



CERTIFICATE



This is to certify that

Siemens AG Siemens Certification Authority

Werner-von-Siemens-Straße 1 80333 München Germany

has implemented the specification listed below for the following certification services. This certificate is only valid in combination with the respective report.

Scope: Siemens Certification Authority / Trust Service Provider (TSP)

Consisting of:

Root-CAs ZZZZZA1 Siemens Root CA V3.0 2016 ZZZZZV1 Siemens Root CA V2.0 2013 ZZZZZV0 Siemens Internet CA V1.0 2011

Issuing-CAs See the annex of this Certificate.

An audit of the certification service, documented in a report, provided evidence that the requirements of the following specification have been fulfilled. The audit was conducted on 26th – 28th February 2019 covering the audit period 26th February 2018 to 28th February 2019. It was a full period-of-time audit covering all aspects of the standard performed by the lead auditor Mr. Jens Nicolaysen.

ETSI EN 319 401 V2.2.1 ETSI EN 319 411-1 V1.2.2

Certificate registration no.500986 ETSIDate of certification2019-03-01Valid until2020-04-30

DQS GmbH

Alleh

Stefan Heinloth Managing Director







Siemens AG Siemens Certification Authority

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Assessment Requirements

The audit requirements are defined by the following standards:

- ETSI EN 319 401 "Electronic Signatures and Infrastructures (ESI); General Policy Requirements for Trust Service Providers" version V2.2.1 dated 2018-04
- ETSI EN 319 411-1 "Electronic Signatures and Infrastructures (ESI); Policy and security requirements for Trust Service Providers issuing certificates; Part 1: General requirements" version V1.2.2 dated 2018-04
- Baseline Requirements for the Issuance and Management of Publicly-Trusted Certificates of the CA/Browser Forum version 1.6.3 dated 2019-02-01
- CA / Browser Forum Network and Certificate System Security Requirements in version 1.1

The following table lists the currently operated Issuing CAs as well as the requirements upon their issued certificates according to [ETSI EN TS 319 411-1] including the respective secure devices.

Issuing CA		Requirements for issued certificates								
		ETSI quality level				Secure device				
	Expiry date	NCP	NCP+	ÖVCP	DVCP	Smart- Card	Smart- Phone	NwSC		
ZZZZZA2 Siemens Issuing CA	4/8/		Х			Х				
EE Auth 2016	2022									
ZZZZZA3 Siemens Issuing CA EE Enc 2016	4 / 8 / 2022		Х			Х	Х	Х		
ZZZZZZA4 Siemens Issuing CA	2022	Х								
Intranet Code Signing 2016	20777	~								
ZZZZZA5 Siemens Issuing CA	4/8/	Х								
Multipurpose 2016	2022									
ZZZZZZA6 Siemens Issuing CA Medium Strength Authentication 2016	4 / 8 / 2022	Х								
ZZZZZZA7 Siemens Issuing CA Intranet Server 2016	20 / 7 / 2022	Х		Х	Х					
ZZZZZB7 Siemens Issuing CA Intranet Server 2017	27 / 6 / 2023	Х		Х	Х					
ZZZZZA8 Siemens Issuing CA Internet Code Signing 2016	20 / 7 / 2022	Х								
ZZZZZZA9 Siemens Issuing CA Class Internet Server 2016 (revoked)	5 / 8 / 2022	Х		Х	Х					
ZZZZZB9 Siemens Issuing CA Class Internet Server 2017	11 / 7 / 2023	Х		Х	Х					
ZZZZZZAD Siemens Issuing CA EE Network Smartcard Auth 2016	4 / 8 / 2022		Х					Х		
ZZZZZYD Siemens Issuing CA EE Network Smartcard Auth 2015	2 / 12 / 2019		Х					Х		
ZZZZZAB Siemens Issuing CA MSA Impersonalized Entities 2016	20 / 7 / 2022	Х								
ZZZZZY2 Siemens Issuing CA EE Auth 2013	2 / 12 / 2019		Х			Х				
ZZZZZY3 Siemens Issuing CA EE Enc 2013	2 / 12 / 2019		Х			Х	Х	Х		
ZZZZZY4 Siemens Issuing CA	2/12/	Х								







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Issuing CA		Requirements for issued certificates						
		ETSI quality level				Secure device		
	Expiry date	NCP	NCP+	ÖVCP	DVCP	Smart- Card	Smart- Phone	NwSC
Intranet Code Signing 2013	2019							
ZZZZZY5 Siemens Issuing CA Multipurpose 2013	2 / 12 / 2019	Х						
ZZZZZY6 Siemens Issuing CA Medium Strength Authentication 2013	2 / 12 / 2019	Х						
ZZZZZY7 Siemens Issuing CA Intranet Server 2013	2 / 12 / 2019	Х		Х	Х			
ZZZZZY8 Siemens Issuing CA Internet Code Signing 2013	2 / 12 / 2019	Х						
ZZZZZY9 Siemens Issuing CA Class Internet Server 2013 (indirectly revoked)	2 / 12 / 2019	Х		Х	Х			
ZZZZZYB Siemens Issuing CA MSA Impersonalized Entities 2013	2 / 12 / 2019	Х						

Audit Objects

The audit object is characterized by the certification information of the reviewed TSP's:

TSP Policy Documents

- Certificate Policy in version 1.10
- Certification Practice Statement Root CA in version 1.7
- Certification Practice Statement Issuing CA in version 1.10

Root-CAs

ZZZZZZA1 Siemens Root CA V3.0 2016 SHA256: 56:DC:CD:96:F3:03:DA:82:6D:89:53:E1:67:A8:90:2E:CB:C0:73:4D:F4:1B:9B:57:B3:F1:20:1C:A6:E4:A1:44 CN = Siemens Root CA V3.0 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZZA1 O = Siemens L = Muenchen S = Bayern C = DE ZZZZZZV1 Siemens Root CA V2.0 2013

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SHA256: 43:50:F2:6C:B2:54:29:A0:C7:AC:AD:11:28:FE:D1:6D:7D:0B:70:CB:24:E2:47:79:CB:86:86:80:99:C6:11:EA
CN = Siemens Trust Center Root-CA V2.0
OU = Copyright (C) Siemens AG 2011 All Rights Reserved
SERIALNUMBER = ZZZZZZV1
O = Siemens
C = DE
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Intermediate-CA (treated as Root CA)

ZZZZZV0 Siemens Internet CA V1.0 2011 SHA256: 24:E5:6F:48:60:44:46:D8:A8:37:3B:43:CA:29:D1:A1:C4:97:72:E5:AA:BA:8B:A7:C1:76:62:BD:60:DA:8D:F6 Renewed in 2016 as: 67:E5:B5:07:C8:61:CE:71:80:BC:3D:B7:D3:7D:2F:5C:AE:75:58:31:E2:12:E3:22:25:F6:29:46:94:B2:EA:49 Renewed in 2016 as: 3E:BF:5F:FE:C5:82:D2:7C:69:3D:1B:C3:01:04:A6:3B:BB:FC:36:52:C7:8A:95:02:7E:91:B7:F8:8D:AC:63:45 CN = Siemens Internet CA V1.0 OU = Copyright (C) Siemens AG 2011 All Rights Reserved SERIALNUMBER = ZZZZZZV0 O = Siemens C = DE

Issuing-CAs

ZZZZZA2 Siemens Issuing CA EE Auth 2016 SHA256: 94:0D:2F:21:2A:2A:39:CC:84:BD:42:D0:F6:DC:4F:7B:A4:C4:77:E7:A5:A9:92:2C:96:B9:F5:EC:14:E4:A6:C8 Renewed in 2018 as: 59:72:B9:BD:47:10:17:D5:F3:27:05:BE:E9:15:70:36:26:57:5F:8B:27:0A:39:C1:C3:12:C7:F9:24:6C:10:D4 CN = Siemens Issuing CA EE Auth 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZA2 O = Siemens L = Muenchen S = Bayern C = DE ZZZZZZY3 Siemens Issuing CA EE Enc 2013 SHA256: F5:62:9F:8E:16:AA:28:8B:21:CF:25:32:25:FA:B8:A9:CE:15:C4:68:78:1C:1E:74:28:40:79:72:8E:FF:2F:DA CN = Siemens Issuing CA EE Auth 2013

OU = Copyright (C) Siemens AG 2013 All Rights Reserved SERIALNUMBER = ZZZZZY2 O = Siemens C = DE

ZZZZZA3 Siemens Issuing CA EE Enc 2016 SHA256: AB:F3:80:3C:D2:93:9E:26:80:3E:52:28:0A:81:F6:7C:46:C3:E0:EE:75:FC:DB:B1:E3:0F:B0:3A:32:1A:CF:AD CN = Siemens Issuing CA EE Enc 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZA3 O = Siemens L = Muenchen S = Bayern C = DE ZZZZZY3 Siemens Issuing CA EE Enc 2013 SHA256: F5:62:9F:8E:16:AA:28:8B:21:CF:25:32:25:FA:B8:A9:CE:15:C4:68:78:1C:1E:74:28:40:79:72:8E:FF:2F:DA CN = Siemens Issuing CA EE Enc 2013

CN = Siemens Issuing CA EE Enc 2013 OU = Copyright (C) Siemens AG 2013 All Rights Reserved SERIALNUMBER = ZZZZZY3 O = Siemens C = DE







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ZZZZZA4 Siemens Issuing CA Intranet Codesigning 2016 SHA256: BD:CF:0D:60:FC:32:96:61:35:97:1F:F8:EA:D9:CB:71:16:40:09:08:B3:38:E6:C5:9B:9A:FD:DA:DF:08:79:92 CN = Siemens Issuing CA Intranet Code Signing 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZZA4 O = SiemensI = MuenchenS = BayernC = DEZZZZZY4 Siemens Issuing CA Intranet Codesigning 2013 SHA256: 4F:59:D9:D8:89:B4:13:7D:15:73:4C:60:53:EB:CE:0D:AB:FE:0B:02:C8:4D:2E:AF:B2:05:C9:BE:71:BB:C3:79 CN = Siemens Issuing CA Intranet Code Signing 2013 OU = Copyright (C) Siemens AG 2013 All Rights Reserved SERIALNUMBER = ZZZZZY4 O = SiemensC = DEZZZZZA5 Siemens Issuing CA Multipurpose 2016 SHA256: 05:BF:B6:60:5D:48:51:6A:57:1B:AF:9A:7F:F7:53:76:13:04:70:DA:5E:E7:FF:68:4C:26:72:EA:A0:C0:C8:AD CN = Siemens Issuing CA Multi Purpose 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZZA5 O = SiemensL = Muenchen S = BayernC = DEZZZZZY5 Siemens Issuing CA Multipurpose 2013 SHA256: 89:D2:EB:FB:AF:D5:9C:6A:1C:83:EC:6C:03:53:16:14:57:04:F8:95:36:33:70:D0:15:B8:F6:25:95:A0:49:7A CN = Siemens Issuing CA Multipurpose 2013 OU = Copyright (C) Siemens AG 2013 All Rights Reserved SERIALNUMBER = ZZZZZY5 O = Siemens C = DEZZZZZA6 Siemens Issuing CA Medium Strength Authentication 2016 SHA256: 42:AB:4D:9F:18:09:45:4E:BE:C2:45:D8:DB:06:FF:61:AA:82:89:B0:5A:26:3D:FE:E9:66:2D:AC:91:66:60:43 CN = Siemens Issuing CA Medium Strength Authentication 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZZA6 O = Siemens

- L = Muenchen
- S = Bayern
- C = DE'

ZZZZZY6 Siemens Issuing CA Medium Strength Authentication 2013 SHA256: A6:68:72:C6:B1:67:A6:F1:B7:F7:3A:22:E5:7B:C1:91:AE:BF:FB:19:60:E6:8F:E8:FC:36:09:0A:29:D0:72:26 CN = Siemens Issuing CA Medium Strength Authentication 2013 OU = Copyright (C) Siemens AG 2013 All Rights Reserved SERIALNUMBER = ZZZZZY6 O = Siemens C = DE







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ZZZZZB7 Siemens Issuing CA Intranet Server 2017 SHA256: 09:80:FA:A7:AE:6E:FA:16:3B:9D:3B:74:86:61:72:CF:B0:CA:75:BF:65:20:3D:5E:7F:27:4C:87:80:4B:BA:F8 CN = Siemens Issuing CA Intranet Server 2017 OU = Siemens Trust Center SERIALNUMBER = ZZZZZB7 O = SiemensI = MuenchenS = BayernC = DEZZZZZA7 Siemens Issuing CA Intranet Server 2016 SHA256: BD:CF:0D:60:FC:32:96:61:35:97:1F:F8:EA:D9:CB:71:16:40:09:08:B3:38:E6:C5:9B:9A:FD:DA:DF:08:79:92 CN = Siemens Issuing CA Intranet Server 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZZA7 O = Siemens L = Muenchen S = BayernC = DFZZZZZY7 Siemens Issuing CA Intranet Server 2013 SHA256: E0:0C:86:74:B2:22:53:64:4A:81:AB:7E:CB:6C:95:94:D3:E6:96:B9:F0:4F:8E:23:E9:62:21:7D:15:31:7A:15 CN = Siemens Issuing CA Intranet Server 2013 OU = Issuing CA for Siemens non-personalized SSL/TLS-based End Entities OU = Copyright (C) Siemens AG 2013 All Rights Reserved SERIALNUMBER = ZZZZZY7 O = Siemens C = DEZZZZZAB Siemens Issuing CA MSA Impersonalized Entities 2016 SHA256: C4:D7:56:0E:45:A5:C5:5B:32:18:1A:51:42:7A:96:42:19:21:D3:F5:81:49:67:44:A2:52:29:BB:34:8B:35:6A CN = Siemens Issuing CA MSA Impersonalized Entities 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZAB O = Siemens L = Muenchen S = BayernC = DEZZZZZYB Siemens Issuing CA MSA Impersonalized Entities 2013 SHA256: 9B:12:4D:AA:6A:24:6E:9E:39:66:02:EC:0E:37:DE:2D:86:35:61:D1:15:FC:33:63:B1:FC:6A:13:C0:D2:00:59 CN = Siemens Issuing CA MSA Impersonalized Entities 2013 OU = Issuing CA for Siemens MSA Impersonalized Entities 2013 OU = Copyright (C) Siemens AG All Rights Reserved SERIALNUMBER = ZZZZZYB O = SiemensC = DEZZZZZA8 Siemens Issuing CA Internet Code-Signing 2016 SHA256: 1B:04:65:35:37:8E:07:D1:0A:CD:AA:24:EE:FC:E2:04:20:BB:9A:59:61:14:EB:47:5C:A6:96:35:77:53:E9:25 CN = Siemens Issuing CA Internet Code Signing 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZZA8 O = SiemensL = Muenchen S = BayernC = DE







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ZZZZZY8 Siemens Issuing CA Internet Code-Signing 2013 SHA256: 4F:59:D9:D8:89:B4:13:7D:15:73:4C:60:53:EB:CE:0D:AB:FE:0B:02:C8:4D:2E:AF:B2:05:C9:BE:71:BB:C3:79 CN = Siemens Issuing CA Internet Code Signing 2013 OU = Copyright (C) Siemens AG 2013 All Rights Reserved SERIALNUMBER = ZZZZZY8 O = Siemens C = DE

ZZZZZB9 Siemens Issuing CA Internet Server 2017 SHA256: 7D:33:AE:61:8C:D6:25:53:37:7D:25:3D:2E:BC:A2:85:D8:4E:98:A9:24:D8:9F:98:D4:BE:4F:EE:31:F9:2A:A8 CN = Siemens Issuing CA Internet Server 2017 OU = Siemens Trust Center SERIALNUMBER = ZZZZZB9 O = Siemens L = Muenchen S = Bayern C = DE ZZZZZZA9 Siemens Issuing CA Internet Server 2016 – revoked (15th December 2017) SHA256: C9:78:16:36:8C:2B:7A:46:08:B3:34:4D:BE:68:48:D8:BD:12:12:60:C2:F7:9D:AC:8A:C9:0C:AE:17:C8:E5:7C

CN = Siemens Issuing CA Internet Server 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZA9 O = Siemens L = Muenchen S = Bayern C = DE

ZZZZZY9 Siemens Issuing CA Internet Server 2013 – revoked (4th October 2017) SHA256: E0:0C:86:74:B2:22:53:64:4A:81:AB:7E:CB:6C:95:94:D3:E6:96:B9:F0:4F:8E:23:E9:62:21:7D:15:31:7A:15 CN = Siemens Issuing CA Class Internet Server 2013 OU = Copyright (C) Siemens AG 2013 All Rights Reserved SERIALNUMBER = ZZZZZZY9 O = SiemensC = DE

ZZZZZAD Siemens Issuing CA EE Network Smartcard Auth 2016 SHA256: 37:D2:20:A6:C7:52:27:99:02:11:91:34:9C:18:3F:91:7B:E1:BE:86:26:CF:92:6B:0F:D6:E0:A8:68:1E:E0:31 CN = Siemens Issuing CA EE Network Smartcard Auth 2016 OU = Siemens Trust Center SERIALNUMBER = ZZZZZAD O = Siemens L = Muenchen S = Bayern C = DE ZZZZZYD Siemens Issuing CA EE Network Smartcard Auth 2015

SHA256: 9C:00:12:05:92:C1:5B:FD:F3:52:86:9A:B0:07:19:8F:3A:87:87:4A:EF:61:8D:A4:F2:13:0F:18:7A:50:8B:22 CN = Siemens Issuing CA EE Network Smartcard Auth 2015 OU = Copyright (C) Siemens AG 2015 All Rights Reserved SERIALNUMBER = ZZZZZYD O = Siemens C = DE







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Audit results

- The audit object fulfills all applicable requirements from the audit criteria.
- The certification requirements as defined in the certification assumptions are fulfilled.
- All requirements for a TSP Practice according to the standards together with the therein demanded measures are implemented in terms of the selected Certificate Policy and Certification Practice Statements.
- The TSP provides the certification services according to the definitions of the Certification Practice Statements.
- The Certificate Policy is part of an effective certificate policy management including regulations concerning responsibilities, communication and PDCA cycle.
- The TSP ensures that certificates are only issued to employees, affiliates and websites
 of the Siemens cooperation following the requirements of the standards. Due to this fact
 some requirements of the standards are fulfilled by other parts of the cooperation and
 not directly by the TSP.
- In the audit all certificates were checked for misissuance. One certificate was found <u>https://crt.sh/?id=437210034</u>. The mistake was immediately detected, and the certificate was revoked within the same day of issuance (03 May 2018). The mis-issuance was documented under the following link <u>https://bugzilla.mozilla.org/show_bug.cgi?id=1519265</u> at Bugzilla. A root cause analysis was performed and let to an adaptation of the software.

Accredited body

The audit was performed by DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany







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Summary of audit requirements

The ETSI specifications contain the following requirements:

1 Certification Practice Statement (CPS)

The TSP has a presentation of its practices and policies.

2 Public Key Infrastructure – key management life cycle

The TSP ensures that CA keys are created under controlled conditions.

The TSP ensures that private CA keys are treated confidentially and that their integrity is maintained.

The TSP ensures that the integrity and authenticity of the (published) CA public keys together with all associated parameters are preserved during their transfer to relying parties. If the key for electronic signatures is applied in the terms of guideline 1999/93/EG the TSP is not entitled to store private signature keys of the certification owner (subject) in a way enabling key escrow. If a copy of the key remains at the TSP, the TSP takes care that the private key remains secure and is only made accessible to entitled persons.

The TSP ensures that private CA signature keys are not used improperly. The TSP ensures that private CA signature keys may not be used beyond the end of their lifecycle. In case of NCP+ the TSP ensures that the security of cryptographic devices is warranted during their complete lifecycle.

The TSP ensures that every key created by the TSP for a certificate owner (subject) is safely generated and that the non-disclosure of the certificate owner's private key is guaranteed.

In case of NCP+ the TSP assures that the handover of the secure user unit to the certificate owner (subject) happens in a secure way, in case this user unit is provided by the TSP.

3 Public Key Infrastructure – certificate management lifecycle

The TSP ensures that the identification confirmation of a participant (subscriber) and of a certificate owner (subject) as well as the correctness of their names and their related data are either checked as part of the defined service or proved by attestations from appropriate and licensed sources. It also ensures that applications for a certificate take place in a correct and authorized way, completely according to the collected proofs respectively attestations.

The TSP ensures that the certification applications of certificate owners (subject), who were registered before at the same TSP, are authorized completely, correctly and orderly. This includes new key generations (rekey) after a blocking or before the expiry date, or updates due to attribute changes of the certificate owner (subject).

The TSP ensures that the certificates are handed out in a secure way so that their authenticity is maintained.

The TSP ensures that the legal terms and conditions are made available to the participants (subscriber) and to the relying parties.

The TSP ensures that certificates are made available to the participants (subscriber), certificate owners (subject) and relying parties to the extent necessary.







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The TSP ensures that certificates are blocked at short notice using authorized and verified blocking queries.

4 TSP Management and Operation

The TSP ensures that the applied administrative and management methods are appropriate and corresponding to acknowledged standards.

The TSP ensures that the objects and information worthy of protection receive an appropriate protection.

The TSP ensures that the employees and the hiring procedures amplify and support the TSP company's trustability.

The TSP ensures that physical access to critical services is controlled and that the physical risks for the objects worthy of protection are minimized.

The TSP ensures that the TSP's systems are operated safely, according to specification and with a minimal default risk.

The TSP ensures that the access to the TSP's systems is restricted to appropriate, authorized persons.

The TSP ensures to use trustworthy systems and products that are protected against modifications.

The TSP ensures that in case of a catastrophe (including a compromise of the private CA signature key) the operation is restored as soon as possible.

The TSP ensures that in case of a cessation of the TSP's operation the potential interference of users (subscriber) and relying parties is minimized and that the continued maintenance of records that are required as proof of certification in legal proceedings is given.

The TSP ensures that statutory requirements are met.

The TSP ensures that all relevant information of a certificate is recorded for a reasonable period of time, especially for the purpose of proof of certification in legal proceedings.

The TSP ensures that the European data privacy regulations are being followed.

5 Organization

The TSP ensures that its organization is reliable.

6 Certification Body

The Certification Body

DQS GmbH

August-Schanz-Straße 21 60433 Frankfurt am Main Germany is accredited by the German accreditation body

DAkkS (Deutsche Akkreditierungsstelle GmbH) Spittelmarkt 10

Spittelmarkt 10 10117 Berlin Germany

