Google Cloud Issue Summary

Google Drive - 2020-11-16

All dates/times relative to US/Pacific

From November 16, 2020 at 05:30 to November 17, 2020 at 13:10, using the Google Drive Sharing Web UI to share a Drive resource with either a user or group whose profile email address contained a capital letter may have resulted in duplicates of the initial notification email being sent. In addition, the duplication persisted unless the user who initiated the share navigated away from the page in their browser.

Due to the gradual deployment of the code change that introduced this issue, the likelihood of a user being affected depended at which time the attempt was made, which peaked at November 17, at 10:34 when the affected Drive Web UI deployment began to be reverted.

We understand that this issue has impacted our valued customers and users, and we apologize to those who were affected.

DETAILED DESCRIPTION OF IMPACT

The issue was triggered when the user opened the Share dialog in the Google Drive Web UI and inputted an email address in which the profile name contained an uppercase character and then pressed the "Send" button.

In this case, a loop would be started where the client-side web interface updates the Drive sharing permissions for the chosen resource, then updates the web interface, which triggers sending a Sharing notification email for each iteration of the loop to the intended recipients via the email address: drive-shared-noreply@google.com. After a few seconds, a confirmation message was shown in the browser stating that the recipient was added. A modal dialog then appeared with the message "Discard unsaved changes?" with the options "Cancel" and "Discard", but in fact the sharing permissions were already updated and interacting with this dialog had no effect.

The loop repeated with the dialogs being placed on top of each other until the user who initiated the share performed an action to break the loop, including but not limited to:
  - Closing the browser tab.
  - Pressing the browser's "Back" button.
  - Holding the Esc (escape) key for a long time may have stopped the loop (but not in all cases).

The sharing operation completed as intended, so sharing functionality was not affected, but the user interface experience was confusing and the duplicate notification emails were not intended.

ROOT CAUSE

Two individual code changes to maintain existing code that were made in early November to the client-side Google Drive web interface combined to allow the issue to occur.

When a Google Drive resource is shared with a new list of recipients after the "Send" button is pressed, the web interface updates the sharing permissions and performs a check to see if the new recipients have been successfully added to the sharing permissions list. The recent code changes introduced an incorrect test, which mistakenly considered an email address in the response from the sharing operation different from what the user entered if it contained an upper-case letter. In this case, the email address the user had entered was treated as a newly-entered recipient, which triggered a new sharing notification to be sent.

The code changes were integrated and started to be deployed in a release of the web interface starting from November 16, 2020 at 05:30, at which time it was possible for users to trigger the issue.

REMEDIATION AND PREVENTION

The Google Workspace and Google Drive support teams started investigating customer reports on November 16, at 13:34, including attempts to reproduce the issue and determine the root cause.

The teams were successful in identifying the affected component and reverting production deployment on November 17 at 10:34 to mitigate the impact of the issue.

The issue was fully resolved and no longer affected users on November 17 at 13:10.

To guard against this issue recurring and to reduce the impact of similar events, we are taking the following actions:

- Update the Google Drive web interface code to be more resilient against risks of loops that repeat actions.
- Investigate methods to catch this type of issue during automated testing of the web interface.

Google is committed to quickly and continually improving our technology and operations to prevent service disruptions. We appreciate your patience and apologize again for any impact to your organization. We thank you for your business.

Sincerely,

The Google Workspace Team