

## 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 BigQuery Incident #18029

BigQuery Increased Error Rate

Incident began at **2017-06-14 10:44** and ended at **2017-06-14 10:53** (all times are **US/Pacific**).

	DATE	TIME	DESCRIPTION
✓	Jun 20, 2017	23:25	<div>ISSUE SUMMARY</div> <p>For 10 minutes on Wednesday 14 June 2017, Google BigQuery experienced increased error rates for both streaming inserts and most API methods due to their dependency on metadata read operations. To our BigQuery customers whose business were impacted by this event, we sincerely apologize. We are taking immediate steps to improve BigQuery’s performance and availability.</p> <div>DETAILED DESCRIPTION OF IMPACT</div> <p>Starting at 10:43am US/Pacific, global error rates for BigQuery streaming inserts and API calls dependent upon metadata began to rapidly increase. The error rate for streaming inserts peaked at 100% by 10:49am. Within that same window, the error rate for metadata operations increased to a height of 80%. By 10:54am the error rates for both streaming inserts and metadata operations returned to normal operating levels.</p> <p>During the incident, affected BigQuery customers would have experienced a noticeable elevation in latency on all operations, as well as increased “Service Unavailable” and “Timeout” API call failures. While BigQuery streaming inserts and metadata operations were the most severely impacted, other APIs also exhibited elevated latencies and error rates, though to a much lesser degree. For API calls returning status code 2xx the operation completed with successful data ingestion and integrity.</p> <div>ROOT CAUSE</div> <p>On Wednesday 14 June 2017, BigQuery engineers completed the migration of BigQuery's metadata storage to an improved backend infrastructure. This effort was the culmination of work to incrementally migrate BigQuery read traffic over the course of two weeks. As the new backend infrastructure came online, there was one particular type of read traffic that hadn't yet migrated to the new metadata storage. This caused a sudden spike of that read traffic to the new backend.</p> <p>The spike came when the new storage backend had to process a large volume of incoming requests as well as allocate resources to handle the increased load. Initially the backend was able to process requests with elevated latency, but all available resources were eventually exhausted, which lead to API failures. Once the backend was able to complete the load redistribution, it began to free up resources to process existing requests and work through its backlog. BigQuery operations continued to experience elevated latency and errors for another five minutes as the large backlog of requests from the first five minutes of the incident were processed.</p> <div>REMEDIATION AND PREVENTION</div> <p>Our monitoring systems worked as expected and alerted us to the outage within 6 minutes of the error spike. By this time, the underlying root cause had already passed.</p> <p>Google engineers have created nine high priority action items, and three lower priority action items as a result of this event to better prevent, detect and mitigate the reoccurrence of a similar event.</p> <p>The most significant of these priorities is to modify the BigQuery service to successfully handle a similar root cause event. This will include adjusting capacity parameters to better handle backend failures and improving caching and retry logic.</p> <p>Each of the 12 action items created from this event have already been assigned to an engineer and are underway.</p>
✓	Jun 14, 2017	12:09	<p>The BigQuery service was experiencing a 78% error rate on streaming operations and up to 27% error rates on other operations from 10:43 to 10:53 US/Pacific time. This issue has been resolved for all affected projects as of 10:53 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>

