pacific, the scheduling system's overload protection mechanism began rejecting further incoming requests, causing insert job failures for 27 minutes.</p> <div>REMEDIATION AND PREVENTION</div> <p>BigQuery's defense mechanism began redirection at 07:50 US/Pacific. Google Engineers were automatically alerted at 07:54 US/Pacific and began investigation. The issue with the scheduler system began at 08:00 and our engineers were alerted again at 08:10. At 08:43, they restarted the scheduling system which mitigated the insert job failures by 08:57. Errors seen for insert, query, cancel, list, get and getQueryResults jobs were mitigated by 09:30 when queries were redirected to different locations. Google engineers then successfully blocked the source of sudden incoming queries that helped reduce overall latency. The issue was fully resolved at 12:10 US/Pacific when all active and pending queries completed running.</p> <p>We will resolve the issue that caused the scheduling system to delay scheduling of incoming queries. Although the overload protection mechanism prevented the incident from spreading globally, it did cause the failures for insert jobs. We will be improving this mechanism by lowering deadline for synchronous queries which will help prevent queries from piling up and overloading the scheduling system. To prevent future recurrence of the issue we will also implement changes to improve BigQuery's quota exhaustion behaviour that would prevent the storage system to take on more load than it can handle. To reduce the duration of similar incidents, we will implement tools to quickly remediate backlogged queries.</p>
✓ May 17, 2019	13:38	<p>The issue with Google BigQuery users experiencing latency and high error rates in US multi region has been resolved for all affected users as of Friday, 2019-05-17 13:18 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.</p>
⚠ May 17, 2019	12:14	<p>Mitigation is underway and the rate of errors is decreasing. We will provide another status update by Friday, 2019-05-17 13:30 US/Pacific with current details.</p>
⚠ May 17, 2019	11:20	<p>We believe the issue with Google BigQuery users experiencing latency and high error rates in US multi region is recurring. Our Engineering team is actively working towards mitigating the source of these errors. We sincerely apologize for the disruption caused. We will provide another status update by Friday, 2019-05-17 12:15 US/Pacific with current details</p>
⚠ May 17, 2019	10:35	<p>The issue with Google BigQuery should be mitigated for the majority of users and we expect a full resolution in the near future. We will provide another status update by Friday, 2019-05-17 11:30 US/Pacific with current details.</p>
⚠ May 17, 2019	09:36	<p>The rate of errors is decreasing. We will provide another status update by Friday, 2019-05-17 10:35 US/Pacific with current details.</p>
⚠ May 17, 2019	09:02	<p>We've received a report of increased latency and errors for Google BigQuery users in the US. Mitigation work is currently underway by our Engineering Team. We will provide another status update by Friday, 2019-05-17 10:00 US/Pacific with current details.</p>
⚠ May 17, 2019	09:02	<p>We've received a report of an issue with Google BigQuery.</p>

