REPORT OF THE INDEPENDENT ACCOUNTANT

To the management of Amazon Trust Services, LLC (“ATS”):

We have examined ATS management’s assertion that for its Certification Authority (“CA”) operations in the United States of America, throughout the period January 16, 2016 to January 15, 2017 for its root CAs known as Amazon Root CA 1, Amazon Root CA 2, Amazon Root CA 3, Amazon Root CA 4, Starfield Services Root Certificate Authority - G2 and other CAs listed in Appendix A, ATS has:

- disclosed its business, key lifecycle management, certificate lifecycle management, and CA environment control practices in its:
  - Amazon Trust Services Certificate Policy v1.0.4; and
  - Amazon Trust Services Certification Practice Statement v1.0.5

- maintained effective controls to provide reasonable assurance that:
  - ATS’ Certification Practice Statement is consistent with its Certificate Policy; and
  - ATS provides its services in accordance with its Certificate Policy and Certification Practice Statement

- maintained effective controls to provide reasonable assurance that:
  - the integrity of keys and certificates it manages is established and protected throughout their lifecycles;
  - the integrity of subscriber keys and certificates it manages is established and protected throughout their lifecycles;
  - subscriber information is properly authenticated; and
  - subordinate CA certificate requests are accurate, authenticated, and approved

- maintained effective controls to provide reasonable assurance that:
  - logical and physical access to CA systems and data is 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 Trust Service Principles and Criteria for Certification Authorities, Version 2.0.

ATS’ management is responsible for its assertion. Our responsibility is to express an opinion on management’s assertion based on our examination.

We conducted our examination in accordance with standards for attestation engagements established by the American Institute of Certified Public Accountants and, accordingly, included:

(1) obtaining an understanding of ATS’ key and certificate lifecycle 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 lifecycle management operations and over development, maintenance and operation of systems integrity;
(2) selectively testing transactions executed in accordance with disclosed key and certificate lifecycle 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 ATS 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, ATS’ 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, throughout the period January 16, 2016 to January 15, 2017, ATS management’s assertion, as referred to above, is fairly stated, in all material respects, based on the Trust Service Principles and Criteria for Certification Authorities, Version 2.0.

This report does not include any representation as to the quality of ATS’ services beyond those covered by the Trust Service Principles and Criteria for Certification Authorities, Version 2.0, nor the suitability of any of ATS’ services for any customer’s intended purpose.

ATS’ use of the WebTrust for Certification Authorities Seal 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.

BDO USA, LLP

Certified Public Accountants
St. Louis, Missouri
March 28, 2017
March 28, 2017

Amazon Trust Services LLC (“ATS”) operates Certification Authorities (“CAs”) known as Amazon Root CA 1, Amazon Root CA 2, Amazon Root CA 3, Amazon Root CA 4, Starfield Services Root Certificate Authority - G2 and other CAs as listed in Appendix A, and provides the following CA services:

- Subscriber registration
- Certificate renewal
- Certificate rekey
- Certificate issuance
- Certificate distribution
- Certificate revocation
- Certificate validation
- Subscriber key generation and management
- Subordinate CA certification

The management of ATS is responsible for establishing controls over its CA operations, including its CA business practices disclosure on its website, CA business practices management, CA environmental controls, CA key lifecycle management controls, subscriber key lifecycle management controls, certificate lifecycle management controls, and subordinate CA certificate lifecycle management 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 only provide reasonable assurance with respect to ATS’ Certification Authority operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

ATS management has assessed its disclosures of its certificate practices and controls over its CA services. Based on that assessment, in ATS management’s opinion, in providing its CA services in the United States of America, throughout the period January 16, 2016 to January 15, 2017, ATS has:

- disclosed its business, key lifecycle management, certificate lifecycle management, and CA environment control practices in its:
  - Amazon Trust Services Certificate Policy v1.0.4; and
  - Amazon Trust Services Certification Practice Statement v1.0.5

- maintained effective controls to provide reasonable assurance that:
  - ATS’ Certification Practice Statement is consistent with its Certificate Policy; and
  - ATS provides its services in accordance with its Certificate Policy and Certification Practice Statement

- maintained effective controls to provide reasonable assurance that:
  - the integrity of keys and certificates it manages is established and protected throughout their lifecycles;
o the integrity of subscriber keys and certificates it manages is established and protected throughout their lifecycles;
o subscriber information is properly authenticated; and
o subordinate CA certificate requests are accurate, authenticated, and approved

- maintained effective controls to provide reasonable assurance that:
  o logical and physical access to CA systems and data is restricted to authorized individuals;
  o the continuity of key and certificate management operations is maintained; and
  o CA systems development, maintenance, and operations are properly authorized and performed to maintain CA systems integrity

based on the [Trust Service Principles and Criteria for Certification Authorities, Version 2.0](https://example.com), including the following:

**CA Business Practices Disclosure**

- Certification Practice Statement (CPS)
- Certificate Policy (CP)

**CA Business Practices Management**

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

**CA Environmental Controls**

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

**CA Key Lifecycle 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 Lifecycle Management
- CA Key Escrow

**Subscriber Key Lifecycle Management Controls**

- Requirements for Subscriber Key Management
Certificate Lifecycle Management Controls

- Subscriber Registration
- Certificate Renewal
- Certificate Rekey
- Certificate Issuance
- Certificate Distribution
- Certificate Revocation
- Certificate Validation

Subordinate CA Certificate Lifecycle Management Controls

- Subordinate CA Certificate Lifecycle Management

ATS did not escrow CA keys, nor did ATS provide Integrated Circuit Card Life Cycle Management or Certificate Suspension services. ATS only provided Subscriber Key Generation and Subscriber Key Storage and Recovery services when the subscriber was ATS or an affiliate of ATS.

ATS did not delegate subscriber information authentication to any third parties. ATS maintained controls over subscriber information authentication for all certificates issued.

Jonathan Kozolchyk

Jonathan Kozolchyk
Vice President
Amazon Trust Services LLC
<table>
<thead>
<tr>
<th>Root CAs</th>
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<tbody>
<tr>
<td>SHA-256 Hash of Subject Public Key Information</td>
<td>Notes: Amazon Trust Services assumed operation of Starfield Services Key Generation Authority - G2 (SFSG2) on June 10, 2015. Starfield Technologies operated SFSG2 prior to June 10, 2015 and was responsible for the key generation for SFSG2.</td>
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Other CAs

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<tr>
<th>SHA-256 Hash of Subject Public Key Information</th>
<th>Notes: Amazon Trust Services assumed operation of Starfield Services Key Generation Authority - G2 (SFSG2) on June 10, 2015. Starfield Technologies operated SFSG2 prior to June 10, 2015 and was responsible for the key generation for SFSG2.</th>
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</table>

APPENDIX A - IN-SCOPE CAs