

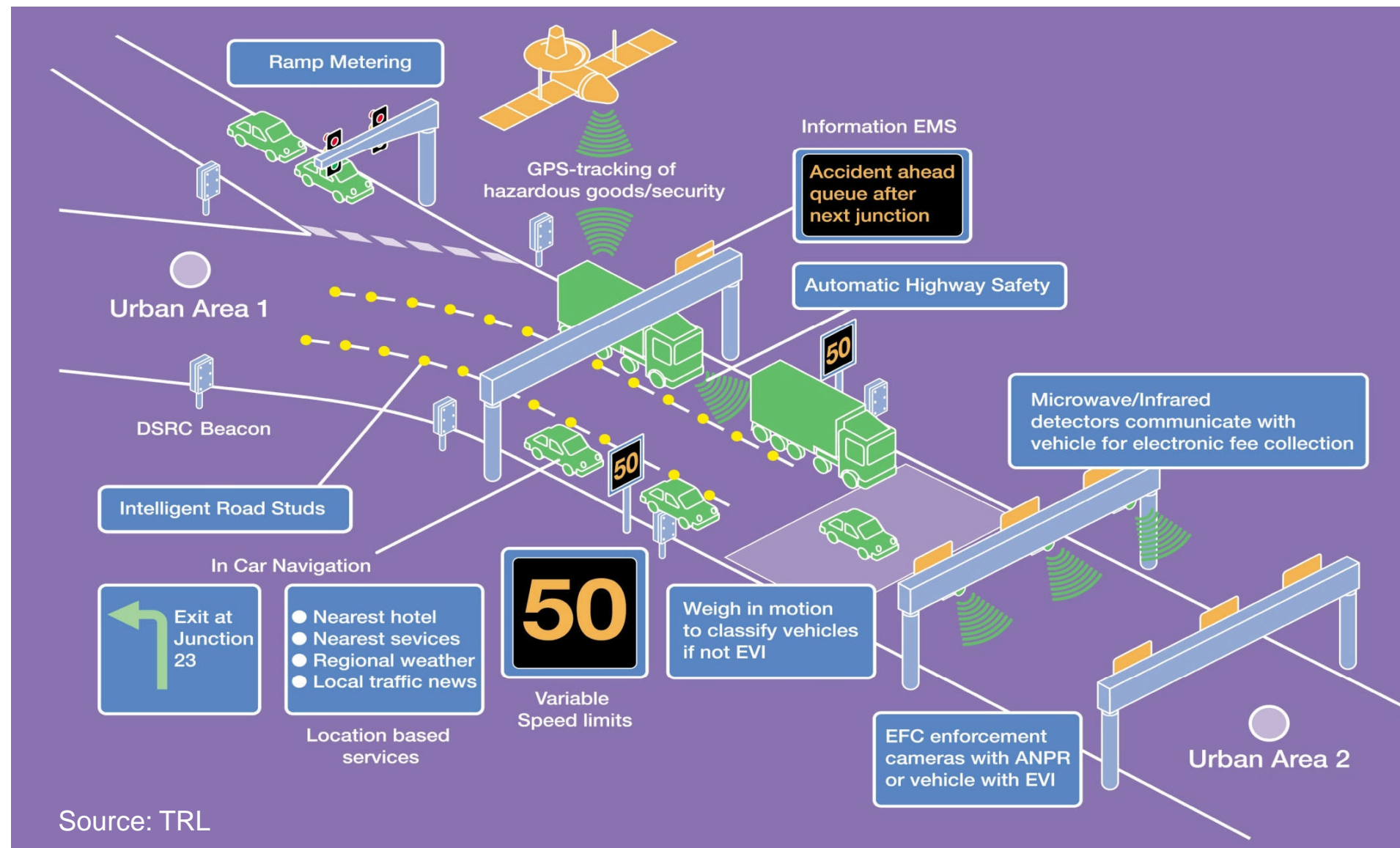
Working Group Telematics
16-18 January 2012, Paris

**Framework for collaborative telematics
applications for regulated commercial
freight vehicles (TARV)
ISO 15638**

HBC

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Deployment of ITS



Regulatory telematics

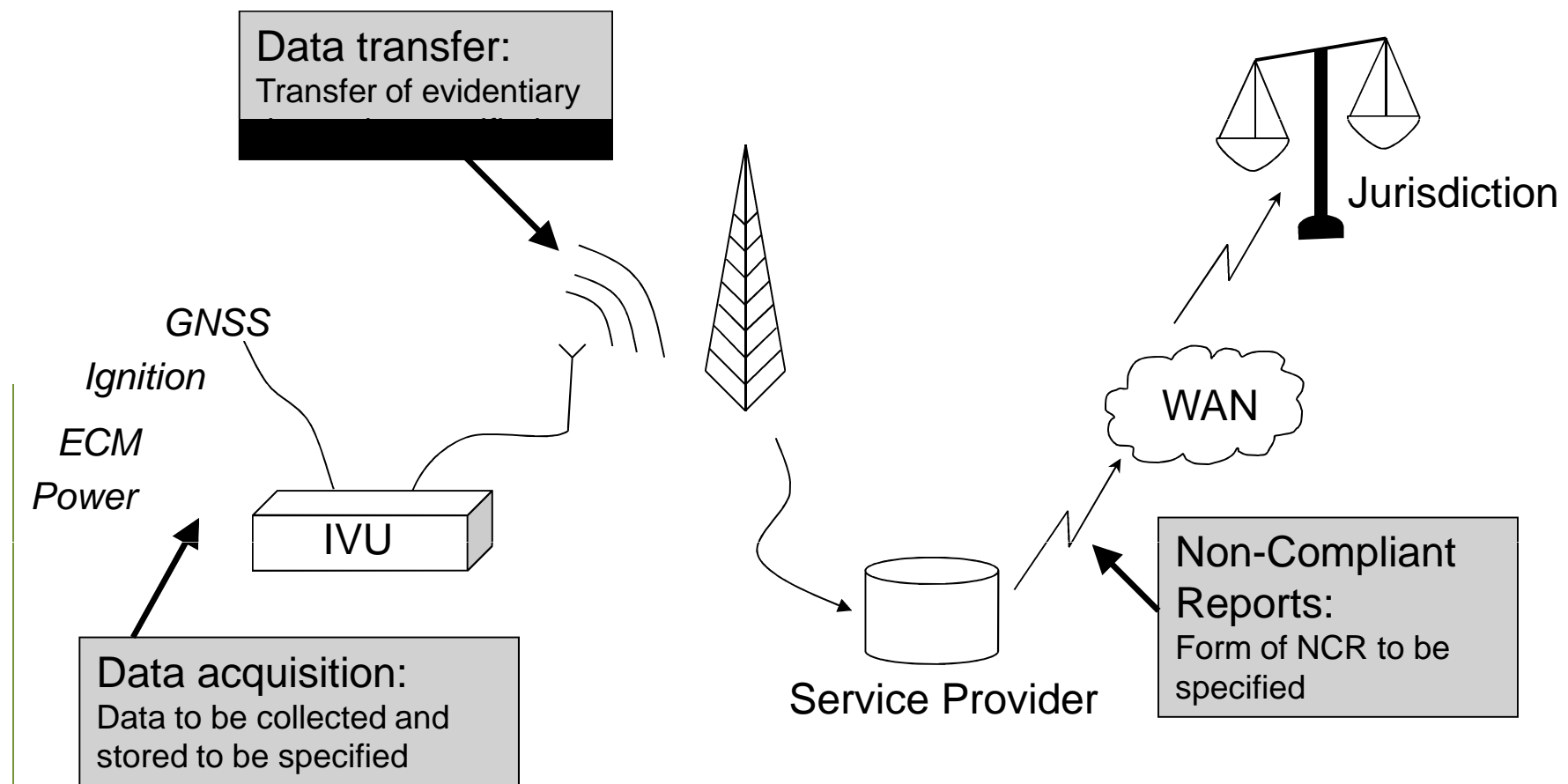


Source: TCA



Source: TCA

Australian Intelligent Access Programme (IAP) System Architecture



Source: TCA

IAP applications in Australia



Source: TCA

Australian IAP experience

- ❖ Performance-based platform
 - ❖ i.e. does not technically specify how...
- ❖ Ability to maintain and improve the Functional & Technical Specification
- ❖ Regulatory and commercial applications with one IVU (in-vehicle unit) and one Service Provider
- ❖ Allowing for Service Provider system upgrades
- ❖ Benefits for Transport Operators and Jurisdictions

Source: TCA

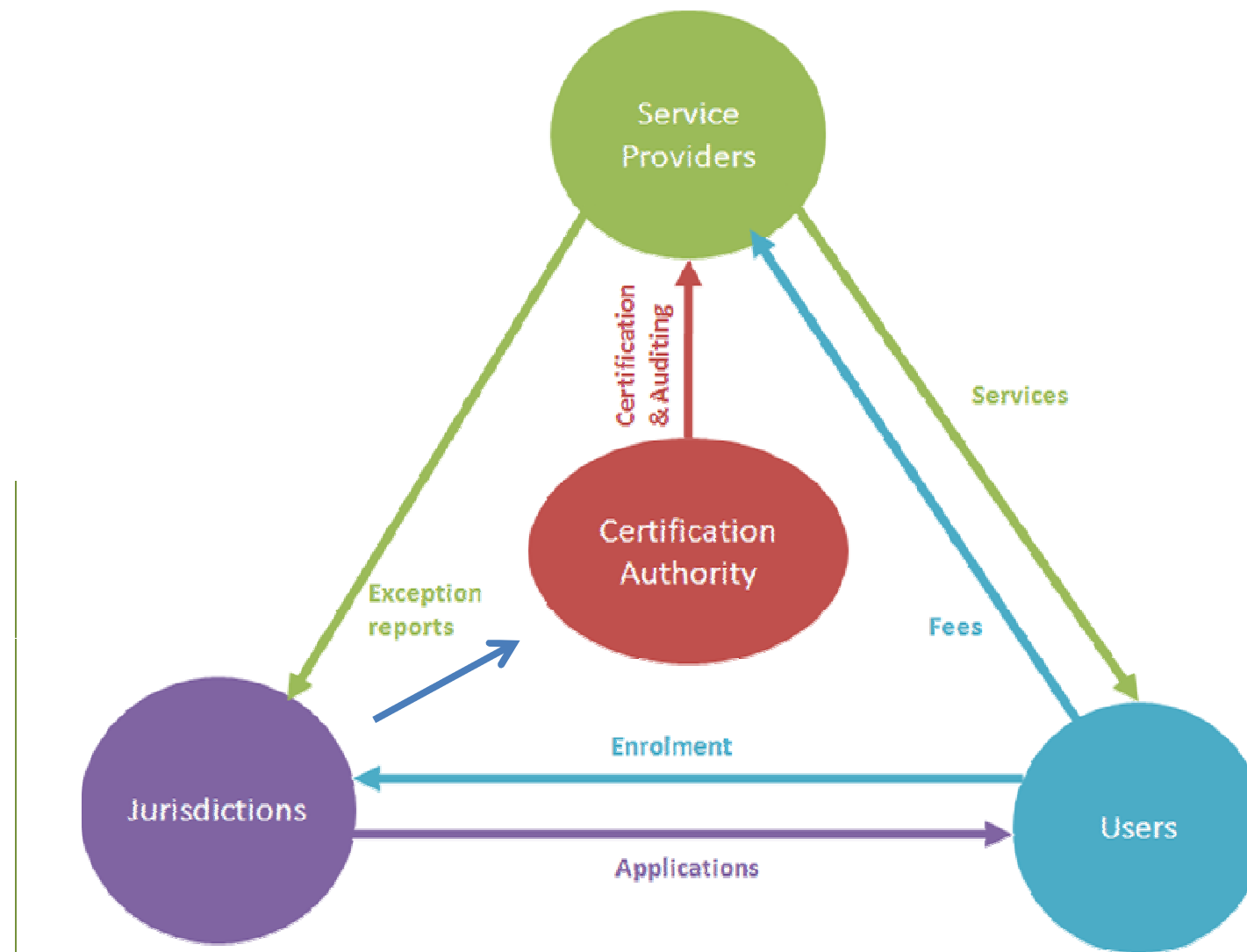
Regulatory applications - Australia 2010

- **Access (since 2008)**

in development and review:

- ✓ Mass
- ✓ Fatigue (driving hours / electronic work diary)
- ✓ Speed monitoring
- ✓ Intelligent Speed Advisory (ISA)
- ✓ Smart Card (Queensland)
- ✓ 5.9 GHz spectrum allocation
- ✓ Heavy vehicle charging (taxation reform)

Business model



Source: TCA

Key components

- ❖ Role model
- ❖ Basic requirements for Service Providers
- ❖ Core in-vehicle unit (IVU) capabilities
- ❖ Rules for certification

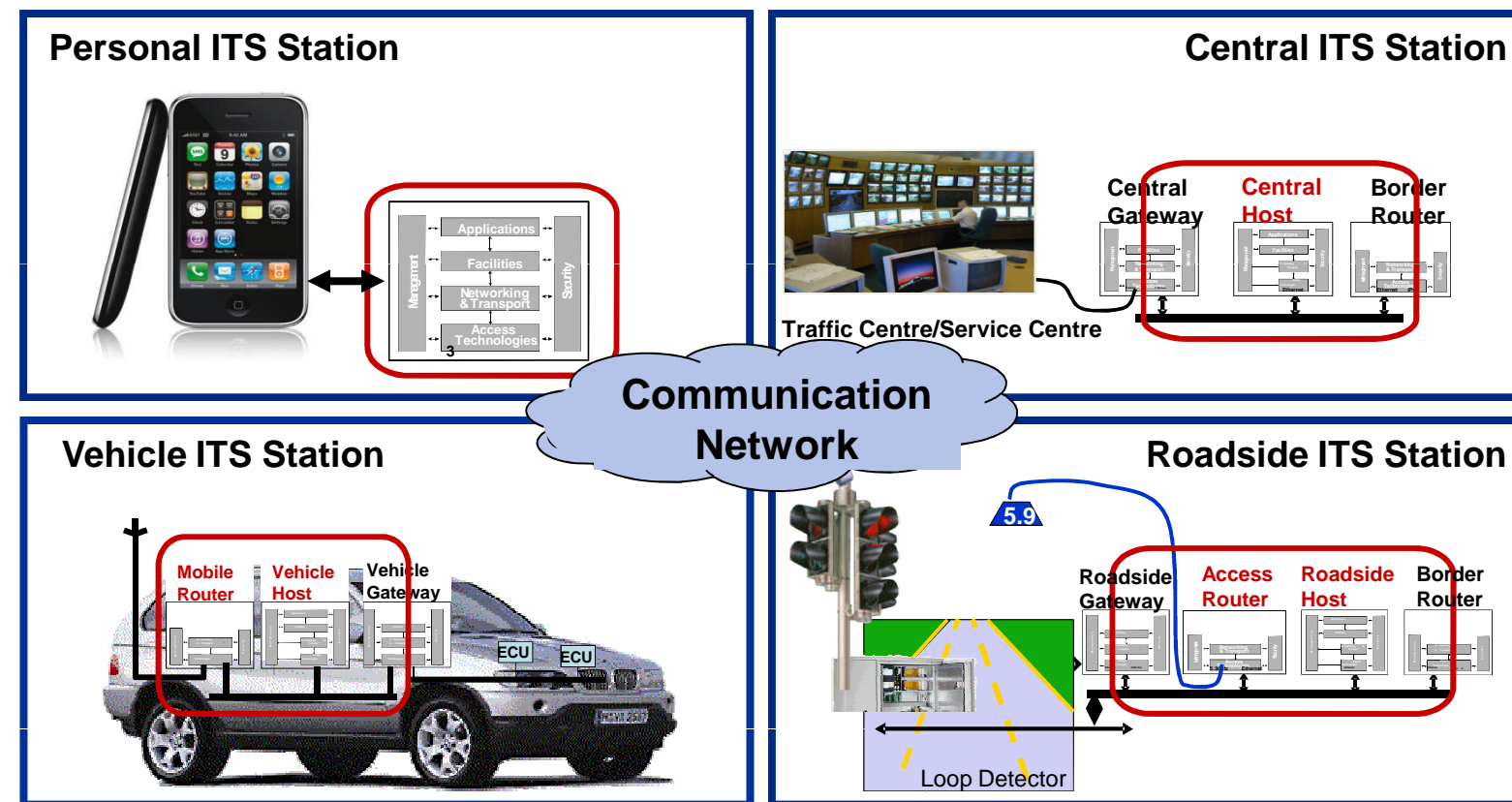
Standardisation

- ❖ ISO TC204 (Working Group 7 in conjunction with others) has begun development of multi-part ISO 15638:
"Framework for collaborative telematics applications for regulated commercial freight vehicles"
- ❖ Based on deployed Australian "Intelligent Access Programme"(IAP)
- ❖ Designed to support multiple 'regulatory' applications (HGV eCall & DG Track and Trace in scope)
- ❖ Multiple Service Provider model
- ❖ Uses CALM communications architecture, which supports a range of communications media: 5.9G, GSM, Satellite

Standardisation

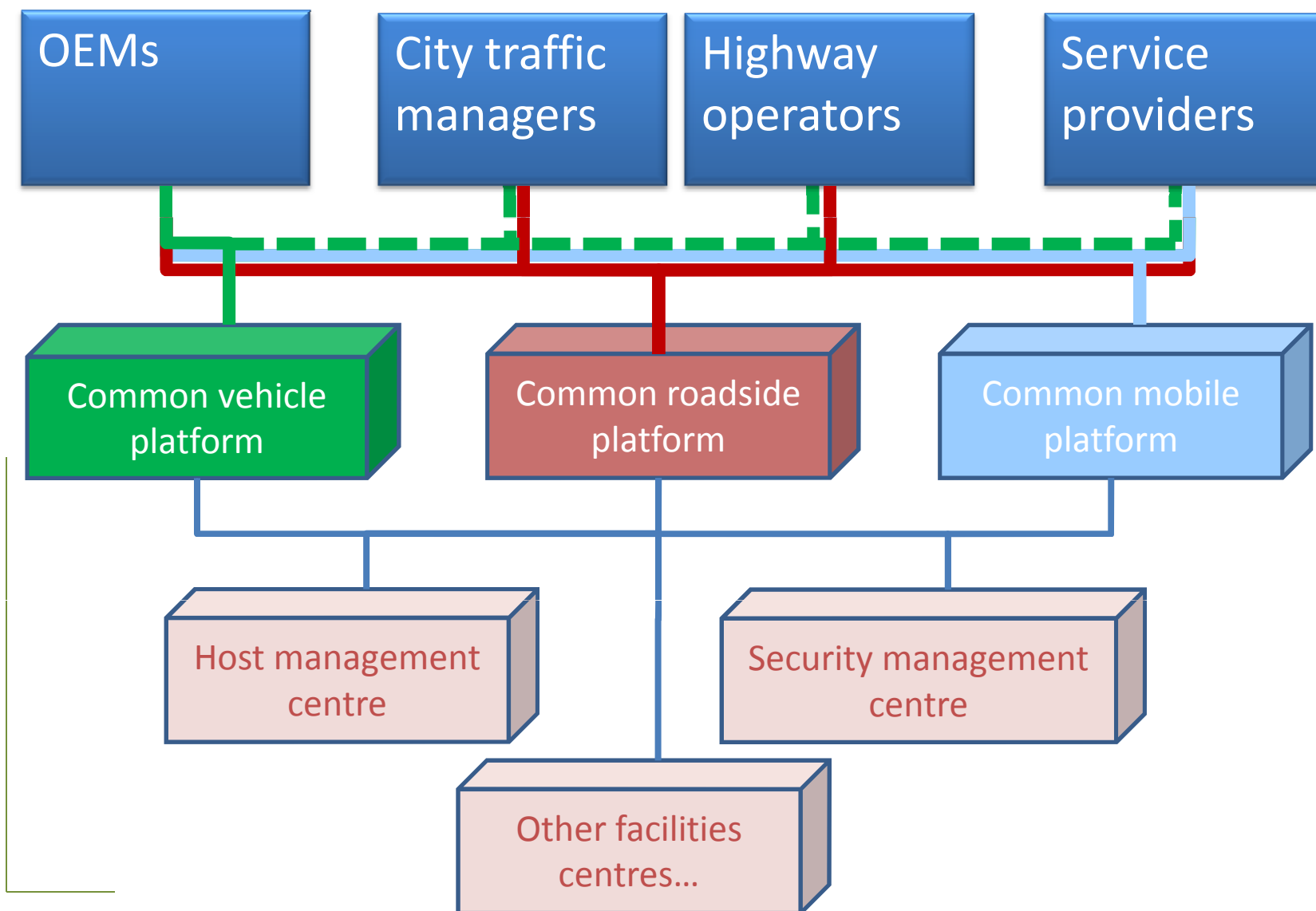
15638 -1	TARV – Framework and architecture
15638 -2	TARV – Common platform parameters using CALM
15638 -3	TARV – Operating requirements, certification procedures, and enforcement provisions for the providers of regulated services
15638 -4	TARV – System security requirements
15638 -5	TARV – Essential and core vehicle data
15638 -6	TARV – Regulated applications
15638 -7	TARV – Other applications

CALM Architecture



- ❖ ISO – ETSI Standards for communications architecture supporting multiple communications media

CALM - Building a service architecture



Dangerous Goods Transport – TARV Applications (Proposed)

- ❖ Proposed TARV applications have been proposed:
 - ❖ Consignment monitoring
 - ❖ TARV Emergency messaging/eCall System

- ❖ These fit into the draft Part 6 of ISO 15638, along other regulated applications such as:
 - ❖ Remote tachograph monitoring
 - ❖ Driver work records
 - ❖ Vehicle mass monitoring
 - ❖ TARV 'Mass' charging
 - ❖ TARV Access control
 - ❖ TARV access monitoring
 - ❖ Vehicle location monitoring
 - ❖ Vehicle speed monitoring
 - ❖ Vehicle consignment and location monitoring

TARV Applications – Content Description

- ❖ Service description and scope
- ❖ Use case
- ❖ Concept of operations
- ❖ Statement of the goals and objectives
- ❖ Strategies, tactics, policies, and constraints
- ❖ Organisations, activities, and interactions among participants and stakeholders
- ❖ Operational processes
- ❖ Description of roles
- ❖ Service elements
- ❖ Data naming content and quality
- ❖ service specific provisions for quality of service
- ❖ Service specific provisions for test requirements
- ❖ Specific rules for the certification

TARV Applications – Roles (Incomplete)

ACTOR	ROLE	ACTIVITIES	INTERACTIONS
UNECE JWG RID	ADR Regulator	Provides international regulations and ADR Tables	(J) Provides international requirements (Op) Provides international requirements
Jurisdiction (J)	Sets requirements for mandatory and supported ADRm	Publishes specifications	ALL
		Obtains regulations	ALL: Establish regime and regulations ASP Register
		Appoints Certification Authority	CA: Contract. Instruct . Receive reports
Certification authority (CA)	Implements jurisdiction policy at equipment and service approval level	Certifies IVS, Application Service instantiations	PSP: Certify IVS ASP: Certify Application Service
		Conducts Q of S maintenance to instruction of jurisdiction	
Prime service provider (PSP)	Responsibility for IVS	Installs and/or commissions IVS	CA: May Apply to certify IVS Op; Installation

TARV Applications – Consignment Data (Incomplete)

ADRm Data Concept element reference	Name	Type	Unit	Description
ADRm-0001	OID	Integer	1 byte	ADRm data concept identifier binary value 1000010 identifying ADRm Schema A (until allocated a revised OID from a central register)
ADRm-0002	ID	Integer	1 byte	ADRm Schema A data concept format version set to 1 to discriminate from later ADRm Schema A data concept formats Later versions to be backwards compatible with existing versions. Systems receiving an ADRm Schema A data concept to support all standardised ADRm Schema A data concept versions, which are each uniquely identified using an ADRm Schema A data concept format version parameter which will always be contained in the first byte of all [current and future] ADRm Schema A Data concept versions.
ADRm-0003	Tanker or other vehicle type plus number of dangerous goods on-board	Octet string (1 Byte) Binary	00000000-11111111	The first binary position of the octet to indicate whether the affected vehicle is a tanker or other type of vehicle where 1nnnnnnn = Tanker 0nnnnnnn = Other type of vehicle The remaining 7 binary positions of the octet to identify the number of types of dangerous goods being carried Seven binary bits. x0000000 = no ADR goods on board x1111111= mixed load (unspecified number of types of dangerous goods present on-board, but number unknown).....

Status and Next Steps

- ❖ Initial draft available
 - ❖ will probably progress through standardisation process, with or without, TWG intervention

- ❖ TWG:
 - ❖ (a) Request TWG review of content available draft
 - ❖ (b) TWG should consider if this approach is interesting and worthy of further progress [cost – benefit analysis]
 - ❖ (c) if (b) is agreed, then establish a process to ensure continued engagement with relevance standardisation bodies (primarily ISO TC204 WG7)

HBC

Thank You for Your Attention

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