

Towards A National Specification For Interoperable Road Charging Systems

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The UK Situation

- The European Union has 'passed' an Interoperability Directive to establish a European Electronic Toll Service (EETS)
- The UK Department for Transport (DfT) has published its Road Pricing Feasibility Study Report to start a wider debate on charging in the UK
- HM Customs and Excise are implementing a UK Lorry Road User Charging (LRUC) Scheme to be operational from 2008
- DfT is implementing its DIRECTS research programme, due to go operational in Winter 2004/5

DIRECTS

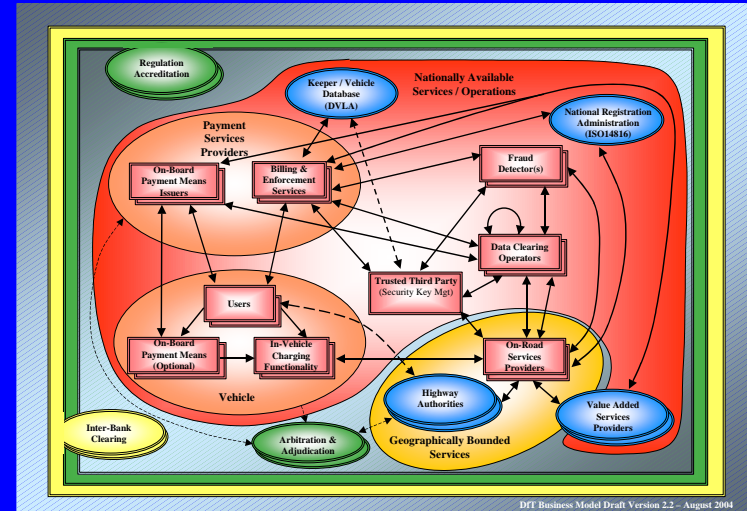
- DfT began the DIRECTS Project for three main purposes:
 - To prepare a suite of specifications for Road Charging systems that could be used by local authorities, tolled crossings, or other schemes that would 'guarantee' interoperability
 - To demonstrate interoperability within the context of the DfT's Road Charging Business Model
 - To undertake a 12 month trial of a charging system based on the draft specifications covering OBU installation in cars through to the preparation of invoices and Penalty Notices

The OMISS Documents

- The Specifications are known as OPMISS – Open Minimum Interoperability Specification Suite
- OMISS comprises 3 Volumes
 - Volume 1 – Functional and performance requirements for RUC systems and services
 - Volume 2 – Interface Specifications
 - Volume 3 – Charging Application Specification for off-board charging using DSRC

OMI SS Volume 1

- Volume 1 will cover:
 - Systems Description –
 - Introduction
 - System Business Model
 - Functional & Process Description
 - Generic System Architecture
 - Glossary and Abbreviations
 - References



OMISS Volume 1 (Cont)

- Annex A System-Wide Performance, Safety and Approval Requirements
 - System Performance Requirements
 - System Safety Requirements
 - Type Approval Requirements
- Annex B - Entity Requirements (Functions & Performance)
 - OBE / Hybrid OBE
 - Road Side Equipment
 - On Road Services Provider

OMISS Volume 1 (Cont)

- Annex B - Entity Requirements (Continued)
 - Data Clearing Operator
 - Payment Services Provider,
 - Fraud Detector
 - Trusted Third Party (Key Management)
 - Driver And Vehicle Licensing Authority
 - RUC Regulatory Body
 - Arbitration & Adjudication Service
 - Environmental System
 - NRA/I - (Unique OBE numbering)

OMI SS Volume 2

- Volume 2 - Interface Specification (Data flows between system entities) - Handling:
 - Electronic Transactions
 - Exception Handling
 - Hotlisting
 - Tariff Tables
 - Image Handling
 - Accounting (between entities)
 - Performance Management
 - Fraud Detection

OMI SS Volume 3

- Volume 3 – Charging Application
 - Purpose
 - Scope and Context
 - References
 - Abbreviations
 - OBU and RSE Common Requirements
 - OBU Requirements
 - RSE Requirements
 - Transaction Requirements (off-board)
 - Data Requirements
 - Vehicle Classification Definitions
 - Annexes

OMI SS Volume 3

- The document advises on data to be programmed into OBUs at initialisation – varying by Vehicle Class
- Seven vehicle Groups (classes) are defined:
 - Group 0 – Motorcycles
 - Group 1 – Private Cars
 - Group 2 – Light Goods Vehicles (≤ 3.5 Tons)
 - Group 3 – Buses (≤ 5 Tons, > 5 Tons)
 - Group 4 – Medium Goods Vehicles (≥ 3.5 Tons, ≤ 12 Tons)
 - Group 5 – Heavy Goods Vehicles (> 12 Tons)
 - Group 6 – Special Vehicles

OMI SS Volume 3

- Data to be programmed into UK vehicle OBUs is likely to be as follows:

OBU Declared Parameter	Vehicle Group						
	M'cycle (No OBU)	Private Car	LGV	Bus	MGV	HGV	Special Vehicles
Trailer Present	-	Optional	Optional	Declare	Declare	Declare	Declare
Euro Vehicle Group	-	1	2	3	4	5	6
Local Class	-	Optional	Optional	Optional	Optional	Optional	Optional
Number Of Axles	-	-	-	Declare	Declare	Declare	Declare
Max Drive Unit Weight	-	-	-	Declare	Declare	Declare	Declare
Max Train Weight	-	-	-	Declare	Declare	Declare	Declare
Euro Value (Emissions)	-	-	-	Declare	Declare	Declare	Declare
Number Plate	-	Declare	Declare	Declare	Declare	Declare	Declare
Suspension Type	-	-	-	Declare	Declare	Declare	Declare

Contact Information

- Copies of the draft OMISS specifications are to be made available for industry and wider comment early in 2005
- Those specifically interested in receiving electronic copies please contact me after the session or at:
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