

## Report of Independent Accountants

To the Management of AWS:

We have examined the assertion by the management of Amazon Web Services Inc. (AWS), that in providing its Certification Authority (CA) services in Seattle, Washington known as Starfield Services Root Certificate Authority as of July 24, 2015, AWS has:

- Disclosed its Business, Key Life Cycle Management, Certificate Life Cycle Management and CA Environment Controls practices:
  - Certification Practice Statement and
  - Certificate Policy
- Maintained effective controls to provide reasonable assurance that:
  - AWS' Certification Practice Statement was consistent with its Certificate Policy;
  - AWS provides its services in accordance with its Certificate Policy and Certification Practice Statement;
  - The integrity of keys and certificates it managed was established and protected throughout their life cycles;
  - Subordinate CA certificate requests are accurate, authenticated, and approved;
  - Logical and physical access to CA systems and data was restricted to authorized individuals;
  - The continuity of key and certificate management operations was maintained; and
  - CA systems development, maintenance and operations were properly authorized and performed to maintain CA systems integrity,

based on the [Trust Service Principles and Criteria for Certification Authorities, Version 2.0](#).

AWS' 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 AWS' 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, (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 AWS 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, AWS ability to meet the aforementioned criteria may be affected. For example, control 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, as of July 24, 2015, AWS' management's assertion referred to above is fairly stated, in all material respects, based on the [Trust Service Principles and Criteria for Certification Authorities, Version 2.0](#).

AWS has not issued any Subordinate CAs or cross-signed any CAs for the Starfield Services Root Certificate Authority - G2. Since AWS does not currently operate subordinate CAs the criteria relevant to Subscriber information under Principle 6: Certificate Life Cycle Management Controls (properly authenticated) was not applicable.

This report does not include any representation as to the quality of AWS' CA services beyond those covered by the [Trust Service Principles and Criteria for Certification Authorities, Version 2.0](#), nor the suitability of any of AWS' services for any customer's intended purpose.

*Ernst + Young LLP*

August 28, 2015



**Assertion by Management of AWS  
Regarding Its Disclosure of Its Business Practices and  
Its Controls Over Certification Authority Operations  
As of July 24, 2015**

August 28, 2015

Amazon Web Services Inc. ("AWS" or the "Company") operates Certification Authority (CA) known as Starfield Services Root Certificate Authority - G2.

AWS' CA services referred above provide the following certification authority services:

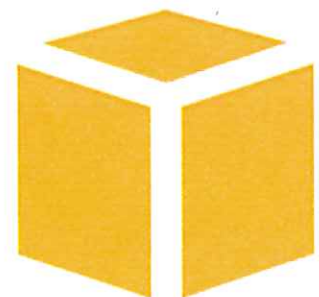
- Certificate Renewal
- Certificate Rekey
- Certificate Issuance
- Certificate Revocation
- Certificate Distribution
- Certificate Validation
- Certificate Status Information Processing, and
- Subordinate CA Certificate Life Cycle Management

Management of AWS 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 AWS' Certification Authority operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

Management of AWS has assessed the controls over its CA operations. Based on that assessment, in AWS Management's opinion, in providing its Certification Authority (CA) services at Seattle, Washington as of July 24, 2015, AWS has:

- Disclosed its Business, Key Life Cycle Management, Certificate Life Cycle Management and CA Environment Control practices below:



---

Amazon Web Services, Inc. ▪ 410 Terry Avenue N. ▪ Seattle, WA 98109



- Certification Practice Statement and
- Certificate Policy
- Maintained effective controls to provide reasonable assurance that:
  - AWS's Certification Practice Statement was consistent with its Certificate Policy;
  - AWS provides its services in accordance with its Certificate Policy and Certification Practice Statement;
  - The integrity of keys and certificates it managed was established and protected throughout their life cycles;
  - Subordinate CA certificate requests were accurate, authenticated and approved;
  - Logical and physical access to CA systems and data was restricted to authorized individuals;
  - The continuity of key and certificate management operations was maintained; and
  - CA systems development, maintenance and operations were properly authorized and performed to maintain CA systems integrity,

for the Starfield Services Root Certificate Authority - G2, based on the [Trust Service Principles and Criteria for Certification Authorities, Version 2.0](#), including the following:

**CA Business Practices Disclosure**

**CA Business Practices Management**

Certification Practice Statement Management

Certificate Policy Management

CP/CPS Consistency

**Service Integrity**

**CA Key Life Cycle Management Controls**

CA Key Generation

CA Key Storage, Backup, and Recovery

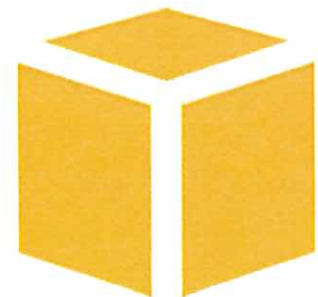
CA Public Key Distribution

CA Key Usage

CA Key Archival and Destruction

CA Key Compromise

CA Cryptographic Hardware Life Cycle Management



---

Amazon Web Services, Inc. ■ 410 Terry Avenue N. ■ Seattle, WA 98109



CA Key Escrow

Certificate Life Cycle Management Controls

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

Subordinate CA Certificate Life Cycle Management Controls

Subordinate CA Certificate Life Cycle Management

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

AWS has not issued any Subordinate CAs or cross-signed any CAs for the Starfield Services Root Certificate Authority - G2. Since AWS does not currently operate subordinate CAs the criteria relevant to Subscriber information under Principle 6: Certificate Life Cycle Management Controls (properly authenticated) was not applicable.

AWS Inc.

A handwritten signature in blue ink, appearing to read "Charlie Bell", written over a horizontal line.

Charlie Bell  
Senior Vice President  
Utility Computing Services

