



Intelligent Transport Systems (ITS); GeoNetworking; Port Numbers for the Basic Transport Protocol (BTP)

STANDARD PREVIEW
(standards.it-adv.com)
Full standard available at: <https://standards.iteh.ai/catalog/standards/sist/103-248-1-2019-04>
<https://standards.iteh.ai/catalog/standards/sist/103-248-1-2019-04>
<https://standards.iteh.ai/catalog/standards/sist/103-248-1-2019-04>

Reference

RTS/ITS-00361

Keywords

ITS, protocol

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at <https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:
<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2019.

All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.

3GPP™ and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

oneM2M™ logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners.

GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	4
Foreword.....	4
Modal verbs terminology.....	4
Introduction	4
1 Scope	5
2 References	5
2.1 Normative references	5
2.2 Informative references.....	5
3 Definition of terms, symbols and abbreviations.....	6
3.1 Terms.....	6
3.2 Symbols.....	6
3.3 Abbreviations	6
4 Port number values for the Basic Transport Protocol	7
History	9

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Full standard:
<https://standards.iteh.ai/catalog/standards/sist/dd86ae41-2e2c-4cc4-ba87-9a18b0b5f2bd/etsi-ts-103-248-v1.3.1-2019-04>

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Intelligent Transport Systems (ITS).

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Introduction

Facilities layer entities that use the Basic Transport Protocol for the transport of messages need to be identifiable. For this purpose, BTP defines port numbers. The present document specifies the well-known port numbers to be used by facilities layer entities.

1 Scope

The present document defines port number values for the Basic Transport Protocol as specified in ETSI EN 302 636-5-1 [i.1].

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference/>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

Not applicable.

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI EN 302 636-5-1: "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 5: Transport Protocols; Sub-part 1: Basic Transport Protocol".
- [i.2] ETSI EN 302 637-2: "Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Part 2: Specification of Cooperative Awareness Basic Service".
- [i.3] ETSI EN 302 637-3: "Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Part 3: Specifications of Decentralized Environmental Notification Basic Service".
- [i.4] ETSI TS 101 556-1 (V1.1.1): "Intelligent Transport Systems (ITS); Infrastructure to Vehicle Communication; Electric Vehicle Charging Spot Notification Specification".
- [i.5] ETSI TS 101 556-2 (V1.1.1): "Intelligent Transport Systems (ITS); Infrastructure to Vehicle Communication; Part 2: Communication system specification to support application requirements for Tyre Information System (TIS) and Tyre Pressure Gauge (TPG) interoperability".
- [i.6] ETSI TS 101 556-3 (V1.1.1): "Intelligent Transport Systems (ITS); Infrastructure to Vehicle Communications; Part 3: Communications system for the planning and reservation of EV energy supply using wireless networks".
- [i.7] ETSI TS 102 890-1 (V1.1.1): "Intelligent Transport Systems (ITS); Facilities layer function; Part 1: Services Announcement (SA) specification".

- [i.8] ETSI TS 102 941 (V1.2.1): "Intelligent Transport Systems (ITS); Security; Trust and Privacy Management".
- [i.9] ETSI TS 103 301 (V1.2.1): "Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Facilities layer protocols and communication requirements for infrastructure services".
- [i.10] ETSI TS 103 152 (V1.1.1): "Intelligent Transport Systems (ITS); V2X Communications; Multimedia Content Dissemination Basic Service specification".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the following terms apply:

destination port: port identifying the destination's protocol entity at the ITS facilities layer

NOTE: Facilities layer services that do not expect replies either do not include a source port number in the header, or they set it to a default (usually 0) to indicate no reply port available. For session-based services (client-server or peer-to-peer), the source port is often set to a value from an ephemeral (dynamically assigned) subspace of the space of all port numbers.

port: ITS station-internal address that identifies a protocol entity at the facilities layer and represents an endpoint of a logical connection

source port: port number to be used by an facilities layer entity as the destination port in a subsequent reply to the originator

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ASN.1	Abstract Syntax Notation One
AT	Authorization Ticket
BTP	Basic Transport Protocol
CA	Cooperative Awareness
CAM	Cooperative Awareness Message
CPS	Collective Perception Service
CPM	Collective Perception Message
CRL	Certificate Revocation List
CRLM	Certificate Revocation List Message
CTL	Certificate Trust List
CTLM	Certificate Trust List Message
DEN	Decentralized Environmental Notification
DENM	Decentralized Environmental Notification Message
EC	Enrolment Credential
EOFM	End Of Filling Message
EVCSN	Electric Vehicle Charging Spot Notification
EV-RSR	Electric Vehicle Recharging Spot Reservation
GNSS	Global Navigation Satellite System
GPC	GNSS Positioning Correction
IVI	Infrastructure to Vehicle Information
MCD	Multimedia Content Dissemination

MCDM	Multimedia Content Dissemination Message
POI	Point Of Interest
RLT	Road and Lane Topology
RTCM	Radio Technical Commission for Maritime Services
RTCMEM	RTCM Extended Message
SA	Service Announcement
SAEM	Services Announcement Extended Message
SREM	Signal Request Extended Message
SRM	Service Reservation Message
SPATEM	Signal Phase And Timing Extended Message
SSEM	Signal Status Extended Message
TCM	TPG Reservation Confirmation Message
TLC	Traffic Light Control
TLM	Traffic Light Manoeuvre
TPG	Tyre Pressure Gauge
TRM	TPG Reservation Message
VDPM	Vehicle Data Provisioning Message
VDRM	Vehicle Data Request Message

4 Port number values for the Basic Transport Protocol

The Basic Transport Protocol (BTP) [i.1] multiplexes messages from the facilities layer to the networking & transport layer and de-multiplexes received GeoNetworking packets to corresponding entities in the facilities layer. At the networking & transport layer the messages need to be identified so that they can be delivered to the correct facilities layer entity. BTP manages this process.

BTP port numbers are used in BTP service primitives and the BTP headers. In the BTP service primitives *BTP-Data.request* and *BTP-Data.indication* the port numbers are in the (optional) *source port* and *destination port* parameters. In the BTP headers, the port numbers are carried in the *source port* and *destination port* fields.

BTP defines well-known ports, which are used to assign fixed port numbers to specific facilities layer entities. Facilities layer entities that have no well-known port number values assigned shall dynamically use numbers from 3 000 to 65 536.

The well-known BTP port number values shall be used as specified in table 1. They are used by the corresponding facilities layer entities and related applications to allow the identification of the message types.

Table 1: List of well-known BTP port number values

BTP port number values	Facilities service or Application	Related standard
2 001	CA (CAM)	ETSI EN 302 637-2 [i.2]
2 002	DEN (DENM)	ETSI EN 302 637-3 [i.3]
2 003	RLT (MAPEM)	ETSI TS 103 301 [i.9]
2 004	TLM (SPATEM)	
2 005	SA (SAEM)	ETSI TS 102 890-1 [i.7]
2 006	IVI (IVIM)	ETSI TS 103 301 [i.9]
2 007	TLC (SREM)	
2 008	TLC (SSEM)	
2 009	Allocated for CPS (CPM)	Allocated for "Intelligent Transport System (ITS); Vehicular Communications; Basic Set of Applications; Specification of the Collective Perception Service"
2 010	EVCSN POI (EVCSN POI message)	ETSI TS 101 556-1 [i.4]
2 011	TPG (TRM, TCM, VDRM, VDPM, EOFM)	ETSI TS 101 556-2 [i.5]
2 012	Charging (EV-RSR)	ETSI TS 101 556-3 [i.6]
2 013	GPC (RTCMEM)	ETSI TS 103 301 [i.9]
2 014	CTL (CTLM)	ETSI TS 102 941 [i.8]
2 015	CRL (CRLM)	ETSI TS 102 941 [i.8]
2 016	Certificate request service (EC/AT request)	ETSI TS 102 941 [i.8]
2 017	MCD (MCDM)	ETSI TS 103 152 [i.10]

NOTE: The Facilities service naming resembles the naming in ASN.1.

iTEH STANDARD PREVIEW
(standards.iteh.ai)

Full standard:
<https://standards.iteh.ai/catalog/standards/sist/d4d6ac7-2021-4cc4-ba87-9a18b0b5f2bd/etsi-ts-103-248-v1.3.1-201904>