



French C-ITS Deployment Coordination committee

List of standards

2.4.1_H-Bis

Activity 2: Studies

Sub Activity 2.4 > Specifications

Version 4.00

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Date	Version	Author(s)	Updates & changes	Diffusion
14/11/2019	4.00	H. Aniss	Consolidated version for Release 4	Release 4

Reference to the version administration

Version number to be composed of 3 digits > vR.XY

- **R** corresponds to the release number : it is upgraded each time SC Studies validates the diffusion of a new release,

- **X** is the major version number: it is upgraded each time SC Studies validates the deliverable,

- **Y** is the minor version number: it is upgraded each time a contributor changes anything.

Once the deliverable is approved, its version number is upgraded from vR.XY to vR.(X+1)0

Once the deliverable is release, its version number is upgraded from vR.XY to v(R+1).00

As illustration :

0.03 > Work in progress version

0.10 > Del. Approved by SC Studies but not released

2.00 > Del. approved & released (in release 2)

2.05 > Del. Updated - in progress version

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1. Introduction

This deliverable concerns standards linked to projects SCOOP@F, C-Roads and InterCor or hybrid communications and use cases.

All standards defined in 241bis are still remaining and they will not be added in this document.

The general architecture is described in 2.4.1_H deliverable. Figure 1 is related to the different interfaces for hybrid approach in C-ITS French projects.

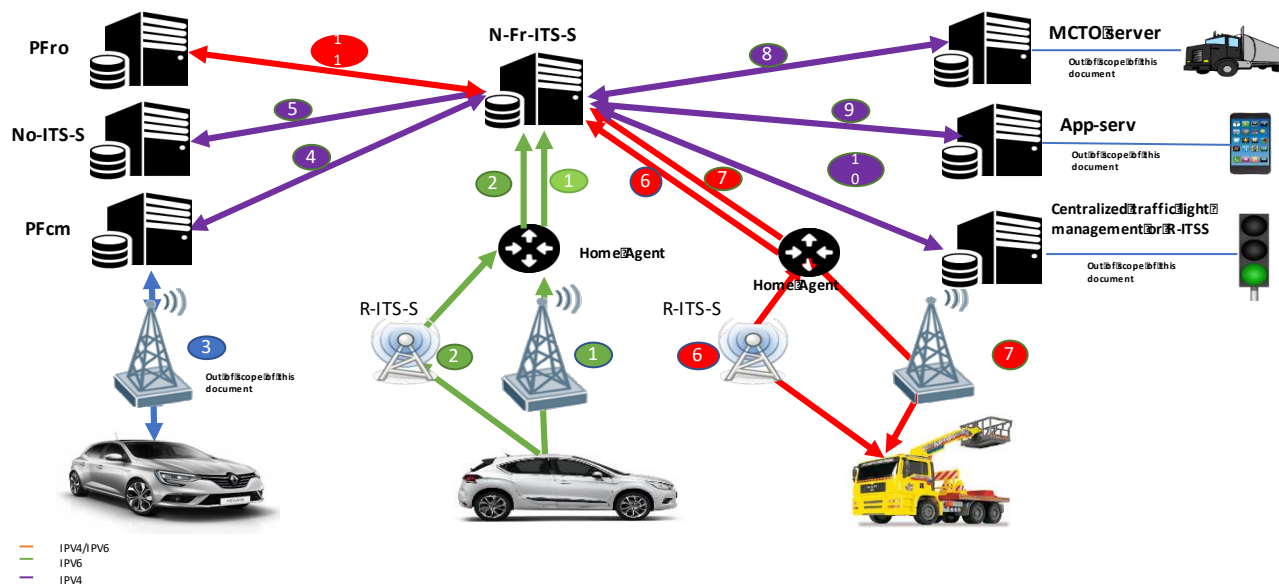


Figure 1 : Interface architecture

2. Communication

title	standards	version	comment
Intelligent Transport Systems (ITS); Communications Architecture	ETSI EN 302 665	V1.1.1	

3. Facilities layer

title	standards	version	comment
Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Facilities layer protocols and communication requirements for infrastructure services	TS 103 301	V1.1.1 or V 1.2.1	

SPATEM /MAPEM	TS19091	2017	
DATEX II	ESC/TS 16 157-4 Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 4: Variable Message Sign (VMS) Publications;	(2014-04)	
DATEX II	ESC/TS 16 157-6 Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 6: Parking Publications.	(2016-02)	Info Parking
Intelligent Transport Systems (ITS); Infrastructure to Vehicle Communication; Electric Vehicle Charging Spot Notification Specification	ETSI TS 101 556-1	V1.1.1 2012-07	
Intelligent transport systems — Cooperative ITS — Dictionary of in-vehicle information (IVI) data structures	ISO/TS 19321	2014	
Intelligent transport systems — Cooperative systems — Contextual speeds	ISO/TS 17426	2015	

4. Security

title	standards	version	comment
IPsec			
IP Security (IPsec) and Internet Key Exchange (IKE) Document Roadmap	rfc 6071	February 2011	
Mobile IPv6 Operation with IKEv2 and the Revised IPsec Architecture	rfc 4877	April 2007	
X509			
Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile	rfc 5280	version v3, may 2008	
TLS			
The Transport Layer Security (TLS) Protocol	RFC 5246	Version 1.2. August 2008	Updated by RFCs 5746, 5878, 6176, 7465, 7507, 7568, 7627, 7685, 7905.

5. Geographical database

Geographical database is based on quadtree method (Figure 2)

More information is available in: <http://www.maptiler.org/google-maps-coordinates-tile-bounds-projection/>.

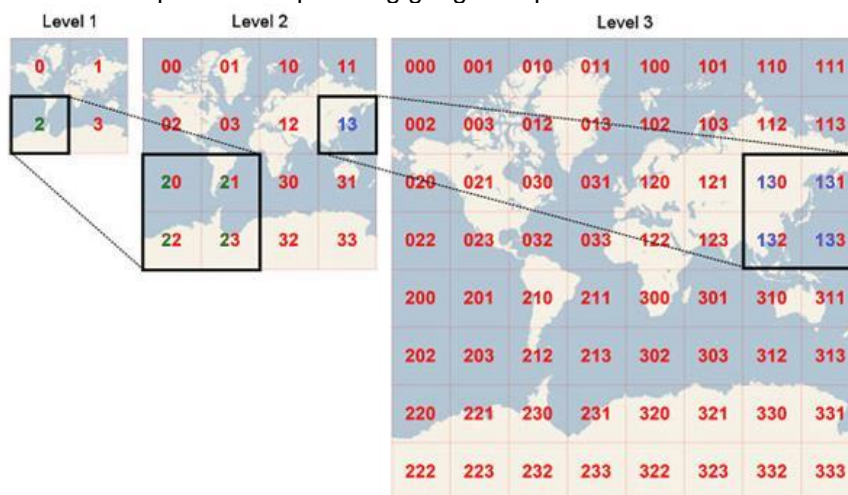


Figure 2 : Quadtree structure

6. Standards for Interfaces

6.1 Interface 1, 2, 6 and 7

List
<ol style="list-style-type: none"> 1. IETF RFC 3963: Network Mobility (NEMO) Basic Support Protocol 2. IETF RFC 5555: Mobile IPv6 Support for Dual Stack Hosts and Routers 3. IETF RFC 6089: Flow Bindings in Mobile IPv6 and Network Mobility (NEMO) Basic Support 4. IETF RFC 4862: "IPv6 Stateless Address Auto configuration 5. IETF RFC 4861 and 5175: RADVD, IPv6 router advertisement 6. RFC 5569, IPv6 rapid deployment on IPv4 infrastructures (6rd) 7. RFC 5969, IPv6 rapid deployment on IPv4 infrastructures (6rd) – Protocol specification 8. RFC 3964, security consideration for 6to4. 9. IETF RFC 4862: IPv6 Stateless Address Auto Configuration 10. IETF RFC 4861: RADVD 11. IETF RFC 5175: IPv6 Router Advertisement 12. IETF RFC 4429: Optimistic Duplicate Address Detection (DAD) for IPv6 13. IETF RFC 3963: Network Mobility (NEMO) Basic Support Protocol 14. IETF RFC 5555: Mobile IPv6 support for Dual Stack Hosts and routers 15. IETF RFC 6089: Flow Bindings in Mobile IPv6 and Network Mobility (NEMO) Basic Support 16. IETF RFC 6275: BU/BA mobility support IPv6 17. IETF RFC 5648: Multiple Care-of Address

6.2 Interface 4, 5, 8, 9, 10 and 11

List	standards	version	comment
Advanced Message Queuing Protocol Model : AMQP Model		0-9-1	https://www.rabbitmq.com/resources/specs/amqp0-9-1.pdf
InterCor_M4-Upgraded-Specifications-Hybrid		v2.1	

Standards for others Interfaces are listed in deliverable 2.4.1.Bis_List of standards