



CEN/TC278/WG1 & ISO/TC204/WG5 Status report to CEN/TC204 March 2012

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Overview of work items under development (1)

Architecture and technology independent

- FprCEN/TS 16439 **Security framework** (CEN WI 270, WI adopted in Feb 2011, TC278 N2429)
- prCEN ISO/TS 17444-1 **Charging performance – Part 1: Metrics** (CEN WI 273, WI adopted in Feb 2011, TC278 N2430; ISO NP adopted in 2011-08, TC204 N2830)
- prCEN TS 17444-2 **Charging performance – Part 2: Examination framework** (WI adopted in March 2012, TC278 N2666, Res 006; **submitted for ISO NP letter ballot**)
- prCEN TR **Guidelines for EFC-applications based on in-vehicle ITS Stations** (CEN WI 315, adopted in 2011-08, TC278 N2538)

Overview of work items under development (2)

DSRC-based EFC

- ISO/PWI TS 16875 **Interface definition between DSRC – OBE and external in-vehicle devices** (ISO PWI)
- EN 15509 **Interoperability application profile for DSRC** (CEN WI 327, revision)

Overview of work items under development (3)

Autonomous EFC

- prCEN/TS Secure monitoring for autonomous toll systems — **Compliance checking** (CEN WI 282, adopted in 2011-08, TC278 N2539)
- CEN PNWI TS EFC - Secure monitoring for autonomous toll systems — **Trusted recorder** (TC278 N2333)

EFC application standards overview (4)

	DSRC-based EFC		EFC-tech. independent	Autonomous-EFC	
	Tests	Requirements		Requirements	Tests
Frameworks	14907-1 Test Procedures		17573 EFC Architecture 17574 Security Profiles 16439 Security Framework		
Toolboxes	14907-2 DSRC-OBUs Tests	14906 AID for DSRC-EFC 25110 AID, IC-cards 16875 Interface OBE+	12855 Info Exchange 17444-1/2 Charging Perf. Indic.	17575-1/2/3/4 AID Auto.-EFC XXXXX Sec.Mon: CC XXXXX Sec.Mon: TR	16401 , etc Auto-test (4*2 parts)
Profiles	15876-1/2 IAP Test	15509 IAP for DSRC-EFC		16331 IAP for Auto-EFC 12813 CCC for Auto-EFC 13141 LAC for Auto-EFC	13143-1/2 CCC Test 13140-1/2 LAC Test
Technical Reports		TR 16040 Urban DSRC	TR 16152 First Mount OBE TR 16092 Pre-Paid Req. TR 16219 Value Added Serv. TR XXXXX EFC on ITS stations		

FprCEN/TS 16439 Security framework

- **Objectives**

- Security framework, defining a framework and necessary elements for interoperable EFC systems
- Support for the European Electronic Toll Service

- **Scope**

- Threat analysis – asset-based and attack-based assessment
- Requirements specification
- Security measures focusing on the interoperable interfaces
- Trust model and Basic key management requirements

- **Status**

- WI adopted in Feb 2011 (TC278 N2429)
- TC review completed (TC278 N2549 in 2011-09)
- Internet Engineering Task Force's specifications normative (TC278 N2656)
- CRR (TC278 N2654)
- **Draft submitted 2012-03 for FV (WG N1524)**

- Drafting is supported by PT133

CEN ISO/TS 17444-1 Charging performance – Part 1: Metrics

- **Objectives**

- Charging performance metrics for discrete and continuous charging schemes to support procurement and service level agreements

- **Scope**

- Charging performance metrics information:
 - Charge reports
 - Toll declarations
 - Billing details
 - Invoicing Accuracy on the level of user accounts.

- **Status**

- WI adopted in Feb 2011 (TC278 N2430)
- For TC information (TC278 N2522) and internal WG review, closing on 2011-08-31. ISO NP adopted in 2011-08 (TC204 N2830).
- CEN TC review / ISO working draft comments: TC278 N2607
- CRR (TC278 N2651)
- **Draft (WG N1572) submitted in 2012-02 for parallel CEN FV / ISO DTS ballot**

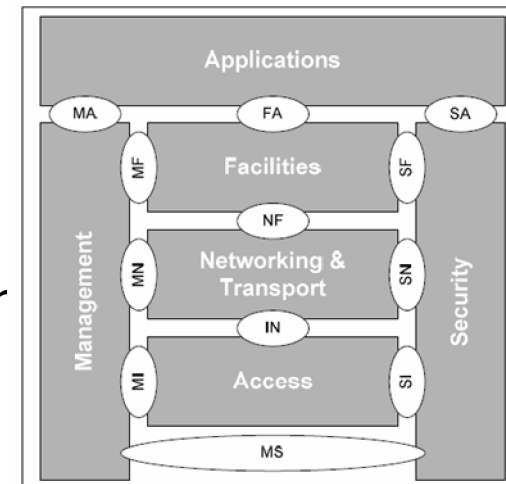
- Drafting is supported by PT134

prCEN TR WI 278315 Guidelines for EFC-applications based on in-vehicle ITS stations

- **Objective :**
 - Assessment of the technical and operational feasibility of using a generic ITS Station @ ETSI EN 302 665 "ITS - Com arch" for EFC applications
- **Scope**
 - Comparison of the ITS and EFC architectures
 - Core requirements for operation of an EFC app on an ITS Station
 - Potential synergies between EFC and ITS applications
 - Requirements for the ITS Station to support EFC apps
 - Recs on standards needed to support deployment of or actions to reduce barriers for deployment of EFC applications on an ITS Station

- **Status and target**

- WI adopted in 2011-08 (TC278 N2538)
 - TC review: 2012-02
 - FV: 2012-08
- EC grant application signed in Dec 2011. Call for N2618), deadline for replies was 2012-03-01



PWI TS 16785 - Interface definition between DSRC-OBE and external in-vehicle devices

- **PWI TS "EFC - Interface definition between DSRC-OBE and external in-vehicle devices"**
 - Idea originating from Japan (editorial support from Korea, Singapore, etc)
 - DSRC-based OBU that might be combined with external devices (GNSS, cellular etc)
 - Scope: To define the interface between DSRC based OBE and external unit to cope with diversified tolling schemes.
- **Status and target**
 - PWI TS adopted in Nov 2010 (TC204 N2674, Nov 2010)
 - Working draft (WG N1547)
 - Broader commitment indicated by WG members (JP, KO, FR, ES, NO provisionally noted) to actively support the preparation
 - **ISO NP TS ballot (N2899), closing by 2012-03-27**

EN 15509 Interoperability application profile (IAP, rev)

- **Objectives**

- Interoperability, equipment compatibility, best industry practice
- Support the European EFC Directive (2004/52/EC)

- **Scope**

- DSRC requirements
- EFC functions and data, security and ICS proforma

- **Status and target**

- Result of review enquiry (TC278 N2556, 2009-09)
- Decision to revise 15509 (TC278 Res 025-2011)
- Draft ready for CEN Enquiry: 2012-04
- Draft ready for FV: 2013-02

prCEN TS WI 278282 "Secure monitoring for autonomous toll systems – Compliance checking"

- **Objective**

- Support for the Toll Charger to check the trustworthiness of the toll declarations from the Toll Service Provider whilst respecting the privacy of the user

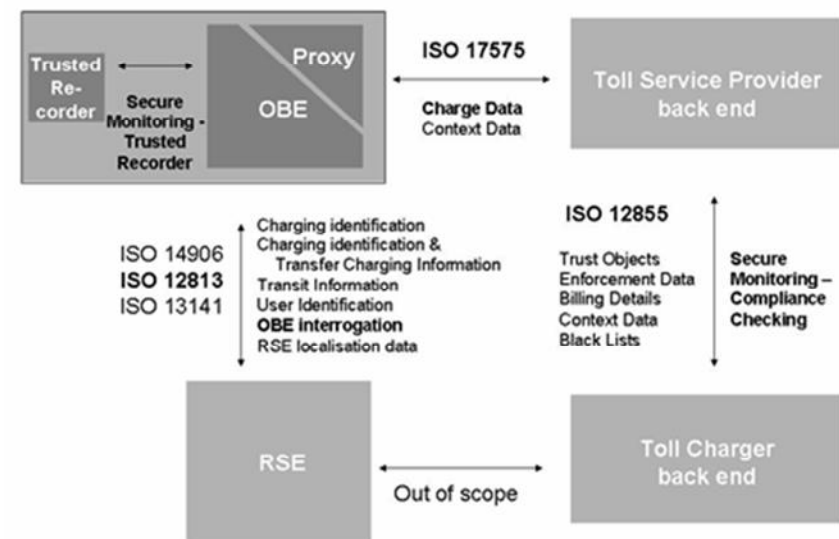
- **Scope**

- Secure monitoring concept and stake holder reqs
- Transactions and data
- Using whenever possible existing standards (CEN/ISO TS 12813, EN CEN/ISO 12855, CEN/ISO TS 17575-1...)

- **Status and target**

- CEN WI adopted in 2011-08 (TC278 N2539)
- TC review: 2012-07
- FV: 2013-02

- **EC grant application signed in Dec 2011. Call for experts (TC278 N2618), deadline for replies was 2012-03-01**



Miscellaneous (1) – Recently approved EFC standards

- **CEN ISO/TS 14907-2** “Test procedures for user and fixed equipment – Part 2: Conformance test for the OBU application unit” (TC278 N2573) and published in 2011-11
- **EN ISO 12855** “EFC - Information exchange between service provision and toll charging” (TC278 N2606, published in 2012-02)
- **CEN/TS 16331** “EFC – Interoperable application profiles for autonomous systems” (CEN/TC278 N2598, published in 2012-03)
- **Evaluation of equipment for conformity to CEN ISO/TS 17575: 6** standards published in 2012-03
 - **CEN ISO/TS 16407-2** (TC278 N2613)
 - **CEN ISO/TS 16401-1/2** (TC278 N2609-2610)
 - **CEN ISO/TS 16410-2** (TC278 N2615)
 - **CEN ISO/TS 16403-1/2** (N2611-N1612)
- **CEN ISO/TS 13140-2** “Evaluation of on-board and roadside equipment for conformity to CEN ISO/TS 13141-2 (CEN/TC278 N2608, published in 2012-03)
- **EN 15876-1:2010/A1** Evaluation of on-board and roadside equipment for conformity to EN 15509 – Part 1: TSS & TP (TC278 N2623 in 2012-02).

Miscellaneous (2)

- **SR of CEN ISO/TS 25110** “on-board account using ICC” **closed on 2012-03-15**; result not yet distributed
- **Submitted work item proposals and proposed TC resolutions**
 - **TC204 N2899 ISO/NP TS 16785**, Interface definition between DSRC-OBE and external in-vehicle devices, for reply to ISO by 2012-03-27 (ISO only)
 - New work item proposal for “**Charging performance – Part 2: Examination framework**”, submitted for **ISO NP letter ballot**
- **Ideas for future work**
 - CEN PNWI TS Secure monitoring – **Trusted recorder** – an NWIP is being prepared
 - **Profile standard for EN ISO 12855** “Information exchange between Service provision and Toll charging”; a questionnaire (TC278 N2655) circulated to collect stakeholders’ requirements and experiences.
 - “How to apply **EFC** standards to multi-modal transport services **using common payment media**” **ISO TR** is being prepared
 - **Test standards for EN ISO 12855** “Information exchange”
 - Potentially “Framework to support **suitability for use assessment**”

Miscellaneous (3)

- **EFC 2006 Grant Agreement**
 - 2 ENs and 4 TS
- **EFC 2007 Grant Agreement**
 - 1 ENs, 15 TS and 4 TRs
- **EFC 2010 Grant Agreement**
 - Security framework & Charging performance metrics (TC278 N2362)
 - Target : 3 TS - approval expected by H1/2013
- **EFC 2011 Grant Agreement (2011-38)**
 - Secure monitoring for autonomous toll systems – Compliance checking
 - Guidelines for EFC-applications based on in-vehicle ITS stations
 - Target : 1 TS and 1 TR – approval expected by mid 2014
 - **Call for experts closed on the 1st of March 2012 (TC278 N2618)**
- **EFC 2012 Grant Agreement Application (2012-20)**
 - Secure monitoring for autonomous toll systems – Trusted recorder
 - Interoperable application profiles for information exchange between Service Provision and Toll Charging
 - Coordination of PTs and support to the EC
 - **Application submitted in March 2012**

Miscellaneous (4)

- **Overall appreciation of the relevance of the EFC published standards and work in progress relating to cooperative ITS (TC278 N2533)**
- **Review and input to ITS reference architecture** (TS 14813 rev) – terms and open distributed processing model (WG N1562-1563, ISO 17573)
- **Intellectual property and patent rights** – Monitoring and initial assessment of potentially relevant new patent or patent applications (WG N1502, N1512 and N1549)
- **Overview of CEN and ISO standards development stages** (TC278 N2660) – supports the coordination within the WG and between the TCs
- **M338 progress report** to the ITSCG (TC278 N2633)
- WG convenor access to **CEN's projex** – **easy access to WI status info** 😊

CEN/TC278/WG1 and ISO/TC204/WG5

Recent meetings: 25-26 January 2012, Warsaw (Poland)

Next meetings: 11-12 April 2012, Delft (the Netherlands)
27-28 June 2012, Zürich (Switzerland)
16-17 October 2012, Moscow (Russia)

Members: Australia, Austria, Canada, China, Czech Republic, Finland, France, Germany, Italy, Japan, Korea, Netherlands, Norway, Poland, Portugal, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom

In total **47 expert members** from 21 countries (15 CEN)

Subgroups: SG1 - Trond Foss: Info exchange, architecture, security
SG2 - Jean François Jouen: DSRC based EFC, testing
SG5 - Ian Catling: GNSS/CN based EFC

Liaisons: EC DG TREN, EC Electronic Toll Committee, ETSI ITS, CEN/WG3 & ISO/WG8, CEN WG16 & ISO /WG18, ISO/WG16, IEEE 1609, CEN/TC224/WG11

Team of EFC standardisation experts



WG meeting in Stockholm in October 2011 (courtesy of Sweco)

Convenor's recommendations to TC204

1. Noting resolution 011-2012 of CEN/TC278 (CEN/TC278 N2666), ISO/TC204 resolves to encourage ISO CS, in consultation with CEN CMC, to review the assignment of standard reference numbers in order to promote clarity and easy referencing of ISO deliverables on the market

TC204 Tampa WG5-related resolutions - status

Res no	Content	Status
869	ISO TC204 resolves to launch the DTS ballot for the following work item, under CEN lead, subject to prior decision by CEN TC278: CEN ISO/TS 17444-1 - Electronic fee collection – Charging performance – Part 1: Metrics	Comment resolution report in CEN/TC278 N2651. Draft CEN ISO/TS 17444-1 submitted for parallel CEN FV / ISO DTS ballot in 2012-02.
870	ISO TC204 resolves to work in parallel with CEN TC278 under CEN lead on the following work item and submit it for NP ballot and subsequently for CD ballot, subject to prior decision by CEN TC278: CEN ISO/TS 17444-2 Electronic fee collection – Charging performance – Part 2: Examination framework	CEN/TC278 adopted a new work item for the development of TS 17444-2 in its resolution 006-2012 (CEN/TC278 N2666, 2012-03-22). The same work item is submitted for ISO NP letter ballot.

Provisional WG5 room requirements for TC204 meeting in Moscow, Russia, October 2012

Tuesday, 16th of October:

- **1 meeting room for some 35 persons**
 - SG1 in the morning
 - SG5 in the afternoon
- **1 meeting room for the afternoon for some 15 persons (SG2)**

Wednesday, 17th of October :

- **1 meeting room for some 35 persons (WG plenary)**

Joint WG meetings in conjunction with the TC204 October 2012 meeting? **Anticipated desire to meet and discuss**

- **Fee and fare – w TC204/WG8**
- **EFC app on ITS stations – w TC204/WG18**

Completed Work (1) - Architecture and technology independent

EN ISO 12855	EFC - Information exchange between service provision and toll charging (published in 2012-02)
ISO 17573	EFC - System architecture for vehicle-related tolling (published in 2010-12, replacing ISO TS 17573:2004)
CEN ISO/TS 17574	EFC – Guidelines for security protection profiles (2nd ed published in 2009-09)
CEN TR 16092	EFC - Requirements for pre-payment systems (adopted in 2010-08, target publication date 2011-03-02)
CEN TR 16152	EFC – Personalisation and mounting of first mount OBE (published in 2011-03)
CEN TR 16219	EFC – Value added services based on EFC on-board equipment (published in 2011-07)
CEN ITR	Integration of payment systems for transport services (CEN/TC278 N278, 1994-03-17)
CEN ITR	Definition of Threats and Security Controls for the Charging Interface in Electronic Fee Collection (CEN/TC278 N780, 1997-10)

Completed Work (2) – DSRC-based EFC

EN ISO 14906	EFC - application interface definition for DSRC (3rd edition published in 2011-10)
CEN ISO/TS 14907	EFC - Test procedures user and fixed equipment Part 1: Description of test procedures (3rd ed published in 2010-06) Part 2: Conformance test for the onboard unit application interface (2nd ed in 2011-11)
EN 15509	EFC - Interoperable application Profile for DSRC (published 2007-05)
EN 15876	EFC – Conformity evaluation of on-board and roadside equipment to EN 15509 Part 1: Test suite structure and test purposes (FprA1 approved through UAP vote in 2012-02) Part 2: Abstract test suite (published 2011-04)
CEN ISO/TS 25110	EFC - Interface definition for on-board account using ICC (approved in 2008-10)
CEN TR 16040	EFC - Requirements for urban DSRC systems (published in 2010-06)
CEN ITR	AFC requirements for DSRC (CEN/TC278 N318, 1994-08)
CEN ITR	EFC - Requirements for Integrated Circuit Cards (CEN/TC278 N779, 1997-10)

Completed Work (3)

Autonomous and support for autonomous EFC systems

- CEN ISO/TS 17575** EFC - **Application interface definition for autonomous systems**
- Part 1: **Charging** (published in 2010-06)
 - Part 2: **Communication and connection to the lower layers** (published in 2010-06)
 - Part 3: **Context data** (published in 2011-04)
 - Part 4: **Roaming** (published in 2011-04)
- CEN/TS 16331** EFC – **Interoperable application profiles for autonomous systems** (published in 2012-03)

Completed Work (4)

Autonomous and support for autonomous EFC systems

CEN ISO/TS 16407 EFC – Evaluation of equipment for conformity to CEN ISO / TS 17575-1

Part 1: Test suite structure & test purposes (published in 2011-10)

Part 2: Abstract test suite (published in 2012-03)

CEN ISO/TS 16401 EFC – Evaluation of equipment for conformity to CEN ISO / TS 17575-2

Part 1: Test suite structure & test purposes (published in 2012-03)

Part 2: Abstract test suite (published in 2012-03)

CEN ISO/TS 16410 EFC – Evaluation of equipment for conformity to CEN ISO / TS 17575-3

Part 1: Test suite structure & test purposes (published in 2011-10)

Part 2: Abstract test suite (published in 2012-03)

CEN ISO/TS 16403 EFC – Evaluation of equipment for conformity to CEN ISO / TS 17575-4

Part 1: Test suite structure & test purposes (published in 2012-03)

Part 2: Abstract test suite (published in 2012-03)

Completed Work (5)

Autonomous and support for autonomous EFC systems

- CEN ISO/TS 12813** EFC - **Compliance check communication** (Published in 2009-11)
- CEN ISO/TS 13143** EFC - **Evaluation** of on-board and roadside equipment for conformity to **CEN ISO/TS 12813**
Part 1: **Test suite structure and test purposes** (published in 2011-04)
Part 2 : **Abstract test suite** (published in 2011-05)
- CEN ISO/TS 13141** EFC – **Localisation augmentation communication** (published in 2010-02)
- CEN ISO/TS 13140** EFC - **Evaluation** of on-board and roadside equipment for conformity to **CEN ISO/TS 13141**
Part 1: Test suite structure and test purposes (published in 2011-04)
Part 2: Abstract test suite (published in 2012-03)
- CEN ITR** Application **requirements** for EFC systems based on **GNSS/CN** (CEN/TC278 N798, 1997-11)