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REPORT OF THE INDEPENDENT ACCOUNTANT

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

We have examined for ATS' Certification Authority ("CA") operations in the United States of America, ATS has:

- disclosed its code signing certificate lifecycle management business practices in the applicable versions of its Certificate Practice Statement and Certificate Policy enumerated in Attachment A, including its commitment to provide code signing certificates in conformity with the CA/Browser Forum Guidelines on the ATS repository, and provided such services in accordance with its disclosed practices

- maintained effective controls to provide reasonable assurance that:
    o subscriber information was properly collected, authenticated, and verified; and
    o the integrity of keys and code signing certificates it manages is established and protected throughout their lifecycles

throughout the period January 16, 2018 to January 15, 2019 for its CAs enumerated in Attachment B.

ATS's management is responsible for these disclosures and for maintaining effective controls based on the WebTrust Principles and Criteria for Certification Authorities – Publicly Trusted Code Signing Certificates v1.0.1. Our responsibility is to express an opinion based on our examination.

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. Our examination did not extend to controls at individual subscriber and relying party locations and we have not evaluated the effectiveness of such controls.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform the examination to obtain reasonable assurance about whether, throughout the period January 16, 2018 to January 15, 2019 for its CA enumerated in Attachment B, in all material respects, ATS has:

- disclosed its code signing certificate lifecycle management business practices in the applicable versions of its Certificate Practice Statement and Certificate Policy enumerated in Attachment A, including its commitment to provide code signing certificates in conformity with the CA/Browser Forum Guidelines on the ATS repository, and provided such services in accordance with its disclosed practices

- maintained effective controls to provide reasonable assurance that:
    o subscriber information was properly collected, authenticated, and verified; and
    o the integrity of keys and code signing certificates it manages is established and protected throughout their lifecycles

based on the WebTrust Principles and Criteria for Certification Authorities – Publicly Trusted Code Signing Certificates v1.0.1.

During the examination period, we noted the following which caused a modification of our opinion:

Impacted WebTrust Trust Principles and Criteria for Certification Authorities – Publicly Trusted Code Signing Certificates		Control Deficiency Noted
1-1	The CA and its Root CA discloses on its website: • CS Certificate practices, policies and procedures; • Cross Certificates that identify the CA as the Subject, provided that the CA arranged for or accepted the establishment of the trust relationship (i.e. the Cross Certificate at issue); • CAs in the hierarchy whose subject name is the same as the CS issuing CA; and • its commitment to conform to the latest version of the Minimum Requirements for Code Signing Certificates issued by the Code Signing Working Group	ATS' policies do not disclose a commitment to conform to the latest version of the Minimum Requirements for Code Signing Certificates issued by the Code Signing Working Group.
2-9.1	The CA maintains controls to provide reasonable assurance that: • It operates a RFC-3161-compliant Timestamp Authority that is available for use by customers of its Code Signing Certificates • It recommends to Subscribers that they use the CA's Timestamping Authority to time-stamp signed code.	ATS did not operate a timestamp authority during the during the period.

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, except for the matters described in the preceding table, throughout the period January 16, 2018 to January 15, 2019, ATS has, in all material respects:

- disclosed its code signing certificate lifecycle management business practices in the applicable versions of its Certificate Practice Statement and Certificate Policy enumerated in Attachment A, including its commitment to provide code signing certificates in conformity with the CA/Browser Forum Guidelines on the ATS repository, and provided such services in accordance with its disclosed practices

- maintained effective controls to provide reasonable assurance that:

- o   subscriber information was properly collected, authenticated, and verified; and
- o   the integrity of keys and code signing certificates it manages is established and protected throughout their lifecycles

based on the WebTrust Principles and Criteria for Certification Authorities – Publicly Trusted Code Signing Certificates v1.0.1.

During the examination period, ATS did not issue any code signing subscriber certificates.

This report does not include any representation as to the quality of ATS' services other than its CA services in the United States of America, nor the suitability of any of ATS' services for any customer's intended purpose.

BDO USA, LLP

St. Louis, Missouri
April 8, 2019

ATTACHMENT A – IN-SCOPE CERTIFICATION PRACTICE STATEMENT AND CERTIFICATE POLICY VERSIONS

Amazon Trust Services, LLC Certification Practice Statement and Certificate Policy Versions in Scope

Policy Name	Version	Date
Amazon Trust Services Certification Practice Statement	1.0.7	April 13, 2018
Amazon Trust Services Certification Practice Statement	1.0.6	January 15, 2018
Amazon Trust Services Certificate Policy	1.0.6	April 13, 2018
Amazon Trust Services Certificate Policy	1.0.5	January 15, 2018

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ATTACHMENT B – IN-SCOPE CAs

Root CAs	Serial Number	SHA1 Thumbprint	SHA2 Thumbprint
CN=Amazon Root CA 1,O=Amazon,C=US	06 6c 9f cf 99 bf 8c 0a 39 e2 f0 78 8a 43 e6 96 36 5b ca	8d a7 f9 65 ec 5e fc 37 91 0f 1c 6e 59 fd c1 cc 6a 6e de 16	8e cd e6 88 4f 3d 87 b1 12 5b a3 1a c3 fc b1 3d 70 16 de 7f 57 cc 90 4f e1 cb 97 c6 ae 98 19 6e
CN=Amazon Root CA 2,O=Amazon,C=US	06 6c 9f d2 96 35 86 9f 0a 0f e5 86 78 f8 5b 26 bb 8a 37	5a 8c ef 45 d7 a6 98 59 76 7a 8c 8b 44 96 b5 78 cf 47 4b 1a	1b a5 b2 aa 8c 65 40 1a 82 96 01 18 f8 0b ec 4f 62 30 4d 83 ce c4 71 3a 19 c3 9c 01 1e a4 6d b4
CN=Amazon Root CA 3,O=Amazon,C=US	06 6c 9f d5 74 97 36 66 3f 3b 0b 9a d9 e8 9e 76 03 f2 4a	0d 44 dd 8c 3c 8c 1a 1a 58 75 64 81 e9 0f 2e 2a ff b3 d2 6e	18 ce 6c fe 7b f1 4e 60 b2 e3 47 b8 df e8 68 cb 31 d0 2e bb 3a da 27 15 69 f5 03 43 b4 6d b3 a4
CN=Amazon Root CA 4,O=Amazon,C=US	06 6c 9f d7 c1 bb 10 4c 29 43 e5 71 7b 7b 2c c8 1a c1 0e	f6 10 84 07 d6 f8 bb 67 98 0c c2 e2 44 c2 eb ae 1c ef 63 be	e3 5d 28 41 9e d0 20 25 cf a6 90 38 cd 62 39 62 45 8d a5 c6 95 fb de a3 c2 2b 0b fb 25 89 70 92
CN=Starfield Services Root Certificate Authority - G2,O=Starfield Technologies, Inc.,L=Scottsdale,ST=Arizona,C=US	00	92 5a 8f 8d 2c 6d 04 e0 66 5f 59 6a ff 22 d8 63 e8 25 6f 3f	56 8d 69 05 a2 c8 87 08 a4 b3 02 51 90 ed cf ed b1 97 4a 60 6a 13 c6 e5 29 0f cb 2a e6 3e da b5

Note: Amazon Trust Services assumed operation of Starfield Services Root Certificate 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.

Amazon Trust Services, LLC Management's Assertion

Amazon Trust Services, LLC ("ATS") operates the Certification Authority ("CA") services for the CAs enumerated in Attachment B in scope, and provides code signing CA services.

ATS management has assessed its disclosures of its certificate practices and controls over its code signing CA services. During our assessment, we noted the following observations which caused the relevant criteria to not be met:

Impacted WebTrust Trust Principles and Criteria for Certification Authorities – Publicly Trusted Code Signing Certificates		Control Deficiency Noted
1-1	The CA and its Root CA discloses on its website: • CS Certificate practices, policies and procedures; • Cross Certificates that identify the CA as the Subject, provided that the CA arranged for or accepted the establishment of the trust relationship (i.e. the Cross Certificate at issue); • CAs in the hierarchy whose subject name is the same as the CS issuing CA; and • its commitment to conform to the latest version of the Minimum Requirements for Code Signing Certificates issued by the Code Signing Working Group	ATS policies do not disclose a commitment to conform to the latest version of the Minimum Requirements for Code Signing Certificates issued by the Code Signing Working Group.
2-9.1	The CA maintains controls to provide reasonable assurance that: • It operates a RFC-3161-compliant Timestamp Authority that is available for use by customers of its Code Signing Certificates • It recommends to Subscribers that they use the CA's Timestamping Authority to time-stamp signed code.	ATS did not operate a timestamp authority during the during the period.

Based on that assessment, in ATS' management's opinion, except for the matters described in the preceding table in providing its code signing CA services in the United States of America, throughout the period January 16, 2018 to January 15, 2019, ATS has:

• disclosed its code signing certificate lifecycle management business practices in the applicable versions of its Certificate Practice Statement and Certificate Policy enumerated in Attachment A, including its commitment to provide code signing certificates in conformity with the CA/Browser Forum Guidelines on the ATS repository, and provided such services in accordance with its disclosed practices

• maintained effective controls to provide reasonable assurance that:

o   subscriber information was properly collected, authenticated, and verified; and
o   the integrity of keys and code signing certificates it manages is established and protected throughout their lifecycles

based on the [WebTrust Principles and Criteria for Certification Authorities – Publicly Trusted Code Signing Certificates v1.0.1](#).

During the examination period, ATS did not issue any code signing subscriber certificates.

Jonathan Kozolchyk

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Jonathan Kozolchyk
Vice President
Amazon Trust Services LLC

April 8, 2019

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CN=Amazon Root CA 2,O=Amazon,C=US	06 6c 9f d2 96 35 86 9f 0a 0f e5 86 78 f8 5b 26 bb 8a 37	5a 8c ef 45 d7 a6 98 59 76 7a 8c 8b 44 96 b5 78 cf 47 4b 1a	1b a5 b2 aa 8c 65 40 1a 82 96 01 18 f8 0b ec 4f 62 30 4d 83 ce c4 71 3a 19 c3 9c 01 1e a4 6d b4
CN=Amazon Root CA 3,O=Amazon,C=US	06 6c 9f d5 74 97 36 66 3f 3b 0b 9a d9 e8 9e 76 03 f2 4a	0d 44 dd 8c 3c 8c 1a 1a 58 75 64 81 e9 0f 2e 2a ff b3 d2 6e	18 ce 6c fe 7b f1 4e 60 b2 e3 47 b8 df e8 68 cb 31 d0 2e bb 3a da 27 15 69 f5 03 43 b4 6d b3 a4
CN=Amazon Root CA 4,O=Amazon,C=US	06 6c 9f d7 c1 bb 10 4c 29 43 e5 71 7b 7b 2c c8 1a c1 0e	f6 10 84 07 d6 f8 bb 67 98 0c c2 e2 44 c2 eb ae 1c ef 63 be	e3 5d 28 41 9e d0 20 25 cf a6 90 38 cd 62 39 62 45 8d a5 c6 95 fb de a3 c2 2b 0b fb 25 89 70 92
CN=Starfield Services Root Certificate Authority - G2,O=Starfield Technologies, Inc.,L=Scottsdale,ST=Arizona,C=US	00	92 5a 8f 8d 2c 6d 04 e0 66 5f 59 6a ff 22 d8 63 e8 25 6f 3f	56 8d 69 05 a2 c8 87 08 a4 b3 02 51 90 ed cf ed b1 97 4a 60 6a 13 c6 e5 29 0f cb 2a e6 3e da b5

Note: Amazon Trust Services assumed operation of Starfield Services Root Certificate 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.