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.

0 Document Information

0.1 Table of Contents

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) Contructs a Position object with the given values.	
Position(Position pos) Copy contructor that constructs a Postion 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)
Contructs 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 contructor that constructs a Postion 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