

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 Storage Incident #16029

Problem with Google Cloud Storage XML API signed URLs

Incident began at **2015-08-26 07:27** and ended at **2015-08-26 11:25** (all times are **US/Pacific**).

DATE	TIME	DESCRIPTION
✔ Aug 28, 2015	15:30	<div>SUMMARY</div> <div>On Wednesday 26 August 2015, requests to Signed URLs [1] on Google Cloud Storage (GCS) returned errors for an extended period of time, affecting approximately 18% of projects using the Signed URLs feature. We apologize to our customers who were affected by this issue. We have identified and fixed the root causes of the incident, and we are putting measures in place to keep similar issues from occurring in future.</div> <div>[1] https://cloud.google.com/storage/docs/access-control#Signed-URLs</div> <div>DETAILED DESCRIPTION OF IMPACT</div> <div>On Wednesday August 26th 2015 at 07:26 PDT, approximately 18% of projects sending requests to GCS Signed URLs started receiving HTTP 500 and 503 responses. The majority of the errors occurred from 07:25 to 10:34 PDT. From 10:34 the number of affected projects decreased, and by 11:25 PDT fewer than 2% of Signed URL requests were receiving errors. A small number of projects encountered continued errors until remediation was completed at 20:38.</div> <div>There was no disruption to any GCS functionality that did not involve Signed URLs.</div> <div>ROOT CAUSE</div> <div>GCS Signed URLs are cryptographically signed by the owner of the stored data, using the private key of a Google Cloud Platform service account. The private key is known only to the owner, but the corresponding public key is retained by Google and used to verify the URL signatures.</div> <div>Within Google, similar service accounts are used for many internal authentication purposes. (For example, these accounts include the default service account which internally represents the customer's Cloud Platform project.) For these service accounts, Google retains both the public and the private key. These keypairs have a short lifetime and are frequently regenerated.</div> <div>All keys are managed in a central, strongly hardened security module. As part of an effort to simplify the key management system, prior to the incident, a configuration change was pushed which mistakenly caused the security module to consider customers' service accounts as candidates for automatic keypair management. This change was later rolled back, removing the service accounts from automatic management, but some customers' service accounts had already received new keypairs with finite lifetimes. Accounts with heavy Signed URL usage were more likely to be affected.</div> <div>On 07:25 PDT on Wednesday 26 August, the lifetimes of the temporary keypairs for affected accounts began to expire. Since the expired keypairs were not automatically removed as the service account were no longer under automatic management, it's presence was treated as an error by the Signed URL verification process, causing all Signed URL requests for the service account to fail.</div> <div>At no time during this incident were any keys at risk and they remain safe and secure. No action is required by customers.</div> <div>REMEDIATION AND PREVENTION</div> <div>Automated monitoring signalled the issue at 07:33. Google engineers identified the need to remove the expired keys, which required manual access to the security module. This is protected by multiple security procedures, by design, so it required several escalations to get the correct people. Access was gained at 10:34 PDT, and thereafter service was progressively restored as each service account was reactivated by removing its expired keys.</div> <div>To eliminate the immediate cause of the issue, Google engineers are modifying the URL signature verifier to be more robust when it encounters expired keys.</div> <div>To avoid various related classes of errors, Google engineers are increasing the testing performed on configuration changes for the security system, both to strengthen consistency and to ensure that configuration changes do not induce unexpected side effects.</div> <div>In case of other future issues with the security module, Google engineers are streamlining internal escalation procedures to improve response times, and upgrading tools for more efficient key administration.</div>
✔ Aug 26, 2015	17:59	The issue with GCS XML signed URLs should be resolved for vast majority of projects and traffic as of 11:25 US/Pacific and we are working to fix the issue for the 0.02% remaining traffic. We will provide provide a written Incident Report within 24 hours.
✔ Aug 26, 2015	15:50	We are still actively working on fully resolving the issue with GCS XML signed URLs returning HTTP 500 errors. Current data indicates that less than 0.009% of requests using XML signed URLs are still affected by this issue. We will provide another status update by 17:00 US/Pacific with current details.
✔ Aug 26, 2015	14:22	We are still working on fully resolving the issue with GCS XML signed URLs returning HTTP 500 errors and expecting for a full resolution in the near future. Current data indicates that less than 0.1% of requests using XML signed URLs are affected by this issue. We will provide another status update by 15:15 US/Pacific with current details.
✔ Aug 26, 2015	13:19	We are still working on fully resolving the issue with GCS XML signed URLs returning HTTP 500 errors. Current data indicates that less than 0.2% of requests using XML signed URLs are affected by this issue. We will provide another status update by 14:15 US/Pacific with current details.
✔ Aug 26, 2015	12:16	The issue with GCS XML signed URLs returning HTTP 500 errors should be resolved for the majority of projects and we expect a full resolution in the near future. Current data indicates that less than 0.2% of requests are affected by this issue. We will provide another status update by 13:15 US/Pacific with current details.
✔ Aug 26, 2015	11:32	Error rates for GCS XML signed URL requests have fallen to 1%. We are working to resolve the issue for the remaining impacted customers. We will provide another status update by 12:15 US/Pacific with current details.
⚠ Aug 26, 2015	10:45	Our engineers have determined the cause of the GCS XML API signed URL issue and are applying a fix. Current data indicates that 5% of XML API requests remain affected by this issue. We will provide another status update by 11:30 US/Pacific with further details.
⚠ Aug 26, 2015	10:11	We have identified that the Google Cloud Storage XML API errors are limited to requests authorized by signed URLs [1]. We are continuing to investigate and will provide another status update by 10:45 US/Pacific with current details. [1] https://cloud.google.com/storage/docs/access-control?hl=en#Signed-URLs
⚠ Aug 26, 2015	09:36	Errors on the Google Cloud Storage XML API are continuing; current data indicates that between 30% and 35% of XML API requests are affected by this issue. We are continuing to investigate and will provide another status update by 10:00 US/Pacific with current details.
⚠ Aug 26, 2015	08:50	The issue with errors on the Google Cloud Storage XML API should be resolved for the majority of users and we expect a full resolution in the near future. We will provide another status update by 09:30 US/Pacific with current details.
⚠ Aug 26, 2015	08:30	We are still investigating the issue with requests to the Google Cloud Storage XML API. We will provide another status update by 09:00 US/Pacific time.
⚠ Aug 26, 2015	08:09	There is an elevated error rate on the XML API to Google Cloud Storage. Affected users observe HTTP 500 or other 50x responses to XML API requests. We will provide a further update by 08:30 US/Pacific time.
⚠ Aug 26, 2015	08:00	We are experiencing an issue with the XML API to Google Cloud Storage. The issue started at 07:27 US/Pacific time. We will provide a further update by 08:00.

