



RFC 15 Position API

Members Only, Draft

8 Pages

Abstract

Position information is crucial for many Vehicle-related Services. This API proposes a uniform definition to access position information.

Copyright © The Open Services Gateway Initiative (2000). All Rights Reserved. This information contained within this document is the property of OSGi and its use and disclosure are restricted.

Implementation of certain elements of the Open Services Gateway Initiative (OSGi) Specification may be subject to third party intellectual property rights, including without limitation, patent rights (such a third party may or may not be a member of OSGi). OSGi is not responsible and shall not be held responsible in any manner for identifying or failing to identify any or all such third party intellectual property rights.

This document and the information contained herein are provided on an "AS IS" basis and OSGi DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL OSGi BE LIABLE FOR ANY LOSS OF PROFITS, LOSS OF BUSINESS, LOSS OF USE OF DATA, INTERRUPTION OF BUSINESS, OR FOR DIRECT, INDIRECT, SPECIAL OR EXEMPLARY, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY KIND IN CONNECTION WITH THIS DOCUMENT OR THE INFORMATION CONTAINED HEREIN, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. All Company, brand and product names may be trademarks that are the sole property of their respective owners.

The above notice and this paragraph must be included on all copies of this document that are made.

0 Document Information

0.1 Table of Contents

0Document Information	2
0.1Table of Contents	2
0.2Status	2
0.3Acknowledgement	2
0.4Terminology and Document Conventions	2
0.5Revision History	3
1Introduction	4
2Motivation and Rationale	4
3Technical Discussion	5
3.1org.osgi.util.position Class Position	5
3.1.1Position	6
3.1.2Position	6
3.1.3getAltitude	6
3.1.4getLongitude	6
3.1.5getLatitude	7
3.1.6getSpeed	7
3.1.7getTrack	7
4Security Considerations	7
4.1Acronyms and Abbreviations	8
4.2End of Document	8

0.2 Status

This document specifies a Position API for the Open Services Gateway Initiative, and requests discussion and suggestions for improvements. Distribution of this document is unlimited within OSGi.

0.3 Acknowledgement

0.4 Terminology and Document Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY" and "OPTIONAL" in this document are to be interpreted as described in Bradner, S., Key words for use in RFCs to Indicate Requirement Levels, RFC2119, March 1997..

Source code is shown in this typeface.

0.5 Revision History

The last named individual in this history is currently responsible for this document.

Revision	Date	Comments
Initial Draft	1/15/01	Wim De Munck, Acunia, wim.demunck@acunia.com .
First Revision	11/2/01	Wim De Munck, Acunia, wim.demunck@acunia.com : included comments from VDO
Second Revision	17/2/01	Filip Marchal, Acunia, filip.marchal@acunia.com : included comments and remarks from Gatespace and ericsson
Third Revision	22/2/01	Wim De Munck, Acunia, wim.demunck@acunia.com : included comments from Ericsson (Listener)
Fourth Revision	16/10/01	Updated RFC according to Position proposal that is currently in CVS. The Position class is the only class left. Producing/Consuming position information is accomplished using the Wiring API
Fifth Revision	20/08/02	Johan Vos, ACUNIA, Minor clarifications in javadoc, based on discussions in Leuven Meeting

1 Introduction

The position of a Gateway can be determined by different devices. Regardless of the device retrieving the position, Services should have a uniform definition of that position information.

2 Motivation and Rationale

This RFC provides a simple Position definition based on the Measurement API. Producing/Consuming this position information can be done via the Wiring API.

All information contained in the Position is stored in a Measurement to identify the value, error margin and timestamp of the position information.

3 Technical Discussion

3.1 org.osgi.util.position Class Position

java.lang.Object
|
+-org.osgi.util.position.Position

public class **Position**

extends java.lang.Object

Class holding an exact, unique location, based on the WGS84 System (World Geodetic System 1984).

The org.osgi.util.measurement.Measurement class is used to represent the values that make up a position.

Position can have values of an undetermined value, due to incomplete information. (e.g. the altitude is not provided via GSM-positioning) Those methods return null in such a case.

A final remark can be made about the altitude, which should be calculated relative to the ellipsoid defined by WGS84. (e.g. negative altitudes can be found in the Death Valley, ...)

Constructor Summary

[Position](#)(org.osgi.util.measurement.Measurement alt, org.osgi.util.measurement.Measurement lon, org.osgi.util.measurement.Measurement lat, org.osgi.util.measurement.Measurement speed, org.osgi.util.measurement.Measurement track)

Constructs a Position object with the given values.

[Position](#)([Position](#) pos)

Copy constructor that constructs a Position object based on the given Position

Method Summary

org.osgi.util.measurement.Measurement

[getAltitude](#)()

Returns the altitude of this position in meters.

org.osgi.util.measurement.Measurement

[getLatitude](#)()

Returns the latitude of this position in degrees.

org.osgi.util.measurement.Measurement

[getLongitude](#)()

Returns the longitude of this position in degrees.

org.osgi.util.measurement.Measurement	getSpeed() Returns the speed of this position in meter per second.
org.osgi.util.measurement.Measurement	getTrack() Returns the track of this position in degrees as seen from the North.

Methods inherited from class java.lang.Object

Clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Detail

3.1.1 Position

```
public Position(org.osgi.util.measurement.Measurement alt,
                org.osgi.util.measurement.Measurement lon,
                org.osgi.util.measurement.Measurement lat,
                org.osgi.util.measurement.Measurement speed,
                org.osgi.util.measurement.Measurement track)
```

Constructs a Position object with the given values.

Parameters:

alt - a Measurement object specifying the altitude

lon - a Measurement object specifying the longitude

lat - a Measurement object specifying the latitude

speed - a Measurement object specifying the speed

track - a Measurement object specifying the track

3.1.2 Position

```
public Position(Position pos)
```

Copy constructor that constructs a Position object based on the given Position

Method Detail

3.1.3 getAltitude

```
public org.osgi.util.measurement.Measurement getAltitude()
```

Returns the altitude of this position in meters representing the altitude in meters above the ellipsoid.

Returns:

a Measurement object in Unit.m representing the altitude.

3.1.4 getLongitude

```
public org.osgi.util.measurement.Measurement getLongitude()
```

Returns the longitude of this position in degrees.

Returns:

a Measurement object in Unit.deg representing the longitude.

3.1.5 getLatitude

public org.osgi.util.measurement.Measurement **getLatitude()**

Returns the latitude of this position in degrees.

Returns:

a Measurement object in Unit.deg representing the latitude.

3.1.6 getSpeed

public org.osgi.util.measurement.Measurement **getSpeed()**

Returns the ground speed of this position in meter per second.

Returns:

a Measurement object in Unit.m_s representing the speed.

3.1.7 getTrack

public org.osgi.util.measurement.Measurement **getTrack()**

Returns the track of this position in degrees as seen from the North.

Returns:

a Measurement object in Unit.deg representing the track.

4 Security Considerations

Document Support

References

Bradner, S., Key words for use in RFCs to Indicate Requirement Levels, RFC2119, March 1997.

Author's Address

NameWim De Munck CompanyAcuniaAddress Vanden Tymplestraat 35Voice +32 16310020

Name	Erwin Morrhey
Company	Acunia
Address	Vanden Tymplestraat 35
Voice	+32 16310020

4.1 Acronyms and Abbreviations

4.2 End of Document