

INDEPENDENT ASSURANCE REPORT

To the management of Electronic Transactions Development Agency (“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 September 2022 to 31 August 2023 for its CA as enumerated in [Appendix A](#), ETDA has:

- disclosed its business, key lifecycle management, certificate lifecycle management, and CA environmental control practices in applicable versions of its Certificate Policies and Certification Practice Statements as enumerated in [Appendix B](#)
- maintained effective controls to prove 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
- maintained effective controls to provide reasonable assurance that:
 - the integrity of keys and certificates it manages is established and protected throughout their lifecycles;
 - 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 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

in accordance with the [WebTrust Principles and Criteria for Certification Authorities v2.2.2](#).

ETDA does not escrow its CA keys and does not provide subscriber key lifecycle management services as it only issues subordinate CA certificate. ETDA does not provide certificate renewal and certificate suspension services. Accordingly, our procedures 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 v2.2.2.

Our independence and quality management

We have complied with the independence and other ethical requirements of the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

The firm applies International Standard on Quality Management (ISQM) 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements* 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.

Practitioner's responsibilities

Our responsibility is to express an opinion on management's assertion based on our procedures. We conducted our procedures in accordance with International Standard on Assurance Engagements 3000, *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*, issued by the International Auditing and Assurance Standards Board. 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.



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

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls. For example, because of their nature, controls may not prevent, or detect unauthorized access to systems and information, or failure to comply with internal and external policies or requirements. Also, the projection to the future of any conclusions based on our findings is subject to the risk that controls may become ineffective.

Opinion

In our opinion, throughout the period 1 September 2022 to 31 August 2023, 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 v2.2.2.

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 v2.2.2, 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.

BDO Consulting Sdn. Bhd.

BDO Consulting Sdn. Bhd.
Kuala Lumpur, Malaysia
29 November 2023

Appendix A - List of Root CAs in Scope

Common Name	Certificate Serial No.	Subject Key Identifier	SHA-256 Fingerprint
Thailand National Root Certification Authority - G1	5152C58C	7F2376B7832A71F72 CD1880FDD4C5F320 A68BB7F	2A8DA2F8D23E0CD3 B5871ECFB0F42276C A73230667F474EEDE 71C5EE32CC3EC6
Thailand National Root Certification Authority - G2	0C6570247CA13BD7 3FAD0C9A15F09E30 39D5E6DD	F209ED1D1D4DCA87 DE0108894A3648B5F 883B8D5	6E0C78011C5406D8A 52E442C97E272E377 22BEF47043C666CD A2F940F25744C1
Thailand National Root Certification Authority - G3	0B0A715CC3CE3874 9B20DECACB430618 776CBA55	468D499F1F15D1014 A0707BEB30F1DA85B 4DC5D4	3D2794A0539486A83 E8032CF14FE886553 E52239CBAEC1B9CF EF5595ADBBF444

Appendix B - Certificate Policies and Certification Practice Statements in Scope

Certificate Policy	Begin Effective Date	End Effective Date
Version 4.2	October 2021	December 2022
Version 4.3	December 2022	-

Certification Practice Statement	Begin Effective Date	End Effective Date
Version 4.2	October 2020	December 2022
Version 4.3	December 2022	-

29-November-2023

**Assertion by Management as to its Disclosure of its Business Practices and Controls
Over its Certification Authority Operations during the period from
1 September 2022 through 31 August 2023**

Electronic Transactions Development Agency (“ETDA”) operates the Certification Authority (CA) services known as enumerated in [Appendix A](#), and provides the following CA services:

- Certificate rekey
- 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](#), CA business practices management, CA environmental controls, CA key lifecycle management, 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 Certification Authority 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 ETDA management’s opinion, in providing its CA services at Bangkok, Thailand, throughout the period from 1 September 2022 to 31 August 2023, ETDA has:

- disclosed its business, key lifecycle management, certificate lifecycle management, and CA environmental control practices in its applicable Certificate Policies and Certification Practice Statements as enumerated in [Appendix B](#);
- 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;
- maintained effective controls to provide reasonable assurance that:

- the integrity of keys and certificates it manages is established and protected throughout their lifecycles; and
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 - CA systems development, maintenance, operations are properly authorized and performed to maintain CA systems integrity

in accordance with the [WebTrust Principles and Criteria for Certification Authorities v2.2.2](#), including the following:

CA Business Practices Disclosure

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

CA Business Practices Management

- Certificate Policy Management
- Certification Practice Statement Management
- CP and CPS Consistency

CA Environmental Controls

- Security Management
- Asset Classification and Management
- Personnel Security
- Physical & 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

- Certificate Rekey
- Certificate Issuance
- Certificate Distribution
- Certificate Revocation
- Certificate Validation

Subordinate CA Certificate Lifecycle Management Controls

- Subordinate CA Certificate Lifecycle Management

ETDA does not escrow its CA key and does not provide subscriber key lifecycle management services as it only issues subordinate CA certificates. ETDA does not provide certificate renewal and certificate suspension services. Accordingly, our assertion does not extend to controls that would address those criteria.

A handwritten signature in black ink, appearing to read 'C. Mitrpant'.

Mr. Chaichana Mitrpant
Executive Director
Electronic Transactions Development Agency

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