DIN CEN ISO/TS 17429:2017-08 (E)

Intelligent transport systems - Cooperative ITS - ITS station facilities fo r the transfer of information between ITS stations (ISO/TS 17429:2017); English version CEN ISO/TS 17429:2017

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 2

4 Abbreviated terms 4

5 Conformance 4

6 Overview 5
6.1 Motivations 5
6.1.1 Communication services 5
6.1.2 General purpose ITS station facilities layer services 6
6.1.3 Information sharing services 7
6.2 Technical specification overview 8
6.2.1 Architecture elements 8
6.2.2 ITS-S application processes 9
6.2.3 Communication Profile Handler (CPH) 10
6.2.4 Facilities Services Handler (FSH) 11
6.2.5 Content Subscription Handler (CSH) 12
6.2.6 Service access points (SAP) 12
6.2.7 Application data unit and protocol data unit 12

7 General requirements 13

8 Requirements for the "ITS-S application Processes" 13
8.1 ITS-S-AP: Requirements for data transmission 13
8.2 ITS-S-AP: Requirements for publishing and subscribing to data objects 13
8.3 ITS-S-AP: Flow type registration 14
8.4 ITS-S-AP: Transmitting data 14
8.5 ITS-S-AP: Receiving data 14
8.6 ITS-S-AP: Publishing data objects 14
8.7 ITS-S-AP: Subscribing to the reception of data objects 15
8.8 ITS-S-AP: Stopping the reception of data objects 15
8.9 ITS-S-AP: Receiving data objects 15

9 RequirementsfortheCommunicationProfileHandler 15
9.1 CPH: Initialization 15
9.2 CPH: Management of communication profiles 16
9.2.1 CPH: Communication flow profile parameters 16
9.2.2 CPH: Updating communication flow profile parameters 17
9.2.3 CPH: Reporting communication flow statistics 18
9.3 CPH: Processing data sent by ITS-S application processes 18
9.3.1 CPH: Processing TransmitFlowData instructions 18

9.3.2 CPH: Checking for a corresponding communication flow profile 19
9.3.3 CPH: Checking for an available path 19
9.3.4 CPH: Performing address resolution 19
9.3.5 CPH: Checking for ITS-S facilities services 20
9.3.6 CPH: Transmission to the NF-SAP 20

10 Requirements for the Facilities Services Handler 20
10.1 FSH: Initialization 20
10.2 FSH: ITS-S facilities layer protocol data unit format (ITS-FPDU) 21
10.3 FSH: Execution of facilities services 21
10.4 FSH: Transmission to the NF-SAP 22
10.5 FSH: Reception of messages 22

11 Requirements for the Content Subscription Handler 22
11.1 CSH: Initialization 22
11.2 CSH: processing content publication from ITS-S-AP 23
11.3 CSH: processing content subscription from ITS-S-AP 24
11.4 CSH: processing content subscription cancellation from ITS-S-AP 24
11.5 CSH: transmitting content to ITS-S-AP 24
11.6 ITS-S generic data container format 24

12 FA-SAP service primitive functions 25
12.1 Overview 25
12.2 Error codes 25
12.3 TransmitFlowData 26
12.4 ReceiveFlowData 26
12.5 PublishContent 27
12.6 SubscribeContent 28
12.7 CancelContent 28
12.8 ReceiveContent 29

13 NF-SAP service primitive functions 29
13.1 ReceiveNTSDU 29
13.2 TransmitNTSDU 30

Annex A (normative) ASN.1 modules 31

Annex B (informative)Profiles 37

Bibliography 42