Google™

Service Organization Control 3 Report

Report on the Google Apps for Business, Google Apps for Education, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage System Relevant to Security, Availability, Processing Integrity and Confidentiality

For the Period June 1, 2012 to May 31, 2013

Report of Independent Accountants

Google Inc.

We have examined management's assertion that Google Inc., during the period June 1, 2012 through May 31, 2013, maintained effective controls to provide reasonable assurance that:

- the Google Apps for Business, Google Apps for Education, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage System was protected against unauthorized access (both physical and logical)
- the Google Apps for Business, Google Apps for Education, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage System was available for operation and use, as committed and agreed
- the Google Apps for Business, Google Apps for Education, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage System processing was complete, accurate, timely and authorized; and
- the Google Apps for Business, Google Apps for Education, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage System information designated as confidential was protected as committed or agreed

based on the AICPA/CICA Trust Services™ Security, Availability, Processing Integrity and Confidentiality Criteria. This assertion is the responsibility of Google Inc.'s management. Our responsibility is to express an opinion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included (1) obtaining an understanding of Google Inc.'s relevant security, availability, processing integrity and confidentiality controls, (2) testing and evaluating the operating effectiveness of the controls and (3) performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

Because of the nature and inherent limitations of controls, Google's ability to meet the aforementioned criteria may be affected. For example, controls may not prevent or detect and correct error or fraud, unauthorized access to systems and information, or failure to comply with internal and external policies or requirements. Furthermore, the projection of any conclusions, based on our findings, to future periods is subject to the risk that the validity of such conclusions may be altered because of changes made to the system or controls or a deterioration in the degree of the effectiveness of the controls.

In our opinion, management's assertion referred to above is fairly stated, in all material respects, based on the AICPA/CICA Trust Services™ Security, Availability, Processing Integrity and Confidentiality Criteria.

The SOC 3 SysTrust or Service Organizations Seal on Google Inc.'s Web site constitutes a symbolic representation of the contents of this report and it is not intended, nor should it be construed, to update this report or provide any additional assurance.

Ernst & Young LLP

September 26, 2013
San Jose, California

Management's Assertion Regarding the Effectiveness of Its Controls Over the Google Apps for Business, Google Apps for Education, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage System
Based on the AICPA/CICA Trust Service™ Principles and Criteria for Security, Availability, Processing Integrity and Confidentiality

September 26, 2013

Google Inc. maintained effective controls over the security, availability, processing integrity and confidentiality of its Google Apps for Business, Google Apps for Education, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage System (System) to provide reasonable assurance that:

- the System was protected against unauthorized access (both physical and logical) and
- the System was available for operation and use, as committed and agreed
- the System processing was complete, accurate, timely, and authorized; and
- the System information designated as confidential was protected as committed or agreed

during the period June 1, 2012 through May 31, 2013, based on the Trust Services ™ Security, Availability, Processing Integrity and Confidentiality Criteria established by the American Institute of Certified Public Accountants (AICPA) and the Canadian Institute of Chartered Accountants (CICA).

Our attached System Description of the Google Apps for Business, Google Apps for Education, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage System identified the aspects of the System covered by our assertion.

GOOGLE Inc.

September 26, 2013

Description of the Google Apps for Business, Google Apps for Education, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage System

Google Overview

Google Inc. ("Google") is a global technology service provider focused on improving the ways people connect with information. Google's innovations in web search and advertising have made Google's web site one of the most viewed Internet destinations and its brand among the most recognized in the world. Google maintains the world's largest online index of web sites and other content, and makes this information freely available to anyone with an Internet connection. Google's automated search technology helps people obtain nearly instant access to relevant information from their vast online index.

Google offers internet-based services and tools that user entities can access to communicate, collaborate, and work more efficiently. Gmail, Google Talk, Google Contacts, Google Calendar, Google Docs, Google Sheets, Google Slides, Google Groups, Google Apps Control Panel, Google Drive, and Google Vault (hereafter described collectively as "Google Apps for Business & Education"), specific administrative tools for Google Apps, Google App Engine, Google Apps Script, Google Compute Engine and Google Cloud Storage (hereafter described collectively as "Other Select Cloud Services") automatically saves all work performed by user entities in the cloud.

Infrastructure

Google Apps (comprising Gmail, Google Calendar, Google Docs, and other web applications) run in a multi-tenant, distributed environment. Rather than segregating each customer's data onto a single machine or set of machines, Google Apps data from all Google customers (consumers, business, and even Google's own data) is distributed amongst a shared infrastructure composed of Google's many homogeneous machines and located across Google's many data centers.

Data Centers and redundancy

Google's computing clusters are architected with resiliency and redundancy in mind, helping minimize single points of failure and the impact of common equipment failures and environmental risks. Dual circuits, switches, networks, and other necessary devices are utilized to provide redundancy. Facilities infrastructure at the data centers has been designed to be robust, fault tolerant, and concurrently maintainable.

File system and storage

Google Apps uses a distributed file system designed to store large amounts of data across large numbers of computers. Structured data is then stored in a large distributed database built on top of the file system. Data is chunked and replicated over multiple systems such that no one system is a single point of failure. Data chunks are given random file names and are not stored in clear text so they are not humanly readable.

Authentication and access

The layers of the Google application and storage stack require that requests coming from other components are authenticated and authorized. Service-to-service authentication is based on a security protocol that relies on a Google system to broker authenticated channels between application services.

Google Apps services, characterized by redundant computing environments and dynamic resource allocation, enable customers to access their data virtually anytime and anywhere from Internet-capable devices. This computing environment – often called the "cloud" – allows CPU, memory and storage resources to be shared and utilized by many customers while also offering security benefits.

Data

Google provides controls at each level of data storage, access, and transfer. Security controls, which isolate data in the cloud, have been developed alongside the core infrastructure technology since the system's inception. Security is thus a key component of each of our cloud computing elements (e.g. compartmentalization, server assignment, data storage, and processing).

People

Google has implemented a process-based service environment designed to deliver quality Google Apps for Business & Education and Other Select Cloud Services to its customers. The fundamentals underlying the services provided are the adoption of standardized, repeatable processes, the hiring and development of highly skilled resources, and leading industry practices. Google's repeatable process model includes key infrastructure service-related processes such as change management, configuration management, security management, redundancy management and capacity management.

Formal organizational structures exist and are available to Google employees on the Company's intranet. Google has developed and documented formal policies, procedures, and job descriptions for operational areas including data center operations, security administration, system and hardware change management, hiring, training, performance appraisals, terminations and incident escalation. These policies and procedures have been designed to segregate duties and enforce responsibilities based on job functionality. Policies and procedures are reviewed and updated as necessary.

Components of the system:
The Google Apps for Business & Education and Other Select Cloud Services covered under the scope of this report consist of the following services:

Gmail

Gmail is an email application that provides customizable email addresses which include the user entity's own domain, mail search tools and integrated chat. Users can compose email, reply to email, forward email and delete email.

Google Talk

Google Talk is an application that enables worldwide text, video and voice communications. Users can initiate a chat, invite friends to a chat, and place phone calls to any landline or mobile phone number included in Gmail contacts.

Google Contacts

Google Contacts is an application that allows users to store and organize contact information about the people they communicate with. Each contact can contain basic information such as names, email addresses, and phone numbers but can also include extended information like physical address, employer, department, or job title.

Google Calendar

Google Calendar is an application that enables individuals and corporations to coordinate, schedule, and record corporate appointments and events. Users can create events, send invitations, share schedules, and track RSVPs.

Google Drive

Google Drive is a place where users can create, share, collaborate and store their files. Google Drive is the cloud storage solution for files and folders including Google Docs, Sheets, and Slides. Drive comes with desktop and mobile apps, making it much easier to upload, synchronize and access files from any device.

Google Docs

Google Docs is an online word processing application that lets users create and format text documents and collaborate with other users in real time.

Google Sheets

Google Sheets is an online spreadsheet application that lets users create and format spreadsheets and simultaneously work with other users.

Google Slides

Google Slides is an online presentation application that allows users to show off your work in a visual way.

Google Groups

Google Groups is an online user group management and facilitation application. In Groups users can engage in discussions about a specific subject, organize meetings, conferences, or social events among members of a group, find people with similar hobbies, interests, or background, read groups posts through email, the online interface or both and more.

Google Vault

Google Vault is an online solution that can be leveraged by a user entity for managing critical information and preserving important data. Vault helps protect user entities with easy-to-use searches so they can quickly find and preserve data to respond to unexpected customer claims, lawsuits or investigations during the electronic discovery (eDiscovery) process. Additionally, Vault gives Google Apps user entities the extended management and information governance capabilities to proactively archive, retain and preserve Gmail and on-the-record chats. With the ability to search and manage data based on terms, dates, senders, recipients and labels, Vault helps user entities find the information they need, when they need it.

Google Apps Control Panel (CPanel)

Google Apps Control Panel (CPanel) is an administrative console to configure the different applications, perform user management, utilize admin tools, etc. Users can initiate transactions such as creating user accounts to give users access to various Google Apps services and customizing the look and feel of services.

Administrative Tools for Google Apps

The Administrative Tools for Google Apps consists of the Directory Sync tool, Provisioning API, and SAML-based SSO API that allow for easy integration between customer-operated identity management and authentication systems and the Google Apps platform. Also included are the Reporting and Audit APIs provide customers with access to data about how resources within their Google Apps domain are being used.

Google App Engine

Google App Engine enables users to build and host web apps on the same systems that power Google applications. App Engine offers fast development and deployment; simple administration, with no need to worry about hardware, patches or backups; and effortless scalability. The users can define the set of transactions their applications can initiate and process.

Google Apps Script

Google Apps Script is a JavaScript cloud scripting language that provides easy ways to automate tasks across Google products and third party services. Users can define the set of transactions their scripts can initiate and process.

Google Cloud Storage

Google Cloud Storage is a service for storing and accessing user data on Google's infrastructure. The service combines the performance and scalability of Google's cloud with advanced security and sharing capabilities. The users can define the set of transactions their applications can initiate and process.

Google Compute Engine

Google Compute Engine, which was offered to user entities beginning on June 28, 2012, allows user entities to run large-scale computing workloads on the same infrastructure that runs Google Apps. Users can launch virtual machines on-demand, manage network connectivity using a simple but flexible networking solution, and access a variety of data storage alternatives from their virtual machines.