Google Cloud Status Dashboard › Incidents › Google Compute Engine

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 Compute Engine Incident #16005

Network Connectivity Issues in Europe-West1-C

Incident began at **2016-02-24 12:00** and ended at **2016-02-24 12:57** (all times are **US/Pacific**).

DATE	TIME	DESCRIPTION
✅ Mar 09, 2016	16:44	SUMMARY: On Wednesday 24 February 2016, some Google Compute Engine instances in the europe-west1-c zone experienced network connectivity loss for a duration of 62 minutes. If your service or application was affected by these network issues, we sincerely apologize. We have taken immediate steps to remedy the issue and we are working through a detailed plan to prevent any recurrence. DETAILED DESCRIPTION OF IMPACT: On 24 February 2016 from 11:43 to 12:45 PST, up to 17% of Google Compute Engine instances in the europe-west1-c zone experienced a loss of network connectivity. Affected instances lost connectivity to both internal and external destinations. ROOT CAUSE: The root cause of this incident was complex, involving interactions between three components of the Google Compute Engine control plane: the main configuration repository, an integration layer for networking configuration, and the low-level network programming mechanism. Several hours before the incident on 24th February 2016, Google engineers modified the Google Compute Engine control plane in the europe-west1-c zone, migrating the management of network firewall rules from an older system to the modern integration layer. This was a well-understood change that had been carried out several times in other zones without incident. As on previous occasions, the migration was completed without issues. On this occasion, however, the migrated networking configuration included a small ratio (approximately 0.002%) of invalid rules. The GCP network programming layer is hardened against invalid or inconsistent configuration information, and continued to operate correctly in the presence of these invalid rules. Twenty minutes before the incident, however, a remastering event occurred in the network programming layer in the europe-west1-c zone. Events of this kind are routine but, in this case, the presence of the invalid rules in the configuration coupled with a race condition in the way the new master loads its configuration caused the new master to load its network configuration incorrectly.. The consequence, at 11:43 PST, was a loss of network programming configuration for a subset of Compute Engine instances in the zone, effectively removing their network connectivity until the configuration could be re-propagated from the central repository. REMEDIATION AND PREVENTION Google engineers restored service by forcing another remastering of the network programming layer, restoring a correct network configuration. To prevent recurrence, Google engineers are fixing both the race condition which led to an incorrect configuration during mastership change, and adding alerting for the presence of invalid rules in the network configuration so that they will be detected promptly upon introduction. The combination of these two changes provide defense in depth against future configuration inconsistency and we believe will preserve correct function of the network programming system in the face of invalid information.
✅ Feb 24, 2016	13:00	The issue with network connectivity to VMs in europe-west1-c should have been resolved for all affected instances as of 12:57 PST. We will conduct an internal investigation of this issue and make appropriate improvements to our systems to prevent or minimize future recurrence. We will provide a more detailed analysis of this incident once we have completed our internal investigation.
⚠️ Feb 24, 2016	12:21	We are currently investigating network connectivity issues affecting the europe-west1-c zone. We will provide another update with more information by 13:00 PST.

All times are US/Pacific

Send Feedback