



## Report of Independent Accountants

To the Management of Comodo CA Limited

We have examined the accompanying [assertion](#) made by the management of Comodo CA Limited (“Comodo”), titled *Assertion of Management as to its Disclosure of its Business Practices and its Controls Over its Certification Authority Operations* that provides its Certification Authority (“CA”) services at the Secaucus, New Jersey, USA, and Manchester, England, United Kingdom data centers, Edge data centers (various locations – refer to Appendix B) and back-end office support locations (various locations – refer to Appendix B) for the Root Keys referenced in Appendix A during the period from April 1, 2016 through March 31, 2017, Comodo has:

- ▶ Disclosed its Business, Key Life Cycle Management, Certificate Life Cycle Management, and CA Environmental Control practices in its [Certificate Practice Statement](#) and provided services in accordance with its disclosed practices.
- ▶ Maintained effective controls to provide reasonable assurance that:
  - Comodo provided its services in accordance with its Certification Practice Statement
- ▶ Maintained effective controls to provide reasonable assurance that:
  - logical and physical access to CA systems and data was restricted to authorized individuals;
  - the continuity of key and certificate management operations was maintained; and
  - CA systems development, maintenance and operations were properly authorized and performed to maintain CA systems integrity
- ▶ Maintained effective controls to provide reasonable assurance that:
  - the integrity of keys and certificates it managed was established and protected throughout their life cycles;
  - the integrity of subscriber keys and certificates it managed was established and protected throughout their life cycles;
  - subscriber information was properly authenticated (for the registration activities performed by Comodo); and
  - subordinate CA certificate requests were accurate, authenticated and approved.

based on the [Trust Services Principles and Criteria for Certification Authorities Version 2.0](#).

Comodo’s management is responsible for its assertion and for specifying the aforementioned Criteria. Our responsibility is to express an opinion on management’s assertion based on our examination.

Comodo makes use of external registration authorities for specific subscriber registration activities as disclosed in Comodo’s business practice disclosures. Our examination did not extend to the controls of external registration authorities.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA). Those standards require that we plan and perform our 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, which includes: (1) obtaining an understanding of Comodo’s key and certificate life cycle management business practices, processes and controls, and its suitability of the design and implementation of the controls intended to achieve the Criteria and examining evidence supporting management’s assertion and performing such other procedures over key and certificate integrity, over the authenticity and confidentiality of subscriber and relying party information, over the continuity of key and certificate life cycle management operations, and over the development, maintenance and operation of systems integrity as we considered necessary in the circumstances; (2) selectively testing transactions executed in accordance with disclosed key and certificate life cycle management business practices; (3) testing and evaluating the operating effectiveness of the controls; and (4) performing such other



procedures as we considered necessary in the circumstances. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement, whether due to fraud or error. We believe that the evidence obtained during our examination is sufficient and appropriate to provide a reasonable basis for our opinion.

The relative effectiveness and significance of specific controls at Comodo 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. We have performed no procedures to evaluate the effectiveness of controls at individual subscriber and relying party locations.

Our examination was not conducted for the purpose of evaluating Comodo's cybersecurity risk management program. Accordingly, we do not express an opinion or any other form of assurance on its cybersecurity risk management program.

There are inherent limitations in the effectiveness of any system of control, including the possibility of human error and the circumvention of controls. Because of the nature and inherent limitations in its internal control, Comodo may achieve reasonable, but not absolute, assurance that all security events are prevented and, for those controls, may provide reasonable, but not absolute assurance that its commitments and system requirements are achieved. 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. Examples of inherent limitations of internal controls related to security include (a) vulnerabilities in information technology components as a result of design by their manufacturer or developer; (b) breakdown of internal control at a vendor or business partner; and (c) persistent attackers with the resources to use advanced technical means and sophisticated social engineering techniques specifically targeting the entity. Furthermore, the projection of any evaluations of effectiveness to future periods is subject to the risk that controls may become inadequate because of changes in conditions, that the degree of compliance with such controls may deteriorate, or that changes made to the system or controls, or the failure to make needed changes to the system or controls, may alter the validity of such evaluations.

In our opinion, Comodo's management's assertion referred to above is fairly stated, in all material respects, based on the aforementioned criteria.

The WebTrust seal of assurance for Certification Authority on Comodo's Web site 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.

This report does not include any representation as to the quality of Comodo's CA services beyond those covered by the [Trust Services Principles and Criteria for Certification Authorities Version 2.0](#) criteria, or the suitability of any of Comodo's services for any customer's intended purpose.

A handwritten signature in black ink that reads 'Ernst &amp; Young LLP'.

June 2, 2017  
New York, New York

**Assertion of Management as to  
its Disclosure of its Business Practices and its Controls Over  
its Certification Authority Operations  
during the period from April 1, 2016 through March 31, 2017**

June 2, 2017

The management of Comodo operates a Certification Authority (“CA”) at the Secaucus, New Jersey, USA, and Manchester, England, United Kingdom data centers, Edge data centers (various locations – refer to Appendix B) and back-end office support locations (various locations – refer to Appendix B) for the Root Keys listed in Appendix A.

Comodo’s CA services referred to above provide the following certification authority services:

- ▶ Subscriber key management services
- ▶ Subscriber registration
- ▶ Certificate renewal
- ▶ Certificate rekey
- ▶ Certificate issuance
- ▶ Certificate distribution
- ▶ Certificate revocation
- ▶ Certificate Suspension
- ▶ Certificate validation

Management of Comodo is responsible for establishing and maintaining effective controls over its CA operations, including CA business practices, 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.

Controls have inherent limitations, 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 Comodo’s CA operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

Management of Comodo has assessed the disclosure of its certificate practices and its controls over its CA operations. Based on that assessment, in Comodo Management’s opinion, in providing its CA services for the Root Keys listed in Appendix A at the Clifton, New Jersey, United States; Bradford, England, United Kingdom; and Manchester, England, United Kingdom locations during the period from April 1, 2016 through March 31, 2017, Comodo has:

- ▶ Disclosed its Business, Key Life Cycle Management, and Certificate Life Cycle Management, and CA Environmental Control practices in its [Certificate Practice Statement](#)
- ▶ Maintained effective controls to provide reasonable assurance that:
  - Comodo provided its services in accordance with its Certification Practice Statement
  - the integrity of keys and certificates it manages was established and protected throughout their life cycles;
  - the integrity of subscriber keys and certificates it manages was established and protected throughout their life cycles;
  - the Subscriber information was properly authenticated (for the registration activities performed by Comodo); and
  - subordinate CA certificate requests were accurate, authenticated and approved

- ▶ Maintained effective controls to provide reasonable assurance that:
  - logical and physical access to CA systems and data was restricted to authorized individuals;
  - the continuity of key and certificate management operations was maintained; and
  - CA systems development, maintenance and operations were properly authorized and performed to maintain CA systems integrity

for the Root Keys listed in Appendix A, based on the [Trust Services Principles and Criteria for Certification Authorities Version 2.0](#), including the following:

### **CA Business Practices Disclosure**

#### *CA Business Practices Management*

- ▶ Certificate Practice Statement Management
- ▶ Certificate Policy Management (CP is not applicable per Comodo's requirements)
- ▶ CP and CPS Consistency (CP is not applicable per Comodo's requirements)

### **Service Integrity**

#### *CA Key Life Cycle Management Controls*

- ▶ CA Key Generation
- ▶ CA Key Storage, Backup, and Recovery
- ▶ CA Public Key Distribution
- ▶ CA Key Usage
- ▶ CA Key Archival and Destruction
- ▶ CA Key Compromise
- ▶ CA Cryptographic Hardware Life Cycle Management
- ▶ CA Key Escrow (not applicable – service not provided by Comodo)

*Subscriber Key Life Cycle Management Controls* (not applicable – Subscriber Key Life Cycle Management services not provided by Comodo)

- ▶ CA-Provided Subscriber Key Generation Services
- ▶ CA-Provided Subscriber Key Storage and Recovery Services
- ▶ Integrated Circuit Card (ICC) Life Cycle Management
- ▶ Requirements for Subscriber Key Management

#### *Certificate Life Cycle Management Controls*

- ▶ Subscriber Registration
- ▶ Certificate Renewal
- ▶ Certificate Rekey
- ▶ Certificate Issuance
- ▶ Certificate Distribution
- ▶ Certificate Revocation
- ▶ Certificate Suspension (not applicable – service not provided by Comodo)
- ▶ Certificate Validation

#### *Subordinate CA Certificate Life Cycle Management Controls*

- ▶ Subordinate CA Certificate Life Cycle Management

**CA Environmental Controls**

- ▶ Security Management
- ▶ Asset Classification and Management
- ▶ Personnel Security
- ▶ Physical and Environmental Security
- ▶ Operations Management
- ▶ System Access Management
- ▶ Systems Development and Maintenance
- ▶ Business Continuity Management
- ▶ Monitoring and Compliance
- ▶ Audit Logging

Melih Abdulhayoglu  
Chief Executive Officer &  
Chief Security Architect  
Comodo CA Limited

## Appendix A Root Keys

Root No.	Root Name
1	AAA Certificate Services
2	Secure Certificate Services
3	Trusted Certificate Services
4	UTN-USERFirst-Client Authentication and Email
5	UTN-USERFirst-Hardware
6	UTN-USERFirst-Object
7	UTN - DATA Corp SGC
8	AddTrust Class 1 CA Root
9	AddTrust External CA Root
10	AddTrust Public CA Root
11	AddTrust Qualified CA Root
12	COMODO Certification Authority
13	COMODO RSA Certification Authority
14	USERTrust RSA Certification Authority
15	COMODO ECC Certification Authority
16	USERTrust ECC Certification Authority
17	Ensured Root CA

## Appendix B Locations

Location	Function
Secaucus, NJ USA (FortressITX)	Core Data Center
Manchester, UK (TeleData)	Core Data Center
London, UK (Telecity) <i>through May 2016</i>	Edge Data Center
New York, NY USA (Telx) <i>through October 2016</i>	Edge Data Center
Seattle, WA USA (GreenHouse Data (Fibercloud))	Edge Data Center
Bradford, UK	Back End Office Support
Manchester, UK	Back End Office Support
Clifton, NJ USA	Back End Office Support
Murray, UT USA	Back End Office Support
Chennai, IN	Back End Office Support
Mandaluyong City, PH	Back End Office Support