HGV eCall Rotterdam

TS16405 in practice

Experiences with a standard-to-be

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Topics

• Introduction

• The Standard has some bugs...

• The Standard how it was meant to be...

• Introducing additional services
Introduction

• Pan European eCall – no introduction necessary

• eCall MSD can be filled with (a bit of) additional data

• Providing information about the cargo of involved vehicles has been identified as relevant for the emergency services

• TS16405 is the first attempt to use the additional data to accommodate such needs

• Two schemas: one for cargo information in the MSD (Schema A), one for supplying (a way to access) an external information service with cargo information
The Standard has some bugs ...

- Discrepancy between data description and ASN coding scheme:

- Origin of discrepancy unknown, ASN coding scheme is as it should be

- Introduces confusion, especially when the body text is used for coding
The Standard has some bugs ... (2)

- Small typing errors with rather huge effects:

  ```
  quantityUnit  HGVQuantityUnit
  }

  CVQuantityUnit ::= ENUMERATED {
  ```

- Introduced when ‘Commercial Vehicle’ was deemed a better title than ‘Heavy Goods Vehicle’

- ASN coding scheme in its current form fails compilation

- *All errors will be corrected in a future version; updated ASN coding schemes are available upon request*
The Standard how it was meant to be ...

- Two groups of transports were identified:
  - ...those with no means to make cargo information online available
  - ...those who do have this possibility

- Schema A aims at the first group:
  - up to seven different dangerous goods and six different others
  - information in MSD is fixed, semi-fixed or filled from an OBU
  - additional benefit: information immediately available to PSAP

- Schema B aims at the second group:
  - MSD contains relevant information to access external source
  - no action in vehicle

- Both allow for inclusion of alarm information
Use Cases for Schema A

- Notify PSAP that vehicle can be used to transport dangerous goods: *Schema A with numberOfUndefinedGoodsADR set to 15 (unknown)*

- A bit more sophisticated: let folding board flip a switch: *Schema A with numberOfUndefinedGoodsADR set to 0 or 15*

- Similar approach if transported goods are ‘fixed’: *Schema A with one defined good and quantity omitted (can be combined with folding board approach)*

- More sophisticated: sensing of ADR plates, RFID, etc *This also requires more intelligence from the IVS*
Use cases for Schema A (2)

• Original use case in The Netherlands:

*Create connection (wired, Bluetooth, etc.) between on board transport unit (which has relevant cargo information) and eCall IVS and have the latter provide means to the first to update the Schema A portion of the MSD so it always contains the most recent situation.*

*Implemented and tested during HeERO project*
Use cases for Schema B

• Since the cargoInformationEndpoint is not mandatory in Schema B, the simple examples for Schema A can also use Schema B.

• Single use case for Schema B: a situation in which the cargo of the vehicle (including if applicable) trailer is known to some online service

  The MSD contains Schema B with information about the endpoint in the fields cargoInformationURI and cargoInformationProtocol

• Back to ‘The Standard had bugs …’ – the naming of the elements is not optima
The idea behind cargoInformation*

- *The elements of the MSD should unambiguously define HOW and WHERE to get the cargo data for the vehicle involved.*

- *cargoInformationProtocol* identifies the HOW – this id in relative-oid format unqly identifies a service description, which may or may not include:
  - *The protocol to retrieve the data (REST, SOAP, etc.)*
  - *The way to identify the vehicle (key, VIN, etc.)*
  - *The output format of the data (XML, JSON, etc.)*
  - *A data description of the format*
  - *The URL of the service*

- Stop... wait... the URL? What about *cargoInformationURI???*
The idea behind cargoInformationURI

• Mea Culpa – it was named wrongly

• The idea is the field contains that elements for the URI that cannot be obtained via the protocol definition referenced to via cargoInformationProtocol
  - *It can be a complete URL, for services that are carrier specific*
  - *It can be one or more identification keys, in which case the base url can be obtained from the protocol definition*
  - *It can be empty if no additional information is needed, for instance if identification is based on VIN or other already exchanged information*

• Time for an example: LZP
Example of protocol definition (existing)

<table>
<thead>
<tr>
<th>Caption</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol ID</td>
<td>31.1</td>
</tr>
<tr>
<td>Name</td>
<td>LZP, address, zipcode</td>
</tr>
<tr>
<td>URL</td>
<td><a href="https://ebgb.lzp.nl/web/ECALL.wsdl?key=cargoInformationURI">https://ebgb.lzp.nl/web/ECALL.wsdl?key=cargoInformationURI</a></td>
</tr>
<tr>
<td>Authentication</td>
<td>Basic HTTP with user/password</td>
</tr>
<tr>
<td>Retrieval</td>
<td>HTTP GET</td>
</tr>
<tr>
<td>Output</td>
<td>EBA-XML in SOAP Body</td>
</tr>
<tr>
<td>Example</td>
<td><img src="image-url" alt="Example" /></td>
</tr>
</tbody>
</table>
## Example of protocol definition (example)

<table>
<thead>
<tr>
<th>Caption</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol ID</td>
<td>99.9</td>
</tr>
<tr>
<td>Name</td>
<td>Some service</td>
</tr>
<tr>
<td>URL</td>
<td><a href="https://cargoInformationURI">https://cargoInformationURI</a> ⇐ complete URL in MSD field or [<a href="https://some.si.te/vin=vin">https://some.si.te/vin=vin</a> ⇐ no information in field](<a href="https://some.si.te/vin=vin">https://some.si.te/vin=vin</a>)</td>
</tr>
<tr>
<td>Authentication</td>
<td>Basic HTTP with user/password</td>
</tr>
<tr>
<td>Retrieval</td>
<td>HTTP GET</td>
</tr>
<tr>
<td>Output</td>
<td>JSON</td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
</tbody>
</table>
Further to Schema B ...

- In theory every PSAP (‘n’) has to be able to contact every cargo information provider (‘m’) which leads to n x m relations.

- Even more since Schema B allows for a carrier to open his system to a PSAP provided he uses a well known protocol referenced to via cargoInformationProtocol

- Given the confidentiality of the data this not only has a technical effect, but also creates the need for (more than) m x n bilateral agreements

- This calls for action: a PSAP should have a single point of contact to obtain cargo data, the same way as EUCARIS is a single point for car registration data.
Introducing...

• A Proof of Concept, but ready to use eCall Cargo Information portal:

• More about this in the demonstration later
Also introducing...

- An operation PSAP test facility, offering 24/7 access via long number (+31), which can automatically send results to email
Also introducing... a test facility

- Supports extensive logging, audio saving and other useful features
- Will be able to receive and decode all additional data concepts that pass through CEN TC278 WG15
- Made available by Rijkswaterstaat, more information will follow, operational 2nd half of 2017
Summary

- TS16405 is not perfect, even contains some errors, but can and is already used for the purpose it was intended for.

- Misconceptions about the possibilities with TS16405 are easily solved, making its potential available to anyone.

- A working portal supporting the use of Schema B both confirms the usability of a Schema B approach and strengthen the use of it in a PSAP environment.

- Testing of this and other additional data concepts is made easier with the creation of an online, always active, feature rich, testing facility.
Questions?

• Ask now

• Ask during demonstration (I’ll be back)

• Ask later today, this evening or tomorrow

• Ask via e-mail: frank.maas@cheiron-it.nl