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PRINCETON AUDIT GROUP



CITPSM
Certified Information¹



Certification Authority
SSL Baseline and Network Security version 2.2
Independent Auditors Report
December 1, 2016 to November 30, 2017.

TrustCor Systems S. de R.L.
Toronto, Canada.



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SECTION 1



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Independent Service Auditors' Report
Year 2017
Princeton Audit Group (PAG)

The Board of Directors
TrustCor Systems S. de R.L.
371 Front street West, # 123
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CANADA

We have examined the [assertion](#) by the management of TrustCor Systems S. de R.L. (TrustCor-CA) for its Certification Authority (CA) operations at Toronto, Ontario, Canada, throughout the period December 1st, 2016 to November 30th, 2017 for its CAs as enumerated in Attachment A, in scope for the SSL Baseline Requirements and Network Security Requirements, TrustCor-CA has:

- Disclosed its SSL certificate lifecycle management business practices in its:
 - [TrustCor v 1.3.3 Certification Practice Statement](#)
 - [TrustCor v 1.3.3 Certificate Policy](#)

Including its commitment to provide SSL certificates in conformance with the CA/Browser Forum Requirements on the TrustCor-CA website, and provided such services in accordance with its disclosed practices.

- Maintained effective controls to provide reasonable assurance that:
 - The integrity of keys and SSL certificates it manages is established and protected throughout their lifecycles; and
 - SSL subscriber information is properly authenticated (for registration activities performed by TrustCor-CA)
- 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.

And, for CAs as enumerated in Attachment A :

- Maintained effective controls to provide reasonable assurance that it meets the Network and Certificate System Security Requirements as set forth by the CA/Browser Forum

based on the [WebTrust Principles and Criteria for Certification Authorities – SSL Baseline with Network Security v2.2](#). TrustCor-CA's management is responsible for its assertion. Our responsibility is to express an opinion on management's assertion based on our examination.

The relative effectiveness and significance of specific controls at TrustCor-CA 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 Section 101, Attestation Engagements (AICPA, Professional Standard) 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 management's assertion is fairly stated, in all material respects. An examination involves performing procedures to obtain evidence about management's assertion. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement of management's assertion, whether due to fraud or error. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

Because of the nature and inherent limitations of controls, TrustCor-CA'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 management's assertion, as referred to above, is fairly stated, in all material respects.

This report does not include any representation as to the quality of TrustCor-CA's services other than its CA operations in Toronto, Canada, nor the suitability of any TrustCor-CA's services for any customer's intended purposes.

TrustCor-CA's use of the WebTrust for Certification Authorities — 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 the report or provide any additional assurance.

Vijay Khosla, CPA.CITP, CISA, CISM.



Managing Partner

12/15/2017.

Princeton Audit Group, Inc.

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ATTACHMENT “ A”

Certificate Policy and Certificate Practice Statements VERSIONS USED DURING THE AUDIT PERIOD

- For the period: Dec 1st 2016 — April 18th 2017
 - Certification Practices Statement, version 1.3.0
 - Certificate Policy, version 1.3.0
- For the period: April 19th 2017 – August 13th 2017
 - Certification Practices Statement, version 1.3.1
 - Certificate Policy, version 1.3.1
- For the period: August 14th 2017 – August 14th 2017
 - Certification Practices Statement, version 1.3.2
 - Certificate Policy, version 1.3.2
- For the period: August 15th 2017 – November 30th 2017
 - Certification Practices Statement, version 1.3.3
 - Certificate Policy, version 1.3.3

Which describe the following in-scope Root and Subordinate CAs:

CA ID	Subject	Issuer	Serial	Key Type	Sig Alg	Not Before	Not After	SKI	SHA-256 Fingerprint
Root CA Certificates									
CA-1	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-1	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-1	da:9b:ec:71:f3:03:b0:19	RSA/ 4096	SHA256/R SA	Feb 4 12:32: 16 2016 GMT	Dec 31 17:23:1 6 2029 GMT	EE:68:49:3C:7A:3F:0 D:E3:B1:09:87:8A:C 8:AB:19:9F:73:33:50 :E7	d40e9c86cd8fe468c1776959 f49ea774fa548684b6c406f3 909261f4dce2575c

CA-2	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-2	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-2	25:a1:df:ca:33:cb:59:02	RSA/ 4096	SHA256/R SA	Feb 4 12:32: 23 2016 GMT	Dec 31 17:26:3 9 2034 GMT	D9:FE:21:40:6E:94:9 E:BC:9B:3D:9C:7D:9 8:20:19:E5:8C:30:62 :B2	0753e940378c1bd5e3836e3 95daea5cb839e5046f1bd0e ae1951cf10fec7c965
ECA-1	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor ECA-1	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor ECA-1	84:82:2c:5f:1c:62:d0:40	RSA/ 2048	SHA256/R SA	Feb 4 12:32: 33 2016 GMT	Dec 31 17:28:0 7 2029 GMT	44:9E:48:F5:CC:6D:4 8:D4:A0:4B:7F:FE:5 9:24:2F:83:97:99:9A :86	5a885db19c01d912c575938 8938cabbdf031ab2d48e91e e15589b42971d039c
DV SSL Subordinate CA Certificates									
CA1-Site	C=PA, ST=Panama, O=TrustCor Systems S. de R.L., OU=TrustCor Network, CN=TrustCor Basic Secure Site (CA1)	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-1 [CA-1]	ff:04:3b:9f:67:7c:dc:49	RSA/ 4096	SHA512/R SA	Feb 4 13:05: 21 2016 GMT	Dec 30 16:20:1 0 2029 GMT	B7:38:A7:99:92:D7: C6:AA:4E:FB:3E:D3: 1C:4E:BD:19:C8:E9: 92:4D	fe1ecadbdee0e558068ddbc 7b33ab78dd57d0c22fcc1c3 60119010375b0a61b
CA1-Site 2048	C=PA, ST=Panama, O=TrustCor Systems S. de R.L., OU=TrustCor Network, CN=TrustCor Basic Secure Site 2048 (CA1)	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-1 [CA-1]	60:b9:a6:16:70:dd:48:f9	RSA/ 2048	SHA256/R SA	Feb 5 11:47: 59 2016 GMT	Dec 30 16:20:1 0 2029 GMT	70:89:27:66:D4:13: BB:EE:03:57:1D:89: 52:94:89:09:19:7B:6 D:17	4efaaa1040ac2f44d3dee206 d9522a288d84ec38ddf5929 8c926e02f4c9d9aef
OV SSL Subordinate CA Certificates									
CA2-Site	C=PA, ST=Panama, O=TrustCor Systems S. de R.L., OU=TrustCor Network, CN=TrustCor Enhanced Secure Site (CA2)	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-2 [CA-2]	96:6b:e5:90:bb:23:ef:2a	RSA/ 4096	SHA512/R SA	Feb 5 12:04: 05 2016 GMT	Dec 30 16:20:1 0 2029 GMT	91:F7:F1:FC:8E:0A:7 6:BE:FA:E6:00:05:AF :D7:02:A2:24:CD:5A :9E	3830db8ea1520b6cdf57e1e 00a5f1297be11d9e6430c83 607176212ff85d2db8
Externally Operated CA Subordinate CA Certificates									



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ECA-1 External	C=PA, ST=Panama, O=TrustCor Systems S. de R.L., OU=TrustCor Network, CN=TrustCor External PKI (ECA1)	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor ECA-1 [ECA-1]	82:25:5d:04:bf:64:fe:9d	RSA/ 2048	SHA256/R SA	Feb 5 12:10: 46 2016 GMT	Dec 30 16:20:1 0 2029 GMT	66:C9:D2:44:CC:AD: A5:D6:96:D3:04:12: DF:1D:C5:88:0F:5C: 8D:BA	7882d9faa49a8bb351f0fc6e d685ef1fc51541d0ce0a4222 074d1d9e16fdc30b
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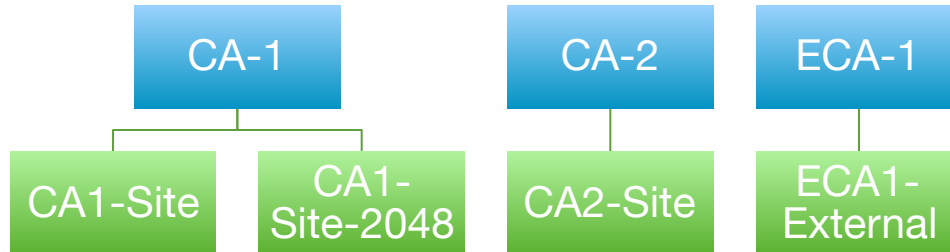
SECTION 2



**Assertion of Management as to its Disclosure of its Business Practices and its Controls
Over its Certification Authority Operations in accordance with Baseline Requirements for SSL/
TLS Certificates and Network Security during the period from
December 1st, 2016 through November 30th, 2017**

December 15, 2017

TrustCor Systems S. de R.L. (TrustCor) operates various Certification Authorities (CAs) which provide SSL CA services to the general public. These CAs include the TrustCor RootCert CA-1, the TrustCor RootCert CA-2 and the TrustCor ECA-1; the operations of which are described more fully in TrustCor's Certificate Policy (CP) and Certification Practice Statement (CPS). Those CAs used for SSL certificate generation are more fully disclosed in Appendix A of this document, but the hierarchy is summarized in diagram form thus:



To that end, we have subjected our certification authority business practices to the appropriate audit level in the form of the AICPA (USA) WebTrust® for Certification Authorities. TrustCor Systems also asserts its commitment to provide SSL certificates in conformity with the CA/Browser Forum Baseline Requirements and the CA/Browser Forum Network and Certificate Security Requirements. Below are our assertions which have been audited by Princeton Audit Group in accordance with:

- AICPA (USA)/CPA Canada [WebTrust® Principles and Criteria for Certification Authorities - SSL Baseline with Network Security - Version 2.2](#)

Management of TrustCor is responsible for establishing and maintaining effective controls over its CA operations, including CA business practices disclosure in its Certification Practice Statement, 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.

There are inherent limitations in any controls, 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 TrustCor's CA operations. Furthermore because of changes in conditions, the effectiveness of controls may vary over time.

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Management of TrustCor has assessed the controls over its CA operations. Based on that assessment, in TrustCor Management's opinion, in providing its SSL CA services, from its CA headquarters in Toronto [Ontario, Canada], with its primary data center in Phoenix [Arizona, USA] and secondary data center in Curaçao [Netherlands Antilles], during the period from December 1, 2016 through November 30, 2017, TrustCor has:

- Disclosed its Key Life Cycle Management, Certificate Life Cycle Management, and CA Environmental Control policies in its Certificate Policy and Certification Practices Statement;
- Maintained effective controls to provide reasonable assurance that:
 - Subscriber information was properly authenticated (for the registration activities performed by TrustCor);
 - The integrity of keys and certificates which it managed were established and protected throughout their life cycles;
 - Subscriber and relying party information was restricted to authorized individuals and protected from uses not specified in the CA's business practices disclosure;
 - The continuity of key and certificate life cycle management operations was maintained, and
 - CA systems development, maintenance and operations were properly authorized and performed to maintain CA systems integrity.

based on the AICPA (USA)/CPA Canada WebTrust® for Certification Authorities - SSL Baseline with Network Security - Version 2.2.

Our commitment to these principles and criteria is ongoing and subject to audit every twelve months to verify our continuing compliance with all relevant AICPA (USA)/CPA Canada WebTrust® for Certification Authorities criteria.

TrustCor Systems S. de R.L.

A handwritten signature in black ink, appearing to read "Rachel McPherson". The signature is fluid and cursive.

Rachel McPherson
Vice President, Operations

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Appendix A – Root and Subordinate CAs involved in SSL certification

CA ID	Subject	Issuer	Serial	Key Type	Sig Alg	Not Before	Not After	SKI	SHA-256 Fingerprint
Root CA Certificates									
CA-1	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-1	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-1	da:9b:ec:71:f3:03:b0:19	RSA/4096	SHA256/RSA	Feb 4 12:32:16 2016 GMT	Dec 31 17:23:16 2029 GMT	EE:6B:49:3C:7A:3F:0D:E3:B1:09:B7:8A:C8:AB:19:9F:73:33:50:E7	d40e9c86cd8fe468c1776959f49ea774fa548684b6c406f3909261f4dce2575c
CA-2	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-2	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-2	25:a1:df:ca:33:cb:59:02	RSA/4096	SHA256/RSA	Feb 4 12:32:23 2016 GMT	Dec 31 17:26:39 2034 GMT	D9:FE:21:40:6E:94:9E:BC:9B:3D:9C:7D:98:20:19:E5:8C:30:62:B2	0753e940378c1bd5e3836e395daea5cb839e5046f1bd0eae1951cf10fec7c965
ECA-1	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor ECA-1	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor ECA-1	84:82:2c:5f:1c:62:d0:40	RSA/2048	SHA256/RSA	Feb 4 12:32:33 2016 GMT	Dec 31 17:28:07 2029 GMT	44:9E:48:F5:CC:6D:48:D4:A0:4B:7F:FE:59:24:2F:83:97:99:9A:86	5a885db19c01d912c5759388938cafbdd031ab2d48e91ee15589b42971d039c
DV SSL Subordinate CA Certificates									
CA1-Site	C=PA, ST=Panama, O=TrustCor Systems S. de R.L., OU=TrustCor Network, CN=TrustCor Basic Secure Site (CA1)	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-1 [CA-1]	ff:04:3b:9f:67:7c:dc:49	RSA/4096	SHA512/RSA	Feb 4 13:05:21 2016 GMT	Dec 30 16:20:10 2029 GMT	B7:38:A7:99:92:D7:C6:AA:4E:FB:3E:D3:1C:4E:BD:19:C8:E9:92:4D	fe1ecadbdee0e558068ddbc7b33ab78dd57d0dc22fcc1c360119010375b0a61b
CA1-Site 2048	C=PA, ST=Panama, O=TrustCor Systems S. de R.L., OU=TrustCor Network, CN=TrustCor Basic Secure Site 2048 (CA1)	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-1 [CA-1]	60:b9:a6:16:70:dd:48:f9	RSA/2048	SHA256/RSA	Feb 5 11:47:59 2016 GMT	Dec 30 16:20:10 2029 GMT	70:89:27:66:D4:13:BB:EE:03:57:1D:89:52:94:89:09:19:7B:6D:17	4efaaa1040ac2f44d3dee206d9522a288d84ec38ddf59298c926e02f4c9d9aef
OV SSL Subordinate CA Certificates									

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CA2-Site	C=PA, ST=Panama, O=TrustCor Systems S. de R.L., OU=TrustCor Network, CN=TrustCor Enhanced Secure Site (CA2)	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor RootCert CA-2 [CA-2]	96:6b:e5:90:b b:23:ef:2a	RSA/ 4096	SHA512/ RSA	Feb 5 12:04:05 2016 GMT	Dec 30 16:20:10 2029 GMT	91:F7:F1:FC: 8E:0A: 76:BE:FA:E6:0 0:05:AF:D7:02: A2:24:CD:5A: 9E	3830db8ea1520b6cd f57e1e00a5f1297be1 1d9e6430c83607176 212ff85d2db8
Externally Operated CA Subordinate CA Certificates									
ECA-1 External	C=PA, ST=Panama, O=TrustCor Systems S. de R.L., OU=TrustCor Network, CN=TrustCor External PKI (ECA1)	C=PA, ST=Panama, L=Panama City, O=TrustCor Systems S. de R.L., OU=TrustCor Certificate Authority, CN=TrustCor ECA-1 [ECA-1]	82:25:5d: 04:bf:64:fe:9d	RSA/ 2048	SHA256/ RSA	Feb 5 12:10:46 2016 GMT	Dec 30 16:20:10 2029 GMT	66:C9:D2:44:C C:AD:A5:D6:9 6:D3:04:12:DF: 1D:C5:88:0F: 5C:8D:BA	7882d9faa49a8bb35 1f0fc6ed685ef1fc515 41d0ce0a4222074d1 d9e16fdc30b

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**Assertion of Management Regarding Generation of CA Private Key and Certificate Material
during the period December 1, 2016 through November 30, 2017**

December 15, 2017

TrustCor Systems S. de R.L. (TrustCor) has deployed a public key hierarchy which it uses in support of its Certification Authority (CA) business. From time to time, the company must generate new private key material for its CA key pairs, according to the relevant sections of WebTrust Principles and Criteria for Certification Authorities v2.0 (specifically, section 4.1).

TrustCor Management asserts that during the period of December 1, 2016 through November 30, 2017, **no** private key material has been generated under the aegis of that document. Where such new key material is generated in the future, TrustCor commits to follow the Key Generation Ceremonies, witnessed by a qualified auditor, and such key pairs will be disclosed in its Certificate Practice Statements, which is available on the website <http://www.trustcorsystems.com/resources/cps.pdf>.

TrustCor Systems S. de R.L.

A handwritten signature in black ink that reads "Rachel McPherson".

Rachel McPherson
Vice President, Operations
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