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Timed Presence Extensions to the Presence Information Data Format (PIDF) to Indicate Presence Information for Past and Future Time Intervals

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Abstract

The timed presence extension adds elements to the Presence Information Data Format (PIDF) that allow a presentity to declare their status for a time interval fully in the future or the past.

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1. Introduction

Presence information, e.g., represented as PIDF [5] and RPID [3], describes the current state of the presentity. RPID also allows to indicate how long certain aspects of the status have been valid and how long they are expected to be valid, but the time range has to include the time when the presence information is published and delivered to the watcher. (This restriction is necessary to avoid backwards-compatibility problems with plain PIDF implementations.)

In some cases, the watcher can better plan communications if it knows about the presentity's future plans. For example, if a watcher knows that the presentity is about to travel, it might place a phone call earlier.

It is also occasionally useful to represent past information since it may be the only known presence information; it may give watchers an indication of the current status. For example, indicating that the presentity was at a meeting that ended an hour ago indicates that the presentity is likely in transit at the current time.

Future or past status cannot be expressed with <status> elements that use optional attributes or elements indicating such past or future time ranges. If they did, PIDF parsers would ignore those optional attributes or elements, and would not be able to distinguish current information from past or future information.

This document defines the <timed-status> element that describes status information that is either no longer valid or covers some future timeperiod.

2. Timed-Status Element

The <timed-status> element can only appear within a PIDF <tuple> element. More than one such element MAY appear within a <tuple> element. Sources of <timed-status> information should avoid overlapping elements, but since overlapping appointments are common in calendars, for example, receivers MUST be able to render such overlapping <timed-status> indications.

The <timed-status> element MUST be qualified with the 'from' attribute and MAY be qualified with an 'until' attribute to describe the time when the status assumed this value and the time until which is element is expected to be valid. The time range MUST NOT encompass the present time, as that would provide an unnecessary and confusing alternate mechanism to describe presence.

The <timed-status> element may contain any PIDF status extension, such as RPID [3]. However, not all elements in PIDF extensions are sensible in this context. For example, information such as contact information [4] that does not change as a function of time is inappropriate for use with timed status.

Note that this document chooses absolute rather than relative times, since relative times would be too hard to keep properly updated when spacing notifications, for example. Implementations SHOULD ascertain whether the time values in the <timed-status> elements are plausible, for example, by checking whether the time stamp in a notification protocol message corresponds to local time and by making sure that

they are fully in the past or future, both relative to real time and the time contained in the optional PIDF <timestamp> element.

3. Example

An example combining PIDF and timed-status is shown in Fig. Figure 1.

```
<?xml version="1.0" encoding="UTF-8"?>
   <presence xmlns="urn:ietf:params:xml:ns:pidf"
        xmlns:fs="urn:ietf:params:xml:ns:pidf:timed-status"
        entity="pres:someone@example.com">

     <tuple id="7c8dqui">
       <contact>sip:someone@example.com</contact>
       <status>
         <basic>open</basic>
       </status>
       <fs:time-status from="2003-08-15T10:20:00.000-05:00"
          until="2003-08-22T19:30:00.000-05:00">
          <basic>closed</basic>
       </fs:timed-status>
     </tuple>
```

```
      <note>I'll be in Tokyo next week</note>
    </presence>
```

An Example of Timed Status

Figure 1

4. Schema

The schema is shown in Fig. Figure 2.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns="urn:ietf:params:xml:ns:pidf:timed-status"
    xmlns:pidf="urn:ietf:params:xml:ns:pidf"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    elementFormDefault="qualified"
    attributeFormDefault="unqualified">

  <!-- This import brings in the XML language attribute xml:lang-->
      <xs:import namespace="http://www.w3.org/XML/1998/namespace"
      schemaLocation="http://www.w3.org/2001/xml.xsd"/>
```

```
    <xs:annotation>
      <xs:documentation xml:lang="en">
        Describes timed-status tuple extensions for PIDF.
      </xs:documentation>
    </xs:annotation>

    <xs:element name="timed-status" type="timed-status"/>

    <xs:complexType name="timed-status">
       <xs:sequence>
         <xs:element name="basic" type="pidf:basic" minOccurs="0"/>
         <xs:element name="note" type="pidf:note"/>
         <xs:any namespace="##other" processContents="lax" minOccurs="0"
            maxOccurs="unbounded"/>
       </xs:sequence>
       <xs:attribute name="from" type="xs:dateTime"/>
       <xs:attribute name="until" type="xs:dateTime"/>
    </xs:complexType>
  </xs:schema>
```

The Timed-Status Schema

Figure 2

5. IANA Considerations

This document calls for IANA to register a new XML namespace URN and schema per [2].

5.1 URN Sub-Namespace Registration for 'urn:ietf:params:xml:ns:pidf:timed-status'

URI: urn:ietf:params:xml:ns:pidf:timed-status

Description: This is the XML namespace for XML elements defined by
RFCXXXX to describe timed-status presence information extensions
for the status element in the PIDF presence document format in the
application/cpim-pidf+xml content type.

Registrant Contact: IETF, SIMPLE working group, simple@ietf.org;
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XML:

```
 BEGIN
   <?xml version="1.0"?>
  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML Basic 1.0//EN"
   "http://www.w3.org/TR/xhtml-basic/xhtml-basic10.dtd">
   <html xmlns="http://www.w3.org/1999/xhtml
   <head>
        <meta http-equiv="content-type"
        content="text/html;charset=iso-8859-1"/>
        <title>Timed-Status Information in Presence Information Data Format<
   </head>
   <body>
       <h1>Namespace for timed-status presence extension</h1>
       <h2>urn:ietf:params:xml:ns:pidf:timed-status</h2>
       <p>See <a href="URL of published RFC">RFCXXXX</a>.</p>
    </body>
    </html>
   END
```

5.2 Schema Registration for Schema urn:ietf:params:xml:ns:pidf:timed-status'

URI: please assign

Registrant Contact: IESG

XML: See Figure 2

6. Security Considerations

The security issues are similar to those for RPID [3].

Normative References

[1] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[2] Mealling, M., "The IETF XML Registry", BCP 81, RFC 3688, January 2004.

Informative References

[3] Schulzrinne, H., Gurbani, V., Kyzivat, P. and J. Rosenberg, "RPID: Rich Presence: Extensions to the Presence Information Data Format (PIDF)", draft-ietf-simple-rpid-02 (work in progress), March 2004.

[4] Schulzrinne, H., "CIPID: Contact Information in Presence Information Data Format", draft-ietf-simple-cipid-00 (work in progress), February 2004.

[5] Sugano, H. and S. Fujimoto, "Presence Information Data Format (PIDF)", draft-ietf-impp-cpim-pidf-08 (work in progress), May 2003.

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