

Network Working Group  
Request for Comments: 4482  
Category: Standards Track

H. Schulzrinne  
Columbia U.  
July 2006

## CIPID: Contact Information for the Presence Information Data Format

### Status of This Memo

This document specifies an Internet standards track protocol for the Internet community, and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STD 1) for the standardization state and status of this protocol. Distribution of this memo is unlimited.

### Copyright Notice

Copyright (C) The Internet Society (2006).

### Abstract

The Presence Information Data Format (PIDF) defines a basic XML format for presenting presence information for a presentity. The Contact Information for the Presence Information Data format (CIPID) is an extension that adds elements to PIDF that provide additional contact information about a presentity and its contacts, including references to address book entries and icons.

## Table of Contents

1. Introduction .....	2
2. Terminology and Conventions .....	3
3. CIPID Elements .....	3
3.1. Card Element .....	3
3.2. Display-Name Element .....	3
3.3. Homepage Element .....	3
3.4. Icon Element .....	4
3.5. Map Element .....	4
3.6. Sound Element .....	4
4. Example .....	4
5. The XML Schema Definition .....	6
6. IANA Considerations .....	7
6.1. URN Sub-Namespace Registration for 'urn:ietf:params:xml:ns:pidf:cipid' .....	7
6.2. Schema Registration for Schema 'urn:ietf:params:xml:ns:pidf:cipid' .....	7
7. Internationalization Considerations .....	8
8. Security Considerations .....	8
9. References .....	9
9.1. Normative References .....	9
9.2. Informative References .....	10

## 1. Introduction

Presence information facilitates communication; its usefulness can be enhanced by providing basic information about a presentity or contact. This specification describes a basic set of information elements that allow a watcher to retrieve additional information about a presentity or contact.

This specification defines extensions to the PIDF [9] Extensible Markup Language [7][8][10] (XML) document format.

We describe elements for providing a "business card", references to the homepage, map, representative sound, display name, and an icon. This additional presence information can be used in PIDF [9] documents, together with Rich Presence Information Data format [11] (RPID), future-status [12], and other PIDF extensions.

All elements extend the <person> or, less commonly, <tuple> element in the presence data model [13]. The <tuple> element is only extended with Contact Information for the Presence Information Data format (CIPID) elements if the information describes a service referring to another person that is marked by an RPID <relationship> element with a value other than 'self'. All elements described in this document are optional.

RPID and CIPID both provide "rich" presence that goes beyond the basic 'open' and 'closed' status information in PIDF. The presence information described in these two documents can be supplied independently, although in practice, both will often appear in the same PIDF document. CIPID elements describe the more static aspects of somebody's presence information, while RPID focuses on elements that will likely change throughout the day. Thus, CIPID information can often be statically configured by the user through the graphical user interface of a presence client; this is less likely to be sufficient for RPID.

The namespace URI for these elements defined by this specification is a URN [2], using the namespace identifier 'ietf' defined by [4] and extended by [6]:

```
urn:ietf:params:xml:ns:pidf:cidp
```

## 2. Terminology and Conventions

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. CIPID Elements

Unless otherwise noted below, each element may only appear at most once.

### 3.1. Card Element

The <card> element includes a URI pointing to a business card, e.g., in LDAP Data Interchange Format [15] (LDIF) or vCard [14] format.

### 3.2. Display-Name Element

The <display-name> element includes the name identifying the tuple or person that the presentity suggests should be shown by the watcher user interface. It is left to the watcher user interface design to choose whether to heed this suggestion or to use some other suitable string. The CIPID information MAY contain multiple display names, but only if they are labeled with different 'xml:lang' attributes. This allows a Korean-speaking presentity to convey its display name in different languages, Latin and Hangul, for example.

### 3.3. Homepage Element

The <homepage> element provides a URI pointing to general information about the tuple or person, typically a web home page.

### 3.4. Icon Element

The <icon> element provides a URI pointing to an image (icon) representing the tuple or person. The watcher can use this information to represent the tuple or person 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 REQUIRED.

### 3.5. Map Element

The <map> element provides a URI pointing to a map related to the tuple or person. The watcher can use this information to represent the tuple or person in a graphical user interface. The map may be either an image, an HTML client-side image map, or a geographical information system (GIS) document, e.g., encoded as GML. Support for images formatted as PNG and GIF is REQUIRED.

### 3.6. Sound Element

The <sound> element provides a URI pointing to a sound related to the tuple or person. The watcher MAY use the sound object, such as a MIDI or MP3 file, referenced by the URL to inform the watcher that the presentity has assumed the status OPEN. Implementors are advised to create user interfaces that provide the watcher with the opportunity to choose whether to play such sounds. Support for sounds coded as MPEG-2 Layer 3 (MP3) is RECOMMENDED. The sound object might also be used to indicate how to pronounce the presentity's name.

## 4. Example

An example using CIPID only is shown below:

```
<?xml version="1.0" encoding="UTF-8"?>
<presence xmlns="urn:ietf:params:xml:ns:pidf"
  xmlns:dm="urn:ietf:params:xml:ns:pidf:data-model"
  xmlns:c="urn:ietf:params:xml:ns:pidf:cipid"
  entity="pres:someone@example.com">

  <tuple id="bs35r9">
    <status>
      <basic>open</basic>
    </status>
    <contact priority="0.8">im:alice@example.net</contact>
    <timestamp>2005-11-21T16:14:29Z</timestamp>
  </tuple>
```

```

<dm:person id="p1">
  <c:card>http://example.com/~alice/card.vcd</c:card>
  <c:display-name>Alice Lewis</c:card>
  <c:homepage>http://example.com/~alice</c:homepage>
  <c:icon>http://example.com/~alice/me.png</c:icon>
  <c:map>http://example.com/~alice/gml-map.xml</c:map>
  <c:sound>http://example.com/~alice/hello.wav</c:sound>
  <dm:timestamp>2005-11-21T09:00:00+05:00</dm:timestamp>
</dm:person>
</presence>

```

An example combining RPID and CIPID is shown below:

```

<?xml version="1.0" encoding="UTF-8"?>
<presence xmlns="urn:ietf:params:xml:ns:pidf"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:dm="urn:ietf:params:xml:ns:pidf:data-model"
  xmlns:c="urn:ietf:params:xml:ns:pidf:cipid"
  xmlns:r="urn:ietf:params:xml:ns:pidf:rpipid"
  xsi:schemaLocation="urn:ietf:params:xml:ns:pidf pidf.xsd
    urn:ietf:params:xml:ns:pidf:data-model data-model.xsd
    urn:ietf:params:xml:ns:pidf:cipid cipid.xsd
    urn:ietf:params:xml:ns:pidf:rpipid rpipid.xsd"
  entity="pres:someone@example.com">

  <tuple id="bs35r9">
    <status>
      <basic>open</basic>
    </status>
    <contact priority="0.8">im:someone@mobile.example.net</contact>
    <timestamp>2005-05-30T22:00:29Z</timestamp>
  </tuple>

  <tuple id="bs78">
    <status>
      <basic>closed</basic>
    </status>
    <r:relationship><r:assistant/></r:relationship>
    <c:card>http://example.com/~assistant/card.vcd</c:card>
    <c:homepage>http://example.com/~assistant</c:homepage>
    <contact priority="0.1">im:assistant@example.com</contact>
    <timestamp>2005-05-30T22:00:29Z</timestamp>
  </tuple>

  <dm:person id="p1">
    <c:card>http://example.com/~someone/card.vcd</c:card>
    <c:homepage>http://example.com/~someone</c:homepage>
    <c:icon>http://example.com/~someone/icon.gif</c:icon>

```

```
<c:map>http://example.com/~someone/gml-map.xml</c:map>
<c:sound>http://example.com/~someone/whoosh.wav</c:sound>
<dm:timestamp>2005-05-30T22:02:44+05:00</dm:timestamp>
</dm:person>
</presence>
```

## 5. The XML Schema Definition

The schema is shown below.

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

  <xs:annotation>
    <xs:documentation>
      Describes CIPID tuple extensions for PIDF.
    </xs:documentation>
  </xs:annotation>

  <xs:element name="card" type="xs:anyURI"/>
  <xs:element name="display-name" type="xs:string"/>
  <xs:element name="homepage" type="xs:anyURI"/>
  <xs:element name="icon" type="xs:anyURI"/>
  <xs:element name="map" type="xs:anyURI"/>
  <xs:element name="sound" type="xs:anyURI"/>
</xs:schema>
```

Figure 1: CIPID schema

## 6. IANA Considerations

This document calls for IANA to register a new XML namespace URN and schema per [6].

### 6.1. URN Sub-Namespace Registration for 'urn:ietf:params:xml:ns:pidf:cipid'

URI: urn:ietf:params:xml:ns:pidf:cipid

Description: This is the XML namespace for XML elements defined by RFC 4482 to describe contact information 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>CIPID: Contact Information for the Presence Information
    Data Format</title>
</head>
<body>
  <h1>Namespace for contact information presence extension
    (status)</h1>
  <h2>urn:ietf:params:xml:ns:pidf:cipid</h2>
  <p>See <a href="http://www.rfc-editor.org/rfc/rfc4482.txt">
    RFC4482</a>.</p>
</body>
</html>
END
```

### 6.2. Schema Registration for Schema 'urn:ietf:params:xml:ns:pidf:cipid'

URI: urn:ietf:params:xml:ns:pidf:cipid

Registrant Contact: IESG

XML: See Figure 1

## 7. Internationalization Considerations

CIPID delivers only URLs, except for the <display-name> element. The resolution of the URLs can negotiate appropriate language and character sets within the URL-designated protocol.

For the display name and to handle Internationalized Resource Identifiers (IRIs) [16], since CIPID is represented in XML, it provides native support for encoding information using the Unicode character set and its more compact representations including UTF-8. Conformant XML processors recognize both UTF-8 and UTF-16. Though XML includes provisions to identify and use other character encodings through use of an "encoding" attribute in an <?xml?> declaration, use of UTF-8 is RECOMMENDED in environments where parser encoding support incompatibility exists.

The XML 'xml:lang' attribute can be used to identify the language and script for the <display-name> element. The specification allows multiple occurrences of this element so that the presentity can convey display names in multiple scripts and languages. If no 'xml:lang' attribute is provided, the default value is "i-default" [3].

## 8. Security Considerations

The security issues are similar to those for RPID [11]. Watchers need to restrict which content types of content pointed to by <icon>, <homepage>, <map>, <sound>, and <vcard> elements they render.

Also, when a watcher accesses these URIs, the presentity may deduce that the watcher is currently using the presence application. Thus, a presence application concerned about leaking this information may want to cache these objects for later use. (A presentity could easily customize the URLs for each watcher, so that it can tell who is referencing the objects.) This caching behavior may cause the information to become stale, out-of-sync with the current data until the cache is refreshed. Fortunately, the elements in CIPID are expected to retain the same content for periods measured in days, so that privacy-conscious applications may well decide to perform caching over durations that reveal little current activity information. Presentities need to keep in mind that clients may cache the content referenced by URIs for long periods as they use their presence system to construct presence documents using this extension. If the referenced content needs to change frequently, the presentity could, for example, update the presence document with a new URI to encourage clients to notice.



Icons and other URIs in this document could be used as a covert channel to convey messages to the watcher, outside the content monitoring that might be in place for instant messages or other communications channels. Thus, entities that worry about such channels may want to prohibit the usage of URLs pointing to resources outside their domain, for example.

Implementors must take care to adhere to the mechanisms for verifying the identity in the referenced server's certificate against the URI. For instance, if the URI scheme is https, the requirements of RFC 2818 [5], section 3.1, must be met. In particular, the domain represented in the URI must match the subjectAltName in the certificate presented by the referenced server. If this identity check fails, the referenced content SHOULD NOT be retrieved and MUST NOT be used.

## 9. References

### 9.1. Normative References

- [1] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [2] Moats, R., "URN Syntax", RFC 2141, May 1997.
- [3] Alvestrand, H., "IETF Policy on Character Sets and Languages", BCP 18, RFC 2277, January 1998.
- [4] Moats, R., "A URN Namespace for IETF Documents", RFC 2648, August 1999.
- [5] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000.
- [6] Mealling, M., "The IETF XML Registry", BCP 81, RFC 3688, January 2004.
- [7] Maloney, M., Beech, D., Thompson, H., and N. Mendelsohn, "XML Schema Part 1: Structures Second Edition", W3C REC REC-xmlschema-1-20041028, October 2004.
- [8] Malhotra, A. and P. Biron, "XML Schema Part 2: Datatypes Second Edition", W3C REC REC-xmlschema-2-20041028, October 2004.
- [9] Sugano, H., Fujimoto, S., Klyne, G., Bateman, A., Carr, W., and J. Peterson, "Presence Information Data Format (PIDF)", RFC 3863, August 2004.

- [10] Yergeau, F., Paoli, J., Sperberg-McQueen, C., Bray, T., and E. Maler, "Extensible Markup Language (XML) 1.0 (Third Edition)", W3C REC REC-xml-20040204, February 2004.

## 9.2. Informative References

- [11] Schulzrinne, H., Gurbani, V., Kyzivat, P., and J. Rosenberg, "RPID: Rich Presence Extensions to the Presence Information Data Format (PIDF)", RFC 4480, July 2006.
- [12] Schulzrinne, H., "Timed Presence Extensions to the Presence Information Data Format (PIDF) to Indicate Status Information for Past and Future Time Intervals", RFC 4481, July 2006.
- [13] Rosenberg, J., "A Data Model for Presence", RFC 4479, July 2006.
- [14] Dawson, F. and T. Howes, "vCard MIME Directory Profile", RFC 2426, September 1998.
- [15] Good, G., "The LDAP Data Interchange Format (LDIF) - Technical Specification", RFC 2849, June 2000.
- [16] Duerst, M. and M. Suignard, "Internationalized Resource Identifiers (IRIs)", RFC 3987, January 2005.

## Acknowledgements

This document is based on discussions within the IETF SIMPLE working group. Spencer Dawkins, Vijay Gurbani, Avshalom Houri, Hisham Khartabil, Paul Kyzivat, Eva Leppanen, Mikko Lonnfors, Aki Niemi, Jon Peterson, Jonathan Rosenberg, and Robert Sparks provided helpful comments.

## Author's Address

Henning Schulzrinne  
Columbia University  
Department of Computer Science  
450 Computer Science Building  
New York, NY 10027  
US

Phone: +1 212 939 7004  
EMail: hgs+simple@cs.columbia.edu  
URI: <http://www.cs.columbia.edu>

## Full Copyright Statement

Copyright (C) The Internet Society (2006).

This document is subject to the rights, licenses and restrictions contained in BCP 78, and except as set forth therein, the authors retain all their rights.

This document and the information contained herein are provided on an "AS IS" basis and THE CONTRIBUTOR, THE ORGANIZATION HE/SHE REPRESENTS OR IS SPONSORED BY (IF ANY), THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

## Intellectual Property

The IETF takes no position regarding the validity or scope of any Intellectual Property Rights or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; nor does it represent that it has made any independent effort to identify any such rights. Information on the procedures with respect to rights in RFC documents can be found in BCP 78 and BCP 79.

Copies of IPR disclosures made to the IETF Secretariat and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this specification can be obtained from the IETF on-line IPR repository at <http://www.ietf.org/ipr>.

The IETF invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights that may cover technology that may be required to implement this standard. Please address the information to the IETF at [ietf-ipr@ietf.org](mailto:ietf-ipr@ietf.org).

## Acknowledgement

Funding for the RFC Editor function is provided by the IETF Administrative Support Activity (IASA).

