

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 Networking Incident #18016

Networking issues in us-central1-c impacting multiple GCP products (Bigtable, Cloud SQL, Datastore, VMs)

Incident began at **2018-10-11 16:13** and ended at **2018-10-11 16:54** (all times are **US/Pacific**).

DATE	TIME	DESCRIPTION
✔ Oct 12, 2018	21:07	<div>ISSUE SUMMARY</div> <p>On Thursday 11 October 2018, a section of Google's network that includes part of us-central1-c lost connectivity to the Google network backbone that connects to the public internet for a duration of 41 minutes.</p> <p>We apologize if your service or application was impacted by this incident. We are following our postmortem process to ensure we fully understand what caused this incident and to determine the exact steps we can take to prevent incidents of this type from recurring. Our engineering team is committed to prioritizing fixes for the most critical findings that result from our postmortem.</p> <div>DETAILED DESCRIPTION OF IMPACT</div> <p>On Thursday 11 October 2018 from 16:13 to 16:54 PDT, a section of Google's network that includes part of us-central1-c lost connectivity to the Google network backbone that connects to the public internet.</p> <p>The us-central1-c zone is composed of two separate physical clusters. 61% of the VMs in us-central1-c were in the cluster impacted by this incident. Projects that create VMs in this zone have all of their VMs assigned to a single cluster. Customers with VMs in the zone were either impacted for all of their VMs in a project or for none.</p> <p>Impacted VMs could not communicate with VMs outside us-central1 during the incident. VM-to-VM traffic using an internal IP address within us-central1 was not affected.</p> <p>Traffic through the network load balancer was not able to reach impacted VMs in us-central1-c, but customers with VMs spread between multiple zones experienced the network load balancer shifting traffic to unaffected zones.</p> <p>Traffic through the HTTP(S), SSL Proxy, and TCP proxy load balancers was not significantly impacted by this incident.</p> <p>Other Google Cloud Platform services that experienced significant impact include the following:</p> <p>30% of Cloud Bigtable clusters located in us-central1-c became unreachable.</p> <p>10% of Cloud SQL instances in us-central lost external connectivity.</p> <div>ROOT CAUSE</div> <p>The incident occurred while Google's network operations team was replacing the routers that link us-central1-c to Google's backbone that connects to the public internet. Google engineers paused the router replacement process after determining that additional cabling would be required to complete the process and decided to start a rollback operation. The rollout and rollback operations utilized a version of workflow that was only compatible with the newer routers. Specifically, rollback was not supported on the older routers. When a configuration change was pushed to the older routers during the rollback, it deleted the Border Gateway Protocol (BGP) control plane sessions connecting the datacenter routers to the backbone routers resulting in a loss of external connectivity.</p> <div>REMEDIATION AND PREVENTION</div> <p>The BGP sessions were deleted in two tranches. The first deletion was at 15:43 and caused traffic to failover to other routers. The second set of BGP sessions were deleted at 16:13. The first alert for Google engineers fired at 16:16. We identified that the BGP sessions had been deleted at 16:41 and rolled back the configuration change at 16:52, ending the incident shortly thereafter.</p> <p>The preventative action items identified so far include the following:</p> <p>Fix the automated workflows for router replacements to ensure the correct version of workflows are utilized for both types of routers.</p> <p>Alert when BGP sessions are deleted and traffic fails off, so that we can detect and mitigate problems before they impact customers.</p>
✔ Oct 11, 2018	17:52	<p>The issue with Cloud Networking impacting multiple GCP products (CloudSQL, Cloud Spanner, Cloud Storage, Cloud BigTable, App Engine) in us-central1-c has been resolved for all affected projects as of Thursday, 2018-10-11 16:55 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>
✔ Oct 11, 2018	17:25	<p>Cloud Network is now working and the mitigation work to restore the impacted services is currently underway by our Engineering Team. We will provide another status update by Thursday, 2018-10-11 18:00 US/Pacific with current details.</p>
✔ Oct 11, 2018	17:04	<p>Our engineers have applied a mitigation and the error rate is now decreasing. We will provide another status update by Thursday, 2018-10-11 17:20 US/Pacific with current details.</p>
✖ Oct 11, 2018	16:50	<p>We are investigating an issue with networking issues in us-central1-c. This issue is impacting multiple Google Cloud Platform products. We will provide more information by Thursday, 2018-10-11 17:15 US/Pacific</p>
✖ Oct 11, 2018	16:50	<p>Networking issues in us-central1-c impacting multiple GCP products</p>

