

DIN CEN/TS 16702-1:2020-04 (E)

Electronic fee collection - Secure monitoring for autonomous toll systems - Part 1: Compliance checking; English version CEN/TS 16702- 1:2020

Contents	Page
European foreword.....	4
Introduction	5
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions	9
4 Abbreviations	12
5 Processes.....	13
5.1 Overview	13
5.2 Profiles.....	15
5.3 Itinerary Freezing.....	20
5.3.1 Introduction	20
5.3.2 Generate Itinerary	21
5.3.3 Real-time freezing.....	22
5.3.4 Freezing per declaration	23
5.4 Checking of Itinerary Freezing.....	23
5.4.1 Introduction	23
5.4.2 Observing a vehicle	24
5.4.3 Retrieving Proof of Itinerary Freezing (PIF).....	24
5.4.4 Checking PIF against Observation.....	25
5.5 Checking of Toll Declaration	26
5.5.1 Introduction	26
5.5.2 Retrieve Itinerary Data	26
5.5.3 Check Itinerary Consistency.....	26
5.5.4 Checking Toll Declaration against Itinerary	27
5.6 Inconsistency report	27
5.7 Providing EFC Context Data.....	27
5.8 Key Management.....	28
5.8.1 Introduction	28
5.8.2 Requirements	28
6 Transactions	29
6.1 Introduction	29
6.2 Description of Itinerary Data	31
6.2.1 Introduction	31
6.2.2 Itinerary Leaf	32
6.2.3 Itinerary Record Data Elements	33
6.3 Retrieving PIF in real-time (DSRC Transaction).....	35
6.3.1 Transactional Model	35
6.3.2 Syntax and Semantics	36
6.3.3 Security	38
6.4 Toll Declaration	38
6.4.1 Transactional Model	38
6.4.2 Syntax and semantics.....	39

6.4.3	Itinerary Trunk	39
6.4.4	Security.....	41
6.5	Back end data checking	41
6.5.1	Introduction	41
6.5.2	Transactional model.....	41
6.5.3	Checks of the Itinerary.....	43
6.5.4	Syntax and semantics	44
6.5.5	Security.....	44
6.6	Inconsistency Report.....	44
6.6.1	Transactional model.....	44
6.6.2	Syntax and semantics	45
6.6.3	Security.....	46
6.7	Providing EFC Context Data	46
6.7.1	Transactional model.....	46
6.7.2	Syntax and semantics	47
6.7.3	Security.....	47
7	Security.....	47
7.1	Security functions and elements.....	47
7.1.1	Hash functions	47
7.1.2	MAC	47
7.1.3	Digital signatures.....	48
7.1.4	Public Keys, Certificates and CRL.....	48
7.2	Key Management.....	48
7.2.1	Key Exchange between Stakeholders.....	48
7.2.2	Key generation and certification	49
7.3	Trusted Recorder and SM_CC Verification SAM characteristics	49
7.3.1	Introduction	49
7.3.2	Trusted Recorder.....	50
7.3.3	SM_CC Verification SAM	51
	Annex A (normative) Data type specification.....	52
	Annex B (normative) Protocol Implementation Conformance Statement Proforma	53
	Annex C (informative) Example transactions.....	62
	Annex D (informative) Relationships to other standards.....	69
	Annex E (informative) Essentials of the SM_CC concept	71
	Annex F (informative) Use of this document for the EETS.....	85
	Bibliography	87