



REPORT OF THE INDEPENDENT ACCOUNTANT

To the Management of Symantec Corporation:

We have examined for the Thawte Certification Authority (CA) operations provided by Symantec Corporation (Symantec) at Mountain View, California, USA; New Castle, Delaware, USA; Melbourne, Australia; Cape Town, South Africa; and Dublin, Ireland and for Verisign, Inc. (Verisign), an independent service organization that provides datacenter hosting services to Symantec for the Thawte Certification Authority operations at the New Castle, Delaware location:

- a) Symantec's disclosure of its SSL certificate lifecycle management business practices in its Thawte Certification Practices Statement and its disclosure of the services and related controls provided by Verisign as enumerated in [Attachment A](#), including Symantec's commitment to provide SSL certificates in conformity with the CA/Browser Forum Requirements on the Symantec website;
- b) the provision of such services in accordance with the disclosed practices; and
- c) the effectiveness of Symantec's controls and Verisign's controls, where applicable, over
 - key and SSL certificate integrity,
 - the authenticity and confidentiality of SSL subscriber and relying party information,
 - continuity of key and SSL certificate lifecycle management operations,
 - development, maintenance, and operation of CA systems integrity, and
 - meeting the network and certificate system security requirements set forth by the CA/Browser Forum

throughout the period December 1, 2016 to October 31, 2017 for its CAs as enumerated in [Attachment B](#).

Symantec's management is responsible for these disclosures and for maintaining effective controls based on the [WebTrust Principles and Criteria for Certification Authorities - SSL Baseline with Network Security v2.2](#). Our responsibility is to express an opinion based on our examination.

The relative effectiveness and significance of specific controls at Symantec 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 December 1, 2016 to October 31, 2017 for its CAs as enumerated in [Attachment B](#), in all material respects:



- a) Symantec disclosed its SSL certificate lifecycle management business practices in its thawte Certification Practices Statement and the services and related controls provided by Verisign as enumerated in [Attachment A](#), including Symantec's commitment to provide SSL certificates in conformity with the CA/Browser Forum Requirements on the Symantec website;
- b) Symantec and Verisign, where applicable, provided such services in accordance with Symantec's disclosed practices;
- c) Symantec and Verisign, where applicable, maintained effective controls over:
 - key and SSL certificate integrity,
 - the authenticity and confidentiality of SSL subscriber and relying party information,
 - continuity of key and SSL certificate lifecycle management operations,
 - development, maintenance, and operation of CA systems integrity, and
 - meeting the network and certificate system security requirements set forth by the CA/Browser Forum

based on the [WebTrust Principles and Criteria for Certification Authorities - SSL Baseline with Network Security v2.2](#).

Because of the nature and inherent limitations of controls, Symantec's 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 December 1, 2016 to October 31, 2017, in all material respects:

- a) Symantec disclosed its SSL certificate lifecycle management business practices in its thawte Certification Practices Statement and the services and related controls provided by Verisign as enumerated in [Attachment A](#), including Symantec's commitment to provide SSL certificates in conformity with the CA/Browser Forum Requirements on the Symantec website;
- b) Symantec and Verisign, where applicable, provided such services in accordance with Symantec's disclosed practices;
- c) Symantec and Verisign, where applicable, maintained effective controls over:
 - key and SSL certificate integrity,
 - the authenticity and confidentiality of SSL subscriber and relying party information,
 - continuity of key and SSL certificate lifecycle management operations,
 - development, maintenance, and operation of CA systems integrity, and
 - meeting the network and certificate system security requirements set forth by the CA/Browser Forum



based on the [WebTrust Principles and Criteria for Certification Authorities - SSL Baseline with Network Security v2.2.](#)

This report does not include any representation as to the quality of Symantec's services other than its CA operations at Mountain View, California, USA; New Castle, Delaware, USA; Melbourne, Australia; Cape Town, South Africa; Dublin, Ireland, nor the suitability of any of Symantec's services for any customer's intended purpose.

During the period, Symantec's internal monitoring processes and various third parties identified issues of noncompliance with respect to the CA/Browser Forum Baseline Requirements Certificate Policy for the Issuance and Management of Publicly-Trusted Certificates version 1.5.1. These issues have been posted publicly in the online forums of the CA/Browser Forum as well as the individual Internet browsers. Symantec's remediation procedures have also been publicly communicated through these forums. These issues, which are enumerated in [Attachment C](#), represent isolated issues and do not represent a systemic impact on the operating effectiveness of Symantec's controls. Our opinion is not modified with respect to these matters.

Effective at the close of business on October 31, 2017, Symantec sold its CA business operations to DigiCert Inc.

Symantec's use of the WebTrust for Certification Authorities Seal - SSL Baseline with Network Security 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

St. Louis, Missouri
January 31, 2018



Attachment A

Thawte Certification Practice Statement Versions in Scope

CPS Name	Version	Date
thawte Certification Practice Statement	3.7.18	September 8, 2017
thawte Certification Practice Statement	3.7.17	December 19, 2016
<u>thawte Certification Practice Statement</u>	3.7.16	September 9, 2016

Description of Services Provided for Symantec and Related Controls Exercised by Verisign at the New Castle, Delaware Location

Symantec has entered into an agreement with Verisign Inc. (Verisign), to provide datacenter hosting services at the New Castle, Delaware datacenter (the datacenter). Verisign performs the same physical and environmental security controls as Symantec has disclosed in Section 5 and Section 6 of the thawte Certification Practice Statement; however, Verisign performs UPS maintenance quarterly, rather than semi-annually.

Verisign has implemented the following physical and environmental security controls to protect Symantec assets at the datacenter. Production systems housed in the datacenter are protected by multiple tiers of physical security, with access to the lower tier required before gaining access to the next highest tier. The datacenter enforces individual access control through the use of two-factor authentication, including biometrics. Physical access to the datacenter is automatically logged. Visitors to the datacenter are required to sign a log at the security office, wear a visitor badge, and be escorted while onsite. The datacenter facilities are manned continuously by on-site security personnel and the premises are continuously video monitored and recorded. Multiple generators, UPS, HVAC and fire suppression systems have been implemented at the datacenter.



Attachment B

List of CAs In-Scope

Root CA	Serial Number	SHA1 Thumbprint	SHA2 Thumbprint
C=US, O=thawte, Inc., OU=(c) 2007 thawte, Inc. - For authorized use only, CN=thawte Primary Root CA - G2	35FC265CD9844FC93D 263D579BAED756	AA:DB:BC:22:23:8F:C4:01:A1: 27:BB:38:DD:F4:1D:DB:08:9E: F0:12	A4:31:0D:50:AF:18:A6:44:71: 90:37:2A:86:AF:AF:8B:95:1F: FB:43:1D:83:7F:1E:56:88:B4: 59:71:ED:15:57
C=US, O=thawte, Inc., OU=Certification Services Division, OU=(c) 2006 thawte, Inc. - For authorized use only, CN=thawte Primary Root CA	344ED55720D5EDEC49 F42FCE37DB2B6D	91:C6:D6:EE:3E:8A:C8:63:84: E5:48:C2:99:29:5C:75:6C:81: 7B:81	8D:72:2F:81:A9:C1:13:C0:79: 1D:F1:36:A2:96:6D:B2:6C:95: 0A:97:1D:B4:6B:41:99:F4:EA: 54:B7:8B:FB:9F
C=US, O=thawte, Inc., OU=Certification Services Division, OU=(c) 2008 thawte, Inc. - For authorized use only, CN=thawte Primary Root CA - G3	600197B746A7EAB4B4 9AD64B2FF790FB	F1:8B:53:8D:1B:E9:03:B6:A6: F0:56:43:5B:17:15:89:CA:F3: 6B:F2	4B:03:F4:58:07:AD:70:F2:1B: FC:2C:AE:71:C9:FD:E4:60:4C: 06:4C:F5:FF:B6:86:BA:E5:DB: AA:D7:FD:D3:4C

Class 3 CA	Serial Number	SHA1 Thumbprint	SHA2 Thumbprint
C=US, O=thawte, Inc., CN=thawte ECC EV SSL CA	1FF2FCBC6326AABD28 6693991F43EC21	E9:2B:D8:99:36:8C:0F:41:67: 82:A5:BE:8D:F2:B9:75:66:A8: 3F:6B	EA:D6:2F:42:BB:36:9D:D4:3C :F6:13:1A:C2:D8:D7:2E:4F:9F :EE:85:E6:9D:45:DA:AF:FE:32 :6A:AC:2A:46:F1
C=US, O=thawte, Inc., CN=thawte EV SSL CA - G2	05237150E67BDD38F3 3EF53CD211313F	19:73:F3:07:35:9B:C9:61:03: 03:57:90:BF:75:DD:91:51:E8: 3F:99	37:F6:BD:9B:EE:0C:74:F6:08: DD:47:4B:56:A7:2F:81:83:07: 7D:FC:26:62:AF:79:BF:E3:D4: FA:BC:F0:B1:C4
C=US, O=thawte, Inc., CN=thawte EV SSL CA - G3	5D72FB337620F64C72 80DBE91281FF6A	68:06:0C:A0:74:FF:36:C7:E8: 1B:0B:33:8D:7E:83:76:79:0E: D0:20	1A:99:01:9F:9D:41:2A:64:45: 47:49:ED:AA:8E:7D:C4:66:73: D6:44:DF:3C:E1:5C:C6:55:73: 5E:A0:DF:86:FE
C=US, O=thawte, Inc., CN=thawte Extended Validation SHA256 SSL CA	0A489E88537E8AA645 4D6E2C4B2AEB20	14:B4:AC:F9:44:34:F7:D0:76: 8D:3E:E4:8D:18:8E:FD:0C:29: 13:7A	79:20:B8:E1:8D:2F:C1:2D:81: C2:FA:B9:0A:63:B1:B5:2A:B3: 29:CE:7C:D1:CB:7C:A0:94:CD :F9:D6:00:F4:92
C=US, O=Thawte, Inc., CN=Thawte SGC CA - G2	18A2236CD727C7528D F67B4B856EFFED	BE:BC:70:D3:DF:2B:3F:8F:55: AE:D9:83:BF:20:F2:E3:B2:1A: 36:F6	0C:EB:F9:7D:1F:AB:C6:47:53: 79:9F:7A:9A:50:8C:7C:5F:2B: 58:B9:28:FB:1B:3C:DC:6C:41: 09:C0:CF:2E:99



Class 3 CA	Serial Number	SHA1 Thumbprint	SHA2 Thumbprint
C=US, O=thawte, Inc., CN=thawte SHA256 SSL CA	36349E18C99C2669B6 562E6CE5AD7132	67:D1:47:D5:DA:B7:F2:8D:66: 3C:A5:B7:A9:56:8F:08:74:27: B9:F7	3F:3A:F9:C9:CC:2C:75:99:EF: 8F:6D:D7:CA:51:6C:FC:17:97: D7:D1:20:02:25:4F:3B:FD:0D: 4D:0F:E9:DE:86
C=US, O=Thawte, Inc., CN=Thawte SSL CA	4D5F2C3408B24C20CD 6D507E244DC9EC	73:E4:26:86:65:7A:EC:E3:54: FB:F6:85:71:23:61:65:8F:2F: 43:57	08:55:41:4A:F5:F5:FD:7E:26: 4F:8B:00:2A:39:CC:ED:67:E5: 95:2E:89:B6:1B:68:0C:C8:47: BA:A3:49:44:DE
C=US, O=thawte, Inc., CN=thawte SSL CA - G2	1687D6886DE2300685 233DBF11BF6597	2E:A7:1C:36:7D:17:8C:84:3F: D2:1D:B4:FD:B6:30:BA:54:A2: 0D:C5	B7:A8:AF:2A:4A:43:F0:A8:6B: 15:60:4D:E6:46:12:09:C9:CD: 76:89:4D:8B:07:48:BC:99:D9: A7:97:01:3B:B0
C=US, O=Thawte, Inc., OU=Domain Validated SSL, CN=Thawte DV SSL CA	7610128A17B682BB3A 1F9D1A9A35C092	3C:A9:58:F3:E7:D6:83:7E:1C: 1A:CF:8B:0F:6A:2E:6D:48:7D: 67:62	D2:57:38:31:FA:53:76:B1:C7: DC:0D:BB:0E:F5:88:13:E9:07: 06:18:FA:5A:21:E1:3F:5E:9F: 2B:65:E0:A3:20
C=US, O=thawte, Inc., OU=Domain Validated SSL, CN=thawte DV SSL CA - G2	2C69E12F6A670BD99D D20F919EF09E51	4C:03:68:21:E4:34:13:B6:63: B0:6D:CF:01:4C:E9:0D:50:34: 7F:99	9F:25:11:A2:3E:70:D9:5F:B6: 27:98:50:8A:67:6C:C3:89:64: 10:09:36:A6:E6:D3:CA:E7:71: 54:C0:29:0F:02
C=US, O=thawte, Inc., OU=Domain Validated SSL, CN=thawte DV SSL SHA256 CA	3E23345AED2C0A517B 26DED4801D10AA	50:F1:25:EF:CA:24:28:FF:17: D2:04:B8:9E:52:64:50:9A:28: 3D:A7	53:7C:5C:80:72:36:3E:14:7C: 84:D2:1D:0D:22:48:B6:B9:9A: 9A:8A:43:31:16:59:83:5E:C3: 39:26:DA:28:60



Attachment C - Publicly Disclosed Issues

Public Disclosure	Summary of Issue	Date Reported
Mozilla Bug 1334377	Mis-issued certificates were reported for domains that were not properly validated. Symantec determined these were related to a larger issued with external registration authorities and discontinued relationships with external registration authorities.	January 26, 2017
Mozilla Bug 1391067	Certificates were issued with metadata-only subject fields, invalid dnsNames, and Common Name not in the SAN. It was also reported the internet browser indicated Symantec did not respond to Problem Reports within the required 24 hours.	August 16, 2017
Mozilla Bug 1417771	A number of CAs were determined to be non-constrained and not included in prior year audit reports.	November 15, 2017