Report of Independent Accountants

To the Management of Google, Inc.:

Building a better working world

We have examined the assertion by the management of Google, Inc. (Google) that in providing its Certification Authority (CA) services in Mountain View, California for the Google Internet Authority (GIA) G2 Certification Authority, during the period October 1, 2014 through September 30, 2015, Google has:

- Disclosed its Business, Key Life Cycle Management, Certificate Life Cycle Management, and CA Environmental Control practices in its Certification Practice Statement.
- Maintained effective controls to provide reasonable assurance that:
 - Google provided its services in accordance with its Certification Practice Statement
- Maintained effective controls to provide reasonable assurance that:
 - The integrity of keys and certificates it managed was established and protected throughout their life cycles
 - The integrity of subscriber keys and certificates it managed was established and protected throughout their life cycles
 - Subscriber information was properly authenticated (for the registration activities performed by Google)
- Maintained effective controls to provide reasonable assurance that:
 - Logical and physical access to CA systems and data was restricted to authorized individuals
 - The continuity of key and certificate management operations was maintained
 - o CA systems development, maintenance, and operations were properly authorized and performed to maintain CA systems integrity

based on the Trust Services Principles and Criteria for Certification Authorities, Version 2.0.

Google's management is responsible for its assertion. Our responsibility is to express an opinion on management's assertion 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's key and certificate life cycle management business practices and its controls over key and certificate integrity, over the authenticity and confidentiality of subscriber and relying party information, over the continuity of key and certificate life cycle management operations, and over development, maintenance and operation of systems integrity, (2) selectively testing transactions executed in accordance with disclosed key and certificate life cycle management business practices, (3) testing and evaluating the operating effectiveness of the



controls, and (4) performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

The relative effectiveness and significance of specific controls at Google and their effect on assessments of control risk for subscribers and relying parties are dependent on their interaction with the controls and other factors present at individual subscriber and relying party locations. We have performed no procedures to evaluate the effectiveness of controls at individual subscriber and relying party locations.

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, fraud, unauthorized access to systems and information or failure to comply with internal and external policies or requirements. Also, the projection of any conclusions based on our findings to future periods is subject to the risk that changes may alter the validity of such conclusions.

In our opinion, for the period October 1, 2014 through September 30, 2015, Google's management's assertion referred to above is fairly stated, in all material respects, based on the *Trust Services Principles and Criteria for Certification Authorities Criteria, Version 2.0.*

The WebTrust seal of assurance for certification authorities on Google's website 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.

This report does not include any representation as to the quality of Google's CA services beyond those covered by the *Trust Services Principles and Criteria for Certification Authorities Version 2.0* criteria, or the suitability of any of Google's services for any customer's intended purpose.

October 30, 2015

Ernst + Young LLP



Assertion by Management of Google, Inc. Regarding Its Disclosure of Its Business Practices and Controls Over its Certification Authority Operations During the Period October 1, 2014 through September 30, 2015

October 30, 2015

Google, Inc. (Google) operates Certification Authority (CA) services in Mountain View, CA for the Google Internet Authority (GIA) G2 Certification Authority.

Google's CA services referred to above provide the following certification authority services:

- Subscriber key management services
- Subscriber registration
- Certificate renewal
- Certificate rekey
- Certificate issuance
- Certificate distribution
- Certificate revocation
- Certificate validation

Management of Google is responsible for establishing and maintaining effective controls over its CA operations, including CA business practices, service integrity (including key and certificate life cycle management controls), and CA environmental controls. These controls contain monitoring mechanisms, and actions are taken to correct deficiencies identified.

Controls have inherent limitations, including the possibility of human error and the circumvention or overriding of controls. Accordingly, even effective controls can provide only reasonable assurance with respect to Google's CA operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

Management of Google has assessed the disclosure of its business practices and its controls over its CA services. Based on that assessment, in Google Management's opinion, in providing its CA services in Mountain View, CA for the Google Internet Authority (GIA) G2 Certification Authority, during the period October 1, 2014 through September 30, 2015, Google, Inc. has:

- Disclosed its Business, Key Life Cycle Management, Certificate Life Cycle Management, and CA Environmental Control practices in its <u>Certification Practice Statement.</u>
- Maintained effective controls to provide reasonable assurance that:
 - Google provided its services in accordance with its Certification Practice Statement
- Maintained effective controls to provide reasonable assurance that:
 - The integrity of keys and certificates it managed was established and protected throughout their life cycles



- The integrity of subscriber keys and certificates it managed was established and protected throughout their life cycles
- Subscriber information was properly authenticated (for the registration activities performed by Google)
- Maintained effective controls to provide reasonable assurance that:
 - Logical and physical access to CA systems and data was restricted to authorized individuals
 - o The continuity of key and certificate management operations was maintained
 - CA systems development, maintenance and operations were properly authorized and performed to maintain CA systems integrity

based on the <u>Trust Services Principles and Criteria for Certification Authorities, Version 2.0 including the following:</u>

CA Business Practices Disclosure

CA Business Practices Management
Certification Practice Statement Management

Service Integrity

CA Key Life Cycle Management Controls

CA Key Generation

CA Key Storage, Backup, and Recovery

CA Public Key Distribution

CA Key Usage

CA Key Archival and Destruction

CA Key Compromise

CA Cryptographic Hardware Life Cycle Management

Subscriber Key Life Cycle Management Controls

CA- Provided Subscriber Key Generation Services Requirements for Subscriber Key Management

Certificate Life Cycle Management Controls

Subscriber Registration

Certificate Renewal

Certificate Rekey

Certificate Issuance

Certificate Distribution

Certificate Revocation

Certificate Validation



CA Environmental Controls

Security Management
Asset Classification and Management
Personnel Security
Physical and Environmental Security
Operations Management
System Access Management
Systems Development and Maintenance
Business Continuity Management
Monitoring and Compliance
Audit Logging

Very truly yours,

Gerhard Eschelbeck

Vice President, Security Engineering