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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 various locations in the United States of America, ATS has:

- disclosed its code signing (“CS”) 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 CS certificates in conformity with the Code Signing Working Group requirements on the ATS [repository](#), and provided such services in accordance with its disclosed practices
- maintained effective controls to provide reasonable assurance that the integrity of keys and CS certificates it manages is established and protected throughout their lifecycles

throughout the period January 16, 2019 to January 15, 2020 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, 2019 to January 15, 2020, for its CAs as enumerated in [Attachment B](#), in all material respects, ATS has:

- disclosed its CS 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 Code Signing Working Group requirements on the ATS [repository](#), and provided such services in accordance with its disclosed practices
- maintained effective controls to provide reasonable assurance that the integrity of keys and CS 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
2-9.1	The CA maintains controls to provide reasonable assurance that: <ul style="list-style-type: none">• 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 examination 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 matter described in the preceding table, throughout the period January 16, 2019 to January 15, 2020, 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 Code Signing Working Group requirements on the [ATS repository](#), and provided such services in accordance with its disclosed practices
- maintained effective controls to provide reasonable assurance that the integrity of keys and CS 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 CS subscriber certificates.

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



The World Health Organization classified the COVID-19 outbreak as a pandemic in March 2020. Based on the rapid increase in exposure globally, the gravity or length of the impact of the COVID-19 outbreak cannot be determined at this time.

BDO USA, LLP

April 8, 2020



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

Policy Name	Version	Effective Date
Amazon Trust Services Certification Practice Statement	1.0.8	December 17, 2019
Amazon Trust Services Certification Practice Statement	1.0.7	April 13, 2018
Amazon Trust Services Certificate Policy	1.0.7	December 18, 2019
Amazon Trust Services Certificate Policy	1.0.6	April 13, 2018



ATTACHMENT B - IN-SCOPE CAs

Root CA Subject DN	SHA2 Thumbprint	SPKI SHA256	Valid From	Valid To
CN = Amazon Root CA 1 O = Amazon C = US	8ECDE6884F3D87B1125BA31AC3FCB13D7016DE7F57CC904FE1CB97C6AE98196E	FBE3018031F9586BCBF417 27E417B7D1C45C2F47F93B E372A17B96B50757D5A2	5/25/2015	1/16/2038
CN = Amazon Root CA 2 O = Amazon C = US	1BA5B2AA8C65401A82960118F80BEC4F62304D83CEC4713A19C39C011EA46DB4	7F4296FC5B6A4E3B35D3C3 69623E364AB1AF381D8FA7 121533C9D6C633EA2461	5/25/2015	5/25/2040
CN = Amazon Root CA 3 O = Amazon C = US	18CE6CFE7BF14E60B2E347B8DFE868CB31D02EBB3ADA271569F50343B46DB3A4	36ABC32656ACFC645C61B7 1613C4BF21C787F5CABBEE 48348D58597803D7ABC9	5/25/2015	5/25/2040
CN = Amazon Root CA 4 O = Amazon C = US	E35D28419ED02025CFA69038CD623962458DA5C695FBDEA3C22B0BFB25897092	F7ECDE5C66047D28ED64 66B543C40E0743ABE81D10 9254DCF845D4C2C7853C5	5/25/2015	5/25/2040
CN = Starfield Services Root Certificate Authority - G2 ¹ O = Starfield Technologies, Inc. L = Scottsdale S = Arizona C = US	568D6905A2C88708A4B3025190EDCFEDB1974A606A13C6E5290FCB2AE63EDAB5	2B071C59A0A0AE76B0EAD B2BAD23BAD4580B69C360 1B630C2EAF0613AFA83F92	8/31/2009	12/31/2037

Cross-Signed Root CA Subject DN	SHA2 Thumbprint	SPKI SHA256	Valid From	Valid To
CN = Amazon Root CA 1 O = Amazon C = US	87DCD4DC74640A322CD205552506D1BE64F12596258096544986B4850BC72706	FBE3018031F9586BCBF417 27E417B7D1C45C2F47F93B E372A17B96B50757D5A2	5/25/2015	12/31/2037
	391220705B75BCF3ED3CD4B3631213F569D2CF8226101E170799A5354AB12861		10/21/2015	12/31/2037
CN = Amazon Root CA 2 O = Amazon C = US	8B358466D66126312120645A5875A6A57E3C81D98476A967604244254EAC00F0	7F4296FC5B6A4E3B35D3C3 69623E364AB1AF381D8FA7 121533C9D6C633EA2461	5/25/2015	12/31/2037

¹ ATS assumed operation of this Root CA on June 10, 2015. Starfield Technologies operated this CA prior to June 10, 2015 and was responsible for its key generation.



Cross-Signed Root CA Subject DN	SHA2 Thumbprint	SPKI SHA256	Valid From	Valid To
CN = Amazon Root CA 3 O = Amazon C = US	40C826FDB22BA32A2F9DB4F94770F72B8B1DA9C8FFDA7B11E6F27AF245C89B5E	36ABC32656ACFC645C61B7 1613C4BF21C787F5CABBEE 48348D58597803D7ABC9	5/25/2015	12/31/2037
CN = Amazon Root CA 4 O = Amazon C = US	543D9B7FC2A6471CD84FCA52C2CF6159DF83EBFCD88D8B08B5AF3F88737F52E6	F7ECDED5C66047D28ED64 66B543C40E0743ABE81D10 9254DCF845D4C2C7853C5	5/25/2015	12/31/2037



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 (“CS”) CA services.

ATS management has assessed its disclosures of its certificate practices and controls over its CS 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
2-9.1	The CA maintains controls to provide reasonable assurance that: <ul style="list-style-type: none">• 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 examination period.

Based on that assessment, in ATS management’s opinion, except for the matter described in the preceding table in providing its CS CA services in the United States of America, throughout the period January 16, 2019 to January 15, 2020, ATS has:

- disclosed its CS 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 CS certificates in conformity with the Code Signing Working Group requirements on the ATS [repository](#), and provided such services in accordance with its disclosed practices
- maintained effective controls to provide reasonable assurance that the integrity of keys and CS 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 CS subscriber certificates.

Jonathan Kozolchyk

Jonathan Kozolchyk
Vice President
Amazon Trust Services LLC

April 8, 2020

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CN = Amazon Root CA 2 O = Amazon C = US	1BA5B2AA8C65401A82960118F80BEC4F62304D83CEC4713A19C39C011EA46DB4	7F4296FC5B6A4E3B35D3C3 69623E364AB1AF381D8FA7 121533C9D6C633EA2461	5/25/2015	5/25/2040
CN = Amazon Root CA 3 O = Amazon C = US	18CE6CFE7BF14E60B2E347B8DFE868CB31D02EBB3ADA271569F50343B46DB3A4	36ABC32656ACFC645C61B7 1613C4BF21C787F5CABBEE 48348D58597803D7ABC9	5/25/2015	5/25/2040
CN = Amazon Root CA 4 O = Amazon C = US	E35D28419ED02025CFA69038CD623962458DA5C695FBDEA3C22B0BFB25897092	F7ECDED5C66047D28ED64 66B543C40E0743ABE81D10 9254DCF845D4C2C7853C5	5/25/2015	5/25/2040
CN = Starfield Services Root Certificate Authority - G2 ¹ O = Starfield Technologies, Inc. L = Scottsdale S = Arizona C = US	568D6905A2C88708A4B3025190EDCFEDB1974A606A13C6E5290FCB2AE63EDAB5	2B071C59A0A0AE76B0EAD B2BAD23BAD4580B69C360 1B630C2EAF0613AFA83F92	8/31/2009	12/31/2037

Cross-Signed Root CA Subject DN	SHA2 Thumbprint	SPKI SHA256	Valid From	Valid To
CN = Amazon Root CA 1 O = Amazon C = US	87DCD4DC74640A322CD205552506D1BE64F12596258096544986B4850BC72706	FBE3018031F9586BCBF417 27E417B7D1C45C2F47F93B E372A17B96B50757D5A2	5/25/2015	12/31/2037
	391220705B75BCF3ED3CD4B3631213F569D2CF8226101E170799A5354AB12861		10/21/2015	12/31/2037
CN = Amazon Root CA 2 O = Amazon C = US	8B358466D66126312120645A5875A6A57E3C81D98476A967604244254EAC00F0	7F4296FC5B6A4E3B35D3C3 69623E364AB1AF381D8FA7 121533C9D6C633EA2461	5/25/2015	12/31/2037
CN = Amazon Root CA 3 O = Amazon C = US	40C826FDB22BA32A2F9DB4F94770F72B8B1DA9C8FFDA7B11E6F27AF245C89B5E	36ABC32656ACFC645C61B7 1613C4BF21C787F5CABBEE 48348D58597803D7ABC9	5/25/2015	12/31/2037

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CN = Amazon Root CA 4 O = Amazon C = US	543D9B7FC2A6471CD84FCA52C2CF6159DF83EBFCD88D8B08B5AF3F88737F52E6	F7ECDED5C66047D28ED64 66B543C40E0743ABE81D10 9254DCF845D4C2C7853C5	5/25/2015	12/31/2037