

## Report of the Independent Accountant

To the Management of Trustwave Holdings, Inc.:

We have examined Trustwave Holdings, Inc. (“Trustwave”) management’s assertion that for its Certification Authority (“CA”) operations at Chicago, Illinois, throughout the period October 1, 2017 to September 30, 2018 for its XRamp Global Certification Authority, SecureTrust CA, Secure Global CA, Trustwave Global Certification Authority, Trustwave Global ECC P256 Certification Authority, and Trustwave Global ECC P384 Certification Authority, Trustwave, has:

- disclosed its SSL certificate lifecycle management business practices in its:
    - Trustwave Certificate Policy and Certification Practices Statement (“CP/CPS”),
      - § Version 5.0, dated January 31, 2018
      - § Version 4.8, dated August 23, 2017
- including its commitment to provide SSL certificates in conformity with the CA/Browser Forum Requirements on the Trustwave 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 the registration activities performed by Trustwave)
  - 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
- maintained effective controls to provide reasonable assurance that it meets the Network and Certificate System Security Requirements as set for by the CA/Browser Forum

based on the WebTrust<sup>SM/TM</sup> Principles and Criteria for Certification Authorities – SSL Baseline with Network Security, Version 2.2. Trustwave’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 Trustwave 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 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 engagements 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, Trustwave’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 Trustwave’s services other than its CA operations at Chicago, Illinois, nor the suitability of any of Trustwave’s services for any customer’s intended purpose.

Trustwave’s use of the WebTrust<sup>SM/TM</sup> 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 this report or provide any additional assurance.

*Grant Thornton LLP*

Chicago, Illinois  
November 30, 2018

## Trustwave Holdings, Inc. Management's Assertion

As set forth in Appendix A, Trustwave Holdings, Inc. ("Trustwave") operates the Certification Authority ("CA") service known as XRamp Global Certification Authority, SecureTrust CA, Secure Global CA, Trustwave Global Certification Authority, Trustwave Global ECC P256 Certification Authority, and Trustwave Global ECC P384 Certification Authority and provides SSL CA services.

Trustwave management has assessed its disclosure of its certificate practices and controls over its SSL CA services. Based on that assessment, in providing its SSL and non-SSL Certification Authority ("CA") services at Chicago, Illinois, throughout the period October 1, 2017 to September 30, 2018, Trustwave has:

- disclosed its SSL certificate lifecycle management business practices in its:
    - Trustwave Certificate Policy and Certification Practices Statement ("CP/CPS"),
      - Version 5.0, dated January 31, 2018
      - Version 4.8, dated August 23, 2017
- including its commitment to provide SSL Certificates in conformity with the CA/Browser Forum Requirements on the Trustwave 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 the registration activities performed by Trustwave)
  - 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
  - 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<sup>SM/TM</sup> Principles and Criteria for Certification Authorities – SSL Baseline with Network Security, Version 2.2.



Trustwave Holdings, Inc.

Art Wong

Chief Executive Officer

November 30, 2018

## Appendix A

### ROOTS:

subject=C = US, OU = [www.xrampsecurity.com](http://www.xrampsecurity.com), O = XRamp Security Services Inc, CN = XRamp Global  
Certification Authority  
SHA256  
Fingerprint=CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86  
:FC:1A:A2

subject=C = US, O = SecureTrust Corporation, CN = SecureTrust CA  
SHA256  
Fingerprint=F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37  
:5D:73

subject=C = US, O = SecureTrust Corporation, CN = Secure Global CA  
SHA256  
Fingerprint=42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7  
D:AC:69

subject=/C=US/ST=Illinois/L=Chicago/O=Trustwave Holdings, Inc./CN=Trustwave Global Certification Authority  
SHA256  
Fingerprint=97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D  
:C8

subject=/C=US/ST=Illinois/L=Chicago/O=Trustwave Holdings, Inc./CN=Trustwave Global ECC P256  
Certification Authority  
SHA256  
Fingerprint=94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:C  
F:A8:B4

subject=/C=US/ST=Illinois/L=Chicago/O=Trustwave Holdings, Inc./CN=Trustwave Global ECC P384  
Certification Authority  
SHA256  
Fingerprint=55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:  
80:97

### SSL/TLS Certificate Issuing CAs:

subject=C = US, ST = Illinois, L = Chicago, O = "Trustwave Holdings, Inc.", CN = "Trustwave Secure Global  
Extended Validation CA, Level 1", emailAddress = [ca@trustwave.com](mailto:ca@trustwave.com)  
SHA256  
Fingerprint=45:B2:B0:8E:1B:58:94:8A:02:8B:E1:3A:67:C0:E2:0D:4B:24:66:AE:2B:6E:C6:25:0E:BB:10:FD:6B:7  
F:82:39

subject=C = US, ST = Illinois, L = Chicago, O = "Trustwave Holdings, Inc.", CN = "Trustwave XRamp Global  
Extended Validation CA, Level 1", emailAddress = [ca@trustwave.com](mailto:ca@trustwave.com)  
SHA256  
Fingerprint=1D:0C:D7:EF:3C:19:26:55:08:E2:0E:58:B3:53:89:64:F4:A1:1A:DE:C8:A7:1D:8A:B8:A8:AF:F1:56:8  
3:C6:AE

subject=C = US, ST = Illinois, L = Chicago, O = "Trustwave Holdings, Inc.", CN = "Trustwave Extended  
Validation SHA256 CA, Level 1", emailAddress = [ca@trustwave.com](mailto:ca@trustwave.com)

SHA256

Fingerprint=EE:A3:6C:0F:FA:3F:54:FF:DB:0C:F1:4B:3B:D3:4A:53:EC:7B:77:5F:54:05:3D:D8:B0:7D:FD:2F:8B:EC:90:83

subject=C = US, ST = Illinois, L = Chicago, O = "Trustwave Holdings, Inc.", CN = "Trustwave Extended Validation SHA256 CA, Level 1", emailAddress = [ca@trustwave.com](mailto:ca@trustwave.com)

SHA256

Fingerprint=49:C5:82:70:F7:0F:1B:E0:B7:C1:9D:1B:C2:C2:EB:C4:1E:2F:DE:0D:48:85:D4:FA:65:EF:03:70:AC:EC:7A:00

subject=C = US, ST = Illinois, L = Chicago, O = "Trustwave Holdings, Inc.", CN = "Trustwave Organization Validation SHA256 CA, Level 1", emailAddress = [ca@trustwave.com](mailto:ca@trustwave.com)

SHA256

Fingerprint=FF:1E:0D:23:31:96:B7:EC:20:BE:DF:C6:59:88:E0:AE:19:85:EC:6A:C3:32:A7:9A:DF:FE:71:B8:6B:C0:20:8A

subject=C = US, ST = Illinois, L = Chicago, O = "Trustwave Holdings, Inc.", CN = "Trustwave Organization Validation SHA256 CA, Level 1", emailAddress = [ca@trustwave.com](mailto:ca@trustwave.com)

SHA256

Fingerprint=58:EA:06:88:B7:90:9A:AA:8E:AA:A2:FF:F3:6F:3B:BE:8F:4A:2A:D0:3B:D7:02:43:B3:90:34:69:DB:48:90:F7

subject=C = US, ST = Illinois, L = Chicago, O = "Trustwave Holdings, Inc.", CN = "Trustwave Domain Validation SHA256 CA, Level 1", emailAddress = [ca@trustwave.com](mailto:ca@trustwave.com)

SHA256

Fingerprint=85:99:68:F9:27:8B:4D:C8:2E:E3:0F:D1:18:A5:D2:97:D2:84:B6:87:CB:64:CF:97:55:AB:8A:9D:38:F2:B7:0F

subject=C = US, ST = Illinois, L = Chicago, O = "Trustwave Holdings, Inc.", CN = "Trustwave Domain Validation SHA256 CA, Level 1", emailAddress = [ca@trustwave.com](mailto:ca@trustwave.com)

SHA256

Fingerprint=74:F5:6E:1A:B3:39:D8:3E:80:F2:F6:E2:64:F8:94:77:5B:42:6C:89:B4:47:03:DF:4F:A8:A3:23:11:63:A2:BD

subject=/CN=Trustwave Global Domain Validation CA, Level 1/O=Trustwave Holdings, Inc./L=Chicago/ST=Illinois/C=US

SHA256

Fingerprint=67:82:C6:E9:AD:BF:92:16:E2:68:30:6D:46:33:3F:BC:67:4B:DE:DF:86:B6:7B:E7:77:07:9E:2C:0E:36:88:8E

subject=/CN=Trustwave Global Extended Validation CA, Level 1/O=Trustwave Holdings, Inc./L=Chicago/ST=Illinois/C=US

SHA256

Fingerprint=18:62:6A:3B:72:11:12:8D:56:34:69:C6:54:55:7D:13:C9:36:6D:7F:CE:C8:B9:4D:B4:F0:AA:7E:05:94:40:41

subject=/CN=Trustwave Global Organization Validation CA, Level 1/O=Trustwave Holdings, Inc./L=Chicago/ST=Illinois/C=US

SHA256

Fingerprint=2E:63:DC:1B:EC:F4:27:F9:90:2B:49:DE:63:30:FD:3E:8E:EB:F8:8B:14:E6:53:B3:BA:2E:37:D4:E4:88:09:65

subject=/CN=Trustwave Global ECDSA P-256 Domain Validation CA, Level 1/O=Trustwave Holdings, Inc./L=Chicago/ST=Illinois/C=US

SHA256

Fingerprint=F6:2E:35:AA:D3:45:FB:25:38:63:CF:C0:E6:58:23:AC:D3:E7:F0:84:6D:19:B8:32:6D:70:9C:79:19:A2:2D:7E

subject= /CN=Trustwave Global ECDSA P-256 Extended Validation CA, Level 1/O=Trustwave Holdings, Inc./L=Chicago/ST=Illinois/C=US

SHA256

Fingerprint=27:5B:F0:04:6E:02:70:17:8B:13:B6:7E:4D:B1:50:A1:01:97:CB:71:F9:A0:61:FA:D3:6B:3D:76:63:9F:E1:86

subject= /CN=Trustwave Global ECDSA P-256 Organization Validation CA, Level 1/O=Trustwave Holdings, Inc./L=Chicago/ST=Illinois/C=US

SHA256

Fingerprint=18:AB:D6:E9:CA:90:7B:B3:67:54:D0:C0:46:EB:B5:0D:D9:B9:5D:52:78:24:D9:58:1A:31:B7:50:FC:FD:BA:EF

subject= /CN=Trustwave Global ECDSA P-384 Domain Validation CA, Level 1/O=Trustwave Holdings, Inc./L=Chicago/ST=Illinois/C=US

SHA256

Fingerprint=C6:3D:F9:61:8F:BA:F4:86:62:BA:12:AB:E8:7B:21:2C:F7:77:C2:7A:44:6A:0F:A5:55:D7:A9:D1:91:14:8E:D7

subject= /CN=Trustwave Global ECDSA P-384 Extended Validation CA, Level 1/O=Trustwave Holdings, Inc./L=Chicago/ST=Illinois/C=US

SHA256

Fingerprint=29:F8:E1:04:DF:38:E6:12:BF:4F:50:53:65:B5:D0:B0:B2:0D:D4:E8:9C:90:83:06:48:4E:B8:37:4C:1E:66:D8

subject= /CN=Trustwave Global ECDSA P-384 Organization Validation CA, Level 1/O=Trustwave Holdings, Inc./L=Chicago/ST=Illinois/C=US

SHA256

Fingerprint=87:D4:21:69:B2:69:35:51:CA:20:5C:CF:17:F0:6F:6E:66:51:F7:21:8C:D6:D2:66:07:BF:5B:A4:DD:2F:26:F2