

Google Apps Incident Report

Google Apps Gmail - May 11 through May 13, 2010

Prepared for Google Apps Customers

The following is the incident report for the Gmail performance and availability issues experienced by some Google Apps customers between May 11 and 13, 2010. We understand that this service issue has affected our valued customers and their users, and we apologize for the impact.

Issue Summary

Starting at 7:02 AM PT | 15:02 GMT on Tuesday, May 11, approximately 5% of Gmail users intermittently experienced degraded performance and increased latency due to load balancing issues on the Gmail servers. The symptoms were most noticeable during peak traffic hours in the United States. They continued until 8:50 AM PT | 16:50 GMT on Thursday, May 13. No data was lost.

Actions and Root Cause Analysis

On Tuesday morning, May 11, Google began preparing for scheduled maintenance on a Gmail server cluster by transferring users from that cluster to other Gmail server clusters. The additional load on those other Gmail server clusters exposed shortcomings in the algorithms used for balancing the load between clusters. Some clusters became overloaded, resulting in the performance and availability issues.

To resolve the immediate issue, the Engineering team made manual adjustments to the load balance until the scheduled maintenance was complete. The issues were completely resolved at 8:50 AM PT | 16:50 GMT when the updated Gmail server cluster began serving users.

Corrective and Preventative Measures

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

- Improve the Gmail load balancing algorithm so that it better accounts for expected peak loads based on user location.
- Evaluate the resource utilization rates for Gmail server clusters to ensure that they are able to handle increased loads efficiently.
- Schedule large maintenance jobs for Gmail server clusters during non-peak hours, such as weekends.

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

Sincerely,

The Google Apps Team