

## INDEPENDENT AUDITOR'S REPORT

To the management of Electronic Transaction Development Agency (Public Organization) ("ETDA"):

### Scope

We have been engaged, in a reasonable assurance engagement, to report on ETDA management's assertion that for its Certification Authority (CA) operations at Bangkok, Thailand, throughout the period 1<sup>st</sup> September 2017 to 31<sup>st</sup> August 2018 for its CAs enumerated as below:

Root Name	Subject Key Identifier	Certificate Serial Number
Thailand National Root Certification Authority - G1	7f2376b7832a71f72cd1880fdd4c5f32 0a68bb7f	5152c58c

ETDA has:

- Disclosed its business, key lifecycle management, certificate lifecycle management, and CA environmental control practices in its:
  - [Thailand National Root Certification Authority Certification Practice Statement v4.0](#); and
  - [Thailand National Root Certification Authority Certificate Policy v4.0](#)
- Maintained effective controls to provide reasonable assurance that:
  - ETDA's Certification Practice Statement is consistent with its Certificate Policy
  - ETDA provides its services in accordance with its Certificate Policy and Certification Practice Statement
- 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 ETDA); and
  - Subordinate CA certificate requests are accurate, authenticated, and approved



- Maintained effective controls to provide reasonable assurance that:
  - Logical and physical access to CA systems and data is restricted to authorised individuals;
  - The continuity of key and certificate management operations is maintained; and
  - CA systems development, maintenance, and operations are properly authorised and performed to maintain CA systems integrity

in accordance with the [WebTrust Principles and Criteria for Certification Authorities v2.1](#).

ETDA does not escrow its CA keys and does not provide subscriber key generation services. Accordingly, our audit did not extend to controls that would address those criteria.

### **Certification authority's responsibilities**

ETDA's management is responsible for its assertion, including the fairness of its presentation, and the provision of its described services in accordance with the WebTrust Principles and Criteria for Certification Authorities v2.1.

### **Our independence and quality control**

We have complied with the relevant rules of professional conduct / code of ethics applicable to the practice of public accounting and related to assurance engagements, issued by various professional accounting bodies, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Canadian Standard on Quality Control 1, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

### **Auditor's responsibilities**

Our responsibility is to express an opinion on management's assertion based on our procedures. We conducted our procedures in accordance with Canadian Standard on Assurance Engagements 3000, Attestation Engagements Other than Audits or Reviews of Historical Financial Information, set out in the CPA Canada Handbook - Assurance. This standard requires that we plan and perform our procedures to obtain reasonable assurance about whether, in all material respects, management's assertion is fairly stated, and, accordingly, included:

- (1) Obtaining an understanding of ETDA's key and certificate lifecycle management business practices and its controls over key and certificate integrity, over the authenticity and confidentiality of subscriber and relying party information, over the continuity of key and certificate lifecycle management operations and over development, maintenance and operation of systems integrity;
- (2) Selectively testing transactions executed in accordance with disclosed key and certificate lifecycle 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.



We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### **Relative effectiveness of controls**

The relative effectiveness and significance of specific controls at ETDA 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.

### **Inherent limitations**

Because of the nature and inherent limitations of controls, ETDA's ability to meet the aforementioned criteria may be affected. For example, controls may not prevent, or detect and correct, error, fraud, unauthorised 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.

### **Opinion**

In our opinion, throughout the period 1<sup>st</sup> September 2017 to 31<sup>st</sup> August 2018, ETDA management's assertion, as referred to above, is fairly stated, in all material respects, in accordance with the WebTrust Principles and Criteria for Certification Authorities v2.1.

This report does not include any representation as to the quality of ETDA's services beyond those covered by the WebTrust Principles and Criteria for Certification Authorities v2.1, nor the suitability of any of ETDA's services for any customer's intended purpose.

### **Use of the WebTrust seal**

ETDA'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.

A handwritten signature of the BDO firm, appearing as 'BDO' in a cursive, grey ink.

BDO

Certified Public Accountants

Kuala Lumpur, Malaysia

18<sup>th</sup> October 2018

18<sup>th</sup> October 2018

**Assertion by Management as to its  
Disclosure of its Business Practices and Controls  
Over its Certification Authority Operations  
During the Period from 1<sup>st</sup> September 2017 through 31<sup>st</sup> August 2018**

Electronic Transactions Development Agency (Public Organization) ("ETDA") has established Thailand National Root Certification Authority ("Thailand NRCA"), which operates the following Certification Authority ("CA"):

Root Name	Subject Key Identifier	Certificate Serial Number
Thailand National Root Certification Authority - G1	7f2376b7832a71f72cd1880fdd4c5f320a68bb7f	5152c58c

and provides the following CA services:

- Subscriber registration
- Certificate issuance
- Certificate distribution
- Certificate revocation
- Certificate validation
- Subordinate CA certification

The management of ETDA is responsible for establishing and maintaining effective controls over its CA operations, including its CA business practices disclosure on its website, <https://www.nrca.go.th/publish.html>, CA business practices management, CA environmental controls, CA key lifecycle management controls, certificate lifecycle management controls, and subordinate CA certificate lifecycle management 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 only provide reasonable assurance with respect to ETDA's CA operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

ETDA's management has assessed its disclosures of its certificate practices and controls over its CA services. Based on this assessment, in management's opinion, in providing its CA services at Bangkok, Thailand, during the period from 1<sup>st</sup> September 2017 through 31<sup>st</sup> August 2018, ETDA has:

- disclosed its business, key life cycle management, certificate lifecycle management, and CA environmental control practices in its:
  - [Thailand NRCA Certification Practice Statement v4.0](#); and
  - [Thailand NRCA Certificate Policy v4.0](#)
- maintained effective controls to provide reasonable assurance that:
  - its Certification Practice Statement is consistent with its Certificate Policy; and
  - it provides services in accordance with its Certificate Policy and Certification Practice Statement.
  - the integrity of keys and certificates it manages is established and protected throughout their lifecycles;
  - the subscriber information is properly authenticated (for the registration activities performed by ETDA); and
  - logical and physical access to CA systems and data is restricted to authorized individuals;
  - the continuity of key and certificate life cycle management operations is maintained; and
  - CA systems development, maintenance, and operations are properly authorized and performed to maintain CA systems integrity;

in accordance with the [WebTrust Principles and Criteria for Certification Authorities v2.1](#), including the followings:

#### **CA Business Practices Disclosure**

- Certification Practice Statement (CPS)
- Certificate Policy (CP)

#### **CA Business Practices Management**

- Certificate Policy Management
- Certification Practice Statement Management

#### **CA Environmental Controls**

- Security Management
- Asset Classification and Management
- Personnel Security
- Physical and Environmental Security
- Operations Management
- System Access Management

- System Development and Maintenance
- Business Continuity Management
- Monitoring and Compliance
- Audit Logging

#### **CA Key Lifecycle 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 Lifecycle Management

#### **Certificate Lifecycle Management Controls**

- Subscriber Registration
- Certificate Renewal
- Certificate Issuance
- Certificate Distribution
- Certificate Revocation
- Certificate Validation

#### **Subordinate CA Certificate Lifecycle Management Controls**

- Subordinate CA Certificate Lifecycle Management

Yours Faithfully,



Mrs. Surangkana Wayuparb

Chief Executive Officer

Electronic Transactions Development Agency (Public Organization)