

### **TELIA'S MANAGEMENT'S ASSERTION**

Telia Company AB (Telia) operates the Certificate Authority (CA) services as listed in Appendix A, and provides the following services:

- Subscriber registration
- Certificate renewal
- Certificate rekey
- Certificate issuance
- Certificate distribution
- Certificate revocation
- Certificate validation
- Subscriber key generation and management
- Subordinate CA certification

The management of Telia 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 controls, subscriber 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 Telia's Certification Authority operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

The management of Telia management has assessed its disclosures of its certificate practices and controls over its CA services. Based on that assessment, in Telia management's opinion, in providing its Certification Authority (CA) services in Finland and Sweden, throughout the period 1 April 2019 to 31 March 2020, Telia has:

- Disclosed its Business, Key Life Cycle Management, Certificate Life Cycle Management, and CA Environmental Control practices in its:
  - <u>Telia Root Certificate Policy and Certification Practice Statement, version 2.5</u>, dated March 2020
  - o <u>Telia Production Certification Practice Statement, version 2.8</u>, dated March 2020
  - <u>Telia Server Certificate Policy and Certification Practice Statement, version 2.7,</u> dated March 2020
  - <u>Telia Organizational User Certificate Policy and Certificate Practice Statement,</u> <u>version 1.4</u>, dated March 2020
- Maintained effective controls to provide reasonable assurance that:
  - o Telia provides its services in accordance with its Certificate Practice Statements
- Maintained effective controls to provide reasonable assurance that:



- the integrity of keys and certificates it manages is established and protected throughout their life cycles;
- the integrity of subscriber keys and certificates it manages is established and protected throughout their life cycles;
- the Subscriber information is properly authenticated (for the registration activities performed by Telia; and
- o 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;
  - o 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 <u>WebTrust Principles and Criteria for Certification Authorities v2.2</u>, including the following:

### **CA Business Practices Disclosure**

• Certification Practice Statement (CPS)

### CA Business Practices Management

Certification Practice Statement Management

### **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

### Subscriber Key Lifecycle Management Controls

• CA-Provided Subscriber Key Generation Services



- CA-Provided Subscriber Key Storage and Recovery Services
- Requirements for Subscriber Key Management

### **Certificate Lifecycle Management Controls**

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

### Subordinate CA Certificate Lifecycle Management Controls

Subordinate CA Certificate Lifecycle Management

Telia does not escrow its CA keys, does not provide Integrated Circuit Card (ICC) Lifecycle Management, and does not provide certificate suspension services. Accordingly, our assertion does not extend to controls that would address those criteria.

Helsinki, 26 June 2020

Telia Company AB

Tommi Mattila Head of Product Area, IT Services



# Appendix A: List of CAs in scope

The following CAs were in scope of the engagement:

	Other information		Cross- certificate			Cross- certificate	
	SHA2 Fingerprint	DD6936FE21F8F077 C123A1A521C12224F 72255B73E03A72606 93E8A24B0FA389	E9563581E712B290F 23A749346535EB0D9 81E3D4A39D56D604 684CD0B1698C89	7908B40314C138100 B518D0735807FFBF CF8518A0095337105 BA386B153DD927 BA386B153DD927	242B69742FCB1E5B2 ABF98898B94572187 544E5B4D991178657 3621F6A74B82C	EF6F29F636F62BDD 4753122F41F3419EE 7C2877587BE4A9807 ADF58946458E7F	D721110388CA6F20B BA9FD1A8DBA4EFB8 C16392A3DEBAD97C 553EEAF0ACACAAC
	SKI	F08F593800B3F5 8F9A960CD5EBF A7BAA17E81312	F08F593800B3F5 8F9A960CD5EBF A7BAA17E81312	4A00A5884D35 E3C	72ACE43379AA45 87F6FDAC1D9ED 6C72F86D82439	72ACE43379AA45 87F6FDAC1D9ED 6C72F86D82439	2F 493C294F D707 25F 9C68C D564F 5 663D 12832295
	Not After	18 October 2032	5 April 2021	16 April 2021	29 November 2043	18 October 2032	16 October 2032
	Not Before	18 October 2007	5 December 2014	16 April 2001	29 November 2018	29 November 2018	16 October 2014
	Digest Algorithm	sha1RSA	sha256RSA	sha1RSA	sha256RSA	sha256RSA	sha256RSA
	Key Size	4096 bits	4096 bits	2048 bits	4096 bits	4096 bits	4096 bits
,	Key Algorithm	RSA	RSA	RSA	RSA	RSA	RSA
•	Serial	0095BE16A 0F72E46F1 7B398272F A8BCD96	87ED2E1A2 8264AC519 AA3AEBB90 DA2CB	<b>D</b>	01675F27D 6FE7AE3E4 ACBE095B0 59E	01675F82B E0017DE89 55A9376EB 1F9	4C462AF6D BFBF7804F 84C17CFEA 972B6
	Issuer	Self-signed	Sonera Class2 CA	Self-signed	Self-signed	TeliaSonera Root CA v1	TeliaSonera Root CA v1
)	Subject	CN = TeliaSonera Root CA v1 O = TeliaSonera	CN = TeliaSonera Root CA v1 O = TeliaSonera	CN = Sonera Class2 CA O = Sonera C = FI	CN = Telia Root CA v2 O = Telia Finland Oyj C = FI	CN = Telia Root CA v2 O = Telia Finland Oyj C = FI	CN = TeliaSonera Server CA v2 O = TeliaSonera C = FI
	Cert #	-	2	-	-	2	-
	# CA	-	-	N	ო	m	4

Other information			Revoked 17 April 2020		
SHA2 Fingerprint	46226B7B89E02CA8F 5D85D67ED8CB4B19 C48382058BB162421 99D540CABE9268	98C2545A2C05A342E DB22A9F6C7CCC1F E98D87595676E3A29 8ADE97F7B01291D	D75F8BC0DB4B2938 2145499A61148659C F29A967E2AE470B49 8A1799788A8284	A7E83056E9B3D9DD B1816B95518F6A5E5 A1DFDFA28F60533B 1C850855EA4263	5B312B7E11B70D07 C14E0AB99F08D007 48966098C52AA85A0 6A0822BBE59A02C
SKI	87AAE313129F11 8BCA68CD1E2DC 429A8FA101ACB	FB36703B5D1FF0 7DB22089C0E92 EB7D9E858A835	496C32537C5DE D2BE3A2AB9C0B C95DE495D4925 F	5BF1EE298D31B 23B3AE017CBA4 07E93F82421FA3	ED3D749C2C53B B71937B4B11F6B 891E282F992DB
Not After	16 October 2032	29 November 2043	16 October 2032	29 November 2043	18 October 2032
Not Before	16 October 2014	29 November 2018	19 February 2018	29 November 2018	29 August 2018
Digest Algorithm	sha256RSA	sha256RSA	sha256RSA	sha256RSA	sha256RSA
Key Size	4096 bits	4096 bits	4096 bits	4096 bits	4096 bits
Key Algorithm	RSA	RSA	RSA	RSA	RSA
Serial	00863C7564 1195854FB4 3138A0A0C F8AA3	01675FAC7 2994C74BF 1467EDC1B 3AD 3AD	0161AE200 5CE3F127E F88DD7251 B81	01675FFDE 7E41811E2 CD76B0CD B50A	016584E34 A38D9E963 EBEED2174 784
Issuer	TeliaSonera Root CA v1	Telia Root CA v2	TeliaSonera Root CA v1	Telia Root CA v2	TeliaSonera Root CA v1
Subject	CN = TeliaSonera Gateway CA v2 O = TeliaSonera C = Fl	CN = Telia Extended Validation CA v3 O = Telia Finland Oyj C = FI	CN = Telia Domain Validation SSL CA v1 O = Telia Finland Oyj C = FI	CN = Telia Domain Validation CA v3 O = Telia Finland Oyj C = FI	CN = Telia Domain Validation CA v2 O = Telia Finland Oyj C = FI
Cert #	-	-	-	-	-
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Other information					
SHA2 Fingerprint	1281AD8FABE883F2 09E9636448D1A80C3 73DAA7686C813A270 FAD48F5F5E589A	B95AE54F838E3ABF 0B57ACCC1B1266DC 68C7A3FA774015FA1 28D60CDD1AAE280	092829433D231949F 4A9BC666CBF54B3A A27D7BEBCA048D75 E59093E15A72EA5	D1F2656AC8382739A 3B087C47AB5CAB94 5A32F162B6149C308 783C7E06AF8AE8 783C7E06AF8AE8	24D06B967E70BC8C E21FFCAFD3EB5B69 A4E2E2CBAF36BB9C D64EABCDD1423C4 E
SKI	46668D0E072316 B0EA4F05EB965 ADEA5EEC97EA4	D147228FCBA85 D1AFE2641466E CB824B657D8AE 4	9E19FFE50D3AF E0097153F69F1D C5A3CAA0C9483	89862A82D178FA F0A62954358795 6FD3776019F0	1C7B199E979C76 AC203DD8DCE39 16AE3DB2DA653
Not After	29 November 2043	16 October 2032	16 October 2032	16 October 2032	27 October 2025
Not Before	29 November 2018	16 October 2014	16 October 2014	16 October 2014	27 October 2015
Digest Algorithm	sha256RSA	sha256RSA	sha256RSA	sha256RSA	sha256RSA
Key Size	4096 bits	4096 bits	4096 bits	4096 bits	4096 bits
Key Algorithm	RSA	RSA	RSA	RSA	RSA
Serial	01675FE78 F10F349257 F16B3731F 7A	00FD41DD7 FD19F3EE9 F85D9E437 133D4DB	637C0BD78 5A5BF29DA 602D7C4D7 A70B1	52EBA0D8B 74846EB85 57CD6DA2A 3DDDD 3DDDD	53B87E83E 19C992893 B09B491CE CB8EB
Issuer	Telia Root CA v2	TeliaSonera Root CA v1	TeliaSonera Root CA v1	TeliaSonera Root CA v1	TeliaSonera Root CA v1
Subject	CN = Telia Server CA v3 O = Telia Finland Oyj C = FI	CN = TeliaSonera Class 1 CA v2 0 = TeliaSonera C = Fl	CN = TeliaSonera Class 2 CA v2 0 = TeliaSonera C = SE	CN = TeliaSonera Email CA v4 O = TeliaSonera C = SE	CN = Ericsson NL Individual CA v3 O = Ericsson C = SE
Cert #	-	-	~	~	~
# CA	0	1	12	<u>5</u>	14

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Other information		
Other inform		
rint	DCB7A 465309 3836D9 :43	48DA5 640F65 3B36F 20335A 20335A
ingerpi	B17FF (C6A87 1B268[ 1B268[ 0B04BE	DD8294 33E895 3DEBAE 325E90
SHA2 Fingerprint	63ED95B17FFDCB7A E30FEAC6A87465309 9264E21B268D836D9 57966F0B04BE43	6924A4DD82948DA5 3F6FB933E895A0F65 81 C8DBDEBABB36F C11 CAC25E9C0335A C11 CAC25E9C0335A
	6B7A F06C B37	869F FAD3 E54
	B10DCAD446B7A F8602C32F6F06C A0E76717F4B37	3617108E9E869F 267FD57542FAD3 7BC29059DE54 7BC29059DE54
SKI	B10D F860 A0E7	3617- 267F1 7BC2
fter	Лғ.	mber
Not After	27 May 2024	29 November 2043
ore	2014	ember
Not Before	27 May 2014	2019 2019
32		
E	∢	SSP
Digest Algorithm	sha1RSA	sha256RS/
y Digest e Algorithm	96 sha1RSA	96 sha256RSA
Key Size	4096 sha1RSA bits	4096 sha256RS/ bits
Key I brithm Size	4096 bits	4096 bits
Key Size	RSA 4096 bits	RSA 4096 bits
Key Key I Algorithm Size	RSA 4096 bits	RSA 4096 bits
Key I brithm Size	00A00CCBC RSA 4096 C9B9998EC bits E23A70F47 CC1 C059 CC1 C059	4096 bits
Serial Key I Serial Algorithm Size	n 00A00CCBC RSA 4096 C9B9998EC bits E23A70F47 CC1C059 CC1C059	016D1A4D9 RSA 4096 4551BA329 bits 440C26D06 250
Key Key I Algorithm Size	TeliaSonera 00400CCBC RSA 4096 Root CA v1 C9B9998EC bits E23A70F47 CC1C059 CC1C059	RSA 4096 bits
lssuer Serial Key I Algorithm Size	TeliaSonera 00400CCBC RSA 4096   IL Root CA v1 C989998EC bits   E23A70F47 C01C059 c01C059	Telia Root 016D1A4D9 RSA 4096 CA v2 4651BA329 bits 440C26D06 250
Serial Key I Serial Algorithm Size	n 00A00CCBC RSA 4096 C9B9998EC bits E23A70F47 CC1C059 CC1C059	016D1A4D9 RSA 4096 4551BA329 bits 440C26D06 250
lssuer Serial Key I Algorithm Size	TeliaSonera 00400CCBC RSA 4096   IL Root CA v1 C989998EC bits   E23A70F47 C01C059 c01C059	Telia Root 016D1A4D9 RSA 4096 CA v2 4651BA329 bits 440C26D06 250



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# To the management of Telia Company AB (Telia)

Amstelveen, 26 June 2020

Subject: Independent Auditor's Report WebTrust for CAs

We have been engaged, in a reasonable assurance engagement, to report on Telia' management's assertion that for its Certification Authority (CA) operations in Finland and Sweden, throughout the period 1 April 2019 through 31 March 2020 for its CA as enumerated in Attachment A, Telia has:

- disclosed its business, key lifecycle management, certificate lifecycle management, and CA environmental control practices in its:
  - <u>Telia Root Certificate Policy and Certification Practice Statement, version 2.5</u>, March 2020
  - Telia Production Certification Practice Statement, version 2.8, March 2020
  - <u>Telia Server Certificate Policy and Certification Practice Statement, version 2.7</u>, March 2020
  - <u>Telia Organizational User Certificate Policy and Certificate Practice Statement, version</u> <u>1.4</u>, March 2020
- maintained effective controls to provide reasonable assurance that Telia provides its services in accordance with its 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 Telia); 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 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 <u>WebTrust Services Principles and Criteria for Certification Authorities</u>, <u>version 2.2 – May 2019</u>.

Telia makes use of external registration authorities for subscriber registration activities, as disclosed in Telia's business practices. Our procedures did not extend to the controls exercised by these external registration authorities.

Telia does not escrow its CA keys, does not provide Integrated Circuit Card (ICC) lifecycle management, and does not provide certificate suspension services. Accordingly, our procedures did not extend to controls that would address those criteria.

### **Certification Authority's responsibilities**

Telia'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.

### 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. Therefore, we are independent of Telia and complied with other ethical requirements in accordance with the Code of Ethics of NOREA and the Code of Ethics for Professional Accountants, a regulation with respect to independence of the NBA, Royal Netherlands Institute of Chartered Accountants.

We apply the International 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. We also apply the Regulations for Quality management systems of the NBA and, accordingly, maintain 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 International Standard on Assurance Engagements (ISAE) 3000, *Assurance Engagements Other than Audits or Reviews of Historical Financial Information,* issued by the International Auditing and Assurance Standards Board and the related Dutch Directive 3000A 'Attestation engagements', as issued by NOREA, the IT Auditors Association in The Netherlands.



These standards require 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:

- obtaining an understanding of Telia'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 Telia 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, Telia'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, throughout the period 1 April 2019 through 31 March 2020, Telia 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.

This report does not include any representation as to the quality of Telia's services beyond those covered by the WebTrust Principles and Criteria for Certification Authorities v2.2, nor the suitability of any of Telia' services for any customer's intended purpose.



## Use of the WebTrust seal

Telia' 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.

On behalf of KPMG Advisory N.V. Amstelveen, 26 June 2020

(originally signed by)

drs. ing. R.F. Koorn RE CISA Partner



# Attachment A: List of CAs in scope

The following CAs were in scope of the engagement:

CA #	Cert #	Subject	Issuer	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA2 Fingerprint	Other information
1	1	CN = TeliaSonera Root CA v1 O = TeliaSonera	Self-signed	0095BE16A0F7 2E46F17B39827 2FA8BCD96	RSA	4096 bits	sha1RSA	18 October 2007	18 October 2032	F08F593800B3F5 8F9A960CD5EBF A7BAA17E81312	DD6936FE21F8F077 C123A1A521C12224F 72255B73E03A72606 93E8A24B0FA389	
1	2	CN = TeliaSonera Root CA v1 O = TeliaSonera	Sonera Class2 CA	87ED2E1A2826 4AC519AA3AEB B90DA2CB	RSA	4096 bits	sha256RSA	5 December 2014	5 April 2021	F08F593800B3F5 8F9A960CD5EBF A7BAA17E81312	E9563581E712B290F 23A749346535EB0D9 81E3D4A39D56D604 684CD0B1698C89	Cross- certificate
2	1	CN = Sonera Class2 CA O = Sonera C = FI	Self-signed	1D	RSA	2048 bits	sha1RSA	16 April 2001	16 April 2021	4AA0AA5884D35 E3C	7908B40314C138100 B518D0735807FFBF CF8518A0095337105 BA386B153DD927	
3	1	CN = Telia Root CA v2 O = Telia Finland Oyj C = FI	Self-signed	01675F27D6FE 7AE3E4ACBE09 5B059E	RSA	4096 bits	sha256RSA	29 November 2018	29 November 2043	72ACE43379AA4 587F6FDAC1D9E D6C72F86D82439	242B69742FCB1E5B2 ABF98898B94572187 544E5B4D991178657 3621F6A74B82C	
3	2	CN = Telia Root CA v2 O = Telia Finland Oyj C = FI	TeliaSonera Root CA v1	01675F82BE001 7DE8955A9376 EB1F9	RSA	4096 bits	sha256RSA	29 November 2018	18 October 2032	72ACE43379AA4 587F6FDAC1D9E D6C72F86D82439	EF6F29F636F62BDD 4753122F41F3419EE 7C2877587BE4A9807 ADF58946458E7F	Cross- certificate
4	1	CN = TeliaSonera Server CA v2 O = TeliaSonera C = FI	TeliaSonera Root CA v1	4C462AF6DBFB F7804F84C17C FEA972B6	RSA	4096 bits	sha256RSA	16 October 2014	16 October 2032	2F493C294FD707 25F9C68CD564F5 663D12832295	D721110388CA6F20B BA9FD1A8DBA4EFB8 C16392A3DEBAD97C 553EEAF0ACACAAC	



CA #	Cert #	Subject	Issuer	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA2 Fingerprint	Other information
5	1	CN = TeliaSonera Gateway CA v2 O = TeliaSonera C = FI	TeliaSonera Root CA v1	00863C7564119 5854FB43138A0 A0CF8AA3	RSA	4096 bits	sha256RSA	16 October 2014	16 October 2032	87AAE313129F11 8BCA68CD1E2DC 429A8FA101ACB	46226B7B89E02CA8F 5D85D67ED8CB4B19 C48382058BB162421 99D540CABE9268	
6	1	CN = Telia Extended Validation CA v3 O = Telia Finland Oyj C = FI	Telia Root CA v2	01675FAC7299 4C74BF1A67ED C1B3AD	RSA	4096 bits	sha256RSA	29 November 2018	29 November 2043	FB36703B5D1FF0 7DB22089C0E92 EB7D9E858A835	98C2545A2C05A342E DB22A9F6C7CCC1F E98D87595676E3A29 8ADE97F7B01291D	
7	1	CN = Telia Domain Validation SSL CA v1 O = Telia Finland Oyj C = FI	TeliaSonera Root CA v1	0161AE2005CE 3F127EF88DD7 251BB1	RSA	4096 bits	sha256RSA	19 February 2018	16 October 2032	496C32537C5DE D2BE3A2AB9C0B C95DE495D4925 F	D75F8BC0DB4B2938 2145499A61148659C F29A967E2AE470B49 8A1799788A8284	Revoked 17 April 2020
8	1	CN = Telia Domain Validation CA v3 O = Telia Finland Oyj C = FI	Telia Root CA v2	01675FFDE7E4 1811E2CD76B0 CDB50A	RSA	4096 bits	sha256RSA	29 November 2018	29 November 2043	5BF1EE298D31B 23B3AE017CBA4 07E93F82421FA3	A7E83056E9B3D9DD B1816B95518F6A5E5 A1DFDFA28F60533B 1C850855EAA4263	
9	1	CN = Telia Domain Validation CA v2 O = Telia Finland Oyj C = FI	TeliaSonera Root CA v1	016584E34A38 D9E963EBEED 2174784	RSA	4096 bits	sha256RSA	29 August 2018	18 October 2032	ED3D749C2C53B B71937B4B11F6B 891E282F992DB	5B312B7E11B70D07 C14E0AB99F08D007 48966098C52AA85A0 6A0822BBE59A02C	



CA #	Cert #	Subject	Issuer	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA2 Fingerprint	Other information
10	1	CN = Telia Server CA v3 O = Telia Finland Oyj C = FI	Telia Root CA v2	01675FE78F10F 349257F16B373 1F7A	RSA	4096 bits	sha256RSA	29 November 2018	29 November 2043	46668D0E072316 B0EA4F05EB965 ADEA5EEC97EA4	1281AD8FABE883F2 09E9636448D1A80C3 73DAA7686C813A270 FAD48F5F5E589A	
11	1	CN = TeliaSonera Class 1 CA v2 O = TeliaSonera C = Fl	TeliaSonera Root CA v1	00FD41DD7FD1 9F3EE9F85D9E 437133D4DB	RSA	4096 bits	sha256RSA	16 October 2014	16 October 2032	D147228FCBA85 D1AFE2641466E CB824B657D8AE 4	B95AE54F838E3ABF 0B57ACCC1B1266DC 68C7A3FA774015FA1 28D60CDD1AAE280	
12	1	CN = TeliaSonera Class 2 CA v2 O = TeliaSonera C = SE	TeliaSonera Root CA v1	637C0BD785A5 BF29DA602D7C 4D7A70B1	RSA	4096 bits	sha256RSA	16 October 2014	16 October 2032	9E19FFE50D3AF E0097153F69F1D C5A3CAA0C9483	092829433D231949F 4A9BC666CBF54B3A A27D7BEBCA048D75 E59093E15A72EA5	
13	1	CN = TeliaSonera Email CA v4 O = TeliaSonera C = SE	TeliaSonera Root CA v1	52EBA0D8B74B 46EB8557CD6D A2A3DDDD	RSA	4096 bits	sha256RSA	16 October 2014	16 October 2032	89862A82D178FA F0A62954358795 6FD3776019F0	D1F2656AC8382739A 3B087C47AB5CAB94 5A32F162B6149C308 783C7E06AF8AE8	
14	1	CN = Ericsson NL Individual CA v3 O = Ericsson C = SE	TeliaSonera Root CA v1	53B87E83E19C 992893B09B491 CECB8EB	RSA	4096 bits	sha256RSA	27 October 2015	27 October 2025	1C7B199E979C76 AC203DD8DCE39 16AE3DB2DA653	24D06B967E70BC8C E21FFCAFD3EB5B69 A4E2E2CBAF36BB9C D64EABCDD1423C4 E	



CA #	Cert #	Subject	Issuer	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA2 Fingerprint	Other information
15	1	CN = Ericsson NL Individual CA v2 O = Ericsson	TeliaSonera Root CA v1	00A00CCBCC9 B9998ECE23A7 0F47CC1C059	RSA	4096 bits	sha1RSA	27 May 2014	27 May 2024	B10DCAD446B7A F8602C32F6F06C A0E76717F4B37	63ED95B17FFDCB7A E30FEAC6A87465309 9264E21B268D836D9 57966F0B04BE43	
16	1	CN = Telia Document Signing CA v3 O = Telia Finland Oyj C = FI	Telia Root CA v2	016D1A4D9495 1BA3294A0C26 D06250	RSA	4096 bits	sha256RSA	10 September 2019	29 November 2043	3617108E9E869F 267FD57542FAD3 7BC29059DE54	6924A4DD82948DA5 3F6FB933E895A0F65 81C8DBDEBABB36F C11CAC25E9C0335A	