

SIMPLE
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RPID: Rich Presence Extensions to the Presence Information Data
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Abstract

The Presence Information Data Format (PIDF) defines a basic format for representing presence information for a presentity. That format

defines a textual note, an indication of availability (open or closed) and a Universal Resource Identifier (URI) for communication. The Rich Presence Information Data Format (RPID) described here is an extension that adds optional elements to the Presence Information Data Format (PIDF). These extensions provide additional information about the presentity and its contacts. The information is designed so that much of it can be derived automatically, e.g., from calendar files or user activity.

This extension includes information about what the person is doing, a grouping identifier for a tuple, when a service or device was last used, the type of place a person is in, what media might be private, the relationship of a service tuple to another presentity, the person's mood, the time zone it is located in, the type of service it offers and the overall role of the presentity.

These extensions include characteristics and status information for person, service (tuple) and devices.

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1. Introduction

The Presence Information Data Format (PIDF) definition [7] describes a basic presence information data format, encoded as an Extensible Markup Language (XML) document, for exchanging presence information in CPIM-compliant systems. It consists of a <presence> root element, zero or more <tuple> elements carrying presence information including a Universal Resource Identifier (URI) for communication, zero or more <note> elements and zero or more extension elements from other name spaces. Each tuple defines a basic status of either "open" or "closed".

However, it is frequently useful to convey additional information about a user that needs to be interpreted by an automata, and is therefore not appropriate for placement in the note element of the PIDF document. This specification defines extensions to the PIDF document format for conveying richer presence information. Generally, the extensions have been chosen to provide features common in existing presence systems at the time of writing, in addition to elements that could readily be derived automatically from existing sources of presence, such as calendaring systems, or sources describing the user's current physical environment.

The presence data model [12] defines the concepts of service, device, and person as the data elements that are used to model the state of a presentity. Services are encoded using the <tuple> element, defined in PIDF; devices and persons are represented by the <device> and <person> XML elements, respectively, defined in the the data model [12]. However, neither PIDF nor the data model define presence attributes beyond the <basic> status element.

This specification defines additional presence attributes to describe person, service and device data elements, summarized as "Rich Presence Information Data Format for Presence" (RPID). These attributes are specified by XML elements which extend the PIDF <tuple> element and the <device> and <person> elements defined in the data model.

This extension has two main goals:

1. Provide rich presence indication that is at least as powerful as common commercial presence systems. Such feature-parity simplifies transition to CPIM-compliant systems, both in terms of user acceptance and protocol conversion.
2. Maintain backwards-compatibility with PIDF, so that PIDF-only watchers and gateways can continue to function properly, naturally without access to the functionality described here.

We make no assumptions how the information in the RPID is generated. Experience has shown that users are not always diligent about updating their presence status. Thus, we want to make it as easy as possible to derive RPID information from other information sources, such as calendars, the status of communication devices such as telephones, typing activity and physical presence detectors as commonly found in energy-management systems.

Many of the elements correspond to data commonly found in personal calendars. Thus, we attempted to align some of the extensions with the usage found in calendar formats such as iCal [10].

The information in a presence document can be generated by a single entity or can be composed from information published by multiple entities.

Note that PIDF documents and this extension can be used in two different contexts, namely by the presentity to publish its presence status and by the presence server to notify some set of watchers. The presence server MAY compose, translate or filter the published presence state before delivering customized presence information to the watcher. For example, it may merge presence information from multiple PUAs, remove whole elements, translate values in elements or remove information from elements. Mechanisms that filter calls and other communications to the presentity can subscribe to this presence information just like a regular watcher and in turn generate automated rules, such as scripts [11], that govern the actual communications behavior of the presentity. Details are described in the data model document.

Since RPID is a PIDF XML document, it also uses the content type application/pidf+xml.

2. Terminology and Conventions

This memo makes use of the vocabulary defined in the IMPP Model document [5]. Terms such as CLOSED, INSTANT MESSAGE, OPEN, PRESENCE SERVICE, PRESENTITY, WATCHER, and WATCHER USER AGENT in the memo are used in the same meaning as defined therein.

The key words MUST, MUST NOT, REQUIRED, SHOULD, SHOULD NOT, RECOMMENDED, MAY, and OPTIONAL in this document are to be interpreted as described in BCP 14, RFC 2119 [1].

3. RPID Elements

3.1 Introduction

Below, we describe the RPID elements in detail. Some of these elements describe services, some devices, and some the person. As such, they either extend <tuple>, <device> or <person>, respectively. Furthermore, some are dynamic status information, and others describe more static characteristics, and thus may extend <status> or the root <tuple>, <device> or <person> elements.

Below, we describe the RPID elements in detail. The following RPID elements are defined as <person> status attributes.

- activities: The <activities> status element describes what the person is doing, using an enumeration of <activity> elements.
- mood: The <mood> status element indicates the mood of the person.
- place-type: The <place-type> status elements reports the type of place the person is located in.
- sphere: The <sphere> element characterizes the overall role of the presentity.
- status-icon: The <status-icon> element depicts the current status of the person.
- timezone: The <time-zone> status element names the timezone the person finds itself in.

The following RPID element is defined for <person>, <device> and <tuple> elements:

- class: An identifier that groups similar person elements, devices or services.

The following RPID element is defined for both <device> and <tuple> attributes:

- user-input: The <user-input> element records the user-input or usage state of the service or device, based on human user input.

The following RPID elements are defined as service attributes and thus extend <tuple>:

- privacy: The <privacy> element distinguishes whether the communication service is likely to be observable by other parties.
- relationship: When a service is likely to reach a user besides the person associated with the presentity, the relationship indicates how that user relates to the person. Relationship is a characteristic.
- service-type: The <service-type> element describes whether the service is delivered electronically, is a postal or delivery service or describes in-person communications.
- status-icon: The <status-icon> element depicts the current status of the service.

In general, it is highly unlikely that a presentity will publish or

announce all of these elements at the same time. Rather, these elements were chosen to give the presentity maximum flexibility in deriving this information from existing sources, such as calendaring tools, device activity sensors or location trackers, as well as to manually configure this information.

The namespace URIs for these elements defined by this specification are URNs [2], using the namespace identifier 'ietf' defined by [4] and extended by [6]:

```
urn:ietf:params:xml:ns:pidf:status:rpid-status
urn:ietf:params:xml:ns:pidf:rpid-tuple
urn:ietf:params:xml:ns:pidf:rpid-person
urn:ietf:params:xml:ns:pidf:rpid-device
```

This document uses a separate namespace for extending the PIDF <status> namespace, in accordance with Sections 4.2.5 and 4.3.2 of [7].

All elements described in this document are optional.

The elements <activities>, <place-type>, <privacy> and <sphere> MAY be qualified with the 'since' and 'until' attributes to describe the absolute time when the element assumed this value and the absolute time until which is element is expected to be valid. The 'since' time MUST be in the past, the 'until' time in the future relative to the time of publication of the presence information and, if available, the PIDF <timestamp> element.

All elements may be generated either automatically, derived from sensor information or a calendar, or provided manually, via some user interface, by the presentity. In either case, there is no guarantee that the information is accurate, as users forget to update calendars or may not always adjust the presence information manually.

3.2 Activities Element

The <activities> element describes what the person is currently doing, expressed as an enumeration of <activity> elements. A person can be engaged in multiple activities at the same time, e.g., traveling and having a meal. This can be quite helpful to the watcher in judging how appropriate a communication attempt is and which means of communications is most likely to succeed and not annoy the person. The activity indications correspond roughly to the category field in calendar entries, such as Section 4.8.1.2 of RFC 2445 [10].

An activities enumeration consists of one or more elements using

values drawn from the list below, any other token string or IANA-registered values (Section 6).

If a person publishes an activity of "perment-absence", it is likely that all services will report a status of CLOSED. In general, services MAY advertise either service status for any activity value.

away: The person is physically away from all interactive communication devices location. This activity was included since it can often be derived automatically from security systems, energy management systems or entry badge systems. While this activity would typically be associated with a status of CLOSED across all services, a person may declare itself away to discourage communication, but indicate that it still can be reached if needed, but communications might reach an answering service, for example.

appointment: The person has a calendar appointment, without specifying exactly of what type. This activity is indicated if more detailed information is not available or the person chooses not to reveal more information.

busy: User is busy, without further details. While this activity would typically be associated with a status of CLOSED across all services, a person may declare itself busy to discourage communication, but indicate that it still can be reached if needed.

holiday: This is a scheduled national or local holiday. This information can typically be derived automatically from calendars.

in-transit: The person is riding in a vehicle, such as a car, but not steering. The <place-type> element provides more specific information about the type of conveyance the person is using.

meal: The person is scheduled for a meal. This activity category can often be generated automatically from a calendar.

meeting: A meeting is a sub-class of an appointment. This activity category can often be generated automatically from a calendar.

on-the-phone: The person is talking on the telephone. This activity is included since it can often be derived automatically.

performance: A performance is a sub-class of an appointment and includes musical, theatrical and cinematic performances as well as lectures. It is distinguished from a meeting by the fact that the person may either be lecturing or be in the audience, with a potentially large number of other people, making interruptions particularly noticeable. This activity category can often be generated automatically from a calendar.

permanent-absence: person will not return for the foreseeable future, e.g., because it is no longer working for the company. This activity is associated with a status of CLOSED across all services.

sleeping: This activity category can often be generated automatically from a calendar, local time information or biometric data.
steering: The person is controlling a vehicle, ship or plane.
travel: The person is on a business or personal trip, but not necessarily in-transit. This category can often be generated automatically from a calendar.
vacation: Leisure travel. This activity category can often be generated automatically from a calendar.

The <activities> element MAY be qualified with the 'since' and 'until' attributes as described in Section 3.

If the entity described by a tuple is involved in multiple activities at the same time, the <activities> element enumerates all unique values as child <activity> elements.

The <activities> element can be extended by adding elements from other namespaces, e.g., to reflect activities appropriate for a particular occupation.

3.3 Class Element

The <class> element describes the class of the service, device or person. Multiple elements can have the same class name within a presence document. The naming of classes is left to the presentity. The presentity can use this information to group similar services, devices or person elements or to convey information that the presence agent can use for filtering or authorization.

3.4 Mood Element

The <mood> element describes the mood of the presentity. They are enumerated chosen by the presentity. The mood itself is provided as the element name of a defined child element of the <mood/> element (e.g., <happy/>); one such child element is REQUIRED. The user MAY also specify a natural-language description of, or reason for, the mood in the <text/> child of the element, which is OPTIONAL. (This definition follows the Jabber Extension JEP-107.) It is RECOMMENDED that an implementation support the mood values proposed in Jabber Extension JEP-0107, which in turn are a superset of the Wireless Village [15] mood values and the values enumerated in the Affective Knowledge Representation that has been defined by Lisetti [14]:

- afraid
- amazed
- angry
- annoyed

anxious
ashamed
bored
brave
calm
cold
confused
contented
cranky
curious
depressed
disappointed
disgusted
distracted
embarrassed
excited
flirtatious
frustrated
grumpy
guilty
happy
hot
humbled
humiliated
hungry
hurt
impressed
in_awe
in_love
indignant
interested
invincible
jealous
lonely
mean
moody
nervous
neutral
offended
playful
proud
relieved
remorseful
restless
sad
sarcastic
serious

shocked
shy
sick
sleepy
stressed
surprised
thirsty
worried

3.5 Place-type Element

The <place-type> element describes the type of place the person is currently at. This offers the watcher an indication what kind of communication is likely to be appropriate. We define an initial set of values below:

aircraft: The person is in a plane, helicopter or balloon.
airport: The person is located in an airport, heliport or similar location.
bus: The person is traveling in a public or charter bus.
car: The person is in an automobile.
home: The person is in a private or residential setting, not necessarily the personal residence of the person, e.g., including hotel or a friend's home.
hotel: The person is in a hotel, motel, inn or other lodging establishment.
industrial: The person is in an industrial setting, such as a manufacturing floor or power plant.
library: The person is in a library or other public place that provides access to books, music and reference materials.
mall: The person is frequenting a shopping mall or shopping area.
noisy: The person is in a place with lots of background noise.
office: The person is in a business setting, such as an office.
outdoors: The person is in a general outdoors area, such as a park or city streets.
public: The person is in a public area such as a shopping mall, street, park, public building, train station, airport or in public conveyance such as a bus, train, plane or ship. This general description encompasses the more precise descriptors "street", "public-transport", "aircraft", "ship", "bus", "train", "airport", "mall" and "outdoors" below.
public-transport: The person is using any form of public transport, including aircraft, bus, train or ship.
quiet: The person is in a place such as a library, restaurant, place-of-worship, or theater that discourages noise, conversation and other distractions.

restaurant: The person is in a restaurant, coffee shop or other public dining establishment.
school: The person is in a school or university, but not necessarily in a classroom or library.
ship: The person is traveling in a water vessel or boat.
station: The person is located in a bus or train station.
street: The person is walking in a street.
theater: The person is in a theater, lecture hall, auditorium, classroom, movie theater or similar facility designed for presentations, talks, plays, music performances and other events involving an audience.
train: The person is traveling in a train, monorail, maglev, cable car or similar conveyance.
truck: The person is in a truck, used primarily to carry goods rather than people.

This list can be augmented by free-text values or additional IANA-registered values (Section 6).

The <place-type> element is a tokenlist, e.g.,
<place-type>street noisy public</place-type>

The <place-type> element MAY be qualified with the 'since' and 'until' attributes as described in Section 3.

3.6 Privacy Element

The <privacy> element indicates which type of communication third parties in the vicinity of the presentity are unlikely to be able to intercept accidentally or intentionally. This does not in any way describe the privacy properties of the electronic communication channel, e.g., properties of the encryption algorithm of the network protocol used.

audio: Audio communication is likely only to be heard by the intended recipient.
video: Inappropriate individuals are not likely to see video communications.
text: Inappropriate individuals are not likely to see text communications.

The <privacy> element can be used by logic executing on the watcher or by a composer to filter, sort and label tuples. For example, a composer may have rules that limit the publication of tuples labeled as "private" to a select subset of the watchers.

The <privacy> element MAY be qualified with the 'since' and 'until'

attributes as described in Section 3.

3.7 Relationship Element

The <relationship> element extends <tuple> and designates the type of relationship an alternate contact has with the presentity. This element is provided only if the tuple refers to somebody other than the presentity. Relationship values include "family", "associate" (e.g., for a colleague), "assistant", "supervisor". Other free-text values and additional IANA-registered values (Section 6) can be used as well.

If a relationship is indicated, the URI in the <contact> element refers to the entity, such as the assistant, that has a relationship to the presentity, not the presentity itself.

Like tuples without a <relationship> qualifier, the <contact> element for tuples labeled with a relationship can contain either a communication URI such as "im", "sip", "sips", "h323", "tel" or "mailto", or a presence URI, such as "pres" or "sip".

3.8 Service Class

The <service-class> element extends <tuple> and designates the type of service offered, namely electronic, delivery (including courier), postal or in-person. Electronic service is implied if omitted. The service types 'postal', 'delivery' and 'in-person' MUST NOT be used unless the contact URI is empty. Additional data elements defined elsewhere describe the physical service delivery address for the in-person, postal or delivery services. Such addresses might be specified in geospatial coordinates, civic addresses or some specialized address format, e.g., for interstellar addresses or a company-specific delivery system.

3.9 Sphere Element

The <sphere> element designates the current state and role that the person plays. For example, it might describe whether the person is in a work mode or at home or participating in activities related to some other organization such as the IETF or a church. This document does not define names for these spheres except for two common ones, "work" and "home".

Spheres are likely to be used for two purposes: they allow the person to easily turn on or off certain rules that depend on what groups of people should be made aware of the person's status. For example, if the person is a Boy Scout leader, he might set the sphere to "scouting" and then have a rule set that allows other scout

masters in his troop to see his presence status. As soon as he switches his status to "work" or "home" or some other sphere, the fellow scouts would lose access.

The <sphere> element MAY be qualified with the 'since' and 'until' attributes as described in Section 3.

3.10 Status-Icon Element

The <status-icon> element includes a URI pointing to an image (icon) representing the current status of the person or service. The watcher MAY use this information to represent the status in a graphical user interface. Presentities SHOULD provide images of sizes and aspect ratios that are appropriate for rendering as an icon. Support for JPEG, PNG and GIF formats is RECOMMENDED.

3.11 Time Zone

The <timezone> element describes the current time zone of the presentity. The timezone is described by a time zone identifier. If it begins with a forward slash (solidus), it references a to-be-defined global time zone registry; otherwise it is locally-defined at the server.

While labels that do not begin with a forward slash are locally defined, it is RECOMMENDED that servers support at least the naming scheme used by Olson Time Zone database [13]. Examples of timezone databases that use the Olson scheme are the zoneinfo files on most Unix-like systems, and the standard Java TimeZone class.

3.12 User-Input Element

The <user-input> element records the user-input or usage state of the service or device, based on human user input, e.g., keyboard, pointing device or voice. The element can assume one of two values, namely 'active' or 'idle', with an optional 'since' attribute that records when the last user input has been received. An optional 'idle-threshold' element records how long the presentity will wait before reporting the service or device to be idle, measured in seconds.

(A two-state model was chosen since it would otherwise be necessary to send repeated last-input updates during continuous activity.)

A service that wants to indicate user input activity sends a <user-input> 'active' indication when the user has provided user input within a configurable interval of time, the idle-threshold. If the user ceases to provide input and the idle threshold has elapsed,

the tuple is marked with a <user-input> 'idle' indication instead, optionally including the time of last activity in the 'since' attribute. An example is below:

```
<user-input idle-threshold="600"
  since="2004-10-21T13:20:00.000-05:00">active</user-input>
```

Depending on device or service capabilities, user input may be detected only for a particular application, i.e., when the application has user focus or when a user has sent a message or placed a call, or can be based on user input across all applications running on one end system.

The <user-input> element may be used by a watcher, typically in combination with other data, to estimate how likely a user is to answer when contacting the service. A tuple that has not been used in a while may still be OPEN, but a watcher may choose to first contact a URI in a tuple that is both OPEN and has been used more recently.

The <user-input> attribute can be omitted if the presentity wants to indicate that the device has not been used for a while, but does not want to reveal the precise duration, as in:

```
<user-input>idle</user-input>
```

Configuration MUST include the option to omit the 'since' attribute.

4. Example

The example below describes the presentity 'pres:someone@example.com', which has a SIP contact, 'sip:someone@example.com', representing a service. It also has a device contact, as an email box. The presentity is in a meeting, in a public office setting. The 'until' information indicates that he will be there until 5.30 pm GMT. The presentity also has an assistant, sip:secretary@example.com, who happens to be available for communications.

```
<?xml version="1.0" encoding="UTF-8"?>
<presence xmlns="urn:ietf:params:xml:ns:pidf"
  xmlns:e="urn:ietf:params:xml:ns:pidf:status:rpид-status"
  xmlns:et="urn:ietf:params:xml:ns:pidf:rpид-tuple"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  entity="pres:someone@example.com"
  xsi:schemaLocation="urn:ietf:params:xml:ns:pidf pidf.xsd
  urn:ietf:params:xml:ns:pidf:status:rpид-status rpид-status.xsd
```

```
urn:ietf:params:xml:ns:pidf:rp-id-tuple rpid-tuple.xsd">
  <tuple id="t0">
    <status>
      <basic>open</basic>
    </status>
    <et:class>assistant</et:class>
    <et:relationship>assistant</et:relationship>
    <contact>sip:secretary@example.com</contact>
    <note>My secretary</note>
  </tuple>
  <tuple id="t1">
    <status>
      <basic>open</basic>
      <e:activities>
        <e:activity>meeting</e:activity>
      </e:activities>
      <e:place-type until="2003-01-27T17:30:00Z">office</e:place-type>
      <e:privacy>public</e:privacy>
      <e:idle since="2003-01-27T10:43:00Z"/>
    </status>
    <et:class>sip</et:class>
    <contact priority="0.8">sip:someone@example.com</contact>
    <timestamp>2001-10-27T16:49:29Z</timestamp>
  </tuple>
  <tuple id="t2">
    <status>
      <basic>open</basic>
      <e:privacy>private</e:privacy>
      <e:timezone>America/New_York</e:timezone>
    </status>
    <contact priority="0.8">im:someone@mobilecarrier.net</contact>
    <timestamp>2001-10-27T16:49:29Z</timestamp>
  </tuple>
  <tuple id="t3">
    <status>
      <basic>open</basic>
    </status>
    <et:class>mail</et:class>
    <contact priority="1.0">mailto:someone@example.com</contact>
    <note>I'm in a boring meeting</note>
  </tuple>
  <tuple id="t4">
    <status>
      <basic>closed</basic>
    </status>
    <et:service-class>in-person</et:service-class>
    <note>Closed-door meeting</note>
  </tuple>
```

```
<person>
  <mood>
    <happy/>
    <text>I got my paycheck!</text>
  </mood>
</person>
</presence>
```

5. XML Schema Definitions

5.1 urn:ietf:params:xml:ns:pidf:rp-id-person

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

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

  <annotation>
    <documentation xml:lang="en">
      Describes RPID tuple extensions for PIDF.
    </documentation>
  </annotation>

  <attributeGroup name="SinceUntil">
    <attribute name="since" type="dateTime"/>
    <attribute name="until" type="dateTime"/>
  </attributeGroup>

  <element name='away' substitutionGroup="rp:activity-value">
    <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
  </element>
  <element name='busy' substitutionGroup="rp:activity-value">
    <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
  </element>
  <element name='appointment' substitutionGroup="rp:activity-value">
    <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
  </element>
```

```

<element name='holiday' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='in-transit' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='meal' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='meeting' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='on-the-phone' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='performance' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='permanent-absence' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='sleeping' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='steering' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='travel' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>
<element name='vacation' substitutionGroup="rp:activity-value">
  <complexType><attributeGroup ref="rp:SinceUntil"/></complexType>
</element>

<element name="activities">
  <complexType>
    <sequence>
      <element ref="rp:activity-value"
        minOccurs="0" maxOccurs="unbounded">
      </element>
      <any maxOccurs="unbounded"/>
    </sequence>
  </complexType>
</element>

<element name="class" type="token"/>

<element name='mood'>

```

```
<complexType>
  <sequence>
    <choice>
      <element name='afraid' type='rp:empty' />
      <element name='amazed' type='rp:empty' />
      <element name='angry' type='rp:empty' />
      <element name='annoyed' type='rp:empty' />
      <element name='anxious' type='rp:empty' />
      <element name='aroused' type='rp:empty' />
      <element name='ashamed' type='rp:empty' />
      <element name='bored' type='rp:empty' />
      <element name='brave' type='rp:empty' />
      <element name='calm' type='rp:empty' />
      <element name='cold' type='rp:empty' />
      <element name='confused' type='rp:empty' />
      <element name='contented' type='rp:empty' />
      <element name='cranky' type='rp:empty' />
      <element name='curious' type='rp:empty' />
      <element name='depressed' type='rp:empty' />
      <element name='disappointed' type='rp:empty' />
      <element name='disgusted' type='rp:empty' />
      <element name='distracted' type='rp:empty' />
      <element name='embarrassed' type='rp:empty' />
      <element name='excited' type='rp:empty' />
      <element name='flirtatious' type='rp:empty' />
      <element name='frustrated' type='rp:empty' />
      <element name='grumpy' type='rp:empty' />
      <element name='guilty' type='rp:empty' />
      <element name='happy' type='rp:empty' />
      <element name='hot' type='rp:empty' />
      <element name='humbled' type='rp:empty' />
      <element name='humiliated' type='rp:empty' />
      <element name='hungry' type='rp:empty' />
      <element name='hurt' type='rp:empty' />
      <element name='impressed' type='rp:empty' />
      <element name='in_awe' type='rp:empty' />
      <element name='in_love' type='rp:empty' />
      <element name='indignant' type='rp:empty' />
      <element name='interested' type='rp:empty' />
      <element name='intoxicated' type='rp:empty' />
      <element name='invincible' type='rp:empty' />
      <element name='jealous' type='rp:empty' />
      <element name='lonely' type='rp:empty' />
      <element name='mean' type='rp:empty' />
      <element name='moody' type='rp:empty' />
      <element name='nervous' type='rp:empty' />
      <element name='neutral' type='rp:empty' />
      <element name='offended' type='rp:empty' />
```

```
    <element name='playful' type='rp:empty' />
    <element name='proud' type='rp:empty' />
    <element name='relieved' type='rp:empty' />
    <element name='remorseful' type='rp:empty' />
    <element name='restless' type='rp:empty' />
    <element name='sad' type='rp:empty' />
    <element name='sarcastic' type='rp:empty' />
    <element name='serious' type='rp:empty' />
    <element name='shocked' type='rp:empty' />
    <element name='shy' type='rp:empty' />
    <element name='sick' type='rp:empty' />
    <element name='sleepy' type='rp:empty' />
    <element name='stressed' type='rp:empty' />
    <element name='surprised' type='rp:empty' />
    <element name='thirsty' type='rp:empty' />
    <element name='worried' type='rp:empty' />
  </choice>
  <element name='text' minOccurs='0' type='string' />
</sequence>
</complexType>
</element>
<element name="place-type">
  <complexType>
    <simpleContent>
      <extension base="tokenlist">
        <attributeGroup ref="SinceUntil" />
      </extension>
    </simpleContent>
  </complexType>
</element>

<element name="sphere">
  <complexType>
    <simpleContent>
      <extension base="tokenlist">
        <attributeGroup ref="SinceUntil" />
      </extension>
    </simpleContent>
  </complexType>
</element>

<element name="timezone">
  <complexType>
    <simpleContent>
      <extension base="token">
        <attributeGroup ref="SinceUntil" />
      </extension>
    </simpleContent>
  </complexType>
</element>
```

```
    </complexType>
  </element>

  <element name="status-icon" type="anyURI"/>

  <simpleType name='empty'>
    <restriction base='string'>
      <enumeration value=''/>
    </restriction>
  </simpleType>
</schema>
```

5.2 urn:ietf:params:xml:ns:pidf:rp-id-tuple

```
<?xml version="1.0" encoding="UTF-8"?>
<schema
  targetNamespace="urn:ietf:params:xml:ns:pidf:rp-id-tuple"
  xmlns:rp="urn:ietf:params:xml:ns:pidf:rp-id-tuple"
  xmlns="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"/>

  <annotation>
    <documentation xml:lang="en">
      Describes RPID tuple extensions for PIDF.
    </documentation>
  </annotation>

  <element name="class" type="token"/>

  <element name="relationship" type="token"/>

  <element name="service-class">
    <simpleType>
      <restriction base="token">
        <enumeration value="electronic"/>
        <enumeration value="in-person"/>
        <enumeration value="postal"/>
        <enumeration value="delivery"/>
      </restriction>
    </simpleType>
  </element>
</schema>
```

```
    </simpleType>
  </element>

  <element name="user-input">
    <complexType>
      <attribute name="idle-threshold" type="positiveInteger"/>
      <attribute name="since" type="dateTime"/>
    </complexType>
  </element>
</schema>
```

5.3 urn:ietf:params:xml:ns:pidf:status:rp-id-status

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

  <!-- This import brings in the XML language attribute xml:lang-->
  <import namespace="http://www.w3.org/XML/1998/namespace"
    schemaLocation="http://www.w3.org/2001/xml.xsd"/>
  <annotation>
    <documentation xml:lang="en">
      Describes RPID status extensions for PIDF.
    </documentation>
  </annotation>
  <attributeGroup name="SinceUntil">
    <attribute name="since" type="dateTime"/>
    <attribute name="until" type="dateTime"/>
  </attributeGroup>

  <element name="privacy">
    <complexType>
      <simpleContent>
        <extension base="tokenlist">
          <attributeGroup ref="SinceUntil"/>
        </extension>
      </simpleContent>
    </complexType>
  </element>

  <element name="status-icon" type="anyURI"/>

  <element name="user-input">
    <complexType>
      <attribute name="idle-threshold" type="positiveInteger"/>
      <attribute name="since" type="dateTime"/>
    </complexType>
  </element>
</schema>
```

5.4 urn:ietf:params:xml:ns:pidf:rp-id-device

```
<?xml version="1.0" encoding="UTF-8"?>
<schema
```

```
targetNamespace="urn:ietf:params:xml:ns:pidf:rp-id-device"
xmlns:rp="urn:ietf:params:xml:ns:pidf:rp-id-device"
xmlns="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">

<!-- This import brings in the XML language attribute xml:lang-->
<import namespace="http://www.w3.org/XML/1998/namespace"
  schemaLocation="http://www.w3.org/2001/xml.xsd"/>
<annotation>
  <documentation xml:lang="en">
    Describes RPID status extensions for PIDF.
  </documentation>
</annotation>
<attributeGroup name="SinceUntil">
  <attribute name="since" type="dateTime"/>
  <attribute name="until" type="dateTime"/>
</attributeGroup>

<simpleType name="tokenlist">
  <list itemType="token"/>
</simpleType>

<element name="privacy">
  <complexType name='privacy-list'>
    <sequence>
      <choice>
        <element name='audio' type='rp:empty' />
        <element name='video' type='rp:empty' />
        <element name='text' type='rp:empty' />
      </choice>
    </sequence>
    <attributeGroup ref="rp:SinceUntil"/>
  </complexType>
</element>

<element name="status-icon" type="anyURI"/>

<element name="user-input">
  <complexType>
    <attribute name="idle-threshold" type="positiveInteger"/>
    <attribute name="since" type="dateTime"/>
  </complexType>
</element>

<simpleType name='empty'>
  <restriction base='string'>
    <enumeration value='' />
  </restriction>

```

```

</simpleType>
</schema>

```

6. IANA Considerations

This document calls for IANA to:

- o register two new XML namespace URNs per [6];
- o establish registries for <activities> (Section 3.2), <mood> (Section 3.4) <place-type> (Section 3.5), <privacy> (Section 3.6, and <relationship> (Section 3.7) categories.

Note that this document does not need a new content type. It inherits the content type from [7], namely application/pidf+xml.

6.1 URN Sub-Namespace Registration for

```
'urn:ietf:params:xml:ns:pidf:status:rpid-status'
```

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

Description: This is the XML namespace for XML elements defined by RFCXXXX [RFC editor: replace with RFC number] to describe rich presence information extensions for the status element in the PIDF presence document format in the application/pidf+xml content type.

Registrant Contact: IETF, SIMPLE working group, simple@ietf.org, Henning Schulzrinne, hgs@cs.columbia.edu

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>RPID: Rich Presence: Extensions to the Presence
Information Data Format (PIDF)</title>
</head>
<body>
  <h1>Namespace for rich presence extension (status)</h1>
  <h2>urn:ietf:params:xml:ns:pidf:status:rpid-status</h2>
  <p>See <a href="URL of published RFC">RFC&rfc.number; [RFC
editor: replace with RFC number]</a>.</p>
</body>

```

```
</html>
END
```

6.2 URN Sub-Namespace Registration for 'urn:ietf:params:xml:ns:pidf:rpid-tuple'

URI: urn:ietf:params:xml:ns:pidf:rpid-tuple
Description: This is the XML namespace for XML elements defined by RFCXXXX [RFC editor: replace with RFC number] to describe rich presence information extensions for the tuple element in the PIDF presence document format in the application/pidf+xml content type.
Registrant Contact: IETF, SIMPLE working group, simple@ietf.org, Henning Schulzrinne, hgs@cs.columbia.edu.
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>RPID: Rich Presence: Extensions to the Presence
    Information Data Format (PIDF)</title>
</head>
<body>
  <h1>Namespace for rich presence extension (tuple)</h1>
  <h2>urn:ietf:params:xml:ns:pidf:rpid-tuple</h2>
  <p>See <a href="URL of published RFC">RFC&rfc.number; [RFC
editor: replace with RFC number]</a>.</p>
</body>
</html>
END
```

6.3 Schema Registration for Schema urn:ietf:params:xml:ns:pidf:rpid-tuple'

URI: please assign
Registrant Contact: IESG
XML: See Section 5.2

6.4 Schema Registration for Schema urn:ietf:params:xml:ns:pidf:status:rpid-status'

URI: please assign
Registrant Contact: IESG
XML: See Section 5.3

6.5 Token Registrations

This document creates new IANA registries for RPID elements:

activities: See Section 3.2
mood: See Section 3.4
place-type: See Section 3.5
privacy: See Section 3.6
relationship: See Section 3.7

All are XML tokens. Registered tokens must be documented at the time of registration, as most descriptions are expected to be brief.

Following the policies outline in RFC 2434 [3], these tokens are assigned after Expert Review by the SIMPLE working group or its designated successor. Each registration must include the name of the token and a brief description similar to the ones offered in for the initial registrations contained this document:

Name of token: XML token describing the contact type, place type, privacy or relationship.
Description: Brief description indicating the meaning of the token.

7. Security Considerations

The security considerations in [7] apply, as well as [8]. Compared to PIDF, this presence document format reveals additional information that can be highly sensitive. Beyond traditional security measures to protect confidentiality and integrity, systems should offer a means to selectively reveal information to particular watchers and to inspect the information that is being published, particularly if it is generated automatically from other sources, such as calendars or sensors.

8. References

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Appendix A. Acknowledgements

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