
LDM Data Dictionary

CEN TC278 WG16
ISO TC204 WG18
Cross-cutting meeting

PT1604 contribution

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- LDM stores LDM data objects, i.e. information on real objects (cars, road events, ...) which are existent in a defined geo-area in a defined time interval.
- Such information is available via different channels:
 - DATEX II, TPEG, RDS-TMC (legacy systems),
 - CEN / ETSI / ISO / SAE ITS message sets; composed of different sets of attributes, and presented in different formats (encodings).
- Not all information provided via these channels is to be stored in an LDM.
- Harmonization is not possible!

- ITS application processes querying an LDM either need to request info from a specific source (DATEX, TPEG, C-ITS message set, ...), or need to understand all of the possible formats.
- Filtering at the level of attributes is challenging, especially for ITS message sets efficiently encoded using ASN.1 unaligned PER (e.g. CAM, DENM, BSM).

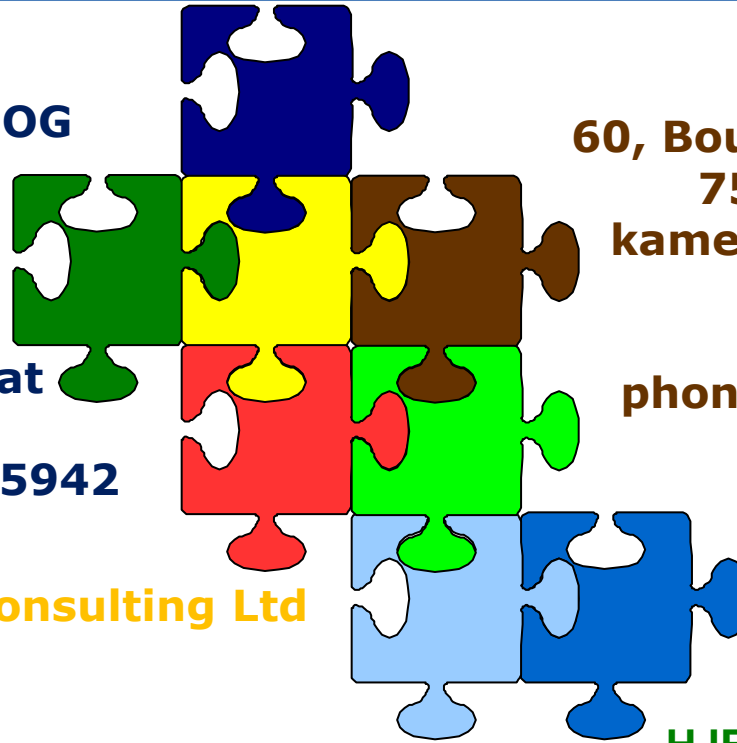
- TS 18750 specifies a tool named **LDM Data Dictionary (LDM-DD)**
- LDM-DD is a globally applicable data dictionary, implemented by means of a registry, rather than by means of a standard.
- The content of the LDM-DD are LDM data object types and associated attribute types; both organized as TLV-encoded elements using ASN.1 CLASS type.
- Content is defined at time of specification of an ITS-S application process / use case that wants to use an LDM for a specific purpose.

- Each LDM object type is uniquely identified by an INTEGER reference number (size?).
- Each LDM object type may be composed of 0, 1, ... n attribute types. Each attribute type of an LDM object type is uniquely identified by an INTEGER reference number (size?).
- For each LDM object type being registered, the mapping of attributes from the various sources (legacy systems / ITS message sets) is defined together with the format / encoding of the attribute as stored in the LDM.

- This mapping process implies that
 - eventually only a subset of information originally provided is used in an LDM data object,
 - each attribute must support a value (not existent/not defined).
- This mapping is to be performed by ITS-S application processes designed to receive messages from a specific type (legacy system / ITS message set).
- LDM data object definitions can be extended in the future with additional attributes.

- Scalable approach to uniquely identify LDM data object types and related attribute types.
- Removes the current ambiguity of EN 302 895 (what is contained in an LDM, and with which encoding).
- Removes the challenges that an LDM would need to understand various encoding schemes and details of various message sets / legacy data dictionaries.
- Enables easy filtering at the attribute level.
- Simplifies queries of the LDM.
- Does not affect design of any other data dictionary (e.g. the ETSI common data dictionary).

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