

Independent Auditor's Assurance Report

To the Management of Telia Company AB:

Scope

We have examined [the statement](#) by the management of Telia Company AB (Telia Company) that in providing its Certification Authority (CA) services known as TeliaSonera CA in Finland and Sweden, Telia Company, during the period from April 1, 2015 through March 31, 2016:

- ▶ disclosed its business, key life cycle management, certificate life cycle management, and CA environmental control practices in its Certification Practice Statements and policies in its Certificate Policies

CA	Business Practice Disclosures	Repository
Sonera Class 2 CA, TeliaSonera Root CA v1 and its subordinate CAs	TeliaSonera Root CPS TeliaSonera Server Certificate CPS TeliaSonera Gateway Certificate CPS TeliaSonera Organizational User Certificate CPS TeliaSonera Customer CA CP and CPS TeliaSonera Production CPS	http://repository.trust.teliasonera.com
Sonera Class 1 CA	Sonera CA Class1 Certificate Policy Sonera CA Practice Statement	http://repository.trust.teliasonera.com/index3.html

- ▶ maintained effective controls to provide reasonable assurance that
 - TeliaSonera CA's Certification Practice Statements were consistent with its Certificate Policies; and
 - TeliaSonera CA provided its services in accordance with its Certificate Policies and Certification Practice Statements
- ▶ maintained effective controls to provide reasonable assurance that
 - 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 Telia Company); 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

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

Root CA	Issuing CA
Sonera Class 2 CA	TeliaSonera Server CA v1 TeliaSonera Server CA v2
TeliaSonera Root CA v1*	TeliaSonera Gateway CA v1 TeliaSonera Gateway CA v2
	TeliaSonera Extended Validation SSL CA v1
	TeliaSonera Class 1 CA v1 TeliaSonera Class 1 CA v2
	TeliaSonera Class 2 CA v1 TeliaSonera Class 2 CA v2
	TeliaSonera E-mail CA v3 TeliaSonera E-mail CA v4
	Ericsson NL Individual CA v2 Ericsson NL Individual CA v3
Sonera Class 1 CA	N/A

* Both self-signed and intermediate (signed by Sonera Class 2 CA) versions of TeliaSonera Root CA v1 certificate exist.

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

Telia Company's responsibility

Telia Company's management is responsible for preparing the accompanying statement, including the completeness, accuracy and method of presentation of the statement and designing and implementing controls mentioned in the statement.

Our Independence and Quality Control

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 behaviour.

Ernst & Young Godkendt Revisionspartnerselskab applies International Standard on Quality Control ¹ and accordingly maintains a comprehensive system of quality control including documented policies and

¹ ISQC 1, Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements

procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Auditor's responsibility

Our responsibility is to express an opinion on whether Telia Company's management statement, as referred to above, is fairly stated, in all material respects in accordance with the [Trust Services Principles and Criteria for Certification Authorities v.2.0.](#)

Our examination was conducted in accordance with International Standards on Assurance Engagements 3000 "Assurance Engagements Other Than Audits or Review of Historical Financial Information" in order to obtain reasonable assurance for our opinion, and accordingly included:

- (1) obtaining an understanding of TeliaSonera CA's key and certificate life cycle management business practices and its controls over key and certificate integrity, over the authenticity and privacy of subscriber and relying party information, over the continuity of key and certificate life cycle management operations, and over development, maintenance and operation of systems integrity,
- (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 standard requires that we plan and perform our procedures to obtain reasonable assurance about whether, in all material respects, Telia Company's management statement, as referred to above, is fairly stated.

The relative effectiveness and significance of specific controls at Telia Company 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 external registration authorities and individual subscriber and relying party locations. We have performed no procedures to evaluate the effectiveness of controls at external registration authorities and individual subscriber and relying party locations.

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

Inherent limitations

Because of the nature and inherent limitations of controls, Telia Company'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.

Opinion

In our opinion, for the period April 1, 2015 through March 31, 2016, Telia Company's management statement, as referred to above, is fairly stated, in all material respects, in accordance with the [Trust Services Principles and Criteria for Certification Authorities v.2.0.](#)

Intended users and purpose

Telia Company's use of the WebTrust seal of assurance for certification authorities 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 Telia Company's certification services beyond those covered by the Trust Service Principles and Criteria for Certification Authorities, nor the suitability of any of these Telia Company's services for any customer's intended purpose.

Copenhagen 30 June 2016

Ernst & Young P/S
Godkendt Revisionspartnerselskab



Claus Thaudahl Hansen
Partner, State Authorised Public Accountant



Juha Sunila
Senior Manager, CISA, CISSP

**Telia Company AB's Management Statement Regarding
its Disclosure of its Business Practices and its Controls Over
its Certification Authority Operations
during the period from April 1, 2015 through March 31, 2016**

June 30th, 2016

Telia Company AB (Telia Company) operates as a Certification Authority (CA) known as TeliaSonera CA. TeliaSonera CA provides the following certification authority services:

- Subscriber key management services
- Subscriber registration
- Certificate renewal
- Certificate rekey
- Certificate issuance
- Certificate distribution
- Certificate revocation
- Certificate suspension
- Certificate status information processing (using an online repository)
- Integrated circuit card life cycle management

TeliaSonera CA uses external registration authorities for specific subscriber registration activities as disclosed in TeliaSonera CA's business practices disclosure.

Management of Telia Company is responsible for establishing and maintaining effective controls over its CA operations, including CA business practices disclosure, service integrity (including key and certificate life cycle management controls), and CA environmental controls. These controls contain monitoring mechanisms, and actions to be 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 Telia Company's Certification Authority operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

Management has assessed the controls over its CA operations. Based on that assessment, to best of our knowledge and belief, we confirm that in providing its Certification Authority (CA) services in Finland and Sweden, Telia Company, during the period from April 1, 2015 through March 31, 2016:

- disclosed its business, key life cycle management, certificate life cycle management, and CA environmental control practices in its Certification Practice Statements and policies in its Certificate Policies

CA	Business Practice Disclosures	Repository
Sonera Class 2 CA, TeliaSonera Root CA v1 and its subordinate CAs	TeliaSonera Root CPS TeliaSonera Server Certificate CPS TeliaSonera Gateway Certificate CPS	http://repository.trust.teliasonera.com

Creator
Henri Hovi

CA	Business Practice Disclosures	Repository
	TeliaSonera Organizational User Certificate CPS TeliaSonera Customer CA CP and CPS TeliaSonera Production CPS	
Sonera Class 1 CA	Sonera CA Class1 Certificate Policy Sonera CA Practice Statement	http://repository.trust.teliasonera.com/index3.html

- maintained effective controls to provide reasonable assurance that
 - TeliaSonera CA's Certification Practice Statements were consistent with its Certificate Policies
 - TeliaSonera CA provided its services in accordance with its Certificate Policies (if applicable) and Certification Practice Statements
- 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;
 - the Subscriber information was properly authenticated (for the registration activities performed by Telia Company); 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 following root and subordinate CAs:

Root CA	Issuing CA
Sonera Class 2 CA TeliaSonera Root CA v1*	TeliaSonera Server CA v1 TeliaSonera Server CA v2
	TeliaSonera Gateway CA v1 TeliaSonera Gateway CA v2
	TeliaSonera Extended Validation SSL CA v1
	TeliaSonera Class 1 CA v1 TeliaSonera Class 1 CA v2
	TeliaSonera Class 2 CA v1 TeliaSonera Class 2 CA v2
	TeliaSonera E-mail CA v3 TeliaSonera E-mail CA v4
	Ericsson NL Individual CA v2 Ericsson NL Individual CA v3



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Creator
Henri Hovi

Root CA	Issuing CA
Sonera Class 1 CA	N/A

* Both self-signed and intermediate (signed by Sonera Class 2 CA) versions of TeliaSonera Root CA v1 certificate exist.

in accordance with the [Trust Services Principles and Criteria for Certification Authorities v.2.0](#) including the following:

CA Business Practices Disclosure

Certification Practice Statement (CPS)
Certificate Policy

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 and Environmental Security
Operations Management
System Access Management
Systems Development and Maintenance
Business Continuity Management
Monitoring and Compliance
Audit Logging

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

Subscriber Key Life Cycle Management Controls

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
Certificate Validation

Subordinate CA Certificate Life Cycle Management Controls

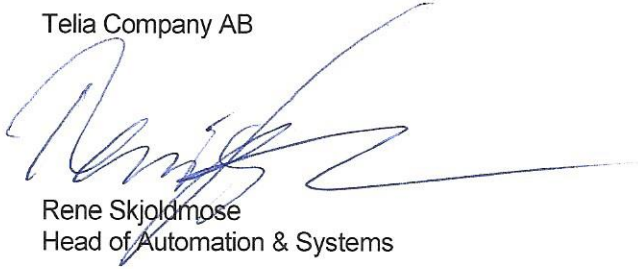
Subordinate CA Certificate Life Cycle Management



Creator
Henri Hovi

Copenhagen, June 30th, 2016

Telia Company AB



Rene Skjoldmose
Head of Automation & Systems

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