HGV eCall

Incident Management, Dangerous Goods, e-CMR

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January 30th 2019

Agenda

- Introduction of the Work Item and why we are here
- Introduction to Standard eCall
- Extension for HGV eCall
- Supporting solutions
  - EUCARIS
  - eCMR
- Open Questions

History of the CEN WG15 Workitem HGV eCall

- Part of Pan EU eCall implementation
- Part of EU Policy supported by EU Parliament and EU Commission
- eCall is ITS Legislation
- HGV eCall supported by 5 EU member states
- Piloted in HeERO 1 and HeERO 2,
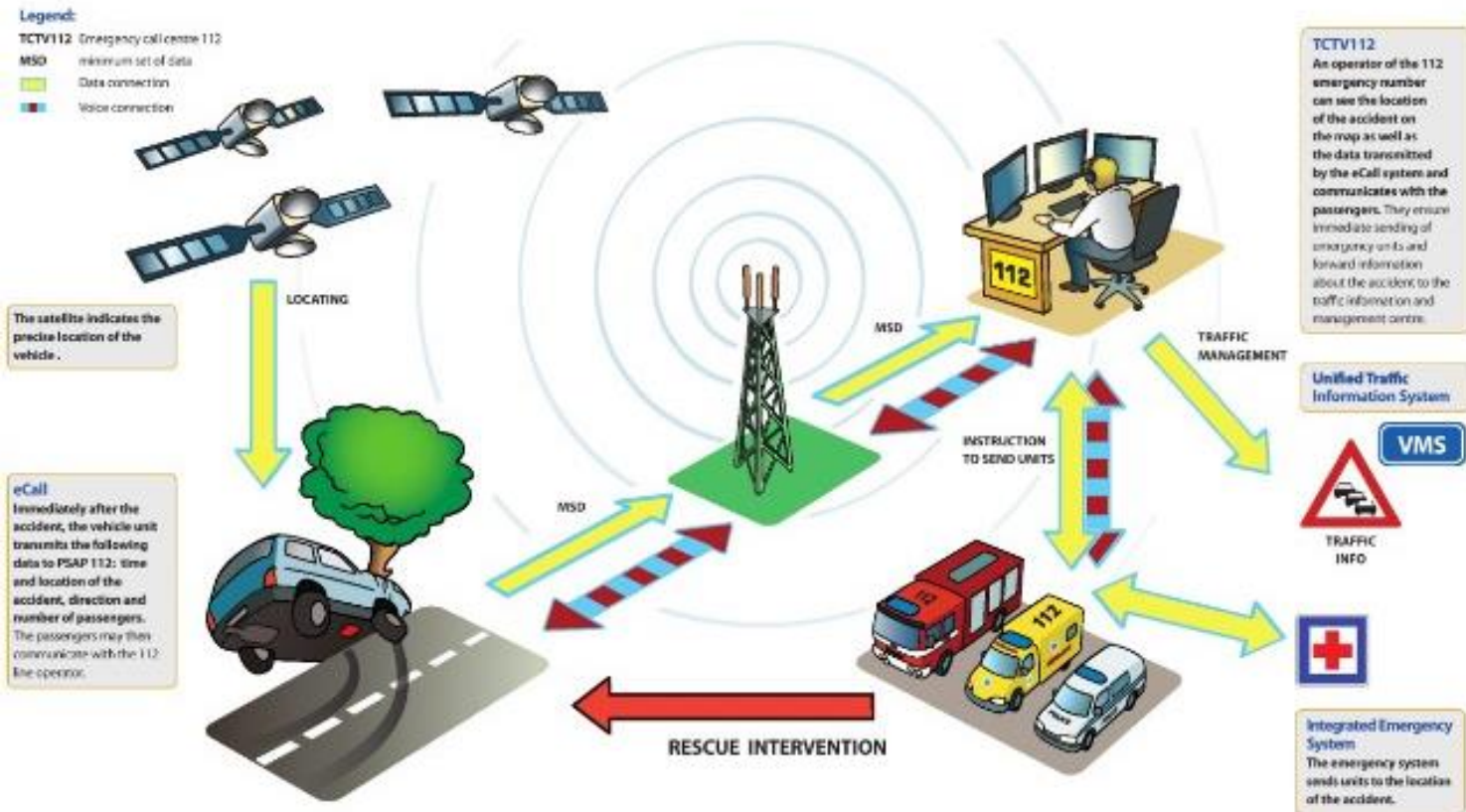- Standardised in CEN TS16405

Combining goals

- eCall – Safety of emergency services
- Dangerous Goods – safe and efficient handling of incidents
- Paperless transport – supports economic growth

- Digital waybills is a chance to have early access to freight information in case of an accident without access it is a nightmare for first responders.
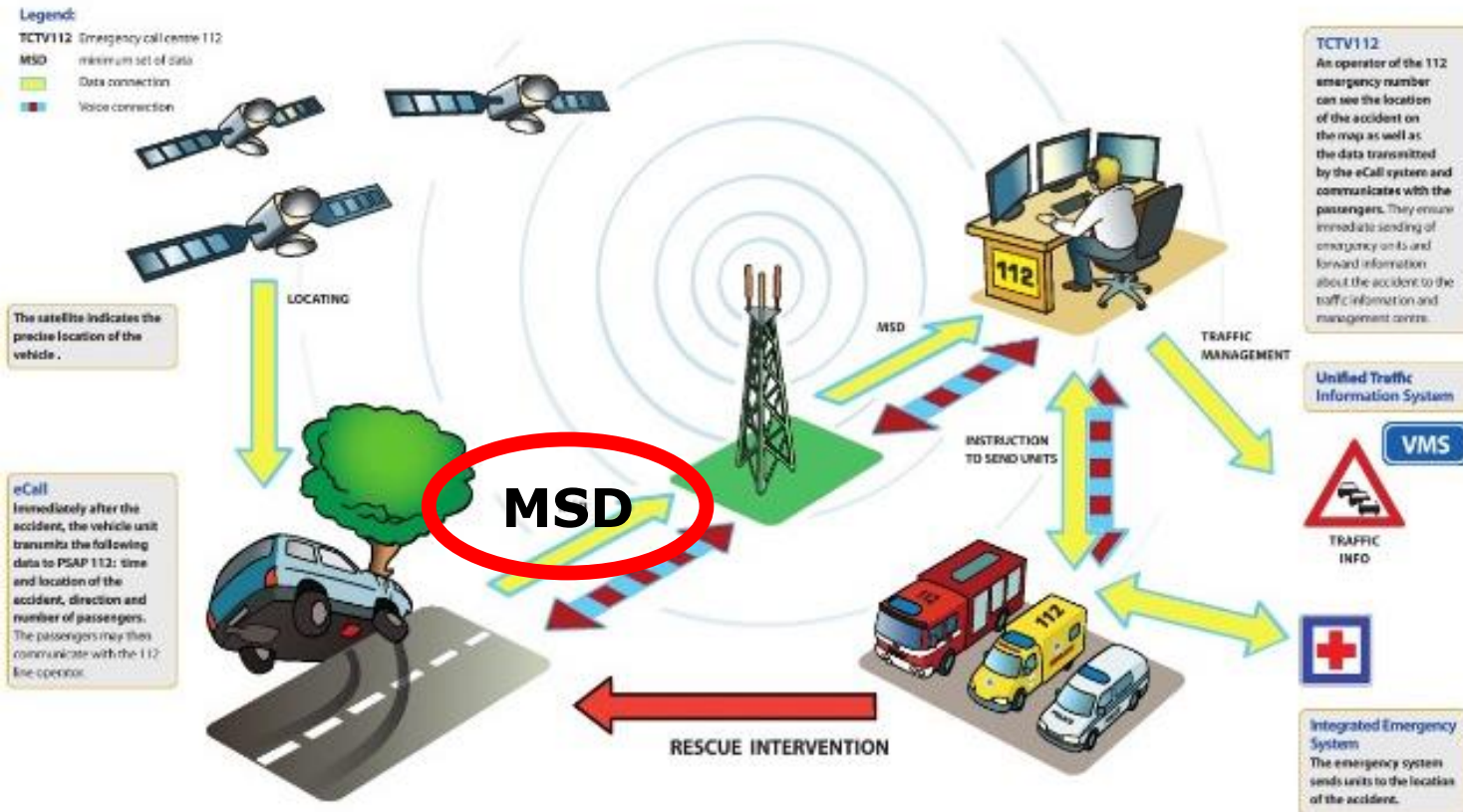
Basic eCall operation principle

How eCall works

Legend:
TCTV112 Emergency call centre 112
MSD minimum set of data
Data connection
Voice connection

The satellite indicates the precise location of the vehicle.

LOCATING

eCall
Immediately after the accident, the vehicle unit transmits the following data to PSAP 112: time and location of the accident, direction and number of passengers. The passengers may then communicate with the 112 line operator.

MSD

MSD

INSTRUCTION TO SEND UNITS

RESCUE INTERVENTION

TRAFFIC MANAGEMENT

TCTV112
An operator of the 112 emergency number can see the location of the accident on the map as well as the data transmitted by the eCall system and communicates with the passengers. They ensure immediate sending of emergency units and forward information about the accident to the traffic information and management centre.

Unified Traffic Information System

VMS

TRAFFIC INFO

Integrated Emergency System
The emergency system sends units to the location of the accident.

Basic eCall operation principle

eCall data

- Exchange of Minimal Set of Data (MSD), containing "emergency relevant" information:
  - Vehicle type, VIN number, propulsion type
  - Location of incident, previous locations, heading
  - eCall type (manual/automatic), timestamp of activation
  - Number of passengers
- Need and availability of additional data envisaged:

  MSD can be extended with optional set of (well defined) data, not exceeding the available number of bytes

eCall chain for Commercial Vehicles


HGV eCall chain
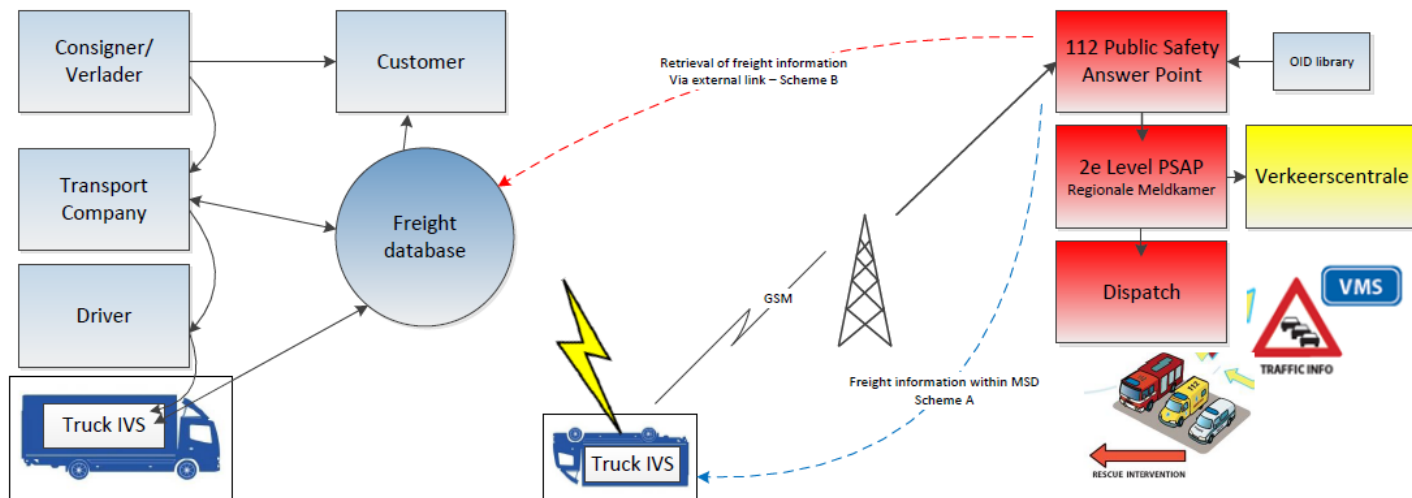
Handling of Cargo Information

- Two sources of Cargo information supported:
  - Equipment in or configuration of the vehicle: driver terminal, flip boards, fixed cargo, etc.
  - Remote database with cargo information like TMS, FMS or centralized source

- EN16405 defines two schemas:
  - Schema A: extended eCall – DG info in IVS
  - Schema B: full extended eCall – link to external database

Schema A: effective but limited

fixed freight data

$\downarrow$

MSD
schema A $\longrightarrow$ 112 PSAP
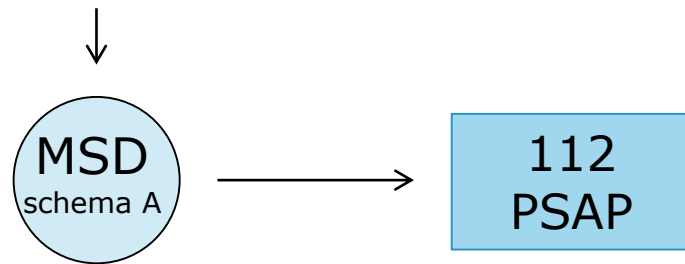
Pro:
- Information directly available at the PSAP
- Simple to realise for fixed freights

Con:
- Limited room for data
- Interface needed between IVS and terminal

Information to the PSAP
Basic eCall:
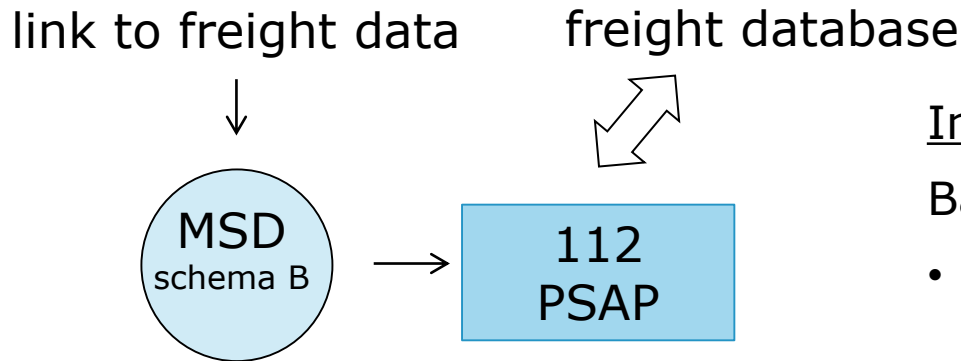- EN15722 standard information like: location, vehicle data (incl. type)

Scheme A:
- Consignors phone 24/7
- HGV type
- UN+Kemmler code+ packaging group or SPSC code, quantity

X338
1717

- No more than 7 entries

Schema B: flexible but complex

link to freight data freight database

MSD
schema B → 112 PSAP

Pro:

- Very accurate, logistic process driven, information

Con:

- Indirectly available to PSAP, necessity for communication with data source

Information to the PSAP

Basic eCall:

- EN15722 standard information like: location, vehicle data (incl type)

Scheme B:

- Consigners phone 24/7
- HGV type
- Information how to obtain cargo information for this vehicle

Schema B continued

PSAP uses information from MSD/Schema B to obtain from remote freight database:

- At least UN+Kemmler code+packaging group or SPSC code, quantity
- More information can be added
  - at the discretion of the transport company
  - if covered by an exchange standard
  - as long as deemed relevant for emergency services
  - not overstepping the (privacy) boundaries of eCall application

Standard EN16405 coverage

link to freight data

freight database

↓

eCall IVS

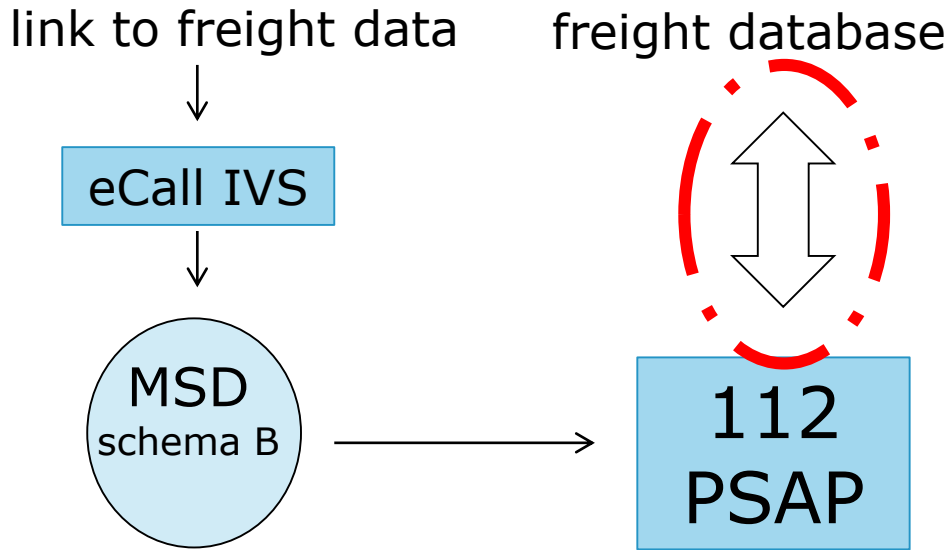↓

MSD
schema B

→

112
PSAP
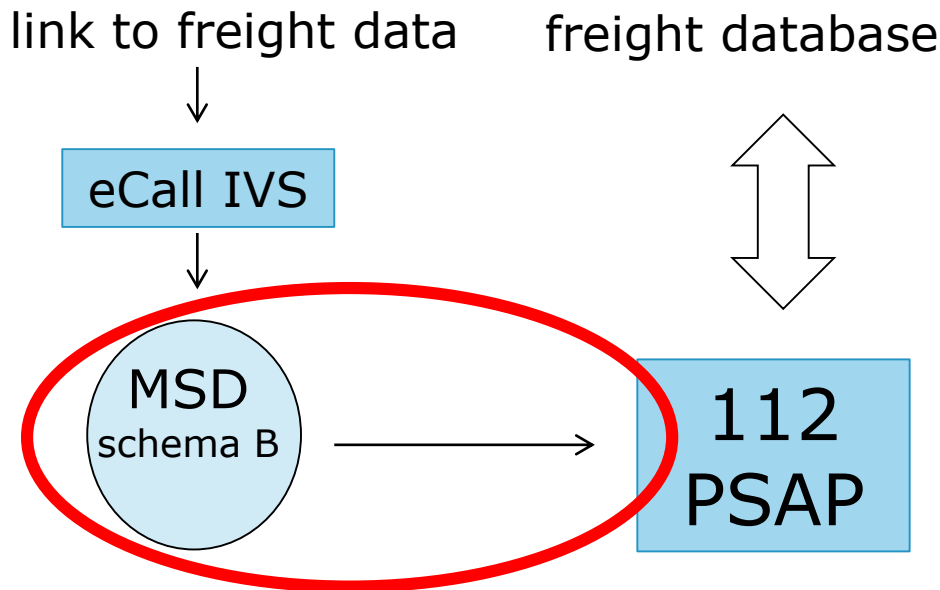
Transfer of MSD

Basic eCall:
- EN15722 (coding of MSD)
- EN16062 (HLAP)
- EN16072 (operating requirements)
- …

Cargo extension:
- TS16405 deals with both the coding of the additional data as with additional requirements in HGV
- TR1XXX … (work of group)

But…

link to freight data   freight database

eCall IVS

MSD
schema B

112
PSAP

Currently there is no standardised protocol to retrieve the data, nor standardised means to describe such protocol. There are no minimal requirements defined for the database service neither is there a standardised way of encoding the data.

For the standard to be a success, PSAPs need to be able to retrieve the cargo information in an effective way. This calls for a standard that describes:

- Protocols to access the data and ways to encode it
- How to verify the authentication of the freight database and the authorisation of the PSAP that it is allowed to access the database.
- How privacy is assured

Possible solutions

- EUCARIS

  With 'n' PSAPs and 'm' datasources an unmanageable web of n x m connections, agreements and contacts must be maintained. EUCARIS could offer a man-in-the-middle approach which operates as single point of contact for both the PSAP-side as well as the dataproviders.

- eCMR – UN/CEFACT

  eCMR – UN/CEFACT aims to standardise the way cargo information is coded, such that all parties involved can obtain, process and work with the information provided. Data providers can re-use the implementation to provide data to the PSAP and PSAPs need not to implement a different method for each data provider

Possible solutions (1): EUCARIS

112 PSAP

protocolID & key

NRA

Local register of connected freight databases

Eucaris

Other MS reg

Local register of connected freight databases

freight database

The EUCARIS network is currently used by 112 PSAPs and emergency rooms to retrieve vehicle related information based on either VIN or licence plate

The contact points for the EUCARIS network are the National Registration Authorities (NRA) that first check their local registry and, if not found, dispatch the request via EUCARIS to all other NRAs

To disclose cargo information each NRA shall either hold or connect to the national registry of connected freight databases.

A freight database can register itself with one or more national register(s), with which a trusted and secure connection is set up.

The protocolID in the cargo information request by the PSAP helps the NRA to determine whether the request can be dealt with locally, or whether it should be dispatched using the EUCARIS network

EUCARIS also specifies the request and reply methods (both contents and communication protocol)
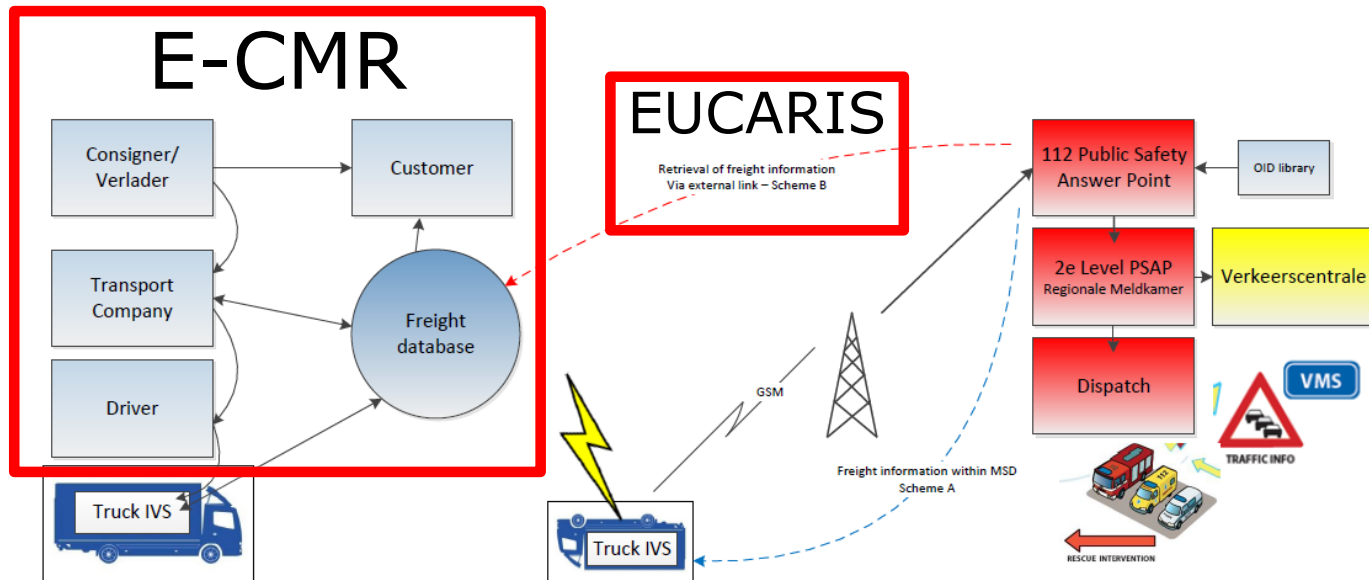
Possible solutions (2): eCMR (1)
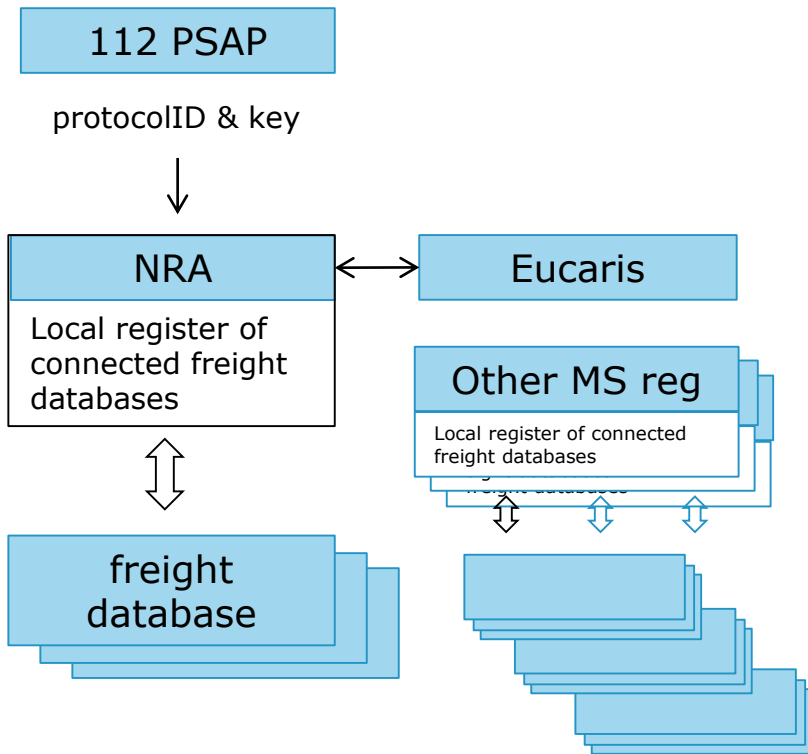
Combining the two solutions

Open questions for eCMR experts

- Is there a data handling model for eCMR defined or under discussion?
- Is there a retrieval mechanism defined or under discussion for eCMR?
- When do you think will eCMR be widely used to be able to be the basis for eCall?
- What are the enablers for eCMR usage?

Questions about eCMR retrieval

- How to connect eCMR entry and static IVS entry of a trailer?
  - Which information is needed from the IVS to find the correct eCMR entry showing the current load of the truck
    - VIN number (part of MSD) – Licence plate number – via EUCARIS?
    - Special static key provided by IVS?
- How can PSAP/EUCARIS access the current eCMR
  - Which servers to access?
  - Which protocol should be used?
  - How is Authentication of PSAP and Server handled?
  - What are the prerequisites for the PSAPs to access eCMR servers

Rijkswaterstaat
Ministerie van Infrastructuur en Waterstaat

Thank you

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