Dynamic Feature Extensions to the Presence Information Data Format Location Object (PIDF-LO)

draft-singh-geopriv-pidf-lo-dynamic-05

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Background (reminder)

- Provide information about movement of target
  - Speed: "traveling at 10 m/s"
  - Acceleration: "accelerating at 3 m/s^2"
  - Heading: "target is heading north-east"
  - Orientation: "target is pointing east"

Current version: orientation

```xml
<?xml version="1.0" encoding="UTF-8"?>
<dyn:Dynamic">
    <dyn:orientation>
      <gml:DirectionVector>
        <gml:horizontalAngle uom="urn:ogc:def:uom:EPSG::9102">90</
          gml:horizontalAngle>
        <gml:verticalAngle uom="urn:ogc:def:uom:EPSG::9102">
            5</gml:verticalAngle>
      </gml:DirectionVector>
    </dyn:orientation>
    … next slide …
</dyn:Dynamic>
```

Speed, heading, acceleration

```
<dyn:speed uom="urn:ietf:params:ns:geopriv:dynamic:uom#mps">3.2<dyn:speed>
<dyn:heading>
    <gml:DirectionVector>
        <gml:horizontalAngle uom="urn:ogc:def:uom:EPSG::9102">
            180</gml:horizontalAngle>
        <gml:verticalAngle uom="urn:ogc:def:uom:EPSG::9202">
            0</gml:verticalAngle>
    </gml:DirectionVector>
</dyn:heading>
<dyn:acceleration uom="urn:ietf:params:ns:geopriv:dynamic:uom#mps2">
    0</dyn:acceleration>
```

Seems too complicated for common use cases

Really no need to specify units - makes receiver implementation difficult

Simple alternative

- Avoid units
- No vertical orientation
- Not GML, but compatible
  - GeoRSS is not GML

```
<Dynamic xmlns="...dynamic">
 <orientation>90</orientation>
 <speed>3.2</speed>
 <heading>44</heading>
 <acceleration>0</acceleration>
</Dynamic>
```

GML <MovingObject>

```
<element name="MovingObjectStatus" type="gml:MovingObjectStatusType"
substitutionGroup="gml:TimeSlice"/>
<complexType name="MovingObjectStatusType">
 <complexContent>
   <extension base="gml:AbstractTimeSliceType">
    <sequence>
      <element ref="gml:position"/>
      <element name="speed" type="gml:MeasureType"
      <element name="bearing" type="gml:DirectionProperty
      <element name="acceleration" type="gml:MeasureType"/>
      <element name="elevation" type="gml:MeasureType"/>
      <element ref="gml:status"/>
    </sequence>
   </extension>
 </complexContent>
</complexType>
```

duplicates PIDF-LO information – not optional!

\<MovingObject\> example

```
<gml:MovingObjectStatus>
 <gml:validTime><gml:TimeInstant>
  <gml:timePosition>2005-11-28T14:00:00</gml:timePosition>
 </gml:TimeInstant></gml:validTIme>
<gml:location><gml:Point>
 <gml:pos>140.1 -34.9</gml:pos>
</gml:Point></gml:location>
<gml:speed uom="#kph">23.</gml:speed>
 <gml:bearing>
  <gml:CompassPoint>ESE</gml:CompassPoint>
 </gml:bearing>
</gml:MovingObjectStatus>
```

Not all that helpful

Next steps

- Gone around the GML circle a few times
- Finally, decide on one
  - <Dynamic>, simplified
  - and avoid push-back on GML faithful ☺