



HEADING POLICY SPECIFICATIONS.

Rev: **0.1 BETA**
Date: 12/15/09

Revision History

This tutorial revision history highlights the technical changes made to this document.

PAGE(s) NO.	Revised in	ADDS/CHANGES/DELETES
N/A	0.1	Internal Release

Policy Parameters

Name	Type (default value)	Limit
minHeadingAngle	Integer (40) (0 = angle is not used, >= 180 angle is not tested) Delta d'angle (en degrés) minimal attendu pour envoyer une coordonnée.	If <0, default value is used.
minHeadingDistanceAngle	Integer (20) Minimum distance (in meters) required since last record in case of angle test.	If <0, default value is used.
minHeadingDistance	Integer (250) Minimum distance (in meters) required since last record. (no angle test)	If <0, default value is used.
minHeadingFreq	Integer (90000) Minimum time (milliseconds) between 2 records (no angle test)	If <0, default value is used.
maxHeadingDistance	Integer (5000) Maximum distance (in meters) between 2 records.	If <100, default value is used.
maxHeadingFreq	Entier (300000) Maximum time (in milliseconds) between 2 records. Can be used to record points when the device is not moving.	If <5000, default value is used.

Policy Description

The policy is using 4 independent conditions to define when a point must be recorded.

Last recorded position is not valid.

In the case of a not valid last GPS position, the next point will be recorded as soon as a valid position is caught.

Validity

```
IF ( !isValid(lastPos) && isValid(curPos)) THEN
    Record
END IF
```

Maximum Distance

Distance (Allows periodic record based on the distance)

```
IF (Distance(lastPos, curPos) >= maxHeadingDistance) THEN
    Record
END IF
```

It's possible to disable the record by setting a very high maxHeadingDistance value.

Example: `maxHeadingDistance=5000000`. (Records each 5000 Kms)

Maximum Time

Time (Allows record when the vehicle is not moving)

```
IF (Time (lastPos, curPos) >= maxHeadingFreq) THEN
    Record
END IF
```

It's possible to disable this mode by setting a very high maxHeadingFreq value.

Example: `maxHeadingFreq=100000`

Heading Change

Heading (Allows recorded based on the GPS Direction)

```
IF (MinHeadingAngle != 0 &&
    Angle (lastPos, curPos) >= minHeadingAngle &&
    Distance(lastPos, curPos) >= minHeadingDistanceAngle) THEN
    Record
END IF
```

Minimum Distance and Time

Time and Distance (allows record when the vehicle moved enough)

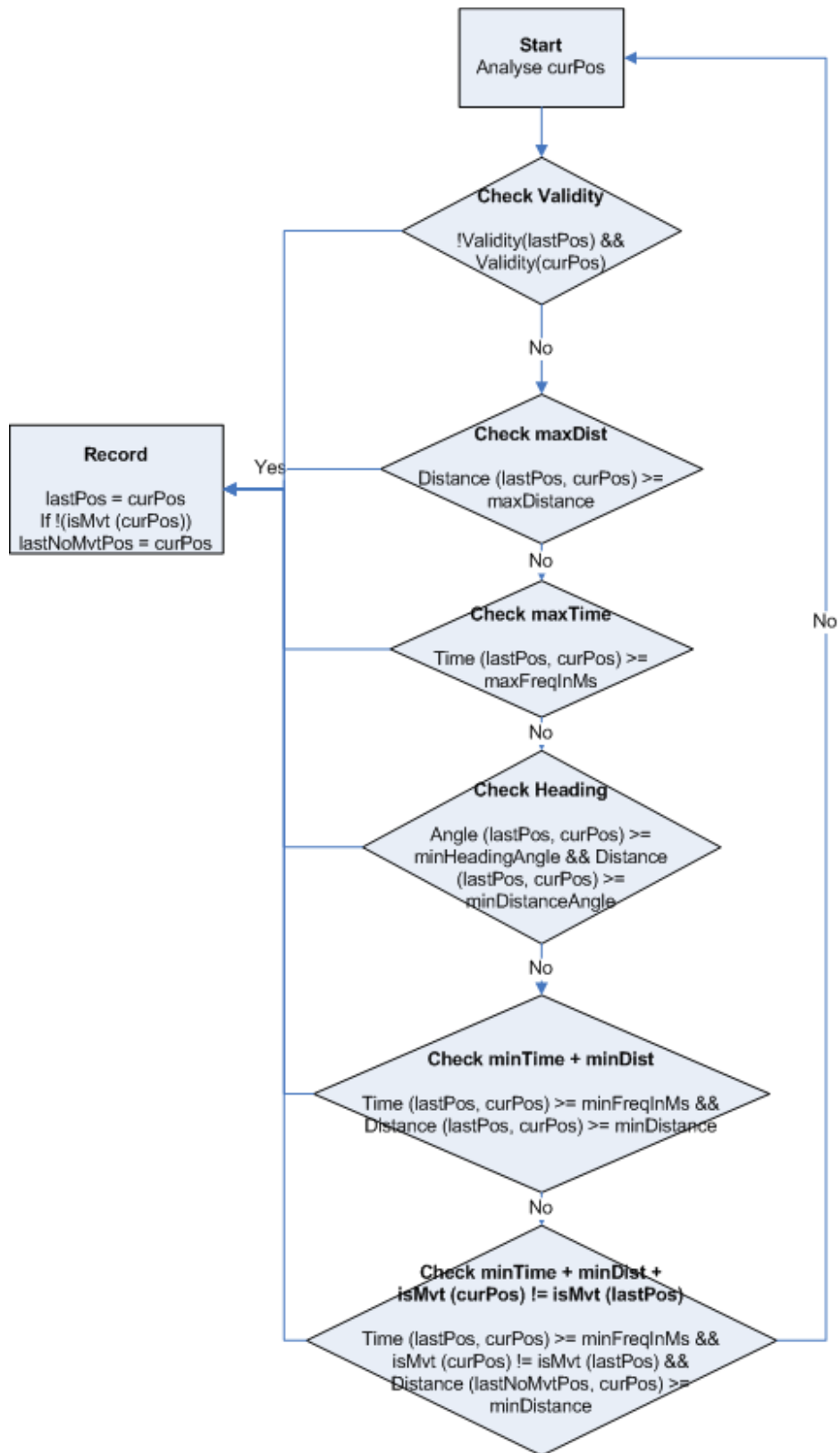
```
IF (Time (lastPos, curPos) >= minHeadingFreq) THEN
  IF (Distance(lastPos, curPos) >= minHeadingDistance) THEN
    Record
  END IF
  IF ((isMvt (lastPos) != isMvt (curPos)) THEN
    IF (PreviousStoppedPosition IS EMPTY | |
      Distance (lastPos, curPos) >= minHeadingDistance) THEN
      Record
    END IF
  END IF
END IF
```

WARNING : Distance and Angle

Les fonctions de distance et d'angle ne marchent que sur des positions valides (GPS qui fixe avec au moins 3 satellites). Dans le cas ou les informations GPS ne sont pas valides ces fonctions renverront une valeur négative. L'algorithme (changement de cap / Temps et distance minimum / Distance maximum) ne sera pas effectif. Il est donc conseillé d'avoir toujours l'algorithme de Temps Maximum.

Distance and Angle functions only work on valid positions (GPS FIX with 3 satellites or more). In the case of not valid GPS information, these functions will return a negative value and this mode won't be effective. That's the reason why it's recommended to at least always set up the Maximum Time Mode.

Policy Diagram



EXAMPLES

Heading Change (with default values)

- Records as soon as the heading is 40 degrees greater than the last record and the distance 20 meters greater than the last record.
- Records if time since last point is greater than 90 seconds and the distance is greater than 250m
- If the vehicle is not moving, records each 5 minutes. (300000ms).
- If the vehicle is moving straight forward, records each 2kms.

```
minHeadingAngle=40
minHeadingDistanceAngle=20
minHeadingDistance=250
minHeadingFreq=90000
maxHeadingDistance=2000
maxHeadingFreq=300000
```

Maximum Distance or Maximum Time

Records each 2 minutes or when the vehicle moved by 2 kilometers.

The following configuration is :

- Disabling heading change mode :
→ `minHeadingAngle == 0`
- Disabling minimum distance/time mode.
→ `minHeadingFreq = 2000000000`

```
minHeadingAngle=0
minHeadingDistanceAngle=X
minHeadingDistance=50000
minHeadingFreq=2000000000
maxHeadingDistance=2000
maxHeadingFreq=120000
```

Setting up the Policy on the C4C.

To enable this policy, the following parameter must be set up with the right policy name :

```
dataRecorder.fieldPeriod[3]==-4
```

Once the policy is enabled, each DB Field whose fieldPeriod is set with -4 will be recorded and included in the next data packet to be sent. Please refer to the DB Field documentation for more details about them.