

## REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

To the Management of Internet Security Research Group:

We have examined the [assertion by the management](#) of the Internet Security Research Group ("ISRG") that in providing its ISRG Root X1, Let's Encrypt Authority X1, and Let's Encrypt Authority X2 Certification Authority (CA) services at its Salt Lake City, Utah, and Denver, Colorado, locations as of September 9, 2015, management of ISRG has:

- Disclosed its business, key life cycle management, certificate life cycle management, and CA environmental control policies and practices in its
  - Certification Practice Statements (CPS), and/or
  - Certificate Policies (CP)
- Maintained effective controls to provide reasonable assurance that:
  - ISRG's Certification Practice Statements are consistent with its Certificate Policies; and
  - ISRG provides its services in accordance with its Certificate Policies and Certification Practice Statements
  - The integrity of keys and certificates it manages is established and protected throughout their life cycles;
  - Logical and physical access to CA systems and data was restricted to authorized individuals;
  - The continuity of key and certificate management operations is maintained; and
  - CA systems development, maintenance, and operations are properly authorized and performed to maintain CA systems integrity

based on the [AICPA/CPA Canada Trust Services Principles and Criteria for Certification Authorities Version 2.0 \("WebTrust for Certification Authorities Principles and Criteria"\)](#).

ISRG'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 ISRG's key and certificate life cycle management business practices and its controls over key and certificate integrity, over the authenticity and privacy 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 and information privacy practices; 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.

In our opinion, as of September 9, 2015, ISRG's management's assertion, as set forth in the first paragraph, is fairly stated, in all material respects, based on the [AICPA/CPA Canada WebTrust for Certification Authorities Principles and Criteria](#).

Because of inherent limitations in controls, errors or fraud may occur and not be detected. Furthermore, the projection of any conclusions, based on our findings, to future periods is subject to the risk that (1) changes made to the system or controls, (2) changes in processing requirements, (3) changes required because of the passage of time, or (4) degree of compliance with the policies or procedures may alter the validity of such conclusions.

The relative effectiveness and significance of specific controls at ISRG 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 external registration authorities, individual subscriber and relying party locations. We have performed no procedures to evaluate the effectiveness of controls at external registration authorities, individual subscriber and relying party locations.

This report does not include any representation as to the quality of ISRG's services beyond those covered by the [WebTrust for Certification Authorities Principles and Criteria](#), nor the suitability of any of ISRG's services for any customer's intended purpose.

A handwritten signature in black ink that reads "BRIGHTLINE CPAs & ASSOCIATES, INC." in a cursive, slightly stylized font.

BrightLine CPAs & Associates, Inc.  
Certified Public Accountants  
Tampa, Florida  
September 9, 2015

**ASSERTION OF MANAGEMENT AS TO ITS DISCLOSURE OF ITS PRACTICES AND ITS  
CONTROLS OVER ITS CERTIFICATION AUTHORITY OPERATIONS  
AS OF SEPTEMBER 9, 2015**

September 9, 2015

The Internet Security Research Group (ISRG) operates as a Certificate Authority (CA) known as the ISRG Root X1, Let's Encrypt Authority X1, and Let's Encrypt Authority.

ISRG CA services referred to above, include the following:

- Certificate renewal
- Certificate issuance
- Certificate distribution (using online repository)
- Certificate revocation
- Certificate status information processing (using online repository)

Management of ISRG is responsible for establishing and maintaining effective controls over its Certification Authority operations, including 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.

There are inherent limitations in any controls, 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 ISRG's Certificate Authority operations. Furthermore because of changes in conditions, the effectiveness of controls may vary over time.

Management has assessed the controls over its CA operations. Based on that assessment, in ISRG management's opinion, in providing its CA services at its Salt Lake City, Utah, and Denver, Colorado, locations ISRG, as of September 9, 2015:

- Disclosed its key and certificate life cycle management business and information privacy practices in its
  - Certification Practice Statement (version 1.1) and
  - Certificate Policy (version 1.1)
- Maintained effective controls to provide reasonable assurance that:
  - ISRG's Certification Practice Statements are consistent with its Certificate Policies
  - ISRG provides its services in accordance with its Certificate Policies and Certification Practice Statements
  - The integrity of keys and certificates it manages is established and protected throughout their life cycles;
  - Logical and physical access to CA systems and data is restricted to authorized individuals;
  - The continuity of key and certificate life cycle management operations is maintained; and

- CA systems development, maintenance and operations are properly authorized and performed to maintain CA systems integrity

For the ISRG Root X1, Let's Encrypt Authority X1, and Let's Encrypt Authority X2 CA services, based on the [AICPA/CPA Canada Trust Services Principles and Criteria for Certification Authorities Version 2.0 \(WebTrust for Certification Authorities Principles and Criteria"\)](#) including the following:

### **CA Business Practices Disclosure**

#### *CA Business Practices Management*

- Certification Practice Statement Management
- Certificate Policy Management
- CP and CPS Consistency

### **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

### **Service Integrity**

#### *Key Life Cycle Management Controls*

- CA Key Generation
- CA Key Storage, Backup, and Recovery
- Public Key Distribution
- Key Usage
- Key Archival and Destruction
- CA Key Compromise
- CA Cryptographic Hardware Life Cycle Management

*Certificate Life Cycle Management Controls*

- Certificate Issuance
- Certificate Distribution (using an online certificate management system)
- Certificate Revocation
- Certificate Validation

A handwritten signature in black ink, appearing to read "Joshua Aas", with a long horizontal flourish extending to the right.

Joshua Aas  
Executive Director