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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).

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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.

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Not applicable.

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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.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".
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
- **CP**: Collective Perception
- **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**: Enrollment 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
IMZ  Interference Management Zone
IMZM  Interference Management Zone Message
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
SEEM  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
VA  VRU Awareness
VAM  VRU Awareness Message
VDPM  Vehicle Data Provisioning Message
VDRM  Vehicle Data Request Message
VRU  Vulnerable Road User

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

<table>
<thead>
<tr>
<th>BTP port number values</th>
<th>Facilities service or Application</th>
<th>Related standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 001</td>
<td>CA (CAM)</td>
<td>ETSI EN 302 637-2 [i.2]</td>
</tr>
<tr>
<td>2 002</td>
<td>DEN (DENM)</td>
<td>ETSI EN 302 637-3 [i.3]</td>
</tr>
<tr>
<td>2 003</td>
<td>RLT (MAPEM)</td>
<td>ETSI TS 103 301 [i.9]</td>
</tr>
<tr>
<td>2 004</td>
<td>TLM (SPATEM)</td>
<td>ETSI TS 102 890-1 [i.7]</td>
</tr>
<tr>
<td>2 005</td>
<td>SA (SAEM)</td>
<td>ETSI TS 103 301 [i.9]</td>
</tr>
<tr>
<td>2 006</td>
<td>IVI (IVIM)</td>
<td>ETSI TS 103 301 [i.9]</td>
</tr>
<tr>
<td>2 007</td>
<td>TLC (SREM)</td>
<td>ETSI TS 103 301 [i.9]</td>
</tr>
<tr>
<td>2 008</td>
<td>TLC (SSEM)</td>
<td>ETSI TS 103 301 [i.9]</td>
</tr>
<tr>
<td>2 009</td>
<td>Allocated for CP (CPM)</td>
<td>Allocated for &quot;Intelligent Transport System (ITS); Vehicular Communications; Basic Set of Applications; Specification of the Collective Perception Service&quot;</td>
</tr>
<tr>
<td>2 010</td>
<td>EVCSN POI (EVCSN POI message)</td>
<td>ETSI TS 101 556-1 [i.4]</td>
</tr>
<tr>
<td>2 011</td>
<td>TPG (TRM, TCM, VDRM, VDPM, EOFM)</td>
<td>ETSI TS 101 556-2 [i.5]</td>
</tr>
<tr>
<td>2 012</td>
<td>Charging (EV-RSR)</td>
<td>ETSI TS 101 556-3 [i.6]</td>
</tr>
<tr>
<td>2 013</td>
<td>GPC (RTCMEM)</td>
<td>ETSI TS 103 301 [i.9]</td>
</tr>
<tr>
<td>2 014</td>
<td>CTL (CTLM)</td>
<td>ETSI TS 102 941 [i.8]</td>
</tr>
<tr>
<td>2 015</td>
<td>CRL (CRLM)</td>
<td>ETSI TS 102 941 [i.8]</td>
</tr>
<tr>
<td>2 016</td>
<td>Certificate request service (EC/AT request)</td>
<td>ETSI TS 102 941 [i.8]</td>
</tr>
<tr>
<td>2 017</td>
<td>MCD (MCDM)</td>
<td>ETSI TS 103 152 [i.10]</td>
</tr>
<tr>
<td>2 018</td>
<td>VA (VAM)</td>
<td>ETSI TS 103 300-3 [i.11]</td>
</tr>
<tr>
<td>2 019</td>
<td>IMZ (IMZM)</td>
<td>ETSI TS 103 724 [i.12]</td>
</tr>
</tbody>
</table>

**NOTE:** The Facilities service naming resembles the naming in ASN.1.
<table>
<thead>
<tr>
<th>Document history</th>
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<tbody>
<tr>
<td>V1.1.1</td>
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