

ISO/TS 19299:2015-10 (E)

Electronic fee collection - Security framework

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	2
3	Terms and definitions	4
4	Symbols and abbreviated terms	9
5	Trust model	10
5.1	Overview	10
5.2	Stakeholders trust relations	10
5.3	Technical trust model	11
5.3.1	General	11
5.3.2	Trust model for TC and TSP relations	11
5.3.3	Trust model for TSP and service user relations	13
5.3.4	Trust model for Interoperability Management relations	13
5.4	Implementation	13
5.4.1	Setup of trust relations	13
5.4.2	Trust relation renewal and revocation	14
5.4.3	Issuing and revocation of sub CA and end-entity certificates	14
5.4.4	Certificate and certificate revocation list profile and format	15
5.4.5	Certificate extensions	15
6	Security requirements	17
6.1	General	17
6.2	Information security management system	18
6.3	Communication interfaces	18
6.4	Data storage	19
6.5	Toll charger	19
6.6	Toll service provider	21
6.7	Interoperability Management	23
6.8	Limitation of requirements	23
7	Security measures -- countermeasures	24
7.1	Overview	24
7.2	General security measures	24
7.3	Communication interfaces security measures	25
7.3.1	General	25
7.3.2	DSRC-EFC interface	26
7.3.3	CCC interface	27
7.3.4	LAC interface	28
7.3.5	Front End to TSP back end interface	28
7.3.6	TC to TSP interface	29
7.3.7	ICC interface	30
7.4	End-to-end security measures	30
7.5	Toll service provider security measures	32
7.5.1	Front end security measures	32
7.5.2	Back end security measures	33

7.6	Toll charger security measures	34
7.6.1	RSE security measures	34
7.6.2	Back end security measures	34
7.6.3	Other TC security measures	35
8	Security specifications for interoperable interface implementation	35
8.1	General	35
8.1.1	Subject	35
8.1.2	Signature and hash algorithms	35
8.2	Security specifications for DSRC-EFC	36
8.2.1	Subject	36
8.2.2	OBE	36
8.2.3	RSE	36
9	Key management	36
9.1	Overview	36
9.2	Asymmetric keys	36
9.2.1	Key exchange between stakeholders	36
9.2.2	Key generation and certification	37
9.2.3	Protection of keys	37
9.2.4	Application	37
9.3	Symmetric keys	38
9.3.1	General	38
9.3.2	Key exchange between stakeholders	38
9.3.3	Key lifecycle	39
9.3.4	Key storage and protection	40
9.3.5	Session keys	41
Annex A (normative)	Security profiles	42
Annex B (normative)	Implementation conformance statement (ICS) proforma	46
Annex C (informative)	Stakeholder objectives and generic requirements	64
Annex D (informative)	Threat analysis	68
Annex E (informative)	Security policies	124
Annex F (informative)	Example for an EETS security policy	131
Annex G (informative)	Recommendations for privacy-focused implementation	133
Annex H (informative)	Proposal for end-entity certificates	135
Bibliography	136