



## REPORT OF THE INDEPENDENT ACCOUNTANT

To the Management of Symantec Corporation:

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

- a) Symantec's disclosure of its business, key lifecycle management, certificate lifecycle management, and CA environmental control practices and its disclosure of the services and related controls provided by Verisign in [Attachment A](#); and
- b) the effectiveness of Symantec's controls and Verisign's controls, where applicable, over the
  - provision of services in accordance with its GeoTrust Certification Practices Statement and the description of the services and related controls provided by Verisign as enumerated in [Attachment A](#),
  - establishment and protection of the integrity of keys and certificates it manages throughout their lifecycle,
  - authenticity and confidentiality of subscriber and relying party information,
  - continuity of key and certificate lifecycle management operations, and
  - development, maintenance, and operation of CA systems integrity

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 v2.0](#). Our responsibility is to express an opinion based on our examination.

The relative effectiveness and significance of specific controls at Symantec and Verisign 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.

Symantec terminated the contracts for each of its four external registration authorities used for specific subscriber registration activities as disclosed in Symantec's business practices. Upon terminating these relationships, Symantec reperformed the validation work originally performed by these external registration authorities for each certificate that was still valid. The dates for termination for CrossCert, CertSuperior, CertiSign, and Certisur were January 19, 2017, April 4, 2017, April 11, 2017, and April 14, 2017, respectively. Our examination did not extend to the controls exercised by these external registration authorities.



Symantec does not escrow its CA keys, does not provide Integrated Circuit Card Lifecycle Management services to subscribers, and does not provide certificate suspension services. Accordingly, our examination did not extend to controls that would address those criteria.

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 the CAs enumerated in [Attachment B](#), in all material respects:

- a) Symantec disclosed its business, key lifecycle management, certificate lifecycle management, and CA environmental control practices for the services and related controls provided by Verisign in [Attachment A](#); and
- b) Symantec and Verisign, where applicable, maintained effective controls over the:
  - provision of services in accordance with Symantec's GeoTrust Certification Practices Statement and the description of the services and related controls provided by Verisign as enumerated in [Attachment A](#),
  - establishment and protection of the integrity of keys and certificates it manages throughout their lifecycle,
  - authenticity and confidentiality of subscriber and relying party information,
  - continuity of key and certificate lifecycle management operations, and
  - development, maintenance, and operation of CA systems integrity

based on the WebTrust [Principles and Criteria for Certification Authorities v2.0](#).

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 business, key lifecycle management, certificate lifecycle management, and CA environmental control practices in its GeoTrust Certification Practices Statement and the services and related controls provided by Verisign as enumerated in [Attachment A](#);
- b) Symantec and Verisign maintained effective controls to provide reasonable assurance that Symantec and Verisign provide its services in accordance with the GeoTrust Certification Practices Statement and the description of the services and related controls provided by Verisign as enumerated in [Attachment A](#);



- c) Symantec 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 (for the registration activities performed by Symantec), and
  - subordinate CA certificate requests are accurate, authenticated, and approved;
  
- d) Symantec and Verisign, where applicable, 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 WebTrust [Principles and Criteria for Certification Authorities v2.0](#).

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; Sapporo, Japan; and Kawasaki-shi, Japan, nor the suitability of any of Symantec's services for any customer's intended purpose.

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 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

### GeoTrust Certification Practice Statement Versions in Scope

Policy Name	Version	Date
<a href="#">GeoTrust Certification Practice Statement</a>	1.1.21	September 8, 2017
GeoTrust Certification Practice Statement	1.1.20	December 19, 2016
GeoTrust Certification Practice Statement	1.1.19	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 GeoTrust 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=GeoTrust Inc., CN=GeoTrust Global CA	23456	DE:28:F4:A4:FF:E5:B9:2F:A3: C5:03:D1:A3:49:A7:F9:96:2A: 82:12	FF:85:6A:2D:25:1D:CD:88:D3: 66:56:F4:50:12:67:98:CF:AB: AA:DE:40:79:9C:72:2D:E4:D2: B5:DB:36:A7:3A
C=US, O=GeoTrust Inc., CN=GeoTrust Global CA 2	1	A9:E9:78:08:14:37:58:88:F2: 05:19:B0:6D:2B:0D:2B:60:16: 90:7D	CA:2D:82:A0:86:77:07:2F:8A: B6:76:4F:F0:35:67:6C:FE:3E: 5E:32:5E:01:21:72:DF:3F:92: 09:6D:B7:9B:85
C=US, O=GeoTrust Inc., CN=GeoTrust Primary Certification Authority	18ACB56AFD69B6153A 636CAFDAFAC4A1	32:3C:11:8E:1B:F7:B8:B6:52: 54:E2:E2:10:0D:D6:02:90:37: F0:96	37:D5:10:06:C5:12:EA:AB:62: 64:21:F1:EC:8C:92:01:3F:C5: F8:2A:E9:8E:E5:33:EB:46:19: B8:DE:B4:D0:6C
C=US, O=GeoTrust Inc., CN=GeoTrust Universal CA	1	E6:21:F3:35:43:79:05:9A:4B: 68:30:9D:8A:2F:74:22:15:87: EC:79	A0:45:9B:9F:63:B2:25:59:F5: FA:5D:4C:6D:B3:F9:F7:2F:F1: 93:42:03:35:78:F0:73:BF:1D: 1B:46:CB:B9:12
C=US, O=GeoTrust Inc., CN=GeoTrust Universal CA 2	1	37:9A:19:7B:41:85:45:35:0C: A6:03:69:F3:3C:2E:AF:47:4F: 20:79	A0:23:4F:3B:C8:52:7C:A5:62: 8E:EC:81:AD:5D:69:89:5D:A5: 68:0D:C9:1D:1C:B8:47:7F:33: F8:78:B9:5B:0B
C=US, O=GeoTrust Inc., OU=(c) 2007 GeoTrust Inc. - For authorized use only, CN=GeoTrust Primary Certification Authority - G2	3CB2F4480A00E2FEEB 243B5E603EC36B	8D:17:84:D5:37:F3:03:7D:EC: 70:FE:57:8B:51:9A:99:E6:10: D7:B0	5E:DB:7A:C4:3B:82:A0:6A:87: 61:E8:D7:BE:49:79:EB:F2:61: 1F:7D:D7:9B:F9:1C:1C:6B:56: 6A:21:9E:D7:66
C=US, O=GeoTrust Inc., OU=(c) 2008 GeoTrust Inc. - For authorized use only, CN=GeoTrust Primary Certification Authority - G3	15AC6E9419B2794B41 F627A9C3180F1F	03:9E:ED:B8:0B:E7:A0:3C:69: 53:89:3B:20:D2:D9:32:3A:4C: 2A:FD	B4:78:B8:12:25:0D:F8:78:63: 5C:2A:A7:EC:7D:15:5E:AA:62 :5E:E8:29:16:E2:CD:29:43:61 :88:6C:D1:FB:D4



Class 3 CA	Serial Number	SHA1 Thumbprint	SHA2 Thumbprint
C=CH, O=Hostpoint AG, OU=Domain Validated SSL, CN=Hostpoint DV SSL CA - G1	5DC83594AA94674AB D0559D00CA943CA	0D:BB:0D:76:FC:68:A0:F7:C9: FF:DD:9F:80:35:12:02:BD:31: 69:15	9F:4E:3C:42:FA:FE:DA:3C:F8: 8C:05:CC:4B:4A:F0:C0:AF:30: 64:15:C3:0D:3D:1E:EB:ED:EB: F7:D1:77:A9:82
C=CH, O=Hostpoint AG, OU=Domain Validated SSL, CN=Hostpoint DV SSL CA - G2	023A8D	51:F5:6D:08:1A:8D:FD:E5:6E: DA:F1:8A:81:EB:2E:6C:A6:8A: E3:AC	AB:D6:D0:53:FD:BE:35:6D:07: :50:50:18:15:86:B0:B9:C2:B8 :C0:32:98:AB:CE:64:CE:25:C4 :04:01:DF:3B:22
C=CH, O=Hostpoint AG, OU=Domain Validated SSL, CN=Hostpoint DV SSL CA - G2	023A8C	E8:69:36:C0:28:9D:99:87:F3: E6:36:98:56:47:B6:7E:79:03: 82:F6	2F:E0:55:9F:55:57:67:0C:F5: C8:AE:01:22:38:73:B8:83:6C: AE:2C:FD:25:96:1C:9C:8E:E2: B9:43:A2:D6:5A
C=CN, O=TrustAsia Technologies, Inc., OU=Domain Validated SSL, CN=TrustAsia Technologies, Inc. DV SSL CA - G1	0F7978CB79BC6DA953 6C17E082672514	63:69:87:97:95:C1:2B:A5:F3: F4:4D:1A:AB:E2:92:D3:86:C7: 33:CC	39:97:C7:21:89:3B:39:26:D3: 93:8A:31:1C:A0:7A:26:1B:2A: E2:2E:01:DC:58:7F:18:1D:FF: 15:B9:8B:4E:A6
C=CN, O=TrustAsia Technologies, Inc., OU=Domain Validated SSL, CN=TrustAsia Technologies, Inc. DV SSL CA - G2	023A91	63:53:94:51:40:BF:98:77:9F: 14:9E:C7:D2:89:2F:39:A3:CB: 8F:97	C1:89:49:E3:65:9F:7F:DF:22: B3:0E:C4:DA:6B:43:41:AF:8B: EE:00:E4:17:7A:7F:86:FF:59: BC:46:B6:BA:40
C=DE, O=CertCenter AG, OU=Domain Validated SSL, CN=AlwaysOnSSL CA - G1	10DA57D151DF993CC 13F0D0938320702	C5:19:F8:F5:47:77:A7:74:B0: 4F:31:AC:25:DC:A7:E5:92:8F: 83:21	EF:44:78:EB:09:4C:48:FB:9F: EA:CA:09:73:62:70:49:9C:A5: 2E:B0:4E:3F:8E:E4:C1:B2:ED: C9:96:03:98:FD
C=DE, O=CertCenter AG, OU=Domain Validated SSL, CN=AlwaysOnSSL CA - G2	023A8F	63:62:1C:BF:86:A6:F5:72:A3: 76:58:2F:BA:69:9D:1E:FF:50: 64:C5	7D:89:AE:91:8B:25:AF:DF:91: 03:6E:EE:5C:15:E5:8C:60:0F: 42:26:68:66:A8:DE:01:C7:1D: BC:63:5C:A1:C0
C=DE, O=STRATO AG, OU=Domain Validated SSL, CN=STRATO SSL	023A6E	9C:86:76:86:68:F1:34:80:E3: DF:CC:40:57:CF:52:12:AD:5B: 87:D5	2E:7E:65:BB:1A:01:3D:AF:0B: DF:69:38:50:2E:43:E3:82:17: FE:00:D7:6C:A2:F9:9F:7A:A9: E2:98:F4:85:34
C=DE, O=STRATO AG, OU=Domain Validated SSL, CN=STRATO SSL - G2	023A7C	89:30:C3:1A:0C:BD:AD:55:83: 57:DF:7D:59:A8:CD:58:1C:12: 72:F0	78:DC:9C:A5:F4:C2:91:3F:3F: B7:4A:C5:2D:FF:FC:D2:30:0D :A5:A7:72:FC:2B:84:C5:3A:2E :74:43:7E:DD:20
C=DE, O=STRATO AG, OU=Domain Validated SSL, CN=STRATO SSL - G3	3D3C4BFA06D2878F09 FBCEB846875F93	09:7A:6D:83:23:79:A4:0F:FA: 1B:29:67:DE:CB:B7:BA:ED:EA :E8:04	4F:D7:34:19:04:6F:90:86:88: 26:D5:81:53:69:31:D2:2E:54: 94:3E:BC:D0:59:CB:76:21:39: 4D:74:93:43:C5
C=DE, O=STRATO AG, OU=Domain Validated SSL, CN=STRATO SSL - G4	023A89	5D:80:02:9A:CD:6B:9F:17:6B: 23:7F:4E:21:DC:2C:FF:EF:48: 81:DD	BC:3F:0A:DC:5F:F8:6A:4B:37: 4D:C6:91:F8:FE:27:3B:1B:87: DC:73:E4:38:24:F5:FE:7F:36: C3:E0:00:83:11
C=DE, O=STRATO AG, OU=Domain Validated SSL, CN=STRATO SSL - G5	6989E500A92B4D3D06 D47EB455D1CDE5	6F:EE:BF:0B:30:E9:DE:52:47: 6D:57:77:22:B2:A5:A8:51:10: A5:FF	8C:88:BA:51:05:29:B6:42:63: CC:B2:1A:73:D8:2B:A5:72:5A :55:C1:44:6F:25:47:BC:E3:01 :FC:DC:43:14:DB
C=DE, O=STRATO AG, OU=Domain Validated SSL, CN=STRATO SSL CA - G4	023A88	7E:D0:83:AE:25:C7:00:88:68: BF:BE:A7:C1:06:0B:E6:DF:50: 8F:8C	51:39:62:DB:15:55:DE:38:59: 28:3A:81:B3:F7:02:DC:25:A5: 44:E6:D1:A7:17:F6:05:39:7B: D7:EA:91:3B:76
C=JP, O=NTT DOCOMO, INC., OU=GeoRoot Certification Authority, CN=DKHS Device CA	0236CD	68:1B:7A:CE:23:28:00:F1:67: 08:D4:2E:8A:A4:12:4A:F5:33: F8:75	12:34:65:EE:C4:09:2F:8C:F7: AB:FE:92:B8:C7:01:AC:09:EA: 79:A4:98:F1:D3:F6:A0:2C:17: 14:F3:9A:84:23
C=JP, O=NTT DOCOMO, INC., OU=GeoRoot Certification Authority, CN=DKHS Device CA	0236CC	A0:2B:D3:AE:51:5C:AD:6A:93 :49:92:11:62:37:BC:3E:25:B6 :50:8E	32:25:1B:9B:B3:D7:64:21:D3: B3:00:FC:ED:47:57:EE:E0:41: 67:A7:27:90:4A:C1:88:B3:51: 11:1D:26:1F:56



Class 3 CA	Serial Number	SHA1 Thumbprint	SHA2 Thumbprint
C=JP, O=NTT DOCOMO, INC., OU=GeoRoot Certification Authority, CN=DKHS Device CA - G2	023A80	1C:F9:42:06:E4:A8:00:BC:96: CF:CB:F1:44:F2:87:38:27:A8: 8E:17	F7:AE:9B:58:70:DC:DA:43:19: 05:AE:A0:3B:39:93:A3:4E:87: 7B:87:6B:78:41:52:81:7F:1C: 58:65:7E:37:C4
C=JP, O=NTT DOCOMO, INC., OU=GeoRoot Certification Authority, CN=DKHS Device CA - G2	023A81	C0:EC:D0:61:AC:BA:34:35:7A :EA:F6:07:79:8B:03:4A:59:29 :42:2B	56:CB:B0:FF:C4:14:E8:88:22: A5:0E:9F:42:D4:68:20:38:1D: 8C:2A:AE:EF:56:E0:56:68:17: ED:30:F2:7A:27
C=NL, O=Intermediate Certificate, OU=Domain Validated SSL, CN=Intermediate Certificate DV SSL CA	023A60	B8:8B:12:4D:AF:3C:56:5B:49: 3A:C9:31:B5:DB:AC:29:4F:12: 97:1B	8C:27:45:35:22:89:E9:94:B3: EA:34:94:45:B1:CF:64:18:E5: 17:40:E1:61:4F:8B:56:67:DA: D2:99:0A:AE:FB
C=NL, O=Intermediate Certificate, OU=Domain Validated SSL, CN=Intermediate Certificate DV SSL CA - G2	023A7B	7A:D6:B0:09:15:1B:F9:55:CA: CB:BF:A0:14:A0:8B:7E:BA:4F: D3:91	D8:76:A0:81:FB:38:27:BA:22: A4:08:7D:F6:75:12:6F:F8:A9: 6A:AB:90:36:4B:C6:1F:62:CE: 8E:95:07:AA:93
C=NL, O=Intermediate Certificate, OU=Domain Validated SSL, CN=Intermediate Certificate DV SSL CA - G3	48311FB72B93A88919 860E2F9A2387E3	B9:C6:48:4C:97:E0:26:66:3E: BA:54:12:38:79:0E:6B:11:6C: 69:8D	E8:6B:C1:6C:C6:49:1E:5F:4B: 99:76:31:38:42:B3:D0:2C:99: EA:26:3A:EB:1D:C2:23:D8:98: FA:87:C8:48:45
C=NL, O=Trust Provider B.V., OU=Domain Validated SSL, CN=Trust Provider B.V. DV SSL CA - G1	7F2CF12628D31B3278 2845B40F560CAE	E5:01:A0:64:1A:31:08:21:FC: B2:A0:67:7E:C5:9E:82:B1:F8: 59:D6	D6:EA:10:61:C2:8B:3D:B9:6F: F5:BA:A1:40:AB:57:14:E6:B0: B4:F5:D7:1A:BC:CD:24:2A:49 :B9:B9:F4:DC:27
C=NL, O=Trust Provider B.V., OU=Domain Validated SSL, CN=Trust Provider B.V. DV SSL CA - G2	023A8E	C2:86:BC:CD:A5:70:09:28:1B: 21:0B:CC:4A:E1:83:FF:D0:9F: 11:D7	81:05:1C:35:5E:C9:F5:A8:9F: BA:91:D1:A5:BD:3F:05:01:EA: CD:80:EF:93:B2:18:00:3D:95: CF:25:1A:76:70
C=US, O=Aetna Inc., OU=GeoRoot Certification Authority, CN=Aetna Inc. Certificate Authority	023A56	23:8C:8E:2C:D1:96:75:6B:28: 67:48:9A:2E:1E:4B:1A:68:44: 2C:61	D6:E4:E7:B9:AF:3B:D5:A8:F2: D6:32:1C:DE:26:63:9C:25:64: 4F:73:07:CE:16:AA:D3:47:D9: AD:53:D3:CE:13
C=US, O=GeoTrust Inc, OU=GeoTrust TimeStamping CA, CN=GeoTrust TimeStamping CA I	02359E	1D:70:68:AB:BE:A7:6B:0E:E2: 2E:11:36:B2:65:01:FD:4F:0D: FB:B3	D3:60:27:A8:5F:E1:ED:CB:A4: F1:BA:92:C3:C8:B3:78:64:E8: 62:D2:B4:A0:2B:8F:F6:43:F5: 82:60:9F:6A:08
C=US, O=GeoTrust Inc, OU=GeoTrust TimeStamping CA, CN=GeoTrust TimeStamping CA I	02359D	3F:B8:EF:A7:CD:57:C7:8E:64: 1D:E4:CA:B1:54:A0:D1:94:B8: F4:87	32:1D:F6:81:FB:13:68:22:59: A5:72:BE:65:FD:DB:8E:6C:9A: 2C:B2:1F:94:56:83:D3:B7:04: 51:7B:C1:92:E4
C=US, O=GeoTrust Inc., CN=GeoTrust EV SSL CA - G4	6E8A90EBCFF0448A72 0D0805D082A544	30:56:B3:43:48:5B:9D:55:F3: E2:B1:77:A8:95:BB:04:63:EE: 3E:FD	95:B0:9D:02:12:2F:A8:AE:62: 35:78:0F:6E:A6:50:3E:76:7A: C0:21:A0:87:4F:E8:31:CE:80: 3A:50:EA:8F:D7
C=US, O=GeoTrust Inc., CN=GeoTrust EV SSL CA - G5	3CB6BC2996B37A14A7 92D1E5D8EC335A	71:71:C0:5A:62:7D:7C:63:5F: 8A:4D:F4:0F:7A:F5:B8:1B:DE: B7:6D	5B:2A:E8:AB:F5:E7:E5:63:BB: C3:4C:97:A2:25:54:E8:23:93: D7:AC:C0:9C:17:65:E5:04:AE: 08:C1:57:B5:AC
C=US, O=GeoTrust Inc., CN=GeoTrust EV SSL CA - G6	010019F5AA7269F88C 1E1C1211EC8D4F	B7:20:88:E6:F1:87:89:06:8F: 01:B2:5B:13:1A:7E:64:AA:A9: 5E:59	41:9B:0C:9A:D6:B8:72:A8:B1: BB:87:34:1A:F6:3E:E9:2E:69: B2:7B:99:66:62:E7:33:03:2F: 12:88:10:8D:FB
C=US, O=GeoTrust Inc., CN=GeoTrust EV SSL CA - G7	0100200B7C009A10A6 DC0BE9EFA8FEF8	6B:F6:9B:90:22:C0:89:DF:4B: 49:BA:21:2B:8A:92:66:D7:5A: 44:66	54:6C:AF:F9:06:0E:EF:30:F4: F3:E0:22:55:FB:F5:13:1E:65: 7C:17:10:C9:A6:50:02:01:33: A8:18:BE:C1:C8
C=US, O=GeoTrust Inc., CN=GeoTrust Extended Validation SHA256 SSL CA	5418A02AD0BF5719DD F72336B147F0BA	E2:8A:01:56:B0:3C:75:E0:5F: 81:97:96:FF:E9:F9:8B:BA:B6: F1:E3	BC:9E:22:3C:C4:22:75:CC:03: 41:90:DF:2D:01:79:B5:5B:73: 2D:5A:C5:31:13:7A:7B:52:2D: CF:E0:4A:05:92



Class 3 CA	Serial Number	SHA1 Thumbprint	SHA2 Thumbprint
C=US, O=GeoTrust Inc., CN=GeoTrust Extended Validation SSL CA - G2	0B1DB1A919F24C3C4EFCB57A6A4E6CBF	C4:FA:37:41:B7:A7:F1:F6:C2:3D:24:F4:20:9F:5A:49:CD:5E:55:C6	C7:B5:7A:02:F9:37:AE:0B:E3:E2:10:27:03:05:92:C9:D4:7A:70:D7:01:3E:B3:AA:94:DB:C3:B7:B5:AB:06:62
C=US, O=GeoTrust Inc., CN=GeoTrust SHA256 SSL CA	4182127D12D9C6B321394312566400B8	2C:9A:FC:A5:55:8A:C6:A3:25:C4:D0:27:63:16:D4:5F:06:B4:DD:37	D9:E0:C6:4A:B2:7A:64:D7:9C:CC:F4:2A:34:EC:75:A2:51:A7:E5:43:35:3C:19:E9:84:A7:0E:B2:F5:46:CD:FF
C=US, O=GeoTrust Inc., CN=GeoTrust SSL CA - G2	023A63	4F:56:64:48:58:82:9F:FB:85:A7:70:17:1A:CC:F9:F8:40:7A:13:7B	90:AF:11:E5:77:C7:2C:94:0B:40:EC:2F:3D:50:50:73:10:09:1E:E6:19:6C:9C:16:B2:28:88:22:64:A4:D8:08
C=US, O=GeoTrust Inc., CN=GeoTrust SSL CA - G2	023A62	95:6B:79:1B:2C:DD:61:FD:26:65:4B:37:58:57:0E:4A:EF:DD:23:1F	5F:7C:89:EB:86:98:C2:0E:5B:A9:EA:23:F0:D1:2E:DB:C8:DB:1E:1D:27:62:64:B0:D4:D1:59:A0:DE:DF:BD:8F
C=US, O=GeoTrust Inc., CN=GeoTrust SSL CA - G3	023A6F	5A:EA:EE:3F:7F:2A:94:49:CE:BA:FE:EC:68:FD:D1:84:F2:01:24:A7	07:45:41:EC:DF:88:ED:99:2E:D5:AD:E3:EC:DD:EF:27:A2:6B:A1:B4:44:80:A1:95:C0:A8:DA:DA:E2:52:1D:8E
C=US, O=GeoTrust Inc., CN=GeoTrust SSL CA - G4	023A79	AC:8F:7C:5B:C8:6E:F1:89:6F:2D:16:1C:32:A5:7A:AB:37:D3:64:DA	21:1D:DF:50:59:22:9B:35:77:76:0D:62:3D:51:48:DB:92:F2:D0:52:6E:A5:30:3E:7E:EA:03:00:D9:FA:FF:3F
C=US, O=GeoTrust Inc., CN=RapidSSL CA - G2	023A6C	A1:89:08:F0:9A:C3:9F:2C:97:EA:F2:57:72:B2:BA:19:5E:AE:DD:E7	0D:CD:C0:7E:CA:BB:BF:E3:8A:46:06:BA:66:39:87:CD:B3:BD:98:17:FC:67:D1:DD:0C:F0:94:AC:8C:A2:78:7D
C=US, O=GeoTrust Inc., CN=RapidSSL SHA256 CA	023A71	C8:6E:DB:C7:1A:B0:50:78:F6:1A:CD:F3:D8:DC:5D:B6:1E:B7:5F:B6	E6:68:3E:88:31:5C:D1:CB:40:3C:0C:EA:49:0F:7C:4B:4C:82:C9:1C:D4:85:03:74:89:AA:DB:AA:90:83:9F:61
C=US, O=GeoTrust Inc., CN=RapidSSL SHA256 CA - G2	48E99440D436491CB8B8823D09439AC7	2E:49:16:B0:7F:3D:E9:0C:8D:DE:25:66:FD:9B:9B:40:0D:89:BB:BA	92:EF:2F:5B:55:35:70:60:7D:C2:9C:80:10:E7:AB:C1:62:83:FE:35:5F:95:5A:24:82:54:29:0A:26:0A:9E:BB
C=US, O=GeoTrust Inc., CN=RapidSSL SHA256 CA - G3	023A77	0E:34:14:18:46:E7:42:3D:37:F2:0D:C0:AB:06:C9:BB:D8:43:DC:24	BC:3F:03:A4:36:24:0E:DB:A5:F8:37:14:F6:F6:77:E3:4B:37:F9:B1:F0:C0:8C:1E:55:8D:98:1E:27:9E:82:09
C=US, O=GeoTrust Inc., CN=RapidSSL SHA256 CA - G4	281C8929661443804263553A3240AEB3	DC:07:7C:4A:B3:42:2F:60:8C:EE:83:D9:09:8B:FC:3A:72:26:D6:A7	5B:87:E2:22:F2:03:46:FA:36:28:81:6E:D6:CE:71:FA:AB:A0:85:7F:B8:BC:BA:73:77:6E:A1:FA:56:CD:00:57
C=US, O=GeoTrust Inc., OU=Domain Validated SSL, CN=GeoTrust DV SSL CA	0236D2	BA:E3:0B:15:DB:B1:54:4C:F1:94:D0:76:B7:5B:7B:B9:E3:D6:B7:60	C2:7F:D4:B8:5E:96:D3:77:7C:68:AB:7D:F6:AA:4E:62:6B:F3:FF:8C:72:B1:CE:81:D1:EB:78:BA:BE:B1:A0:74
C=US, O=GeoTrust Inc., OU=Domain Validated SSL, CN=GeoTrust DV SSL CA - G2	023A6B	E0:8B:1B:52:E7:8C:97:57:02:08:17:60:F2:16:D3:72:E1:83:EC:5C	DE:DB:31:CB:CE:C5:F9:9D:38:E8:6E:CC:4D:76:94:5D:F4:0F:2E:54:7C:94:E4:B0:12:40:94:87:5A:F6:A5:58
C=US, O=GeoTrust Inc., OU=Domain Validated SSL, CN=GeoTrust DV SSL CA - G3	023A73	55:83:E3:E1:A7:51:17:21:1E:AF:C8:5E:D1:15:BB:C1:AC:96:9D:B5	51:CF:0F:FF:C3:25:3F:C0:13:AF:78:6F:95:B1:90:10:9F:8C:87:F3:4D:FD:1C:EC:44:C4:58:88:78:9F:53:55
C=US, O=GeoTrust Inc., OU=Domain Validated SSL, CN=GeoTrust DV SSL CA - G4	023A78	35:E5:40:F4:D3:6E:94:D9:00:5B:18:DC:E2:7C:A2:AE:8C:A0:02:0D	8B:C1:B9:D7:DE:FC:CA:1C:CD:09:BA:CD:A8:8F:27:76:20:92:F1:ED:4A:34:AE:5E:46:02:BB:9C:C9:15:C5:06





Class 3 CA	Serial Number	SHA1 Thumbprint	SHA2 Thumbprint
C=US, O=GeoTrust Inc., OU=Domain Validated SSL, CN=GeoTrust DV SSL SHA256 CA	5E631640DD196632B4 93A3300790D756	86:8E:B3:38:C9:C0:D3:72:71: D1:D3:79:27:16:07:97:04:10: 7A:85	78:4A:CA:10:63:BE:47:00:B3: A6:2F:45:C2:F9:3B:7E:EF:8B: F2:30:FB:86:96:10:E8:64:FC: 4B:3A:23:D0:9F
C=US, O=GeoTrust Inc., OU=Domain Validated SSL, CN=GeoTrust DV SSL SHA256 CA - G2	1127EA3641C6362332 4773D52372B202	A9:F3:F9:E7:06:F2:63:FC:AF: 80:A2:90:C3:98:69:A2:C4:91: CE:56	3F:DF:78:8A:5A:65:E6:A2:9D: 8C:15:50:D8:24:49:06:A3:B8: A7:B7:D3:DA:9B:DE:DD:74:8E :41:83:A7:63:C9
C=US, O=GeoTrust Inc., OU=GeoTrust Authentication Services, CN=GeoTrust True Identity CA 2	023A58	A4:C7:79:FC:07:94:BB:BA:A6: E7:14:DE:C3:1D:46:AB:CE:5D :B9:70	FF:1D:35:ED:46:40:63:D6:03: 1C:71:E4:14:26:2C:C2:31:0E: 8C:54:7A:B7:F7:CF:29:55:C9: E0:34:9E:53:3F
C=US, O=GeoTrust, Inc., CN=GeoTrust ECC EV SSL CA	0F0C3729FDF4955BF8 65EBC5EEF432FC	FF:7D:03:52:18:E8:46:DC:A8: D9:04:BE:24:39:C5:3D:B5:F7: D8:AC	C1:31:49:9F:D8:6B:21:3D:B5: DE:FA:AF:D5:31:11:C2:8A:2D :DA:F4:BA:46:5C:82:65:A7:2D :6C:F7:39:B6:68
C=US, O=GeoTrust, Inc., CN=GeoTrust SSL CA	0236D0	78:0A:06:F6:E9:B4:06:1C:AD: 0C:65:02:71:06:06:EB:53:5F: 1C:26	D4:C4:C9:98:19:F3:A5:F2:C6: 26:1C:94:44:C6:2A:8B:26:3B: 39:BC:6A:CC:E3:5C:DC:AB:E2 :72:D5:03:7F:B2
C=US, O=GeoTrust, Inc., CN=GeoTrust True Credentials CA 3	023A61	3C:24:FD:4E:7F:02:55:D7:ED: A2:3D:96:75:54:97:C6:52:A4: D9:60	5D:74:ED:61:D0:B3:11:E9:81: BB:CF:0F:41:9A:35:FA:9F:A1: EC:70:FF:1A:EB:74:2D:73:BC: FE:BA:06:CF:FF
C=US, O=GeoTrust, Inc., CN=RapidSSL CA	0236D1	C0:39:A3:26:9E:E4:B8:E8:2D: 00:C5:3F:A7:97:B5:A1:9E:83: 6F:47	6D:5B:C9:79:46:1C:72:64:E1: 71:00:10:CD:7D:4E:A3:EC:57: FA:11:21:5F:04:FF:A5:16:AE: 61:95:9A:B2:B2
C=US, O=GeoTrust, Inc., OU=Domain Validated SSL, CN=GeoTrust Secure Site Starter DV SSL CA - G1	4DC436F724F684DB8C 79499993F0994E	84:7E:D8:BD:0A:46:F1:0A:89: B1:3D:C3:A1:1F:95:B3:22:D3: F1:3C	62:FB:9B:6C:D2:63:3B:92:D9: 1D:B2:64:CE:67:8A:9B:19:C5: 75:41:4A:B1:0A:D4:6D:15:7F: 07:BB:A2:6E:FF
C=US, O=GeoTrust, Inc., OU=Domain Validated SSL, CN=Secure Site Starter DV SSL CA - G2	42C7E6E9845223DD10 1F3631D58708AD	99:16:1F:DB:4C:5A:40:88:75: 7F:42:E0:D1:15:7B:38:1D:5E: E1:71	64:85:36:13:C2:43:63:99:60: 3D:0D:56:0B:52:F0:4B:B8:F8: 1A:81:74:6E:42:38:98:83:A4: F5:9A:45:64:D5
C=US, O=GeoTrust, Inc., OU=Domain Validated SSL, CN=Secure Site Starter DV SSL CA - G3	023A85	F0:02:9E:79:4D:51:80:63:4B: 34:AE:E2:9F:29:13:58:23:2F: AA:04	2F:CC:00:9A:AF:DB:28:E9:25: 64:30:41:0A:6F:A6:E7:6A:F0: 93:01:B1:04:4F:EA:AA:CA:BO: 02:15:AA:39:E1
C=US, O=GeoTrust, Inc., OU=For Internal Use Only, CN=RapidSSL Enterprise CA	023A5A	49:EA:7A:73:31:F1:31:2E:5C: 58:B7:C3:07:32:53:FC:46:16: E4:D3	2A:40:0E:47:8B:9F:56:C1:37: 62:A4:97:54:14:4B:6B:8C:4A: 5A:1D:C8:E7:B3:1E:44:1D:0D: BD:1A:6A:4B:E4
C=US, O=GeoTrust, Inc., OU=For Internal Use Only, CN=RapidSSL Enterprise CA	023A5B	B5:DA:CA:45:79:09:34:37:CE: 0F:DD:C6:33:D2:DD:B1:ED:0E :7C:72	87:AA:71:AF:03:2E:36:BD:69: DA:F4:01:4F:CA:D8:F2:73:3A: A0:0D:EA:B9:59:33:5A:E3:86: 6E:4B:6D:3A:1D
C=US, O=Symantec Corporation, CN=Symantec SAS Code Signing CA	023A72	49:7D:69:1C:07:70:8A:FD:F2: BA:1B:05:99:0B:FF:89:50:4F: BC:DE	27:9A:05:5E:2C:41:A9:10:5F: DF:D2:63:43:22:9D:0D:38:12: 58:72:45:5C:43:34:4D:DE:BC: AE:5A:0B:F7:36
C=US, O=Symantec Corporation, CN=Symantec SAS EV Code Signing CA	5D74EC40C72FA11E6B 91C2E5BAC472FF	8E:F6:55:31:C8:88:7C:73:9E: 2B:BD:51:8A:37:FA:C2:CD:69 :0D:53	E8:65:F5:83:A9:28:CC:B6:A7: 28:6B:94:E7:92:0E:E1:F4:99: 8C:03:0B:43:86:89:E9:58:3B: CC:D6:AC:52:61
C=US, O=Symantec Corporation, CN=Symantec SHA1 SAS Code Signing CA	023A84	2B:35:08:C4:C2:EE:D9:32:F2: D8:29:22:9F:E4:05:0F:A4:AF: 12:1E	F8:2C:F9:00:3A:28:69:3F:43: 0C:7E:93:95:81:09:7B:A0:97: C9:3A:EE:51:0A:10:5D:78:22: 32:4F:36:4C:9A



Class 3 CA	Serial Number	SHA1 Thumbprint	SHA2 Thumbprint
C=US, O=Symantec Corporation, CN=Symantec Time Stamping Services CA - G2	023A64	44:D7:BC:27:88:29:17:14:72:CA:B5:41:9C:4A:BD:F1:AC:60:EA:C9	83:C1:EA:9E:9E:FC:A2:83:B8:40:E1:67:F9:EA:79:C4:E3:2A:CD:33:83:4F:59:D1:38:FC:DA:B9:D8:80:6B:20
C=US, O=Volusion, Inc., OU=Domain Validated SSL, CN=Volusion, Inc. DV SSL CA	023A5C	AF:83:5B:6C:3F:58:DF:1F:CF:E5:3C:DC:57:51:53:2C:F0:F0:78:2D	8F:DA:7A:88:13:54:6F:9A:7C:B0:65:CD:32:D3:65:0D:5B:56:A2:B7:F9:42:B9:49:9A:EB:42:A8:6A:3E:9D:56
C=US, O=Volusion, Inc., OU=Domain Validated SSL, CN=Volusion, Inc. DV SSL CA - G2	023A7A	2B:1E:D6:E9:4F:6C:88:F4:A7:AF:7C:A9:5F:FC:EF:30:A2:B5:0D:50	6F:F6:F6:3F:6A:0D:3D:63:44:6C:DA:A5:23:D2:62:73:B1:26:C0:2F:92:2E:05:D7:3C:47:48:EB:89:B8:63:93
C=US, O=Volusion, Inc., OU=Domain Validated SSL, CN=Volusion, Inc. DV SSL CA - G3	6525B603299E50D5FB1D92120F7E0622	EF:20:DE:67:87:91:5C:1E:74:69:2E:5C:8A:52:6F:70:37:EA:54:60	80:D9:ED:B4:5B:7F:59:2C:D3:02:54:E5:5B:C3:16:BB:F4:4E:47:DF:C0:C0:04:A3:83:28:1C:03:F3:45:BA:39
C=US, O=Volusion, Inc., OU=Domain Validated SSL, CN=Volusion, Inc. DV SSL CA - G4	023A87	C4:E3:1F:D9:A1:30:9C:0C:F8:C9:27:4D:2A:32:26:CB:5C:6B:D2:6B	ED:67:93:70:83:B0:73:9F:30:23:96:F9:74:AF:B4:1B:FB:A6:48:47:39:67:78:0B:2C:59:B8:8A:C4:12:1A:D4
C=US, O=Volusion, Inc., OU=Domain Validated SSL, CN=Volusion, Inc. DV SSL CA - G5	0CBEE62D6194EB94B579926557FB3011	A1:32:4C:43:09:CB:02:02:23:A0:06:C1:E0:78:F8:10:0C:68:BE:7F	9F:E3:06:E6:63:E4:59:64:46:44:F6:0A:71:53:A2:21:43:6F:B9:70:1A:0E:BD:91:24:EE:F8:15:9D:15:CB:43