Google Apps Incident Report

Gmail Outage - April 17, 2012

Prepared for Google Apps for Business customers

The following is the incident report for the Gmail outage on April 17, 2012. We understand this service issue has affected our valued customers and users, and we apologize for the impact.

Issue Summary

From 9:09 AM PDT to 10:45 AM PDT, the affected Gmail users experienced:

- Error messages while signed in. These messages were 700 series error messages in the Gmail interface such as, "the system encountered a problem" and "Retrying."

- Sign-in and access issues. These include the inability to sign in (receiving 500 series errors) or being unable to interact with the Gmail interface. Some users also experienced delays in incoming message delivery for a brief period after their access was restored.

This incident affected 1.4% of the Gmail user base. During the course of the event, the Apps Status Dashboard specified at times that up to 2%, or up to 10%, of users were affected. This was due to uncertainty at the time regarding the number of users affected and Google's philosophy of being as transparent as possible about service performance.

Actions and Root Cause Analysis

At 9:28 AM PDT, Google Engineering began receiving alerts indicating internal tests were failing. Simultaneously, customers started reporting the issues to Google Enterprise Support. The root cause was a misconfiguration that occurred during a routine capacity upgrade. This misconfiguration prevented changes to existing customer data for upgraded users. As designed, message processing stopped to avoid any potential for data loss or corruption.

At 9:46 AM PDT, Google Engineering identified the misconfiguration, and began reverting it and restarting the corresponding servers at 10:10 AM PDT. This started to resolve users' access and interface problems; by 10:45 AM PDT, Gmail services returned to normal for all affected users.

Corrective and Preventative Measures

The Google Engineering team conducted an internal review and analysis and is performing the following actions to help address the underlying cause of the problem and prevent recurrence:

Prevention
- Reduce and isolate the effects of this class of configuration issue.
- Improve the system responsible for managing configurations.
- Add additional safeguards to identify configuration errors before release.
- Enhance internal documentation for configuration management.

Detection and speed of recovery
- Implement additional monitoring to catch earlier failure symptoms in production.
- Eliminate the need for server restarts to recover from this type of error.

We appreciate your patience and again apologize for the impact to your organization. We thank you for your business and continued support.

Sincerely,

The Google Apps Team