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TITLE **Publication of electronic and machine-readable files v2**

SOURCE Secretariat

NOTE(S)

REQUESTED ACTION

Circulated to Members, and to technical committees and organizations in liaison for

☑ information ☐ discussion ☐ comments by ☐ voting by

(Only Members)

(Members of the technical committee have an obligation to vote)

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CEN TC278
Intelligent transport systems
Plenary meeting of 2015-09-16
Publication of electronic and machine-readable files
Position paper

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Introduction

During the last plenary meeting of CEN/TC278 on the 24th and 25th of March ~~2015~~2016 in Delft, the following decision (009-2015) was adopted:

"CEN/TC 278 Intelligent transport systems

- Considering the increasing use of electronic and machine readable files;
- Considering the status report of its WG 1;
- Considering the approach presented by Knut Evensen;
- Considering the CIDCR which is under development;

establishes an ad hoc group composed of Richard Bossom, Loïc Blaive, Knut Evensen, Jesper Engdahl to prepare a position paper on how to deal with the publication of electronic and machine readable files to be presented at the next TC meeting."

The present position paper presents the discussion held within the ad hoc group and outlines ~~potential solutions~~a short-term solution and recommended next steps.

Context

Working Group 1 has created a website page that provides an overview of the EFC standard deliverables[1] and with (hyper-)links to standardised machine-readable codes (which can be used directly by compilers or computer-aided design and engineering tools) for EFC standards on TC 278's website. Indeed, many of the datasets go across multiple WGs and there is a need ~~to support~~for allowing machine-readable ~~file~~files downloading.

ISO allows publication of electronic and machine-readable files on the ISO Standards Maintenance Portal (http://standards.iso.org/iso/). However, ISO does not publish electronic files for CEN-only standards.

Other Working Groups have expressed similar needs as WG1, such as WG12 on Electronic Vehicle Identification (EVI/ERI) and WG16 on Cooperative ITS (C-ITS). However, the standards from these WGs are currently developed jointly with ISO and the electronic annexes containing ASN.1 description can be published by ISO. In the future however, these WGs may produce specific European standards (CEN only) within their remits.

For WG3 on Public Transport, the needs are slightly different. E.g. Standard Interface for Real-Time Information (SIRI) or Network and Timetable Exchange (NetEx) contain XML data ~~descriptions (schema).~~description. These descriptions are used to validate the data files exchanged according to these standards. ~~These schema must be robustly reproduced~~It is only possible as XSD files, which implies to make them available in an electronic format. These files may be very big. This issue is also valid for WG8 ~~(and its "DATEX II" standards).~~("DATEX II") even if the used solution (through the European EIP+ project – www.datex2.eu) does not fit the constraints defined below in this paper.

Finally, WG3 also wishes to make the TRANSMODEL or Identification of Fixed Objects in Public Transport (IFOPT) data models, defined using the Unified Modelling Language (UML), available to software designers/developers in an electronic format (using a specific standardised XML format named XMI).

Needs

The perceived needs for the users of CEN ITS standards can be summarised as follows:

- need for an overview of the scope of ITS standards and their relations
- need for an easy access to public versions of machine-readable files (e.g. ASN.1, TTCN, XSD, XMI…) associated with standards, ideally free of charge~~, through official CEN portals~~
- need for demonstrating the authenticity of electronic standards and associated machine-readable files, to ensure the users that the documents and files are authentic and issued by CEN (and ISO, respectively)
- need for an easy access to online store(s) where the integral publications can be obtained/purchased

[1] CEN produces different deliverable types like European Standard, Technical Specification, Technical Report and Workshop Agreement. In the remaining text all these types are referred to as standards for simplicity and in order not unnecessarily complicate the text.

Constraints

The following constraints have been identified:

- Copyrights and Intellectual property rights (IPR)
- Consistency and integrity of the published files
- Alignment with the CEN development procedures
- Acceptable formats

Copyrights and intellectual property rights

It is fundamental to take due notice of copyrights and IPR issues. Selling standards allows for CEN, ISO and NSBs to (partially) fund their activities. Unlike ISO that directly markets its produced standards, European standards are only distributed via the NSBs. It is important to maintain this funding source for NSBs and therefore provision of electronic files must not substitute the purchase of the paper (or PDF) version of the corresponding standard deliverable.

In some specific cases, a share of IPR may occur through an agreement between the standardisation organisation and the third-party organisation that provided substantial parts of the standard. Such agreement may prevent distribution of electronic machine-readable files through a publicly accessible website.

Integrity

The CEN production of standards follows clear rules and procedures that guarantee high quality documents, which represent broadly accepted references on the private and public markets. According to the European directive on public procurement (2014/24/EU) the reference to European standards is mentioned in several places, including its Article 42. It stresses the importance to refer to European standards. Therefore and noting the role of standards in public procurement, the stability of these references is essential.

In particular, it is fundamental to ensure that a document or an electronic file can be unambiguously referenced and that its development status is clear (e.g. approved).

This integrity of standards is also very important in private contracts, in order to avoid unnecessary administrative or commercial actions.

It also has an impact on the maintenance of standards including the correction of errors or bugs, which may be contained in machine-readable files. It is fundamental that the CEN procedures ensure that the user can verify that the files are authentic and issued by CEN (and ISO, respectively), and implies accurate management of rights for making machine-readable files electronically and publicly available.

Alignment with CEN's procedures

One of the challenges is to maintain the synchronisation between the published documents (paper or pdf version) and the electronic files. This challenge also applies for corrigenda or amendments, in particular if related to machine-readable data. Such corrigenda and amendments of machine-readable files need to be elaborated in accordance with CEN's procedures, to ensure transparency, appropriate consensus-building and approval, in accordance with CEN's procedures.

If a working group considers the electronic document is the essential part of the standard and it needs frequent updates for some reasons (e.g. electronic publication of a register), it is necessary to use a dedicated and defined mechanism ("maintenance agency"). In this case, the information in the electronic published information and the corresponding standard

is not identical, and hence their publications via different media and channels need not be synchronised.

Acceptable formats

Considering the very high number of different electronic formats, it may be difficult for CEN and its NSBs to offer an appropriate solution for all formats (e.g. due to IT-security policy reasons). However, commonly machine-readable file formats defined in ITS standards ought to be supported, noting that some of them are at present published in form of electronic inserts (e.g. ASN.1~~,~~ and TTCN code ~~and XSD files~~).

5. Outline of ~~solutions~~a solution and next steps

Below ~~is~~ an outline of short-term solution~~:~~

I. Agree and promote best practice of electronic publication of machine-readable files associated with ITS standards within CEN/TC278:

a) Standardised machine-readable files should be developed according to CEN procedures for development of standard deliverables;

b) Provisional versions that have not gone through the consensus building process should to be kept within the TC/WG;

c) Provide overview of published ITS standards and make the public versions of machine readable files (e.g. ASN.1, TTCN, XML…) available in a web repository on ISO's Standards Maintenance Portal (http://standards.iso.org/iso/) for joint deliverables and on CEN/TC278's website for CEN only deliverables;

d) For an example of how this could be done, using ISO OBP and Standard Maintenance Portable, please have a look at http://tc278.eu/index.php/efc#EFCstandards

Below ~~is~~ an outline of recommended next steps for development of a medium term solution~~:~~

II. Promote a broader review of the electronic publication of machine-readable files within CEN (and ISO)

a) ~~This requires~~Requires further strategic ~~reflection~~reflections and broader ~~stakeholder~~stakeholders consultation in order to make sure that the strategic direction is supported and owned by CCMC and that the needs and constraints reflect the ~~needs and concerns of the~~ broader relevant stakeholders (CCMC, NSBs, standardisation experts, public and private users of standards)

b) (e-publication) Development Roadmap including any needed updating of the CEN production and publication procedures. Such a Roadmap is likely to include e.g. use of electronic signatures or similar measures, enabling the users of the standards to verify that the files are authentic and issued by CEN (and ISO, respectively).

~~17~~15 September 2015

Loïc Blaive, Knut Evensen and Jesper Engdahl